LanzaTech UK Limited

Project Dragon – Sustainable Aviation Fuel (SAF) Production Facility: Production Development Zone

Geoenvironmental Assessment Report

This report has been prepared for **LanzaTech UK Limited** in accordance with the terms and conditions of appointment for **Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility**. Tweedie Evans Consulting Limited (TEC) cannot accept any responsibility for any use of or reliance on the contents by a third party.

Project Dragon – Sustainable Aviation Fuel (SAF) Production Facility: Production Development Zone

Geoenvironmental Assessment Report

ISSUE RECORD					
Report Reference: 2111006.005.01					
Version	**Date**	**Amendments Record**	**Prepared by**	**Checked by**	**Authorised by**
-	August 2023	-			
			Hannah Jeffery / Claire Hooley	Ruth Easterbrook	Richard Evans
A	October 2023	Updated DRA UXO Report Added			
			Reinier van der Kuip	Sophie Thomas	Claire Hooley
B	October 2023	Updated Proposed Development Plan			
			Reinier van der Kuip	Sophie Thomas	Claire Hooley
Report Liability Date: August 2023					

TEC is ISO 9001:2015 and ISO 14001:2015 certified by Advanced Certification Limited, a UKAS Accredited Certification Body (number 8872) and ISO 45001:2018 certified by QMS International Ltd for the scope of 'Specialist consultancy services across the UK in contaminated land assessment, ground engineering, waste management and construction phase monitoring'.

TEC
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH
Tel: 01749 677760
Email: info@tecon.co.uk

TABLE OF CONTENTS

Executive Summary

1 Introduction 1
2 Site Background and Previous Reports Summary 3
3 Ground Investigation Methodology 13
4 Ground Investigation Findings 17
5 Tier 2: Generic Quantitative Risk Assessment 25
6 Land Contamination - Conclusions and Recommendations 39
7 Recommended Further Works 41

Figures and Drawings

Figure 1 Site Location Plan
Drawing 2 Inspire Architects – Project Dragon – Sustainable Aviation Fuel (SAF) Production Facility, Drawing No. 2143.01-IA-ZZ-ST-DR-A-0225. Revision P12, dated 13.10.2023
Figure 3 Geotechnical/Geoenvironmental Exploratory Hole Location Plan
Figure 4 Groundwater and Ground Gas Monitoring Well Plan
Figure 5 Borehole Location Plan

Appendices

Appendix A Site Photographs
Appendix B Stage 2 Detailed UXO Risk Assessment
- Brimstone Report No. DRA-23-1532 (rev 2), dated September 2023

Appendix C Risk Methodologies and Evaluation
Appendix D Exploratory Hole Logs
- CHST101 and CHST102
- BH101 to BH120
- BH104-, BH113-, BH116-, BH117- and BH119-follow on
- DS101 to DS113
- TP101 to TP130
- HP101 to HP102

Appendix E Ground Profile Cross-sections
- Cross Section Line Plan
- Section Line A to Line I

Appendix F Geochemical Certificates of Analysis
- i2 Analytical Report No. 23-26743
- i2 Analytical Report No. 23-27949
- i2 Analytical Report No. 23-29285
- i2 Analytical Report No. 23-30498
- i2 Analytical Report No. 23-31579
- i2 Analytical Report No. 23-33077
- i2 Analytical Report No. 23-33780
- i2 Analytical Report No. 23-34660
- i2 Analytical Report No. 23-34952
- i2 Analytical Report No. 23-36227
- i2 Analytical Report No. 23-39646
- i2 Analytical Report No. 23-41879
- i2 Analytical Report No. 23-42229
- i2 Analytical Report No. 23-45177
- i2 Analytical Report No. 23-47293
- i2 Analytical Report No. 23-50072
- i2 Analytical Report No. 23-50364
- i2 Accreditation Update May 2023 Email

Appendix G Groundwater Monitoring Results
Appendix H Ground Gas Monitoring Results
Appendix I Generic Quantitative Risk Assessment: Human Health
Appendix J Generic Quantitative Risk Assessment: Controlled Waters
Appendix K Borehole Hazardous Gas Flow Rates

EXECUTIVE SUMMARY

PRELIMINARY RISK ASSESSMENT (SITE WALKOVER & INIITLA CONCEPTUAL MODEL)	**Client**	**LanzaTech UK Limited**
	Site Details	The site comprises a parcel of land adjacent to Crown Wharf (Port Talbot) (referred to as the 'Production Development Zone [PDZ]), located off the Port Talbot Docks. The nearest postcode is SA13 1RA. The site covers an area of approximately 9.12 hectares, with the centre situated at approximate National Grid Reference 276420, 188660.
	Site Objectives	The purpose of the additional ground investigation is to provide information on the geoenvironmental and ground engineering conditions and constraints associated with the site with regard to the proposed development.
	Proposed Development	The proposed development) is understood to comprise the demolition of existing structures and erection of a Sustainable Aviation Fuel (SAF) production facility with associated structures, access routes, car parking etc. as specified within the statutory planning application. The proposed development layout is presented in the Inspire Architects drawing, referenced Drawing No. 2143.01-IA-ZZ-ST-DR-A-0225. Revision P12, dated 13.10.2023
	Current Land Use and Description	The site currently comprises a roughly rectangular disused parcel of land that features a large central concrete slab surrounded by dense overgrown vegetation, situated in part of the dock area owned by Associated British Ports (ABP).
	Geology	The site is recorded to be underlain by superficial Tidal Flat Deposits typically described by the British Geological Survey (BGS) as a consolidated soft silty clay with layers of sand, gravel and peat. Within the south-western most site boundary the underlying superficial deposit is reported to comprise Wind Blown Sand, generally described by the BGS as sand generally transported by wind. In addition, based on available OS mapping dated 1919, the entire southern site area and south-eastern site area recorded sand deposits to be present. Alluvial Fan Deposits are reported by the BGS to be located further north-east of the site. However, during a previous phase of investigation undertaken by TEC, Alluvial Fan Deposits, generally described by the BGS as relatively flat to gently sloping masses of loose rock, were encountered below the Wind Blown Sand and Tidal Flat Deposits. The underlying bedrock geology is recorded as the South Wales Middle Coal Measures and is described as grey coal bearing mudstones/siltstones with seatearths and minor sandstones. In addition, the BGS reports the site and surrounding area to comprise 'Landscaped Ground', described as mainly redeveloped areas and others where extensive earth moving has occurred. Previous ground investigations at an adjacent site record made ground up to 5.5mbgl.
	Unexploded Ordnance	The majority of the site has been assessed as a Moderate Risk from German UXBs and as a result, prior to the start of construction, that an UXO Safety Awareness Briefing is carried out prior to all intrusive works commencing; A watching brief of all open excavations; and it is recommended that a non-intrusive magnetometer survey is undertaken across the site and, in particular, within the areas of undeveloped open ground identified on the WWII mapping. In addition, once a piling layout has been finalised, an intrusive magnetometer survey would be required
	Initial Conceptual Site Model	• Human Health (end users and construction workers) – potential exposure to CoPCs and asbestos within the shallow made ground via ingestion, inhalation and dermal contact. • Human health (end users, construction workers and proposed development) – potential ingress and accumulation of bulk ground gas into proposed structures and chronic inhalation by future site end users. • Controlled waters (Secondary aquifers and docks) – potential vertical and horizontal migration of leachable contaminants within groundwater along preferential pathways.

GENERIC QUANTITATIVE RISK ASSESSMENT (GROUND IINVESTIGATION	**Geoenvironmental Ground Investigation Rationale**	The scope of the additional ground investigation works includes the requirements detailed within Technip Energies' specification, titled *'Scope of Work for Geotechnical Investigation and Topographical Survey'*, referenced 202947C_000_SOW_1410_00001 (rev1), dated 24 February 2023 and provides additional information regarding the conditions and constraints for the site. In addition, the works aim to refine the risks and potential source-pathway-receptor linkages identified in the initial conceptual model and findings of previous intrusive ground investigations.
	Scope of Works	20No. Cable percussive boreholes to approximately 22mbgl to determine the depth of the Alluvial Fan Deposits and underling bedrock South Wales Middle Coal Measures Formation, as well as the installation of groundwater monitoring boreholes across the site. 30No. Trial pits to provide a general coverage of the site and to characterise the shallow ground conditions as well as to collect geo-environmental samples for laboratory analysis. 13No. Dynamic sample boreholes to provide spatial coverage across the site area, as well as to characterise shallow ground conditions and for the installation of shallow gas monitoring wells. 2No. Hand pits were advanced at targeted locations based on visual observations from the site walkover.
	Ground Conditions	Made ground material was encountered within all exploratory locations to depths of between 0.35m (8.1mAOD) and 6.9m (1.3mAOD) and was noted to be highly variable, but was generally noted to be cohesive in nature. This materials included slag, vesicular slag, clinker, coke, wood fragments, metal fragments, metal wire, metal lintel, rebar, plastic fragments, plastic pipes, brick, concrete, glass, tiles, terracotta and porcelain fragments tyres, rubber, sandstone, mudstone, siltstone, lime and plaster. No exploratory locations were undertaken within the concrete hardstanding located within the central site area, however based on the previous investigation undertaken by TEC, the concrete slab thickness was recorded to between 0.12m and 0.13m thick based on 2No. exploratory holes undertaken within this area. The Wind Blown Sand was encountered to at depths between ground level (8.48mAOD) and 6m (2.2mAOD) and maximum depths of 2.4m (6.1mAOD) and 9.5m (-0.9mAOD). The encountered material was generally described as slightly silty fine to medium grained sand. The Tidal Flat Deposits were encountered across the site at depths of between 1m (6.2mAOD) and 6.9m (1.3mAOD) to maximum encountered depths of between 10m (-3.2mAOD) and 16.5m (-7.9mAOD). The material generally comprised cohesive material of low to very low strength silty clay with occasional pockets of amorphous to fibrous peat and pockets of fine to medium grained sand. The more granular material encountered within the Tidal Flat Deposits generally comprised grey, brownish grey and greyish brown slightly clayey slightly silty sand to silty clayey sand with occasion pockets of silty clay. Across the site, within the cable percussive boreholes, peat beds have been recorded as slightly clayey plastic to spongy fibrous to amorphous peat with a weak to strong organic odour. Alluvial fan deposits were encountered between depths of 10m (-3.2mAOD) and 16.5m (-7.9mAOD) and observed to be underlying the Tidal Flat Deposits across the site, to maximum encountered depths of between >18m (-10.8mAOD) and 25m (-16.5mAOD). The encountered ground conditions were generally described as slightly clayey slightly gravelly sand and sandy gravel with low to medium cobble content. The gravel generally comprised fine to coarse subangular to rounded sandstone. Within the rotary cored boreholes, the bedrock was encountered at depths of between 21.4m (-16.5mAOD) and 29m (-20.1mAOD) with an encountered depth of 54m (-45.8mAOD) and 62m (-53.5mAOD). The encountered bedrock generally comprised interbedded medium strong to very strong sandstone, extremely weak to medium strong siltstone and mudstone with rare to occasional veins of quartz. Within two boreholes, BH113 and BH119, very weak to weak black coal and weak dark grey dark grey to black mudstone with occasional very thinly bedded bands of coal with rare to occasional very thin veins of pyrite between fractures were recorded between 30.5m to 30.6m, 31.2m to 31.85m and 31.9m to 32.15m respectively.

		Groundwater Standing groundwater levels were recorded between 0.35m to 1.91mbgl and 0.99m and 4.85mbgl across the site area. It should also be noted that localised areas were prone to flooding due to limited permeability of the underlying ground materials and/or hardstanding surfaces. Continuous groundwater monitoring has been undertaken between 13 July to 24 July, to have indicated that groundwater at the site is tidally influenced.
	Contaminant Characterisation	Laboratory analysis of made ground materials recorded elevated concentrations of several PAH compounds in excess of the adopted general assessment criteria relevant to a commercial site end use. In addition, asbestos fibres, fibrous debris and cement was recorded within 17No. of the samples. No concentrations of any contaminant of potential concern in excess of the adopted screening criteria was identified from any sample of the natural ground materials.
		Elevated leachable concentrations of heavy metals and PAH compounds were recorded within the made ground materials. Samples from the perched water and shallow groundwater within the Tidal Flat Deposits recorded elevated levels of PAHs, heavy metals and total phenols in excess of the relevant EQS. Samples from the deeper Alluvial Fan Deposits record exceedances of heavy metals whilst groundwater within the bedrock South Wales Middle Coal Measures Formation recorded exceedances of both heavy metals and some PAH compounds when compared to relevant EQS.
		It should be noted that ongoing gas monitoring is being undertaken at the time of writing and further results and a detailed gas risk assessment will follow on completion of the monitoring. At present, there is insufficient data to fully characterise the site, however, site observations and gas monitoring undertaken to date indicate that the made ground materials and the underlying organic deposits are unlikely to be a significant potential source of ground gas, and whilst monitoring is ongoing, initial results suggest the site to be CS3.
		An area of localised hydrocarbon impact has been identified around a historical borehole U1 and the adjacently located DS112. Soil samples from DS112 record marginally raised aliphatic and aromatic TPH CWG levels, which have subsequently been found to be below the adopted GAC for a commercial site end use. Groundwater samples from both wells record elevated concentrations of heavy metals, PAH, BTEX compounds and aromatic TPH CWG fractions in excess of the EQS.
	Updated Conceptual Site Model	• Human Health (end users and construction workers) – potential exposure to CoPCs and asbestos within the shallow made ground via ingestion, inhalation and dermal contact. • Human health (end users, construction workers and proposed development) – potential ingress and accumulation of bulk ground gas into proposed structures and chronic inhalation by future site end users. • Controlled waters (Secondary aquifers and docks) – potential vertical and horizontal migration of leachable contaminants within groundwater along preferential pathways.
	Recommended further works	• Additional gas and groundwater monitoring of the installed boreholes to refine the above assessments and fully characterise the ground gas regime, as well as to confirm any remedial measures required. • Targeted ground investigation and soil sampling to confirm the depth and extend of the identified hydrocarbon contamination. • Undertake a Stage 2: Remediation Options Appraisal and Stage 3: Remediation and verification works, including development of a Remediation Strategy, Verification of the identified remediation works.

1 INTRODUCTION

1.1 Terms of Reference

1.1.1 TEC has been appointed by LanzaTech UK Limited to undertake a Stage 2: Geoenvironmental Risk Assessment, comprising additional geoenvironmental ground investigation and monitoring of the Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility site. All works were undertaken in accordance with our proposal letter dated 14 March 2023 and referenced RE.2111006.005.

1.2 Background

1.2.1 The proposed production facility currently comprises land and is situated adjacent to Land at Crown Wharf (Port Talbot) (referred to as the 'Production Development Zone [PDZ]). The site address is Land at Crown Wharf, Port Talbot Docks, Port Talbot, with the nearest postcode SA13 1RA (Figure 1). The site covers an area of approximately 9.12 hectares, with the centre situated at approximate National Grid Reference 276420, 188660.

1.2.2 The proposed development as indicated within the drawing from Inspire Architects – Project Dragon – Sustainable Aviation Fuel (SAF), Drawing No. 2143.01-IA-ZZ-ST-DR-A-0225. Revision P12, dated 13.10.2023 is understood to comprise the erection of a Sustainable Aviation Fuel (SAF) production facility, including enclosed ground flare, storage tanks, installation of pipework and electrical, processing and utility equipment, administration, warehouse and laboratory buildings, new access, car parking and transport infrastructure including a truck loading area and associated works, hard and soft landscaping, areas for temporary construction laydown, and associated development. The proposed development layout is present in the drawing provided by the Client and referenced: Inspire Architects – Project Dragon – Sustainable Aviation Fuel (SAF), Drawing No. 2143.01-IA-ZZ-ST-DR-A-0225. Revision P12, dated 13.10.2023

1.2.3 Previous assessment of the site has been undertaken by TEC, as detailed within the following reports:

- 'Project Dragon – Sustainable Aviation Fuel (SAF) Production Facility: Production Development Zone (PDZ) – Desk Study', report ref.: 2111006.002.01 Rev. G. Prepared for LanzaTech UK Limited, dated May 2022 and revised October 2023;
- 'Project Dragon – Sustainable Aviation Fuel (SAF) Production Facility: Production Development Zone (PDZ) – Ground Investigation Report', report ref.: 2111006.003.01 Rev. D. Prepared for LanzaTech UK Limited, dated June 2022 and revised August 2023.
- Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility: Production Development Zone (PDZ) – Geotechnical Assessment Report', report ref.: 2111006.005.02 Rev. D. Prepared for LanzaTech UK Limited, dated July 2023 and revised October 2023.

1.2.4 Reference should be made to these documents for full details although salient information in relation to this ground investigation report is summarised in the following section.

1.2.5 In addition, a number of previous assessments have been undertaken on a site located approximately 250m to the west. These include the following reports:

- Port Talbot Renewable Energy Plant Environmental Desk Study Report by Sinclair Knight Merz (SKM). Prepared for PrenergyPower, dated May 2006.
- Port Talbot Renewable Energy Plant Phase II Geo-Environmental Investigation by Sinclair Knight Merz (SKM). Prepared for PrenergyPower, dated May 2007.
- Port Talbot Renewable Energy Plant, Port Talbot Docks, Factual Report on Ground Investigation. Report ref: H8090, prepared for Atkins Limited on behalf of PrenergyPower, dated March 2009.

1.2.6 As public domain information, it is assumed that the data held within these previous reports can be utilised, although TEC hold no responsibility for the validity of third-party information. Reference should be made to the reports for full information.

1.2.7 The aim of these works is to provide information on land contamination risk conditions and constraints associated with the site with regards to the proposed development.

1.3 Site Objectives

1.3.1 The site objectives and subsequent scope of works undertaken as part of this report are presented below:

- **Tier 2: Generic Quantitative Risk Assessment - Evaluation of the risks:** This phase of assessment involves updating the initial site conceptual model developed following the Desk Study and Exploratory Ground Investigation previously undertaken by TEC; based on the findings of an additional Geoenvironmental ground investigation. Generic assessment criteria taking account of different land uses and receptor sensitivities, are used to identify relevant contaminant linkages.

1.3.2 The above scope of work has been undertaken in accordance with current guidance such as LCRM - *Land contamination: risk management* (Environment Agency, 2023), BS10175+A2:2017 and BS5930:2015+A1:2020.

1.3.3 From the outset, sustainability and the potential impact of climate change have been considered, to assist in identification of options to minimise the environmental, social, and economic impacts of the risk assessment approach, with reference to Sustainable Management Practices (SMPs) from Sustainable Remediation Forum UK (SuRF-UK).

2 SITE BACKGROUND AND PREVIOUS REPORTS SUMMARY

2.1 Current Site Setting

2.1.1 A site reconnaissance survey was undertaken prior to commencement of the current phase of intrusive ground investigation, by a suitably experienced geoenvironmental consultant from TEC on 28 March 2023, prior to the commencement of the latest phase of intrusive works. A summary of the observations is presented in Table 2.1. Photographs taken during the site reconnaissance survey are presented in Appendix A.

Table 2.1: Site Details

Feature	Description	
Current Site Use	The site is a disused plot of land, comprising of a large central concrete slab, as well as several smaller concrete slabs in the northeast of the site. The remainder of the site is overgrown with dense scrub vegetation, with several areas of waterlogged ground observed, notably towards the northern perimeter. An electricity sub-station is located in the north-eastern corner of site and is situated on a concrete slab.	
Site Context	The site is located within a predominantly industrial area.	
Site Boundary Features	North	Industrial buildings associated with Hanson Cement, beyond which Port Talbot docks
	East	Industrial properties
	South	East-west trending railway tracks, beyond which is Port Talbot Steelworks
	West	Industrial properties and disused overgrown land
Site Topography	The site is predominantly flat with the majority of the site situated at between 7.0m to 8.0m above ordnance datum (AOD) and the southwestern site area situated at approximately 9.2m above ordnance datum (AOD).	
Hard and Soft Landscaping	The site was noted to comprise a combination of both hard and soft landscaping, with a large concrete slab observed in the centre of the site, with additional smaller slabs to the northeast, whilst the southern and north-western site areas was observed to be covered with dense vegetation.	
Trees and Vegetation	The site was observed to have been recently cleared of vegetation, however dense vegetated areas, comprising dense scrub, reeds and mature deciduous trees were observed within the southern and north-western site area, particularly within the marshland areas. Evidence of Japanese Knotweed was observed extensively across the site, and notably in the southern half of site. In addition, a number of areas across the site, particularly within the eastern site area, were noted to contain the invasive species, *Montbretia*.	
Fuel, Hazardous Chemicals and Waste Materials Storage	No evidence of fuel storage or waste material storage was observed on site at the time of inspection. However, it is noted that in the north-eastern corner of the site several discarded gas bottles as well as four 'Castrol' oil drums were observed near to the electricity sub-station.	
Asbestos Containing Materials	Potential asbestos containing material (ACM), observed as fragments of corrugated sheeting, were observed within the south-eastern site area.	
Site Drainage	No formalised drainage was observed on site; however, several areas of waterlogged ground/standing water was observed, notably towards the north. Saturated marsh areas were observed within the southern and north-western site areas	

Feature	Description
Evidence of Potential Contamination	No visual or olfactory evidence of potential contamination spillages was noted on the ground surface during the site reconnaissance. An unnamed borehole (henceforth referred to as U1), which is assumed to be part of the PrenergyPower investigation (2009), was noted within the western site area, and was monitored by TEC in April 2023. Groundwater level gauging indicated the borehole was approximately 4m in depth, with the standing water level recorded at approximately 2.6mbgl. Notwithstanding this, the monitoring was undertaken using a dual phase interface probe, which detected the presence of free product between approximately 2.6mbgl and 3.6mbgl. Sampling of the free product indicated it comprised a thick, viscous, strong odorous coal tar like substance and subsequent laboratory analysis of this material and the underlying groundwater indicated the presence of elevated PAH's, aromatic TPH fractions and BTEX.
Ground Stability Hazards	No visual evidence of ground subsidence/movement was observed.

2.2 Potential for Unexploded Ordnance

2.2.1 A Stage 2 - Detailed UXO Desk Study and Risk Assessment has been undertaken for the site by Brimstone Site Investigation Limited (report reference no. DRA-23-1532 rev2, dated September 2023 - Appendix B). The report concluded the ground conditions across the majority of the site was unconducive to the detection of UXO. Bombs, including those with delayed-action fuzes, are recorded across the southern part of the docks, ie within the site. Potential repair works, indicative of bomb damage, have been observed to the metal refinery. This, together with the recorded bombing to the copper works and the nearby steelworks, has resulted in the majority of the site being assessed at a Moderate Risk from German UXBs.

2.2.2 Prior to the start of construction, it has been recommended that a non-intrusive magnetometer survey is undertaken across the site and, in particular, within the areas of undeveloped open ground identified on the WWII mapping. Where anomalies are recorded there would be the need for further investigation to confirm/remove the risk. It should be noted that the recorded presence of slag within the made ground materials, may reduce the effectiveness of a magnetometer survey.

2.2.3 Once a piling layout has been finalised, an intrusive magnetometer survey would be required, comprising CPT testing at 2m centres to depth of 12m within the purposed pile layout. Again, where anomalies are recorded there would be the need for further investigation to confirm/remove the risk.

2.3 Previous Site Report Summary

2.3.1 Information for the site had also been obtained through previous assessment undertaken by TEC, as detailed within the following reports:

- 'Project Dragon – Sustainable Aviation Fuel (SAF) Production Facility: Production Development Zone (PDZ) – Desk Study', report ref.: 2111006.002.01 Rev. G. Prepared for LanzaTech UK Limited, dated May 2022 and revised October 2023;
- 'Project Dragon – Sustainable Aviation Fuel (SAF) Production Facility: Production Development Zone (PDZ) – Ground Investigation Report', report ref.: 2111006.003.01 Rev. D. Prepared for LanzaTech UK Limited, dated June 2022 and revised August 2023.
- Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility: Production Development Zone (PDZ) – Geotechnical Assessment Report', report ref.: 2111006.005.02 Rev. D. Prepared for LanzaTech UK Limited, dated July 2023 and revised October 2023.

2.3.2 It is noted that the above Desk Study report by TEC reviews additional assessments undertaken at the site as detailed within the following documents:

- Port Talbot Renewable Energy Plant Environmental Desk Study Report by Sinclair Knight Merz (SKM). Prepared for PrenergyPower, dated May 2006.
- Port Talbot Renewable Energy Plant Phase II Geo-Environmental Investigation by Sinclair Knight Merz (SKM). Prepared for PrenergyPower, dated May 2007.

- Port Talbot Renewable Energy Plant, Port Talbot Docks, Factual Report on Ground Investigation. Report ref: H8090, prepared for Atkins Limited on behalf of PrenergyPower, dated March 2009.

2.3.3 Reference should be made to these documents for full details. It is assumed that these reports may be utilised as public domain information; however, TEC holds no liability with regards to the validity or the accuracy of the information contained within such third party reporting.

2.3.4 A summary of relevant information from the previous TEC reports, in relation to this geoenvironmental assessment, is summarised in Table 2.2.

Table 2.2: Previous TEC Reports Summary

Project Dragon: PDZ Desk Study (May 2022, Rev. G Octobert 2023)	
Site History	Earliest available historical mapping shows the site remained undeveloped until 1917 when a centrally located large factory building is identified on maps as 'Crown Preserved Coal Works'. This was demolished and replaced by factory buildings identified as 'Metal Refinery Works' by 1939 and later as 'Steel Ceilings Factory' and 'Wagon Repair Shop' with associated railway tracks. By 1939, additional railway lines were constructed on an embankment in the south of the site on the area previously recorded as 'sand'. By 1949, a large pond is present in the west of the site, along with a number of heaped areas of unknown constituents. Additional industrial buildings have been constructed along the northern perimeter, with three rectangular warehouse buildings constructed to the east on mapping dating to 1964. All buildings on site appear to have been demolished as of 2009.
Environmental Setting	The site is recorded to be underlain by superficial Tidal Flat Deposits (designated a Secondary (Undifferentiated) Aquifer of medium groundwater vulnerability), typically described as a consolidated soft silty clay with layers of sand, gravel and peat. The underlying bedrock geology is recorded as the South Wales Middle Coal Measures (designated as a Secondary Aquifer A of medium groundwater vulnerability), described as grey coal bearing mudstones/siltstones with seatearths and minor sandstones. In addition, the BGS reports the site and surrounding area to comprise 'Landscaped Ground', described as mainly redeveloped areas and others where extensive earth moving has occurred. Previous ground investigations at an adjacent site record made ground up to 5.5mbgl. The nearest surface water features are the small ponds located on the site, followed by the adjacent docks. There are no groundwater abstractions reported within 500m of the site. There are two discharge consents to groundwater reported within 500m of the site. The northern half of the site is reported to be located in an area with potential for groundwater flooding to occur at the surface, whilst the rest of the site having potential for groundwater flooding of property situated below ground level. There are 19No. reported surface water abstraction records within 500m and 27No. reported discharge consents within 250m of the site. The site is not reported to be located within an area of extent of flooding from rivers and seas without defences (Flood Zone 1).
Coal Mining	It is reported that the site is located within an area which may be affected by coal mining activity, although is not located within a Development High Risk Area and therefore there is no requirement for a Coal Mining Risk Assessment to determine the mining legacy at the site. The Mining and Ground Stability Datasheet included within the Envirocheck Report presented in the Desk Study report prepared by TEC (Ref: 2111006.002.01F) indicates that the data is inconclusive with regard the presence of mining instability. The report also notes that historical records indicate the presence of underground coal mining at Morfa Colliery, located approximately 310m to the southeast of the site. The Consultants Coal Mining Report (ref: 51003005839001), also presented in the Desk Study report prepared by TEC, states there to be no records of 'probable unrecorded shallow workings' (<30m below ground level) at the site, no mine entries, recorded mine gas emissions or mining subsidence notice/claims in the vicinity of the site. Further, there are no records of future underground mining reported. Notwithstanding the above, a previous site investigation on land to the west of the site recorded coal beds at varying depths between 31m and 47.3mbgl. One of the boreholes indicates the presence of a coal seam between 34m and 36mbgl; however, below this, potential backfilled workings are recorded to a depth of 37.5mbgl. As a consequence, although the risk of voiding below the site may be considered as being low, at this stage, it cannot be ruled out.

Identified Contaminant Linkages	Potential pollutant linkages that have been identified as part of this assessment include: • Human Health (current and future site users) – exposure to contaminants associated with potential made ground and potentially contaminative historic industrial processes on and in proximity to site through ingestion, inhalation and dermal contact pathways. • Human Health (future site users and proposed structures) – migration, ingress and accumulation of ground gases sourced from both potential made ground and potential organic-rich superficial deposits. • Controlled Waters - Leaching of potential contaminants from potential made ground/shallow soils and vertical and lateral migration through the saturated zone to controlled waters.
Ground Engineering	Multiple records of potential excavations or extractive industry usage are reported on site, including unspecified deposited materials, unspecified pits, railway embankments and railway cuttings. In addition, current and historical ponds are reported on site. Potentially soft, compressible clay/silt/sand tidal flat deposits which could include peat as indicated from BGS borehole records, and/or potentially significant thicknesses of made ground, may yield low CBR and design subgrade surface modulus values requiring improvement of the subgrade to support the construction of a pavement foundation. The potential for a high-water table may need consideration within the pavement design based on proximity to the docks and seasonal ponds observed on site.
Project Dragon: PDZ Exploratory Ground Investigation Report (June 2022, Rev. D August 2023)	
Ground Investigation Details	4No. Cable percussive boreholes to approximately 20mbgl to determine the depth of made ground and nature of the underlying natural ground materials and allow sampling of encountered materials. 19No. Trial pits and 11No. dynamic sample boreholes to provide spatial coverage across the accessible site area to characterise shallow ground conditions and allow sampling of encountered materials. Installation of shallow and deep ground gas and groundwater monitoring boreholes across the accessible site area.
Ground Conditions	*Made Ground* Made ground was encountered across the majority of the site to depths in excess of 5.0mbgl. The made ground generally comprised dark brown silty gravelly sand with gravel of vesicular slag, concrete and rare clinker, brick and mudstone. *Superficial Deposits (Blown Sand)* Wind-blown sand was encountered in four exploratory locations, generally observed as very loose becoming medium dense yellowish brown fine to medium sand, recorded to depths of between 1.2mbgl and >6.5mbgl. *Superficial Deposits (Tidal Flat Deposits)* Tidal Flat Deposits were encountered across the site and found to vary in composition, but typically comprised either loose dark grey and black mottled silty sand, very soft dark grey slightly sandy slightly gravelly silt, or soft to firm dark grey slightly sandy gravelly clay. Peat beds were observed within the cable percussive boreholes, which varied from plastic dark grey amorphous peat to firm dark grey mottled brown pseudo-fibrous peat. *Superficial Deposits (Alluvial Fan Deposits)* Below the fine grained Tidal Flat Deposits either dense becoming very dense dark grey, greyish brown and brownish grey mottled gravelly sand and slightly sandy gravel with medium cobble content or medium dense to very dense greyish brown slightly sandy gravel with low cobble content was recorded at depths below 9.5mbgl to 14.2mbgl. Gravel and cobbles were consistently observed to be mudstone and sandstone. *Solid Geology (South Wales Middle Coal Formation)* The solid geology was recorded at BH04 only, at a depth of 17.7mbgl, comprising dark grey sandstone to a maximum recorded depth of 20.35mbgl.

Contamination Characterisation	The following CoPCs were identified within the sampled made ground materials, in relation to the anticipated commercial site end use: • PAHs – benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, and dibenz(a,h)anthracene Further, crocidolite, chrysotile and amosite loose fibres and loose fibrous debris were encountered within made ground materials in 7No. locations. Leachable CoPCs (heavy metals) were identified within sampled made ground. In addition, CoPCs (heavy metals, heavy end TPH fractions, PAHs and sulphate) were recorded within the sampled perched water/upper groundwater. Marginally elevated contaminant concentrations (heavy metals and sulphate) were recorded within the deeper groundwater in relation to conservative EQS values. Based on the limited investigation and initial ground gas monitoring undertaken during this phase of works, to-date together with the conceptual site model, it was considered that the site may potentially be considered as Characteristic Situation 3. However further monitoring was recommended to confirm this regime.
Identified Contaminant Linkages	• Human health (end users and construction workers) – potential exposure to CoPCs and asbestos within the shallow made ground via ingestion, inhalation and dermal contact. • Human health (end users and construction workers) – potential ingress and accumulation of bulk ground gas into proposed structures and chronic inhalation by future site end users. • Controlled Waters (Secondary Aquifers and docks) – potential vertical and horizontal migration of identified leachable contaminants within groundwater, along preferential pathways.
Remediation Appraisal / Likely Remedial Approach	TEC anticipated that much of the proposed development will be laid to hardstanding or within the footprint of proposed structures, which will mitigate the pollutant pathways. However, where soft landscaping is proposed in such areas and where made ground remains after finished site levels have been achieved, localised exposure to potential contaminants and asbestos could not be discounted and it was noted that a suitable cover system may be required within areas of soft landscaping. Furthermore, given the recorded presence of asbestos, good working practice methods should be adopted as per current guidance prior to commencement of any groundworks/site preparation works on site. Given that the proposed development layout is unknown and given that the exploratory investigation across much of the site was not possible due to ecological constraints, additional ground investigation and monitoring works was reported as necessary within these areas in order to fully characterise the site and determine the requirement for any remedial works in relation to human health and controlled water receptors.
TEC Recommendations for Further Works	Based upon the information detailed above, further works were recommended to fully determine the site conditions and constraints with regards to the proposed development. These were outlined to include the following: • Additional exploratory ground investigation works across areas of the site inaccessible during the intrusive works, as well as additional groundwater and ground gas monitoring of existing boreholes to confirm preliminary assessments made as part of the assessment and to determine the nature and extent of any remedial measures required; • Due to the presence of potential contamination and ground gas across the site, it was considered likely that there would be the need to undertake a Foundation Works Risk Assessment in order to determine and minimise the risks associated with each founding method; • Due to the potential mining legacy risk, it was noted that there may be the need to determine the presence (or absence) of voiding in the bedrock as part of the geotechnical assessment; and • Further assessment of the groundwater levels across the site to determine whether this is influenced by the tide.

2.4 Commentary

2.4.1 Given the assessments undertaken by TEC (as summarised above), additional works were considered necessary in relation to the geoenvironmental and geotechnical constraints associated with the site and the proposed development, and additional works were undertaken by TEC between March and May 2023.

While the geoenvironmental assessment following these works are detailed within the following sections of this report, the geotechnical assessment is presented in the following report:

- 'Project Dragon: PDZ – Geotechnical Assessment Report' report ref: 2111006.005.02 Rev. D. Prepared for LanzaTech UK Limited, dated July 2023 and revised October 2023.

2.4.2 Reference to this report should be made for full details, although the pertinent information is detailed within the following sections.

2.5 Initial Conceptual Model

2.5.1 In accordance with the Environment Agency Land Contamination: Risk Management Guidance (LCRM), potential source-pathway-receptor contaminant linkages identified from the previous phases of assessment undertaken by TEC are summarised in the following sections.

2.6 Sources

2.6.1 The source is defined as a contaminant or pollutant that is in, on or under the land and that has the potential to cause harm or pollution. The source can potentially be present on the site or within influence of the site in the case of an off-site source.

2.6.2 Sources of contamination previously identified on and within the vicinity of the site are summarised below:

On Site Sources

- Made ground/ unspecified deposited material;
- Potentially contaminative historic land uses;
- Potentially infilled land; and
- Organic natural ground

Off Site Sources

- Surrounding current and historic industrial land uses, including coal mining, copper works, iron and steel works, warehouses, factories, depots, engineering works and railway sidings/mineral tramways.

2.7 Potential Receptors

2.7.1 Receptors are defined as the entity (e.g. human, animal, water, vegetation, building services etc) which has the potential to experience adverse effects from direct or indirect exposure to potentially hazardous contaminants.

2.7.2 Potential receptors identified in relation to the proposed development as part of the previous TEC assessment are:

- Current/future site users;
- Construction workers;
- Controlled waters (Secondary A Aquifer and Secondary (undifferentiated) Aquifer and surface waters);
- Proposed development/ structures.

2.8 Potential Pathways

2.8.1 Pathways are defined as the route contaminants take from a source to an exposed receptor. The exposure pathways can be direct or indirect transport from one medium to another.

2.8.2 Potential contaminant pathways relevant to the anticipated contaminants, ground conditions and proposed end use (receptors) include:

Human Health

- Dermal contact – Direct skin contact with contaminated soil, dust, or water. Certain contaminants can also be absorbed into the body through skin, or enter directly through open cuts or abrasions;
- Ingestion – Ingestion of soil by eating with unwashed hands causing cross contamination, or ingestion of fugitive dust from surfaces etc; and
- Ingestion of contaminated drinking water; and
- Inhalation – inhalation of soil, dust, gases, or vapours which have migrated through the unsaturated zone which may result in short term acute risks of asphyxiation or toxicity, and/or long term chronic risks to human health.

Controlled Waters

- Infiltration and percolation of contaminants resulting in migration through permeable strata such as the unsaturated zone to the underlying groundwater.
- Migration of mobile/leachable contaminants (e.g. surface spillages/leakage of hydrocarbons) by diffusion, advection, dispersion and capillary transport vertically down through any near surface unsaturated zone until meeting the groundwater table below, after which free/dissolved phase contaminants may potentially migrate beyond the site boundaries and impact off site receptors; and
- Horizontal migration of leachate causing a potential impact on surface water quality in nearby docks, or below the ground along preferential pathways such as drainage pipe bedding or discontinuities and fractures within the underlying strata.
- Solution of free-phase contaminants into the groundwater; and
- Volatilisation of contaminants caried within groundwater/leachate into air spaces within the soil medium/near surface soils.

Ground Gases

- Vertical migration of gaseous contaminants through the unsaturated zone within permeable strata or vertical and horizontal migration through fractures and discontinuities within the underlying solid geology;
- Migration of dissolved phase gases within perched and groundwater through the saturated zone and permeable pathways within the underlying bedrock such as fractures, drainage runs and mine workings; and
- Migration of hazardous gases to indoor air through soil and proposed building foundations.

Building Materials/Services

- Aggressive attack: Building materials can be damaged by direct contact with aggressive/contaminated ground, especially if mobile groundwater is present, for example sulphate attack on concrete or the aggressive contaminants coming into direct contact with membranes used within the structures;
- Permeation of contaminants: Contamination within soil and groundwater can permeate through water supplies; and
- Explosive risk: Potential risk of fire and/or explosion within proposed structures caused by hazardous gases.

2.9 Hazard Assessment and Risk Estimation

2.9.1 As part of the risk assessment process, it is necessary to establish the potential risk from the probability and consequence of the event. Firstly, the magnitude of the probability is considered, and then the extent of the probability is considered. The combination of the consequence and probability is the resulting level of risk.

2.9.2 Potential contaminant linkages identified as part of this preliminary risk assessment are summarised in the Initial Site Conceptual Model presented in Table 2.3. References to risk estimations are made in accordance with the methodology presented in CIRIA publication C552 (2001) titled *'Contaminated Land Risk Assessment: A Guide to Good Practice'* and summarised in Appendix C.

Table 2.3: Initial Conceptual Model

Potential Source Location	Potential Hazard/ Source	Potential Receptor	Potential Pathway to Receptors	Potential Consequence of Contaminant Linkage	Potential Probability of Contaminant Linkage	Risk Classification (Risk = Probability x Consequence)
On site	Made ground/ infilled ground on site and potentially contaminative processes	Current and future site users and construction workers	Exposure to potential contaminants through ingestion, inhalation and dermal contact.	Medium	**Low Likelihood to Likely**: Laboratory analysis of the made ground encountered on site recorded elevated PAH concentrations, in excess of the assessment criteria for a commercial site end use. In addition, asbestos fibres/fibrous debris (<0.001% - 0.186% of asbestos by weight) was recorded within 7No. samples of made ground. It is understood that much of the proposed development will be laid to hardstanding or within the footprint of proposed structures which will mitigate the pollutant pathways. However, where soft landscaping is proposed and where made ground materials remain on-site after finished site levels have been achieved, exposure to potential contaminants cannot be discounted. Additional investigation works in areas currently inaccessible would be required to confirm this preliminary assessment.	**Moderate/Low to Moderate Risk**
		Controlled waters	Leaching of potential contaminants from made ground and vertical and lateral migration through the saturated zone to controlled waters.	Medium	**Low Likelihood to Likely**: Elevated leachable concentrations of heavy metals, have been recorded within made ground and elevated concentrations of heavy metals, PAHs and heavy-end TPH fractions have been recorded within the perched water/upper groundwater underlying the central and western site areas, in relation to conservative EQS GACs. Notwithstanding this, it is noted that only localised, marginal exceedances of limited heavy metals were recorded within the deeper groundwater sampled on site, in relation to conservative EQS values. In addition, it is noted that petroleum hydrocarbon concentrations (including TPHs, PAHs, VOCs and SVOCs) were below limits of detection for all samples of the deeper groundwater suggesting no potential gross or dissolved phase hydrocarbon contamination migration to the deeper groundwater body. Furthermore, given the generally cohesive nature of the superficial tidal flat deposits, significant vertical and horizontal contaminant migration is likely to be limited. Additional ground investigation and monitoring would be required to fully characterise the site.	**Moderate/Low to Moderate Risk**
		Current and future site users, construction workers and proposed development	Migration, ingress and accumulation of ground gasses.	Severe	**Unlikely to Low Likelihood**: Site observations and gas monitoring undertaken to date indicates the made ground encountered is considered unlikely to be a potential source of significant ground gas composition (with no visual evidence of degradable/ putrescible materials noted). Additional investigation and gas monitoring would be required to confirm the ground gas regime onsite in accordance with BS8576: 2013.	**Moderate/Low to Moderate Risk**

Potential Source Location	Potential Hazard/ Source	Potential Receptor	Potential Pathway to Receptors	Potential Consequence of Contaminant Linkage	Potential Probability of Contaminant Linkage	Risk Classification (Risk = Probability x Consequence)
On and Off site (organic deposits); Off site (historic coal mining activities)	Organic rich natural ground on site and historic coal mining activities off site	Current and future site users, construction workers, controlled waters and proposed development/structures	Migration, ingress and inhalation of ground gasses.	Severe	**Low Likelihood to Likely:** Gas monitoring undertaken to date indicates the site may be placed in CS3, requiring ground gas protection measures to be incorporated within the proposed development. Additional investigation works and gas monitoring would be required to comply with BS8576: 2013 and to confirm this preliminary assessment of the ground gas regime on site.	**Moderate to High Risk**

3 GROUND INVESTIGATION METHODOLOGY

3.1 Background

3.1.1 The ground investigation undertaken was designed to provide further information on the ground conditions to aid with the design of the development; and to investigate the potential contaminant linkages identified as part of the previous assessment works undertaken by TEC (Tier 1: Preliminary Risk Assessment).

3.1.2 All site works were undertaken, following completion and review of the previous works by TEC (desk-based review, site reconnaissance survey and initial exploratory ground investigation) in order to target specific areas for further analysis and assessment. In addition, preliminary exploratory locations were also reviewed by Neath Port Talbot Council (NPT) and Natural Resource Wales (NRW).

3.1.3 Where potential on site hazards were identified during the site reconnaissance survey and previous exploratory works, the proposed exploratory hole locations were adjusted, using a targeted investigation approach to evaluate the risks. Tier 2 assessment works were undertaken in accordance with BS5930:2015+A1:2020 and BS10175+A2:2017. Works were supervised by a suitably experienced geoenvironmental consultant from TEC.

3.2 Methodology

3.2.1 A summary of the ground investigation works undertaken with respect to the geoenvironmental assessment and the rationale for each location is provided in in Table 3.1, as follows:

Table 3.1: Summary of Ground Investigation Works

Investigation Method	Location	Date(s)	Location Rationale	Purpose
Trial Pitting (JCB 3CX)	TP101 – TP130	26.04.2023 – 24.05.2023	Positioned to provide spatial coverage across the site area	Characterisation of shallow ground conditions Collection of geochemical and geotechnical samples for analysis
Hand Dug Pits	HP101 – HP102	30.03.2023	Based on visual observations made during the ground investigation	Characterisation of shallow ground conditions Collection of geochemical samples for analysis
Dynamic Sample Boreholes (Archway Competitor)	DS101 – DS113	24.05.2023 – 26.05.2023	Positioned to provide spatial coverage across the site area	Characterisation of shallow ground conditions for shallow foundation information Collection of geochemical and geotechnical samples for analysis Installation of groundwater monitoring wells
Cable Percussive Boreholes (Dando 2000)	BH101 – BH120	20.03.2023 – 22.05.2023	Positioned to provide spatial coverage across the site area	Characterisation of deeper ground conditions for piled foundation information Collection of geochemical and geotechnical samples for analysis Installation of groundwater monitoring well
Cable Percussive Boreholes with Rotary Core follow-on (Klem KR802)	BH104-, BH113-, BH116-, BH117- and BH119- Follow on	27.04.2023 – 16.05.2023	Positioned to provide spatial coverage across the site area	Characterisation of deeper ground conditions for piled foundation information Collection of geotechnical samples taken from bedrock for analysis Installation of groundwater monitoring wells

Investigation Method	Location	Date(s)	Location Rationale	Purpose
Rotary Drilling (Comacchio 305)	CHST101A – CHST102C	28.03.2023 – 17.05.2023	Position within southern site area to provide coverage for seismic boreholes	Installation of downhole seismic boreholes

3.2.2 Exploratory hole locations are presented on Figure 3 and detailed descriptions of encountered ground conditions are shown on exploratory hole logs presented in Appendix D.

3.3 Limitations

3.3.1 It should be noted that due to extensive Japanese Knotweed contamination observed across much of the site during this ground investigation, localised areas of the site were restricted due to this as well as other ecological constraints. Locations affected by these constraints were repositioned within the most suitable areas as close to the original positions as possible.

3.3.2 The removal of an extensive amount of vegetation across the site combined with heavy rainfall prior to the commencement of the works, resulted in significant amounts of surface water runoff which in turn caused flooding of the concrete slab located in the centre of the site. Therefore, investigation beneath this slab was not possible and several exploratory holes were repositioned to the sides of the slab where access was obtainable.

3.4 Field Testing

3.4.1 A summary of in situ field testing undertaken as part of these ground investigation works is provided in Table 3.2

Table 3.2: Summary of Field Testing

Field Test	Purpose
Hand Shear Vane (HSV)	Estimation of undrained shear strengths of cohesive strata
Pocket Penetrometer (PP)	Indication of unconfined compressive strength of cohesive strata
Standard Penetration Test (SPT)	Provision of strength profile of underlying ground conditions Provision of in situ densities of granular deposits
Photo-Ionisation Detector (PID)	Indication of the presence/concentrations of volatile organic compounds (VOCs)
Dual Phase Interface Probe	Indication of the presence of free product

3.5 Monitoring Works

3.5.1 A summary of the monitoring works completed at the site to date is provided below in Table 3.3;

Table 3.3: Summary of Monitoring Works

Monitoring	Instrument/ Kit	No. of Rounds	Date(s)
Ground Gas	GFM430 and GFM436 Landfill Gas Monitor	3 (of 6)	13/06/2023 10/07/2023 24/07/2023
Groundwater	Solinst peristaltic pump	3	26/06/2023 – 28/06/2023 11/07/2023 24/07/2023 – 25/07/2023
	Waterra inertial pump	3	13/06/2023 – 14/06/2023 24/07/2023 – 25/07/2023 07/08/2023 – 08/08/2023
	Level Loggers (Rugged BaroTROLL Data Logger)	-	13/07/2023 to 24/07/2023

3.6 Chemical Testing

3.6.1 Laboratory testing was scheduled on the basis of the potential contaminants identified within the Tier 1: Preliminary Risk Assessment and field observations.

3.6.2 Representative soil and groundwater samples were collected and chemically tested at i2 Analytical Ltd, a UKAS/MCERTS accredited laboratory, for a selection of the following parameters:

Soils (Totals and Leachate)

- *Heavy metals and metalloids;*
- *Total Organic Carbon (TOC);*
- *Phenols (monohydric);*
- *Total Cyanide;*
- *Sulphate, sulphide, elemental sulphur and pH;*
- *Speciated Polyaromatic Hydrocarbons (PAH);*
- *Total Petroleum Hydrocarbons (TPH-CWG), including BTEX and MTBE;*
- *Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs);*
- *Poly Chlorinated Biphenyls (PCBs);*
- *Per- and polyfluoroalkyl substances (PFAS); and*
- *Asbestos Screen.*

Waters

- *Heavy metals and metalloids;*
- *Total Organic Carbon (TOC);*
- *Electrical Conductivity;*
- *Phenols (monohydric);*
- *Total Cyanide;*
- *Ammoniacal Nitrogen as NH_4;*
- *Sulphate, sulphide, elemental sulphur and pH;*
- *Speciated Polyaromatic Hydrocarbons (PAH); and*
- *Total Petroleum Hydrocarbons (TPH-CWG), including BTEX and MTBE.*
- *Per- and polyfluoroalkyl substances (PFAS);*
- *Dissolved methane gas*

3.6.3 Geochemical certificates of analysis are presented within Appendix F.

3.6.4 On the 10th May 2023, i2 Analytical Ltd issued a customer update email (included within Appendix F), detailing that an external audit had highlighted issues with their internal Quality Management system which resulted in the temporary suspension of their UKAS and MCERTS accreditation for several soil organic tests. The accreditations were reinstated on the 13th June 2023, however, reports issued within this timeframe have a deviation symbol (#, ### or ^) next to impacted sample results. This loss of accreditation and subsequent deviating samples has impacted BTEX and VOC determinants from i2 Analytical reports; 23-31579, 23-33077 and 23-34952.

3.7 General Sampling

3.7.1 Samples were collected in accordance with the following guidance;

- BS5930:2015+A1:2020 – Code of practice for ground investigations;
- BS-EN 1997-2:2007 - Eurocode 7 — Geotechnical design —Part 2: Ground investigation and testing
- BS ISO 10175:2011+A2:2017 - Investigation of potentially contaminated sites – Code of practice;
- BS ISO 18400-105:2017 Soil quality – Sampling - Packaging, transport, storage and preservation of samples; and
- BS ISO 18400-106:2017 Soil quality – Sampling - Quality control and quality assurance.

4 GROUND INVESTIGATION FINDINGS

4.1 Introduction

4.1.1 A summary of encountered ground conditions for the site is provided below, while detailed descriptions are shown on exploratory hole logs presented in Appendix D. Photographs of the materials encountered, together with a selection of photos of exploratory locations are presented within Appendix A.

Made Ground

4.1.2 Made ground was encountered within all exploratory locations to depths of between 0.35m (8.1mAOD) and 6.9m (1.3mAOD). The material was observed to be heterogenous in nature across the site and varied in composition greatly.

4.1.3 The gravel component was observed as slag, vesicular slag, clinker, coke, wood fragments, metal fragments, metal wire, metal lintel, rebar, plastic fragments, plastic pipes, brick, concrete, glass, tiles, terracotta and porcelain fragments tyres, rubber, sandstone, mudstone, siltstone, lime and plaster.

4.1.4 A number of the trial pits were terminated within the made ground due to obstructions, as summarised in Table 4.1 below:

Table 4.1: Made ground Obstructions

Exploratory Location	Depth Terminated (m)	Depth Terminated (mAOD)	Encountered Obstruction
TP103	0.5	7.48	Metal lintels
TP106	1.5	7.23	Concrete slab
TP108	1.8	5.48	Boulders of brick walls and footings.
TP125	1.3	7.06	Concrete slab
TP126	1.1	7.1	Concrete footing in northern end of the trial pit (1.2m width and 0.6m in height)

4.1.5 No exploratory locations were undertaken within the concrete hardstanding located within the central site area; however, previous investigations undertaken by TEC within this area indicates the concrete slab thickness is between 0.12m and 0.13m in thickness based on 2No. exploratory holes previously advanced within this area.

Superficial Deposits (Wind Blown Sand)

4.1.6 The Wind-Blown Sand was encountered from depths between ground level (8.48mAOD) and 6mbgl (2.2mAOD) to depths of between 2.4mbgl (6.1mAOD) and 9.5mbgl (-0.9mAOD). The encountered material was generally described as slightly silty fine to medium grained sand.

Superficial Deposits (Tidal Flat Deposits)

4.1.7 The Tidal Flat Deposits were encountered across the site from depths of between 1mbgl (6.2mAOD) and 6.9mbgl (1.3mAOD) to maximum encountered depths of between 10mbgl (-3.2mAOD) and 16.5mbgl (-7.9mAOD). The material generally comprised soft to firm, low to very low strength grey; grey mottled black; brownish grey and blueish grey to brownish grey silty clay with occasional pockets of amorphous to fibrous peat and pockets of fine to medium grained sand.

4.1.8 Where granular in composition, the Tidal Flat Deposits were recorded to comprise grey, brownish grey and greyish brown slightly clayey slightly silty sand to silty clayey sand with occasion pockets of silty clay.

4.1.9 Peat beds, comprising fibrous to amorphous peat were recorded across the site between depths of 5.0mbgl 2.3mAOD) and 16.5mbgl (-7.77mAOD).

Superficial Deposits (Alluvial Fan Deposits)

4.1.10 Alluvial fan deposits were observed to underlie the Tidal Flat Deposits across the site from depths of between 10mbgl (-3.2mAOD) and 16.5mbgl (-7.9mAOD) to maximum encountered depths of between 18mbgl (-10.8mAOD) and 25mbgl (-16.5mAOD). The encountered ground conditions were generally described as slightly clayey slightly gravelly sand and sandy gravel with low to medium cobble content. The gravel generally comprised fine to coarse subangular to rounded sandstone.

Solid Geology (South Wales Middle Coal Formation)

4.1.11 Within the rotary cored boreholes, the bedrock was encountered from depths of between 21.4mbgl (-16.5mAOD) and 29mbgl (-20.1mAOD) to depths of between >54mbgl (-45.8mAOD) and >62mbgl (-53.5mAOD). The encountered bedrock generally comprised interbedded medium strong to very strong sandstone, extremely weak to medium strong siltstone and mudstone with rare to occasional veins of quartz. The recorded dip within the sandstone was recorded be approximately 23° to 30°, whereas the interbedded siltstone and mudstone recorded a dip of 2° to 5°; 14° to 19° and 40° to 48°.

4.1.12 Within two boreholes (BH113 and BH119) very weak to weak black coal and weak dark grey to black mudstone with occasional very thinly bedded bands of coal and rare to occasional very thin veins of pyrite between fractures were recorded between 30.5mbgl to 30.6mbgl, 31.2mbgl to 31.85mbgl and 31.9mbgl to 32.15mbgl respectively.

4.2 Generalised Ground Profile

4.2.1 Cross-sections showing the ground profile across the site are provided in Appendix E and the general ground profile encountered at the site with depth is summarised in Table 4.2 and against elevation in Table 4.3 below. In addition, a plan of the cable percussion and rotary boreholes used to generate the ground models is presented in Figure 5.

Table 4.2: Generalised Ground Profile – Depth Below Ground Level

Exploratory Hole Reference	Ground level (mAOD)	Made Ground			Wind Blown Sand			Tidal Flat Deposits - silts/clays			Tidal Flat Deposits- peat			Wind Blown Sand			Tidal Flat Deposits- silts/clays			Tidal Flat Deposits - organic rich clays			Tidal Flat Deposits- peat			Tidal Flat Deposits - silts/clays			Alluvial Fan Deposits		
		Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness
BH01	7.224	0.0	2.2	2.2													2.2	9.3	7.1				9.3	9.5	0.2				9.5	19.6	10.1
BH02	8.207	0.0	3.0	3.0				3.0	3.8	0.8	3.8	4.8	1.0				4.8	10.2	5.4				10.2	13.5	3.3				13.5	24.5	11.0
BH03	8.6	0.0	2.0	2.0	2.0	6.5	4.5																								
BH03A	7.870				0.0	2.5	2.5										2.5	10.5	8.0				10.5	13.5	3.0	10.5	14.2	3.7	14.2	20.6	6.4
BH04	9.698				0.0	1.2	1.2										1.2	9.0	7.8				9.0	13.0	4.0				13.0	20.4	7.4
BH101	8.585	0.0	2.5	2.5				2.5	6.0	3.5				6.0	7.0	1.0	7.0	14.0	7.0				14.0	15.0	1.0				15.0	25.0	10.0
BH102	9.194	0.0	2.5	2.5				2.5	4.5	2.0				4.5	9.5	5.0	9.5	14.8	5.3				14.8	15.5	0.7				15.5	20.5	5.0
BH103	8.432	0.0	3.0	3.0				3.0	7.4	4.4										7.4	10.6	3.2							10.6	22.0	11.4
BH104	8.731	0.0	0.4	0.4	0.4	1.5	1.2	1.5	2.4	0.9				2.4	6.8	4.4				6.8	12.0	5.2	12.0	16.5	4.5				16.5	25.0	8.5
BH105	8.435	0.0	3.0	3.0													3.0	9.1	6.1	9.1	9.8	0.7	9.8	13.2	3.4				13.2	23.0	9.8
BH106	7.133	0.0	1.0	1.0													1.0	7.0	6.0				7.0	10.0	3.0				10.0	20.5	10.5
BH107	8.609	0.0	1.3	1.3	1.3	2.5	1.2										2.5	7.5	5.0	7.5	11.0	3.5	11.0	14.3	3.3				14.3	22.0	7.7
BH108	7.303	0.0	5.0	5.0																5.0	6.0	1.0	6.0	8.0	2.0	6.0	12.0	6.0	12.0	21.3	9.3
BH109	7.772	0.0	0.8	0.8	0.8	6.5	5.7																								
BH110	7.909	0.0	2.0	2.0				2.0	6.0	4.0													6.0	7.5	1.5	6.0	12.9	6.9	12.9	19.0	6.1
BH111	7.449	0.0	2.0	2.0													2.0	7.5	5.5	7.5	10.8	3.3							10.8	18.0	7.2
BH112	7.154	0.0	2.8	2.8																2.8	11.2	8.4							11.2	22.0	10.8
BH113	8.079	0.0	3.4	3.4				3.4	5.5	2.1													5.5	11.4	5.9				11.4	17.5	6.1
BH114	7.835	0.0	4.0	4.0																4.0	8.5	4.5	8.5	9.5	1.0	8.5	10.5	2.0	10.5	22.2	11.7
BH115	7.482	0.0	4.9	4.9				4.9	6.0	1.1										6.0	10.9	4.9	10.9	11.6	0.7				11.6	20.4	8.8
BH116	8.718	0.0	3.9	3.9													3.9	9.1	5.2	9.1	12.6	3.5							12.6	19.5	6.9
BH117	8.349	0.0	4.0	4.0																4.0	10.0	6.0	10.0	12.0	2.0				12.0	22.2	10.2
BH118	8.377	0.0	3.0	3.0																3.0	10.5	7.5	10.5	11.5	1.0	10.5	14.2	3.7	11.5	20.5	9.0
BH119	8.248	0.0	6.9	6.9																6.9	12.1	3.1							12.1	20.0	7.9
BH120	8.378	0.0	5.0	5.0																5.0	10.0	5.0	10.0	11.0	1.0				11.0	21.5	10.5
Average	8.132		3.07	3.07	1.11	3.45	2.71	2.85	5.20	2.35	3.80	4.80	1.00	4.30	7.77	3.47	3.60	9.82	6.22	6.42	10.43	4.47	9.72	12.03	2.31	8.30	12.76	4.46	12.39	21.18	8.79
Max	9.698		9.0	9.0	2.0	6.5	5.7	4.9	7.4	4.4	3.8	4.8	1.0	6.0	9.5	5.0	9.5	14.8	8.0	9.1	12.6	11.2	14.8	16.5	5.9	10.5	14.2	6.9	16.5	25.0	11.7
Min	7.133		0.35	0.35	0.35	1.2	1.15	1.5	2.4	0.8	3.8	4.8	1.0	2.4	6.8	1.0	1.0	7.0	5.0	3.0	6.0	0.7	5.5	7.5	0.2	6.0	10.5	2.0	9.5	17.5	5.0

Table 4.3: Generalised Ground Profile – Elevation (mAOD)

Exploratory Hole Reference	Ground level (mAOD)	Made Ground			Wind Blown Sand			Tidal Flat Deposits - silts/clays			Tidal Flat Deposits- peat			Wind Blown Sand			Tidal Flat Deposits- silts/clays			Tidal Flat Deposits - organic rich clays			Tidal Flat Deposits- peat			Tidal Flat Deposits - silts/clays			Alluvial Fan Deposits		
		Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness	Top	Base	Thickness
BH01	7.2	7.2	5.0	2.2													5.0	-2.1	7.1				-2.1	-2.3	0.2				-2.3	-12.4	10.1
BH02	8.2	8.2	5.2	3.0				5.2	4.4	0.8	4.4	3.4	1.0				3.4	-2.0	5.4				-2.0	-5.3	3.3				-5.3	-16.3	11.0
BH03	8.6	8.6	6.6	2.0	6.6	2.1	4.5																								
BH03 A	7.9				7.9	5.4	2.5										5.4	-2.6	8.0				-2.6	-5.6	3.0	-2.6	-6.3	3.7	-6.3	-12.7	6.4
BH04	9.7				9.7	8.5	1.2										8.5	0.7	7.8				0.7	-3.3	4.0				-3.3	-10.7	7.4
BH101	8.6	8.6	6.1	2.5				6.1	2.6	3.5				2.6	1.6	1.0	1.6	-5.4	7.0				-5.4	-6.4	1.0				-6.4	-16.4	10.0
BH102	9.2	9.2	6.7	2.5				6.7	4.7	2.0				4.7	-0.3	5.0	-0.3	-5.6	5.3				-5.6	-6.3	0.7				-6.3	-11.3	5.0
BH103	8.4	8.4	5.4	3.0				5.4	1.0	4.4										1.0	-2.2	3.2							-2.2	-13.6	11.4
BH104	8.7	8.7	8.4	0.4	8.4	7.2	1.2	7.2	6.3	0.9				6.3	1.9	4.4				1.9	-3.3	5.2	-3.3	-7.8	4.5				-7.8	-16.3	8.5
BH105	8.4	8.4	5.4	3.0													5.4	-0.7	6.1	-0.7	-1.4	0.7	-1.4	-4.8	3.4				-4.8	-14.6	9.8
BH106	7.1	7.1	6.1	1.0													6.1	0.1	6.0				0.1	-2.9	3.0				-2.9	-13.4	10.5
BH107	8.6	8.6	7.3	1.3	7.3	6.1	1.2										6.1	1.1	5.0	1.1	-2.4	3.5	-2.4	-5.7	3.3				-5.7	-13.4	7.7
BH108	7.3	7.3	2.3	5.0																2.3	1.3	1.0	1.3	-0.7	2.0	1.3	-4.7	6.0	-4.7	-14.0	9.3
BH109	7.8	7.8	7.0	0.8	7.0	1.3	5.7																								
BH110	7.9	7.9	5.9	2.0				5.9	1.9	4.0													1.9	0.4	1.5	1.9	-5.0	6.9	-5.0	-11.1	6.1
BH111	7.4	7.4	5.4	2.0													5.4	-0.1	5.5	-0.1	-3.4	3.3							-3.4	-10.6	7.2
BH112	7.2	7.2	4.4	2.8																									0.0	-10.8	10.8
BH113	8.1	8.1	4.7	3.4				4.7	2.6	2.1													2.6	-3.3	5.9				-3.3	-9.4	6.1
BH114	7.8	7.8	3.8	4.0																3.8	-0.7	4.5	-0.7	-1.7	1.0	-0.7	-2.7	2.0	-2.7	-14.4	11.7
BH115	7.5	7.5	2.6	4.9				2.6	1.5	1.1										1.5	-3.4	4.9	-3.4	-4.1	0.7				-4.1	-12.9	8.8
BH116	8.7	8.7	4.8	3.9													4.8	-0.4	5.2	-0.4	-3.9	3.5							-3.9	-10.8	6.9
BH117	8.3	8.3	4.3	4.0																4.3	-1.7	6.0	-1.7	-3.7	2.0				-3.7	-13.9	10.2
BH118	8.4	8.4	5.4	3.0																5.4	-2.1	7.5	-2.1	-3.1	1.0	-2.1	-5.8	3.7	-3.1	-12.1	9.0
BH119	8.2	8.2	1.3	6.9																1.3	-3.9	5.2							-3.9	-11.8	7.9
BH120	8.4	8.4	3.4	5.0																3.4	-1.6	5.0	-1.6	-2.6	1.0				-2.6	-13.1	10.5
Ave	8.13		5.115	2.980	7.805	5.1	3.0	7.8	5.1	2.7	5.5	3.1	2.4	4.4	3.4	1.0	4.5	1.1	3.5	4.7	-1.5	6.2	1.9	-2.2	4.1	-1.5	-3.8	2.3	-0.4	-4.9	4.5
Max	9.69		8.381	6.900	9.698	8.4	6.9	9.7	8.5	5.7	7.2	6.3	4.4	4.4	3.4	1.0	6.3	1.9	5.0	8.5	1.1	8.0	5.4	1.3	7.5	2.6	0.4	5.9	1.9	-2.7	6.9
Min	7.13		1.348	0.350	6.600	1.3	0.4	6.6	1.3	1.2	2.6	1.0	0.8	4.4	3.4	1.0	2.6	-0.3	1.0	-0.3	-5.6	5.0	-0.7	-3.9	0.7	-5.6	-7.8	0.2	-2.6	-6.3	2.0

4.3 Groundwater

4.3.1 Groundwater observations recorded during the ground investigation works, and standing depths within the boreholes recorded as part of subsequent monitoring visits are summarised in Table 4.4 for the shallow boreholes and Table 4.5 for the deeper boreholes. Groundwater monitoring well locations are provided in Figure 4.

4.3.2 In addition, groundwater strikes / observations are also shown on the exploratory hole logs in Appendix D.

Table 4.4: Summary of Groundwater Conditions recorded within Shallow Dynamic Sampling Boreholes

Location	Groundwater Strike (mbgl)	Standing Depths (mbgl)			Response zone (mbgl)	Strata
	24.05.2023 to 26.05.2023	31.05.2023	26.06.2023	24.07.2023		
DS101	1.2	1.26	1.64	1.9	1.0 - 2.5	Made Ground/ Wind Blown Sand
DS102D (DS102)	Dry to 1.0	Dry	Dry	Dry	0.5 - 1.0	Made Ground
DS103	1.2	0.75	1.41	1.21	1.0 - 5.0	Tidal Flat Deposits
DS104	1.7	1.28	1.83	1.88	1.0 - 5.0	Made Ground
DS105B (DS105)	2.0	2.07	2.56	Dry	1.0 - 4.0	Made Ground
DS106	1.8	1.81	2.31	2.54	1.0 - 4.0	Made Ground
DS107	1.2	0.87	1.04	1.01	1.0 - 5.0	Tidal Flat Deposits
DS108	1.0	1.36	2.28	2.31	1.0 - 4.0	Tidal Flat Deposits
DS109	1.2	0.7	1.00	0.93	0.5 -2 .0	Made Ground/ Wind Blown Sand
DS110	1.6	1.9	1.74	1.86	1.0 - 5.0	Made Ground/ Tidal Flat Deposits
DS111A (DS111)	Dry to 1.5	1.49	Dry	Dry	0.5 - 1.5	Made Ground
DS112	2.0	2.23	3.2	2.69	1.0 - 4.0	Made Ground/ Tidal Flat Deposits
DS113	1.1	0.74	1.16	1.13	1.0 - 5.0	Tidal Flat Deposits
2022 Boreholes						
Location	**Groundwater Strike (mbgl)**	**Standing Depths (mbgl)**			**Response zone (mbgl)**	**Strata**
	(14.04.2022 to 21.04.2022)	**31.05.2023**	**26.06.2023**	**24.07.2023**		
WS01	1.69	2.41	Dry	Dry	1.0 – 5.0	Made Ground
WS03	0.55	2.26	Dry	Dry	1.0 – 5.0	Tidal Flat Deposits
WS06	0.35	0.43	0.81	0.85	1.0 – 5.0	Tidal Flat Deposits
WS07	0.45	0.71	1.03	0.93	1.0 – 5.0	Made Ground/ Tidal Flat Deposits
WS10	1.89	3.11	3.23	3.29	1.0 – 5.0	Made Ground/ Tidal Flat Deposits
WS11	1.04	1.26	1.72	1.95	1.0 – 5.0	Wind Blown Sand

Table 4.5: Summary of Groundwater Conditions within Cable Percussive and Rotary follow-on Boreholes

Location	Groundwater Strike (mbgl)	Standing Depths (mbgl)			Response zone (mbgl)	Strata
		31.05.2023	26.06.2023	24.07.2023		
BH103	2.0	3.17	3.96	3.38	14.0 – 21.5	Alluvial Fan Deposits
BH104	2.0	3.63	4.36	3.83	32.0 - 62.0	South Wales Middle Coal Measures Formation
BH105	1.35 / 13.5	3.13	3.86	3.28	13.5 - 23.0	Alluvial Fan Deposits
BH106	Ground level / 10.0	1.68	2.50	2.30	10.5 - 21.0	Alluvial Fan Deposits
BH107	0.8	3.31	4.04	3.64	14.0 -2 2.0	Alluvial Fan Deposits
BH108	0.8	2.07	2.84	2.93	13.5 - 21.3	Alluvial Fan Deposits
BH110	4.0	2.62	3.30	2.95	13.0 - 19.0	Alluvial Fan Deposits
BH111	0.8	1.88	2.67	2.30	12.0 - 18.0	Alluvial Fan Deposits
BH112	1.3 / 11.5	0.73	1.11	0.99	0.4 - 7.4	Made Ground/ Tidal Flat Deposits
BH113	0.5	2.21	3.33	2.56	30.0 - 60.0	South Wales Middle Coal Measures Formation
BH115	1.5 / 11.2	1.86	2.69	2.25	12.2 - 20.2	Alluvial Fan Deposits
BH116	1.0	3.81	4.4	4.85	32.0 - 60.0	South Wales Middle Coal Measures Formation
BH117	1.2 / 12.1	3.46	4.13	3.74	26.0 - 55.0	South Wales Middle Coal Measures Formation
BH119	1.3 / 12.5	2.83	2.57	3.18	23.0 - 54.0	South Wales Middle Coal Measures Formation
BH120	3.0	2.52	3.62	3.22	12.5 - 20.5	Alluvial Fan Deposits
2022 Boreholes						
Location	**Ground water Strike (mbgl)**	**Standing Depths (mbgl)**			**Response zone (mbgl)**	**Strata**
		22.03.2023	**31.05.2023**	**26.06.2023**	**24.07.2023**	
BH01	1.91	1.44	1.71	2.38	2.55	9.5 – 19.5	Alluvial Fan Deposits
BH02	3.95	3.08	3.17	3.77	3.40	13.5 – 24.5	Alluvial Fan Deposits
BH03A	3.42	2.48	2.71	3.26	2.94	14.5 – 20.0	Alluvial Fan Deposits
BH04	5.36	4.59	4.67	5.21	4.87	15.0 – 20.35	Alluvial Fan Deposits

4.3.3 Groundwater strikes were recorded at depths of between 0.35mbgl and 13.5mbgl with standing groundwater levels of between 0.43mbgl and 5.21mbgl recorded during subsequent monitoring.

4.3.4 It should also be noted that localised areas were prone to flooding due to limited permeability of the underlying ground materials and/or hardstanding surfaces.

4.3.5 Level loggers were installed within selected boreholes between 13 July to 24 July 2023 to determine whether groundwater at the site is prone to tidal influences. The corresponding groundwater levels are shown in Appendix G. Following a review of this information, the deeper boreholes have shown relatively minor fluctuations in groundwater levels, potentially related to tidal variation. In addition, within each of the boreholes, recorded groundwater levels show relatively persistent peaks and troughs, together with a slight lag, following the high and low tide. This lag is likely to be a result of the site being located some distance from the coastal zone and therefore likely to be influenced by natural soil permeability and porosity, and anthropogenic permeability constriction zones i.e., harbour wall, and more cohesive land infill materials.

4.3.6 It should be further noted that groundwater conditions recorded during the investigation may not be representative of long-term conditions and that groundwater levels may vary in response to meteorological/ seasonal changes.

4.4 Contamination Observations

4.4.1 Olfactory evidence of potential contamination (reported as strong organic / tar odour) was recorded within DS112 located within Zone 1 of the site, at depths of between 3.0mbgl and 5.8mbgl (located within the Tidal Flat Deposits).

4.4.2 Additional olfactory evidence of potential contamination was recorded within TP117 (Zone 4) and TP120 (Zone 2), recorded as a moderately strong and strong hydrocarbon odour respectively within the made ground. Furthermore, a putrid odour was recorded within TP123 (Zone 1) between a depth of 1.6mbgl and >2.0mbgl

4.4.3 An unnamed borehole (located within Zone 1 and referred to as U1), which is assumed to be part of the PrenergyPower investigation (2009), was monitored by TEC on 24 March 2023 as part of the on-going monitoring works. Groundwater level gauging indicated the borehole was approximately 4m in depth, with the standing water level recorded at approximately 2.6mbgl. Notwithstanding this, the monitoring was undertaken using a dual phase interface probe, which detected the presence of free product between approximately 2.6mbgl and 3.6mbgl. Sampling of the free product indicated it comprised a thick, viscous, strong odorous coal tar like substance and subsequent laboratory analysis of this material and the underlying groundwater indicated the presence of elevated PAH's, aromatic TPH fractions and BTEX. DS112 was constructed in close proximity to U1 to allow further investigation and assessment to be made.

4.4.4 Furthermore, a faint sheen and very faint organic odour was noted within the groundwater encountered during the advancement of BH112. As a result, the borehole was installed with a groundwater monitoring well to allow for on-going groundwater monitoring and analysis. Laboratory analysis of a sample collected from this location recorded marginally elevated PAH concentrations and heavier ended fractions of aromatic TPH.

4.4.5 In addition, potential asbestos containing material (ACM), observed as fragments of corrugated sheeting, were observed within the south-eastern site area and within the made ground materials of TP126 (Zone 4).

4.4.6 Additional summary of the visual and olfactory evidence recorded at the site is presented in Table 4.6 below.

Table 4.6: Summary of Visual and Olfactory Contamination Encountered

Exploratory Location	Site Zone	Contamination Record	Depth (mbgl)	Strata
DS106	2	Weak organic / tar odour	2.8 – 4.8	Made ground
DS112	1	Strong organic / tar odour	3.0 – 5.8	Tidal Flat Deposits
TP109	2	Moderately strong organic?/hydrocarbon odour	0.6 - >3.0	Tidal Flat Deposits
TP113	3	Blue and pink crystallised salts	0.8 ->2.5	Made ground
TP117	4	Moderately strong hydrocarbon odour	1.2 – 1.6	Made ground

Exploratory Location	Site Zone	Contamination Record	Depth (mbgl)	Strata
TP120	2	Strong hydrocarbon odour, becoming weak with depth	0.4 - >2.5	Made ground
TP123	1	Faint putrid odour	1.6 - >2.0	Made ground
TP125	2	Blue crystallised salts	0.1 - >1.3	Made ground
TP127	4	Blue crystallised salts	0.0 – 0.8	Made ground
U1	1	Free product – viscous, strong odorous tar like substance	2.6 – 3.6	Unknown
BH112	2	Faint sheen and very faint organic odour within groundwater	0.0 – 2.6	Made ground
TP126	4	Potential ACM – corrugated sheeting	0.65 - >1.1	Made ground

5 TIER 2: GENERIC QUANTITATIVE RISK ASSESSMENT

5.1.1 The generic quantitative risk assessment comprises a screening of potential contaminants identified within the Tier 1: Preliminary Risk Assessment against carefully selected generic assessment criteria (GAC) that are appropriate to the site setting and the receptors concerned.

5.1.2 GAC's are screening criteria which are derived using a standard set of generic assumptions. They are designed to be broadly applicable to a wide range of site conditions and exposure scenarios. For this site GAC's relevant to Human Health and Controlled Waters have been selected, as detailed in sections 5.2 and 5.3 below.

5.2 Human Health

Methodology

5.2.1 Detailed information on the background legislation and selection of the GAC used within this assessment for human health is presented in Appendix I.

5.2.2 TEC have referenced the Environment Agency SGV's, Defra Category 4 Screening Levels (C4SLs) and LQM/CIEH S4ULs for Human Health Risk Assessment *'Copyright Land Quality Management Limited reproduced with permission; Publication Number S4UL3126. All rights reserved.'.*

5.2.3 The standard land use for the site, for use in this generic assessment, has been defined as "*commercial*" based on the proposed development and in accordance with current guidance.

5.2.4 All GAC's used within the assessment are based on a sandy loam as defined in SR3 (Environment Agency, 2009) and Soil Organic Matter (SOM) of 1% where applicable, which is considered the most conservative initial screening approach.

5.2.5 As the site investigation methodology involved targeted sampling, statistical analysis has not been undertaken and the results have been directly compared to the GAC.

5.2.6 Visual and olfactory evidence of contamination was noted within a number of exploratory locations and targeted sampling of these materials or materials immediately below has been undertaking as part of this assessment.

Summary of Results

5.2.7 The full human health generic quantitative risk assessment is presented in Appendix I.

Made Ground

5.2.8 The results of the assessment recorded localised exceedances of the GAC for a number of PAHs as detailed below;

Zone 1

- *BH108 - Benzo(a)anthracene; benzo(b)fluoranthene, benzo(a)pyrene and dibenz(a,h)anthracene.*
- *TP115 - Benzo(a)anthracene; benzo(b)fluoranthene, benzo(a)pyrene, chrysene and dibenz(a,h)anthracene.*

Zone 2

- *BH112 - Benzo(b)fluoranthene, benzo(a)pyrene and dibenz(a,h)anthracene.*
- *BH114 - Dibenz(ah)anthracene.*
- *TP109 - Dibenz(ah)anthracene.*
- *TP119 - Benzo(a)anthracene; benzo(b)fluoranthene, benzo(a)pyrene and dibenz(a,h)anthracene.*

Zone 3

- *BH101 - Benzo(a)anthracene; benzo(b)fluoranthene, benzo(a)pyrene and dibenz(a,h)anthracene.*

- *BH118 - Benzo(a)anthracene; benzo(b)fluoranthene, benzo(a)pyrene, chrysene, indenol(1,2,3-cd)pyrene and dibenz(a,h)anthracene.*
- *BH102 - Benzo(a)anthracene; benzo(b)fluoranthene, benzo(a)pyrene and dibenz(a,h)anthracene.*
- *BH107 - Benzo(b)fluoranthene, benzo(a)pyrene and dibenz(a,h)anthracene.*

Zone 4

TP117 – Benzo(b)fluoranthene

5.2.9 No further organic or inorganic contaminants in excess of the relevant GAC's were recorded within the made ground sampled across the site.

5.2.10 Marginally elevated PCB concentrations were recorded within Zone 1, 2 and 4, with a maximum PCB concentration of 0.14mg/kg recorded within DS104 at a depth of 0.2-0.6mbgl.

5.2.11 VOC concentrations within the sampled made ground were recorded as below laboratory limit of detection within all samples. While elevated SVOC concentrations were reported, these are noted to generally be associated with the elevated PAH concentrations across the site.

5.2.12 In addition, 6No samples of the made ground were scheduled for the PFAS Suite 3 determinands. Generally, concentrations were recorded to be below laboratory limit of detection. Notwithstanding this, marginally elevated concentrations (maximum 0.3µg/kg, with laboratory limit of detection of 0.2µg/kg) of PFOS C8 Sulphonate were recorded within DS102B at 0.7mbgl – 1.0mbgl (Zone 1), DS106 at 0.2-0.6mbgl (Zone 2) and DS104 at 0.2-0.6mbgl (Zone2).

Asbestos

5.2.13 The laboratory screening for asbestos identified asbestos fragments and fibres within a number of locations, as detailed within Table 5.1 below.

Table 5.1: Summary of Asbestos Identification

Exploratory Location	Depth (mbgl)	Asbestos Identification
Zone 1		
BH116	0.5 -0.9	Amosite – loose fibres
TP101	1.8 – 2.2	Amosite – loose fibrous debris
TP115	0.3 – 0.5	Chrysotile and Amosite – Loose fibres
TP105	1.6 – 1.8	Chrysotile – loose fibres
DS112	0.2 -0.6	Chrysotile – loose fibres
DS112	1.4 – 1.7	Chrysotile – loose fibres
DS111	0.3 -0.7	Chrysotile and Amosite – Loose fibres
Zone 2		
BH111	0.6 -0.8	Chrysotile – loose fibres
TP109	2.4 -2.6	Chrysotile – loose fibres
DS104	0.2 -0.6	Amosite – loose fibres
Zone 3		
DS108	0.1 -0.3	Chrysotile – loose fibres
Zone 4		
TP117	1.8 -2.0	Chrysotile – loose fibres
TP129	0.8 -1.0	Chrysotile – asbestos cement
TP111	0.4 -0.6	Chrysotile – loose fibrous debris
TP130	0.6-0.8	Amosite – loose fibres
DS109	0.2 -0.4	Amosite – loose fibrous debris
DS113	0.1 – 0.5	Chrysotile – loose fibrous debris

Natural Ground

5.2.14 Laboratory analysis of a selection of natural samples collected from the site generally recorded no organic or inorganic contaminant concentrations in excess of the relevant GAC's for the site. Notwithstanding this, benzene in excess of the GAC for a commercial site end use was recorded within DS112 at a depth of 3.5mbgl – 3.7mbgl. Elevated VOC concentrations associated with BTEX were also recorded within this sample together with elevated SVOC concentrations (PAH's and phenol).

5.2.15 Laboratory analysis of materials collected between 5.8mbgl and 6.0mbgl within this location recorded BTEX, TPH, VOC and SVOC concentrations to be below laboratory limit of detection.

5.2.16 An asbestos screen completed on samples of the natural ground at the laboratory recorded no suspected asbestos containing material or detectable asbestos fibres.

5.3 Controlled Waters

Methodology – Leachate Testing

5.3.1 Leachate analysis has been undertaken on select samples to determine the likely risk to identified controlled water receptors. Detailed information on the background legislation and selection of the GAC used within this assessment is presented in Appendix J.

5.3.2 With regards to controlled waters receptors, a conservative preliminary risk assessment has been undertaken by comparing the soil leachate analytical results to published Environmental Quality Standards where available.

Summary of Results

5.3.3 The controlled waters generic quantitative risk assessment is presented in Appendix J.

5.3.4 The results of the assessment recorded exceedances of the GAC and therefore the following contaminants of potential concern (CoPC) have been identified within the leachate;

- *PAHs – fluoranthene and anthracene*
- *Heavy metals – arsenic, lead, nickel, zinc, vanadium and cadmium.*

5.3.5 In addition, while exceedances were recorded for cyanide, total phenol and benzo(a)pyrene it is noted that laboratory limit of detection is above the screening value utilised within the assessment. With the exception of a marginally elevated total cyanide concentrations in 4No locations and total phenol in 1No location (out of 102No samples analysed), samples of these were noted to be below laboratory limit of detection and therefore, the risk from these contaminants to identified controlled water receptors is considered to be low.

5.3.6 Elevated benzo(a)pyrene in excess of the relevant screening values for human health was recorded in a number of locations and therefore the potential for leachable benzo(a)pyrene cannot be discounted at this stage.

Methodology – Groundwater Sampling

5.3.7 Visual and olfactory evidence collated from site indicates the potential for contamination within the underlying groundwater. Therefore, sampling and analysis has been undertaken from 34No monitoring locations with response zones targeting the underlying perched water and shallow Tidal Flat Deposits (16No locations), Alluvial Fan Deposits (13No. locations) and the South Wales Middle Coal Measures (5No. locations).

5.3.8 Based on the conceptual understanding, the nearest significant controlled waters receptor is considered to be the underlying Secondary A Aquifer (which is considered likely to provide base flow to the nearby surface waters. Therefore, an initial assessment of the potential risk to controlled waters has been undertaken by comparing the soil leachate analytical results to published Environmental Quality Standards (EQS) where available. In the absence of EQS values, Drinking Water Standards have been utilised. Detailed information on the background legislation and selection of the GAC used within this assessment for controlled waters is presented in Appendix J.

Summary of Results

5.3.9 The controlled waters generic quantitative risk assessment is presented in Appendix J.

5.3.10 The results of the assessment recorded exceedances of the GAC and therefore the following contaminants of potential concern (CoPC) have been identified within the leachate/ groundwater at the site;

Perched Water and Shallow Tidal Flat Deposits

- *PAHs – Naphthalene, anthracene, fluoranthene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene and indenol(1,2,3-cd)pyrene.*
- *Heavy metals – Arsenic, cadmium, copper, mercury, nickel and zinc.*
- *Total phenol (monohydric).*
- *TPH CWG Aromatic Fraction – C21-C35.*

Alluvial Fan Deposits

- *Heavy metals – Cadmium, copper, zinc and selenium.*

South Wales Middle Coal Measures

- *PAHs – Fluoranthene, benzo(b)fluoranthene, benzo(k)fluoranthene and benzo(a)pyrene.*
- *Heavy metals – Cadmium, copper, nickel, zinc, selenium and barium.*

5.3.11 Potential exceedances of cyanide and total phenol have been recorded within all samples due to the laboratory limit of detection being above the EQS value for each contaminant. Notwithstanding this, given the general absence of these contaminants within the total soil samples analysed from site, the potential risk is considered to be low.

5.3.12 TPH concentrations in excess of laboratory limit of detection were recorded within DS104, DS106, DS110, DS112, WS07 and BH112 within the perched water and shallow Tidal Flat Deposits and BH119 within the South Wales Coal Measures. While there are no current EQS values for TPH, comparison against values published in World Health Organisation (WHO), 2008 'Petroleum products in drinking water. Background document for development of WHO guidelines for drinking water quality', show that there are exceedances of the heavy aromatic TPH CWG fractions within the perched water and shallow Tidal Flat Deposits. However, it should be noted that these water quality values have been derived, assuming the allocation of 10% of a reference dose (with the reference dose of pyrene considered a suitable surrogate) of body weight per day to drinking water, and therefore, are highly conservative when considering the identified receptor. Additional consideration to the fact that compounds greater than C_{20} are not volatile or soluble in water suggests that the risks presented from aromatic TPH CWG fractions to the nearby surface waters is low.

5.3.13 SVOC concentrations in excess of the laboratory limit of detection were recorded within BH119, installed within the South Wales Middle Coal Measures. Review of these concentrations indicates they are primarily related to PAH compounds already identified within this sample.

5.3.14 Concentrations of VOC and PFAS were all reported as below laboratory limit of detection within the perched and groundwater samples collected to date.

Results from U1

5.3.15 Within the historical borehole U1 identified in Zone 1, free product was detected with a dual phase interface probe and sampling of the underlying groundwater recorded several exceedances of the GAC for the following CoPC:

- *PAHs – Naphthalene, anthracene, fluoranthene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene and indenol(1,2,3-cd)pyrene.*
- *Heavy metals – Arsenic, copper, mercury and nickel.*
- *Benzene, p&m-xylene and o-xylene.*
- *TPH CWG Aromatic Fraction – C_5-C_7, C_8-C_{10}, C_{10}-C_{12}, C_{12}-C_{16}, C_{16}-C_{21} and C_{21}-C_{35}.*

5.3.16 Concentrations of total phenols (monohydric), total, complex and free cyanide were not able to be determined due to the lab recording the sample to be oily.

5.3.17 In addition, elevated VOC and SVOC concentrations were recorded, however, review of these concentrations indicates that they are primarily related to the identified PAH compounds.

5.3.18 Comparison of these results with concentrations from the groundwater monitored from DS112 which was drilled in close proximity to U1, reveal that DS112 has similar heavy metal and PAH exceedances, however all BTEX compounds were recorded as below laboratory limit of detection. Samples recovered from DS112 also have minor exceedances of the GAC for TPH CWG aromatic fraction C12-C16 and C16 to C21. This suggests that there is likely an area of limited petroleum contamination present within the perched water in this area.

5.3.19 Analysis of the soil samples recovered from DS112, show that in the sample recovered from 3.5m to 3.7mbgl in material logged as a black slightly gravelly sandy clay with rare decayed rootlets/plant matter and strong organic/tar odour, and interpreted as being representative of the Tidal Flat Deposits located immediately beneath the made ground, there are elevated concentrations of both aliphatic and aromatic TPH-CWG fractions. Within a sample of the Tidal Flat Deposits from 5.8m to 6.0mbgl, there are no concentrations of any TPH CWG fraction above laboratory limit of detection, suggesting that the source is limited to the top 5.8m of the ground. The presence of aliphatic TPH-CWG compounds within the soil but absence within the groundwater samples is likely due to the limited solubility of aliphatic compounds compared to aromatic compounds, thus they have the tendency to sorb to soil instead of leaching into groundwater.

5.3.20 Groundwater monitoring results from the nearby BH103, which has its response zone within the deeper Alluvial Fan Deposits, record no exceedances of any PAH or TPH CWG fractions, which at this stage suggests that the cohesive nature of the Tidal Flat Deposits is limiting the vertical migration of these contaminants.

5.3.21 Comparison of the monitoring results can also be made to a downgradient borehole, DS103, which, similar to DS112 is installed with its response zone in the perched water but is located on the northern edge of the site, approximately 75m from the edge of the docks. Results from DS103, do not record elevated concentrations of any PAH or TPH-CWG fraction above laboratory limit of detection, and so at this stage it is concluded that there is limited horizontal migration of the petroleum contamination.

5.4 Ground Gas

5.4.1 A provisional ground gas risk assessment has been undertaken as part of this geotechnical report to provide an outline classification for the proposed development. It should, however, be noted that ground gas monitoring was ongoing at the time of this report being prepared, therefore recommendations within this section are preliminary and precautionary at this stage. A full ground gas risk assessment will be prepared on completion of the ground gas monitoring in due course.

5.4.2 The risks to the development from ground gases have been provisionally assessed in accordance with the empirical, semi-quantitative approach as outlined in BS8485:2015+A1:2019 (BS8485). This process includes combining the qualitative assessment of risk (using the CSM) with ground investigation and monitoring data to derive a Characteristic Situation for the site. The data to be obtained from the ongoing and monitoring would be required to fully characterise the ground gas regime at the site in accordance with current guidance.

5.4.3 Toxic, asphyxiating and flammable potentially explosive ground gas can enter buildings and other structures on and below the ground. These gases can potentially pose risks to occupants and other site end users, and to the structures themselves.

<u>Methodology – Characterisation with gas monitoring data: empirical, semi-quantitative approach</u>

5.4.4 A variety of gases might be present in the ground naturally or arising from contamination of the ground and or buried waste materials. In addition to the main components of air (nitrogen and oxygen), ground gas can contain other gases (e.g. methane, carbon dioxide, carbon monoxide, hydrogen sulfide, ammonia, radon etc.). It can also contain volatile organic compounds (VOCs) or inorganic vapours (mercury/hydrogen cyanide).

5.4.5 The following potential sources of ground gas have been identified in relation to this site:

On Site Ground Gas Sources

- Made ground observed to a maximum depth of 6.9mbgl (including areas of historic land raise/stockpiled materials of unknown constituents, and potentially infilled ponds); and
- Organic material / Peat layers within the Superficial Tidal Flat Deposits (elevated concentrations of methane have been recorded during the previous phase).

Off Site Ground Gas Sources

- Nearby historical coal mining activities.

5.4.6 The primary sources of ground gas considered to present a potential risk on this site include methane (flammable and asphyxiant) and carbon dioxide (toxic and asphyxiant).

Ground Gas Monitoring Results

5.4.7 All gas monitoring was undertaken using a calibrated GFM 430/436 infra-red gas analyser fitted with an internal flow pod. The full monitoring results to date are presented in Appendix H and summarised in Table 5.2 below.

Table 5.2: Summary of Ground Gas Monitoring Data

Borehole	Response Zone/Strata	Potential source of ground gas	No. of monitoring occasions	Maximum (Steady State) Methane (%)	Maximum Carbon dioxide (Steady State) (%)	Minimum (Steady State) Oxygen (%)	Maximum (Steady State) Flow Rate (l/hr)	Water levels (mbgl)	Range of atmospheric pressure (mb)
WS01	Made Ground	Organic matter within the made ground	3	0.0 (0.0)	0.1 (0.1)	19.7	0.0	Dry	1009 – 1023
WS03	Tidal Flat Deposits	Tidal Flat Deposits – Organic layers	3	0.0 (0.0)	2.4 (2.4)	16.8	0.0	1.41 - Dry	1007 - 1023
WS06	Tidal Flat Deposits	Tidal Flat Deposits – Organic layers	3	0.0 (0.0)	0.0 (0.0)	20.0	0.0	0.50 - 0.91	1008 - 1021
WS07	Made Ground/ Tidal Flat Deposits	Organic material within the made ground and organic rich layers within the Tidal Flat Deposits	3	1.9 (1.9)	8.5 (8.5)	0.0	41.4 (0.1)	0.79 - 1.19	1007 - 1027
WS10	Made Ground/ Tidal Flat Deposits	Organic material within the made ground and organic rich layers within the Tidal Flat Deposits	3	0.0 (0.0)	2.2 (2.2)	9.0	0.1 (0.0)	3.23 -3.34	1008 - 1023
WS11	Wind Blown Sand	Could act as a permeable pathway to gas migration	3	0.0 (0.0)	3.4 (3.4)	17.6	0.0	1.36 - 1.84	1008 - 1022
DS101	Made Ground/ Wind Blown Sand	Organic matter within the made ground and acting as a permeable pathway within the Blown Sand	3	0.0 (0.0)	1.0 (1.0)	19.9	0.0	1.34 – 1.9	1008 – 1024
DS102	Made Ground	Organic matter within the made ground	3	0.0 (0.0)	1.3 (0.7)	0.9 (1.6)	0.9 (0.0)	Dry	1009 – 1028
DS103	Tidal Flat Deposits	Organic rich Tidal Flat Deposits	3	0.0 (0.0)	0.2 (0.1)	2.8 (8.2)	2.8 (0.0)	0.95 – 1.21	1007 – 1025
DS104	Made Ground	Organic matter within the made ground	3	0.0 (0.0)	2.5 (2.5)	12.7	0.1 (0.0)	1.42 – 2.0	1008 – 1024
DS105	Made Ground	Organic matter within the made ground	3	0.0 (0.0)	0.8 (0.8)	8.0	3.8 (0.0)	2.19 – Dry	1007 - 1023
DS106	Made Ground	Organic matter within the made ground	3	0.0 (0.0)	2.7(2.7)	3.0	2.1 (0.0)	1.91 – 2.54	1009 -1023

Borehole	Response Zone/Strata	Potential source of ground gas	No. of monitoring occasions	Maximum (Steady State) Methane (%)	Maximum Carbon dioxide (Steady State) (%)	Minimum (Steady State) Oxygen (%)	Maximum (Steady State) Flow Rate (l/hr)	Water levels (mbgl)	Range of atmospheric pressure (mb)
DS107	Tidal Flat Deposits	Organic rich Tidal Flat Deposits	3	0.0 (0.0)	4.6 (4.6)	13.8	0.4 (0.0)	0.94 – 1.21	1007 – 1023
DS108	Tidal Flat Deposits	Organic rich Tidal Flat Deposits	3	0.0 (0.0)	4.7 (4.7)	15.1	0.0	1.57 – 2.31	1008 – 1023
DS109	Made Ground/ Wind Blown Sand	Organic matter within the made ground and acting as a permeable pathway within the Blown Sand	3	0.0 (0.0)	5.8 (5.8)	3.7 (3.8)	0.0	0.78 – 1.05	1008 - 1022
DS110	Made Ground/ Tidal Flat Deposits	Organic rich Tidal Flat Deposits	3	0.0 (0.0)	2.1 (2.1)	0.2	0.5 (0.0)	1.5 – 2.83	1008 - 1023
DS111	Made Ground	Organic matter within the made ground	3	0.4 (0.0)	0.5 (0.5)	13.9	0.0	1.53 – Dry	1008 - 1023
DS112	Made Ground/ Tidal Flat Deposits	Organic material within the made ground and organic rich layers within the Tidal Flat Deposits	3	0.0 (0.0)	3.9 (3.9)	1.0	0.7 (0.1)	2.32 – 2.69	1008 - 1023
DS113	Tidal Flat Deposits	Organic rich Tidal Flat Deposits	3	0.0 (0.0)	3.8 (3.8)	9.7	2.4 (0.4)	0.83 – 1.34	1007 - 1020

5.4.8 Monitoring has been undertaken during variable atmospheric and temporal conditions, however, it should be noted that monitoring has generally been undertaken during atmospheric pressures greater than 1000mb during the spring and summer months and monitoring undertaken to date, may not provide data which has been collected during reasonable worst case conditions.

Borehole Hazardous Gas Flow Rate (Q_{hg})

5.4.9 A preliminary hazardous gas flow rate (Q_{hg}) for each borehole on each individual monitoring event undertaken to date has been calculated in accordance with BS8485:2015. Following an assessment of all the Q_{hg} data for each borehole in conjunction with the conceptual site model, a representative Gas Screening Value (GSV) for each borehole has been derived, together with the resulting implied maximum Characteristic Situation (CS) for each borehole location. The full data is presented within Appendix K.

Worst Case Check

5.4.10 The plausible worst case condition Gas Screening Value (GSV) has also been calculated for each gas by multiplying the maximum recorded steady state flow and maximum total gas concentration (for standpipes located in the same strata at the site), to provide the worst-case implied CS, as summarised in Table 5.3.

5.4.11 Peak instantaneous flows were recorded in DS102 to DS107, DS110, DS112, DS113, WS07 and WS10. These peak flows have been judged to be unrepresentative due to an instantaneous drop in flow rate recorded within the first 15 seconds of the monitoring, suggesting that the elevated flows were caused by the release of borehole pressure upon opening the gas tap. The mechanism for this can be explained by reviewing the groundwater monitoring data, which indicates that groundwater is present within, or in some cases (DS107, DS113 and WS07) above the top of the response zone.

5.4.12 Within DS113, the instantaneous peak flow was recorded as 2.4l/hr and recorded to drop to a steady flow of 0.4l/hr after 15 seconds. Within WS07, the instantaneous peak flow was recorded as 41.4l/hr and recorded to drop to 8.7l/hr after 15seconds and noted to gradually drop to a steady flow rate of 0.1l/hr after 120 seconds.

Table 5.3: Worst Case Check – Ground Gas

Response Zone/ Strata	Max. Steady Flow Rate (l/hr)	Max. Methane Conc. (%)	Max. Carbon Dioxide Conc. (%)	Maximum Methane - Hazardous Flow Rate CH_4 GSV (l/hr) Q_{hgs}	Maximum Carbon Dioxide – Hazardous Flow Rate CO_2 GSV (l/hr) Q_{hgs}	Plausible worst-case CH_4 CS	Plausible worst-case CO_2 CS
Made Ground	0.1	0.4	2.7	0.0004	0.0027	CS1	CS1
Tidal Flat Deposits	0.4	0.1	4.7	0.0004	0.0188	CS1	CS1
Wind Blown Sand	0.1	0.1	3.4	0.0001	0.0034	CS1	CS1
Made Ground/ Tidal Flat Deposits	0.1	1.9	8.5	0.0019	0.0085	CS1	CS1
Made Ground/ Wind Blown Sand	0.1	0.1	5.8	0.0001	0.0058	CS1	CS1

5.4.13 Furthermore, ground gas monitoring undertaken by TEC during a previous phase, dated between 9 May 2022 and 24 May 2022 can be viewed within the previous report *PROJECT DRAGON: PDZ – Exploratory Ground Investigation Report' report ref: 2111006.003.01 Rev D. dated June 2022 and revised in August 2023.*

5.4.14 Within the previous ground gas monitoring and assessment, a worst-case check was undertaken on all the installed boreholes and reported that boreholes with a response zone within the Alluvial Fan Deposits recorded a maximum flow rate of 3.4l/hr, a maximum methane concentration of 81% and a maximum carbon dioxide concentration of 6.7%. The implied Characteristic Situation for the recorded methane was reported as CS3 and for carbon dioxide was reported as CS2.

5.4.15 Within boreholes in which the targeted response zones included made ground and tidal flat deposits both the implied Characteristic Situation for methane and carbon dioxide was reported as CS-1.

Gas Screening Values (GSVs)

5.4.16 It is considered that there is currently insufficient data to adequately characterise the site. The recent initial results indicate the site may be CS1, although it has been noted that the previous ground gas monitoring and assessment indicated an implied Characterisation of CS3 for methane and CS2 for carbon dioxide. However, further monitoring would be recommended (during reasonable worst case temporal conditions) to fully characterise the ground gas regime at the site, taking account of all monitoring data, and to inform the scope of ground gas protection measures required for the proposed development.

5.5 Updated Conceptual Model

5.5.1 The findings of the site investigation and the GQRA have been used to update the conceptual model and confirm the relevant contaminant linkages associated with the proposed development.

5.6 Identified Sources

5.6.1 Sources of contamination/ ground gas identified on and within the vicinity of the site are summarised below:

Identified On Site Sources

- Made ground across the site with elevated concentrations of a number of PAH compounds, as well as asbestos fibres, fibrous debris and cement;
- Hydrocarbon impacted shallow soils (Tidal Flat Deposits) within DS112.
- Perched water and shallow groundwater within the Tidal Flat Deposits with elevated concentrations of heavy metals, PAHs, total phenols and aromatic TPH-CWG fractions;
- Groundwater from within the Alluvial Fan Deposits with elevated levels of heavy metals, as well as elevated concentrations of heavy metals and PAH compounds from within the deeper South Wales Middle Coal Measures;
- Potentially infilled land; and
- Organic natural ground.

Identified Off Site Sources

- Surrounding current and historic industrial land uses, including coal mining, copper works, iron and steel works, warehouses, factories, depots, engineering works and railway sidings/mineral tramways.

5.7 Identified Receptors

5.7.1 Receptors identified as part of this updated conceptual model are:

- Current/future site users (most sensitive receptor being workers on the site) from contaminated soils;
- Construction and maintenance workers from contaminated soils;

- Controlled waters (Secondary A Aquifer and Secondary (undifferentiated) Aquifer and nearby surface waters) from contaminated groundwater;
- Proposed development/ structures (below ground structures, services and concrete, proposed buildings on site) from contaminated soils and groundwater;
- Acute and chronic risks to current/future site users (workers in the proposed offices/buildings) from elevated concentrations of ground gases; and
- Proposed development/ structures and fabric (below ground structures, services and concrete, proposed buildings on site), specifically the risk of explosive risks associated with elevated methane concentrations.

5.8 Identified Pathways

5.8.1 Identified contaminant pathways relating to the identified receptors and contaminants of concern include:

Human Health

- Dermal contact – Direct skin contact with soil, dust, or water. Certain contaminants can also be absorbed into the body through skin, or enter directly through cuts or abrasions;
- Ingestion - ingestion of soil by consumption of un-washed produce grown on site or eating with unwashed hands causing cross contamination, or ingestion of fugitive dust from surfaces etc., or indirect ingestion of fruit and vegetables grown in contaminated soil;
- Inhalation – inhalation of soil, dust, gases or vapours which have migrated through the unsaturated zone which may result in short term acute risks of asphyxiation of toxicity, and /or long-term chronic risks to human health.

Controlled Waters

- Infiltration and contaminant migration through permeable strata such as the unsaturated zone to the underlying groundwater; and
- Leachate Generation: Mobile/leachable contaminants (e.g. surface spillages/leakage of hydrocarbons) migrating vertically down through the near surface unsaturated zone until meeting the groundwater table below, after which free/dissolved phase contaminants may potentially migrate beyond the site boundaries and impact off site receptors; and
- Leachate migration: Leachate horizontally migrating and impacting on surface water quality in nearby watercourses and below the ground along preferential pathways including drainage pipe bedding, jointing and fracturing within the underlying strata;
- Solution of free phase contaminants into the groundwater; and
- Volatilisation of contaminants carried within groundwater/leachate into air spaces within the soil medium/near surface soils.

Ground Gases

- Vertical migration of gaseous contaminants through the unsaturated zone within permeable strata or vertical and horizontal migration through fractures and discontinuities within the underlying solid geology;
- Migration of dissolved phase gases within perched and groundwater through the saturated zone and permeable pathways within the underlying bedrock such as fractures and drainage runs;
- Migration of hazardous gases to indoor air through soil and proposed building foundations.

- With all of the above potential pathways, consideration of the effect which groundwater level fluctuations may have on gas emissions have been considered – for example a piston effect resulting from tidal variations on groundwater.

Building Materials/Services

- Aggressive attack: building materials can be damaged by direct contact with aggressive/contaminated ground, especially if mobile groundwater is present, for example sulphate attack on concrete or the aggressive contaminants coming into direct contact with membranes used within the structures; and
- Permeation of contaminants: Contamination within soil and groundwater can permeate through water supplies; and
- Explosive risk; Potential risk of fire and/or explosion within structures (both existing and proposed) caused by hazardous gases (for example – methane).

5.8.2 The updated conceptual model is presented in Table 5.4. References to risk estimations are made in accordance with the methodology presented in CIRIA publication C552 (2001) titled *'Contaminated Land Risk Assessment: A Guide to Good Practice'* and summarised in Appendix C.

Table 5.4: Updated Conceptual Model (Hazard Assessment and Risk Estimation)

Potential Source Location	Identified Hazard/ Source	Identified Receptor	Identified Pathway	Potential Consequence of Contaminant Linkage	Potential Probability for Contaminant Linkage	Risk Classification (Risk = Probability x Consequence)
On site	Made ground/infilled ground and potentially contaminative processes.	Current and future site users and construction workers	Exposure to potential contaminants through ingestion, inhalation and dermal contact.	Medium	**Low Likelihood to Likely:** Laboratory analysis of the made ground encountered across the site recorded elevated concentrations of several PAH compounds in excess of the assessment criteria for a commercial site end use. In addition, asbestos fibres, fibrous debris and cement was recorded within 17No. soil samples of the made ground materials. It is understood that much of the proposed development will be laid to hardstanding or within the footprint of the proposed structures, which will mitigate the contaminant pathways. However, where soft landscaping is proposed and where made ground materials remain on-site after finished site levels have been achieved, exposure to potential contaminants cannot be discounted.	**Low/Moderate to Moderate Risk**
		Controlled waters	Leaching of potential contaminants from made ground and vertical and lateral migration through the saturated zone to controlled waters.	Medium	**Low Likelihood to Likely:** Elevated leachable concentrations of heavy metals and PAH compounds have been recorded within the made ground materials. Additionally, samples recovered from the perched water from within the made ground and groundwater from the shallow Tidal Flat Deposits have elevated levels of PAHs, metals and total phenols in relation to adopted EQS GACs. Samples from the deeper groundwater bodies including the Alluvial Fan Deposits and the South Wales Middle Coal Measures record elevated levels of heavy metals and PAH compounds, suggesting that vertical migration through the saturated zone is occurring.	**Low/Moderate to Moderate Risk**
		Current and future site users, construction workers and proposed development	Migration, ingress and accumulation of ground gasses.	Severe	**Unlikely to Low Likelihood**: Site observations and gas monitoring undertaken to date indicate that the made ground is unlikely to be a potential source of significant ground gas composition (with no visual evidence of degradable/putrescible materials). Gas monitoring is currently ongoing, although initial results suggest the site to be representative of Characteristic Situation 3.	**Low/Moderate to Moderate Risk**

Potential Source Location	Identified Hazard/ Source	Identified Receptor	Identified Pathway	Potential Consequence of Contaminant Linkage	Potential Probability for Contaminant Linkage	Risk Classification (Risk = Probability x Consequence)
On site	Localised hydrocarbon impact	Current and future site users and construction workers	Exposure to potential contaminants through ingestion, inhalation and dermal contact.	Medium	**Unlikely to Low Likelihood:** Elevated concentrations of both heavy aliphatic and aromatic TPH CWG fractions have been recorded within the shallow Tidal Flat Deposits from within DS112 only which was drilled adjacent to the unknown historical well U1 (which was observed to contain free product). Notwithstanding this, concentrations were found to be below the relevant GAC for a commercial site end use.	**Low to Low/Moderate Risk**
		Controlled waters	Leaching of hydrocarbons in the unsaturated zone and vertical and lateral migration through the saturated zone to controlled waters.	Medium	**Unlikely to Low Likelihood**: The field observations and laboratory analysis indicated the area of hydrocarbon impact to be isolated to within U1 and DS112. Groundwater samples obtained from these wells record elevated concentrations of heavy metals, PAHs, BTEX compounds as well as aromatic TPH CWG fractions. Notwithstanding this, there is currently no evidence of any vertical or horizontal migration of such hydrocarbon contamination.	**Low to Low/Moderate Risk**
		Current and future site users, construction workers and proposed development	Migration, ingress and accumulation of vapours.	Severe	**Unlikely to Low Likelihood**: Whilst marginally elevated concentrations of VOCs and SVOCs have been identified in the recovered groundwater samples, the hydrocarbon impact has been recorded to comprise only of heavy chain aromatic TPH CWG fractions which are considered to be less volatile than the corresponding aliphatic compounds.	**Low to Low/Moderate Risk**
On and off site (organic deposits). Off site (historical coal mining activities)	Organic rich natural ground on site and historical coal mining activities off site.	Current and future site users, construction workers, controlled waters and proposed development/structures.	Migration, ingress and inhalation of ground gases.	Severe	**Unlikely to Low Likelihood**: Gas monitoring undertaken to date indicate that the underlying organic deposits are unlikely to be a potential source of significant ground gas composition. Gas monitoring is currently ongoing, although initial results suggest the site to be representative of Characteristic Situation 3	**Low/Moderate to Moderate Risk**

6 LAND CONTAMINATION - CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

6.1.1 Despite the extensive historical industrial usage of the site, limited amounts of visual and olfactory evidence of contamination was observed during the investigation. Such evidence included both organic and hydrocarbon odours, blue crystallised salts and free product within the historical well U1.

6.1.2 Laboratory analytical results of the encountered made ground materials reported exceedances of the relevant GACs for a commercial end site use for a number of PAH compounds, together with asbestos fibres, fibrous debris and cement encountered in a number of locations.

6.1.3 Leachable contaminants of potential concern (heavy metals and PAH compounds) have been identified within the sampled made ground. In addition, samples recovered from the perched water within the made ground and groundwater form the shallow Tidal Flat Deposits have elevated concentrations of PAHs, heavy metals and total phenols in excess of the adopted EQS values. Furthermore, groundwater samples from the Alluvial Fan Deposits and South Wales Middle Coal Measures record exceedances of the EQS with respect to heavy metals and PAH compounds (SWMCMF only).

6.1.4 Localised hydrocarbon impacted soils have been identified within an unknown historical borehole (termed U1) and the adjacent window sample borehole DS112 located towards the north west of the site. Soil samples from the shallow Tidal Flat Deposits within this borehole record elevated concentrations of both aliphatic and aromatic heavy chain TPH CWG fractions, although not in excess of the adopted GACs for a commercial site end use. Groundwater samples from the Tidal Flat Deposits in both of these boreholes record elevated aromatic TPH CWG fractions in excess of the adopted EQS values.

6.1.5 In addition, within 3No. samples of the made ground materials recordedslightly elevated levels of PFOS C8 Sulphonate which were detected above laboratory limit of detection and therefore, assessment may be required.

6.1.6 Based on the ground gas monitoring undertaken to-date together with the conceptual site model, it is possible that the site may potentially be considered as Characteristic Situation 3, based on the previous monitoring undertaken at the site. However, gas monitoring is currently ongoing and upon completion, the findings from all phases of the investigation will be compiled and used to update the ground gas regime and prepare an addendum report.

6.1.7 No radon protective measures are considered necessary within the construction of new homes.

6.2 Preliminary Remediation Options Appraisal

Human Health

6.2.1 Contaminants of potential concern (CoPC) have been recorded within the made ground materials when considering a commercial site end use.

6.2.2 It is understood that much of the proposed development will be laid to hardstanding or within the footprint of the proposed structures, which will mitigate the contaminant pathways. However, where soft landscaping is proposed in areas where made ground materials remain after finished site levels have been achieved, localised exposure to potential contaminants and asbestos cannot be discounted and a suitable engineered cover system may be required.

6.2.3 Alternatively, further testing may be undertaken once final site levels are achieved, and final proposed development designs are in place, to determine the requirement for any such remedial measures.

6.2.4 It is recommended that a full Stage 2: Options Appraisal and Stage 3: Remediation Strategy is prepared to set out the remediation and monitoring objectives and criteria, to track the performance of the identified remediation measures and to specify the verification plan. Once the Remediation Strategy has been agreed and the remediation works undertaken, a verification report or reports will be required.

6.2.5 Given the presence of asbestos, good working practice methods should be adopted as per current guidance prior to commencement of any groundworks/site preparation works (CL:AIRE (2016) Control of Asbestos Regulations 2012 – Interpretation for Managing and Working with Asbestos is Soil and Construction and

Demolition Materials: Industry guidance and, CIRIA Report C765 "Asbestos in soil and made ground good practice site guide" (2017)).

Controlled Waters

6.2.6 Contaminants of potential concern have been recorded within both the sampled perched/shallow groundwater (made ground/Tidal Flat Deposits) as well as the deeper groundwater (Alluvial Fan/South Wales Middle Coal Measures Formation) in relation to the conservative EQS values adopted.

6.2.7 The upper superficial Tidal Flat Deposits has been found to be generally cohesive in nature, which combined with the anticipated low mobility of the heavy metals and PAH compounds recorded suggest the potential for off site contaminant migration is likely to be low. Furthermore, it is understood that the majority of the proposed development is going to be laid to hardstanding which will limit the potential for infiltration and subsequently limit the potential for contaminant migration.

6.2.8 Groundwater samples recovered from U1 and DS112 record elevated levels of heavy chain aromatic TPH CWG fractions in excess of the EQS, however, groundwater samples of other nearby wells with the response zone in the deeper aquifers have not found any TPH concentrations above laboratory limit of detection. Similarly, no elevated concentrations been picked up within installed wells within the shallow groundwater body downgradient of this isolated source of contamination. As such, at this stage, there is no evidence suggesting vertical or horizontal migration of this TPH contamination is occurring.

6.2.9 Additional groundwater monitoring and sampling is planned to refine this preliminary assessment and any potential remedial measures which maybe required.

Ground Gas

6.2.10 At this stage gas monitoring is ongoing of the installed boreholes is ongoing, however, preliminary recommendations suggest that the identified made ground and organic materials do not represent a significant source of gas generation potential and the site is likely to be categorised as Characteristic Situation 3.

6.3 General Considerations

6.3.1 Prior to the commencement of any construction or groundworks, the installed boreholes should be appropriately decommissioned to prevent them acting as a viable pathway for contaminant migration.

6.3.2 Given the presence of general made ground, good brownfield site working practices should be adopted by construction workers to mitigate against potential risks.

6.3.3 Should water supply pipes be placed within the made ground encountered at the site, due consideration would need to be given to the UK Water Industry Research Ltd (UKWIR) guidance.

6.3.4 Based on our conceptual understanding of the site to-date, it would be anticipated that similar ground conditions to those encountered as part of this assessment exist across the site areas where access has been possible. However, should significant thicknesses of made ground be encountered, or visual or olfactory evidence of potentially significant contamination be identified during the development works, further investigation and assessment may be required.

7 RECOMMENDED FURTHER WORKS

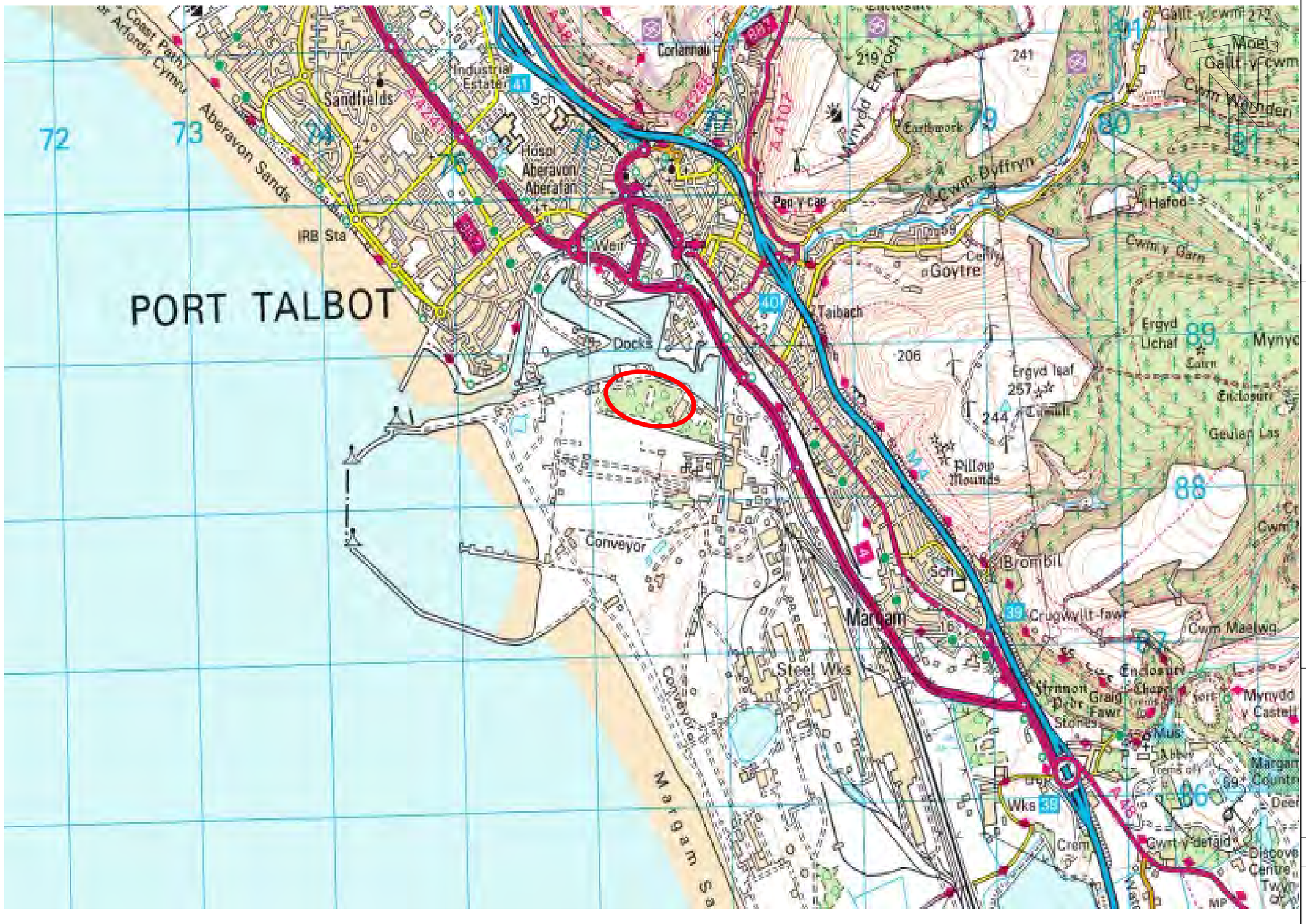
7.1.1 Given the assessment presented within this report, additional works would be recommended to fully define the land contamination risks and geotechnical issues associated with the site.

- Additional gas and groundwater monitoring of the installed boreholes to refine the above assessments and fully characterise the ground gas regime, as well as to confirm any remedial measures required.
- Targeted ground investigation and soil sampling to confirm the depth and extend of the identified hydrocarbon contamination.
- Undertake a Stage 2: Remediation Options Appraisal and Stage 3: Remediation and verification works, including development of a Remediation Strategy, Verification of the identified remediation works.

TEC

Figures and Drawings

PRIVATE AND CONFIDENTIAL



KEY:

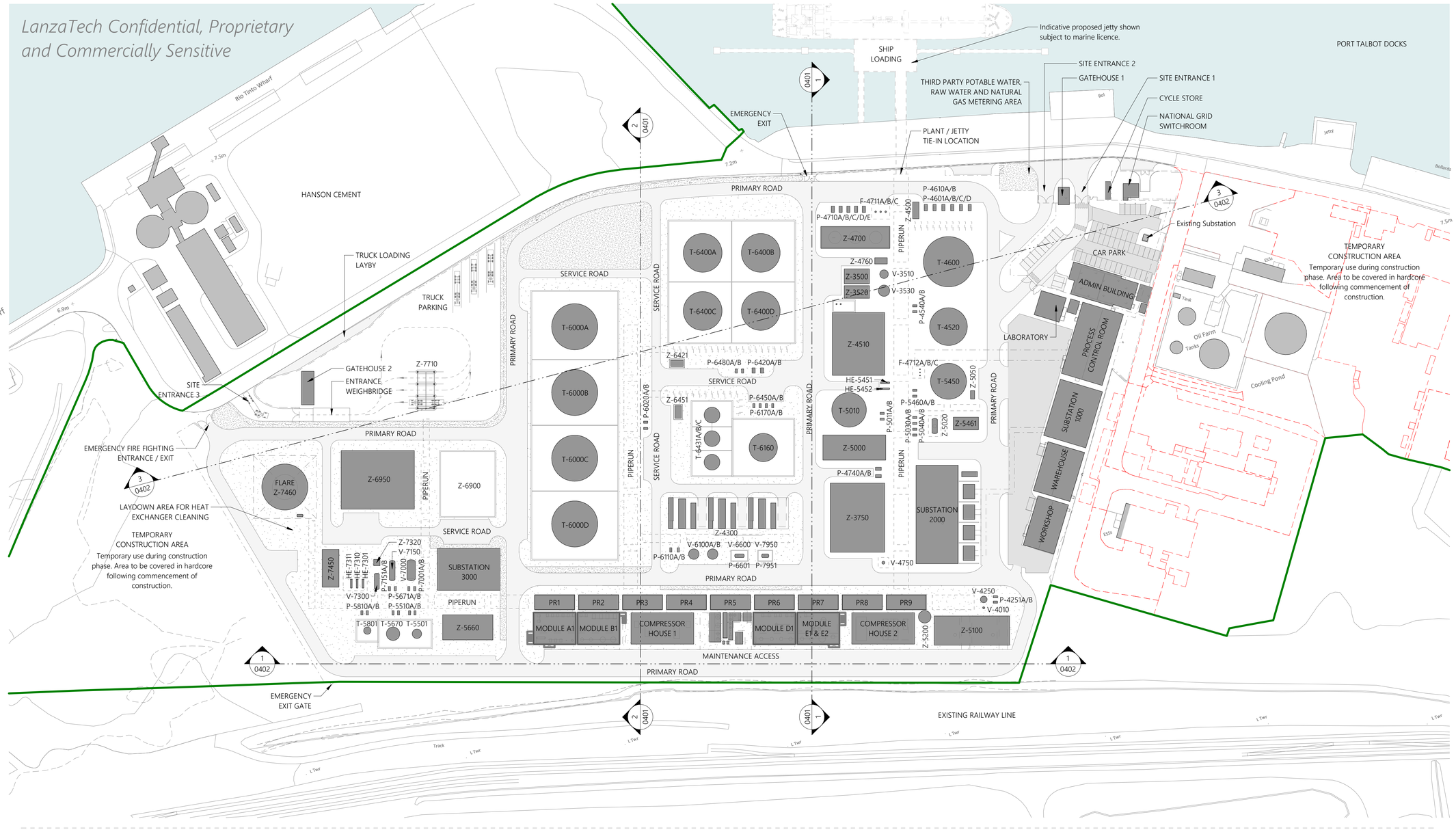
Site Location

PROJECT DRAGON

Site Location Plan

DATE: July 2023		
SCALE: N/A	DRN: RJE	CHKD: CH
PROJECT No: 2111006.005	DATE: 31-07-2023	DATE: 04-08-2023
DRAWING No. Report Figure 1		Rev. -

LanzaTech Confidential, Proprietary and Commercially Sensitive



(c) 2023 Sophem Limited
info@inspirearchitects.co.uk
www.inspirearchitects.co.uk

Sophem Limited t/a Inspire Architects
Heywood House, Heywood. BA13 4NA
01749 605006

0m 20m 40m 60m 80m 100m

GENERAL NOTES

- All works proposed shall be conducted in accordance with the related H&S and CDM regulations. Where doubt arises over any aspect of safety, consult Inspire Architects.
- Should any discrepency be found on this drawing or related project information then the matter should be brought to the attention of Inspire Architects for resolution as soon as possible.
- This drawing may be based on a measured survey or Ordinance Survey information. Do not scale from this drawing unless for planning purposes.
- All dimensions are in millimetres unless otherwise stated. Do not scale from this drawing. All information and layouts detailed on this drawing are subject to site dimension checks.
- Copyright - All Inspire Architects drawings are the property and copyright of Sophem Limited and are not to be used for any purpose without prior written agreement.

NOTES

- Survey information taken directly from drawings issued on December 2021 by AP Land Surveys.
- Inspire Architects are not responsible for the design of the plant equipment identified on this drawing.

LEGEND

- EIA Study Area Boundary
- Existing Buildings
- Proposed Plant / Buildings
- Existing buildings to be demolished

LanzaTech Confidential, Proprietary and Commercially Sensitive

Revision	Drawn	Checked	Date
P12	CH	CH	13.10.2023
P11	CH	CH	12.10.2023
P10	CH	CH	11.10.2023
P9	CH	NC	11.08.2023
P8	CH	NC	09.08.2023
P7	CH	NC	25.07.2023
P6	CH	NC	17.07.2023
P5	CH	NC	13.07.2023

INSPIRE Architects

PROJECT NAME
Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility

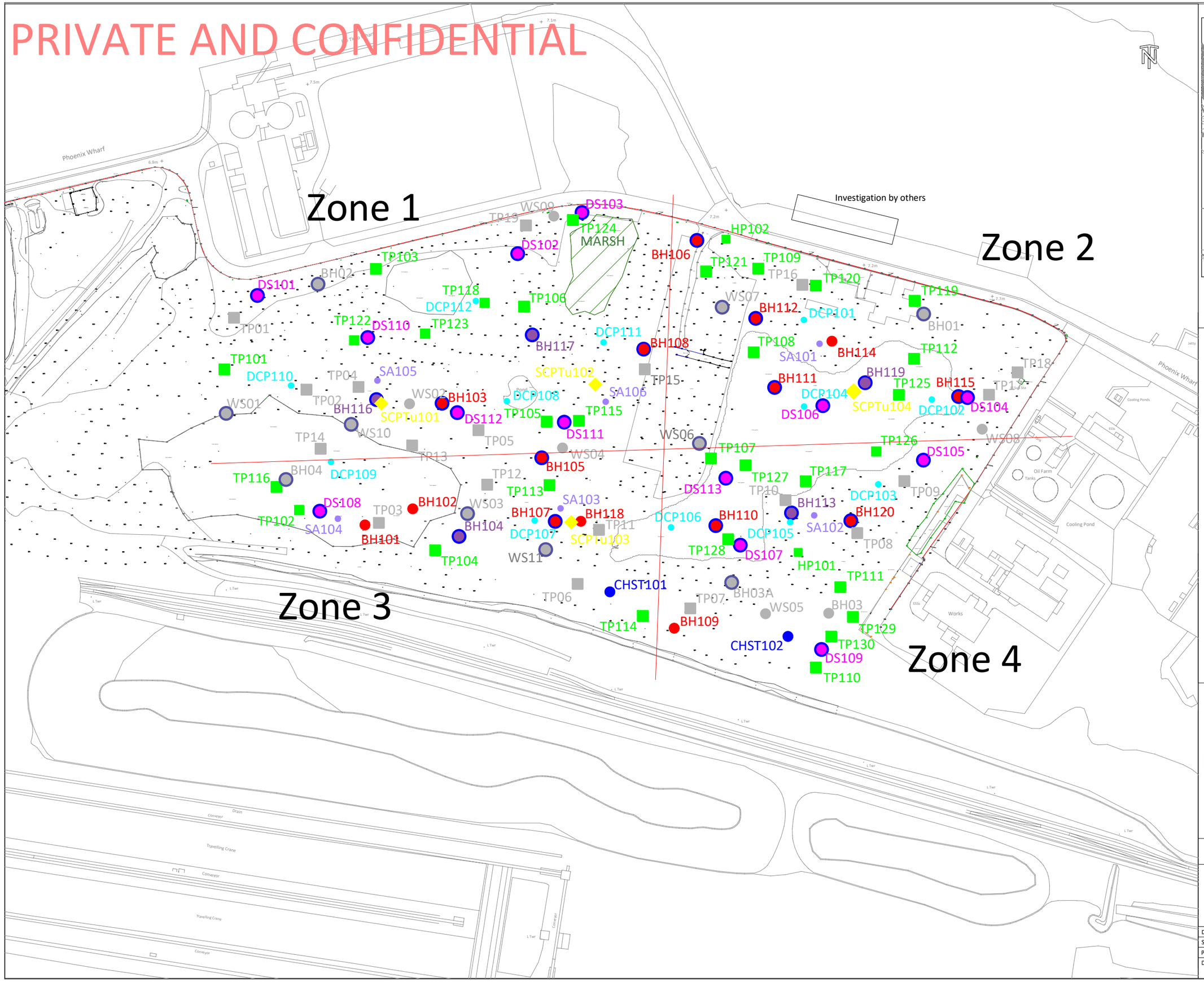
CLIENT
LanzaTech UK Limited

SHEET NAME
Proposed PDZ Layout & Equipment List - EIA Boundary Shown

SHEET SIZE: A1
SCALE: 1 : 1000 @ A1
STATUS CODE: S2
STATUS: PLANNING
REVISION DATE: 13.10.2023
REVISION: P12

DRAWING NUMBER
2143.01-IA-ZZ-ST-DR-A-0225

PRIVATE AND CONFIDENTIAL



LOCATION PLAN



KEY:

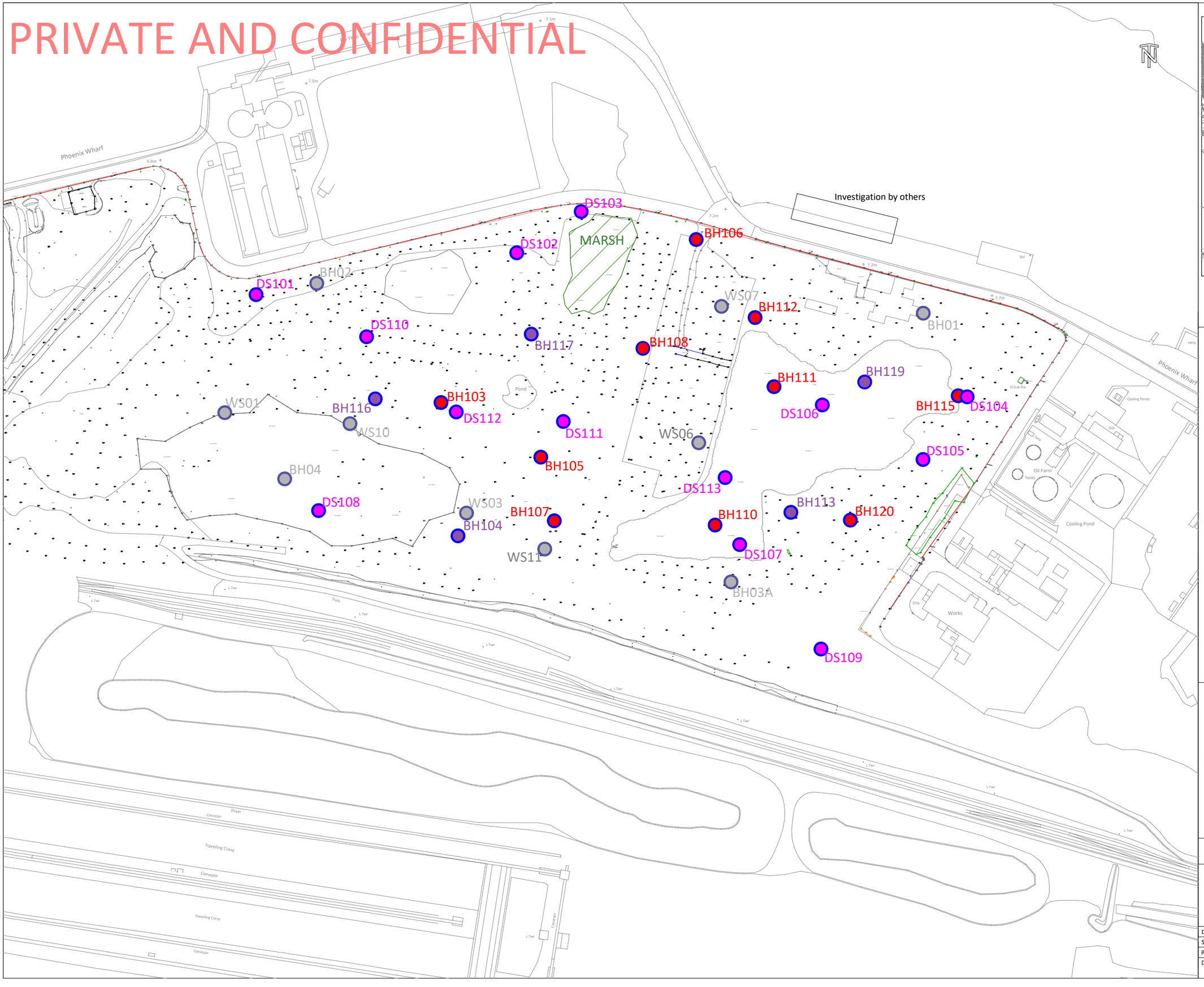
- 2022 Trial Pit (approximate only)
- Trial Pit
- Deep Borehole (with monitoring well)
- 2022 Borehole (with monitoring well)
- Borehole
- Borehole (with monitoring well)
- 2022 Dynamic Sample Hole (approximate only)
- 2022 Dynamic Sample Hole (with monitoring well)
- Dynamic Sample (with monitoring well)
- SCPTu Location
- Downhole Seismic Test Location
- Dynamic Cone Petetration Test
- Hand Dug Pit
- Infiltration Testing

PROJECT DRAGON

Geotechnical/Geoenvironmental Exploratory Hole Plan

DATE: July 2023		
SCALE: N/A	DRN: RJE	CHKD: CH
PROJECT No: 2111006.005	DATE: 31-07-2023	DATE: 04-08-2023
DRAWING No. Report Figure 3		Rev. -

PRIVATE AND CONFIDENTIAL



LOCATION PLAN



KEY:

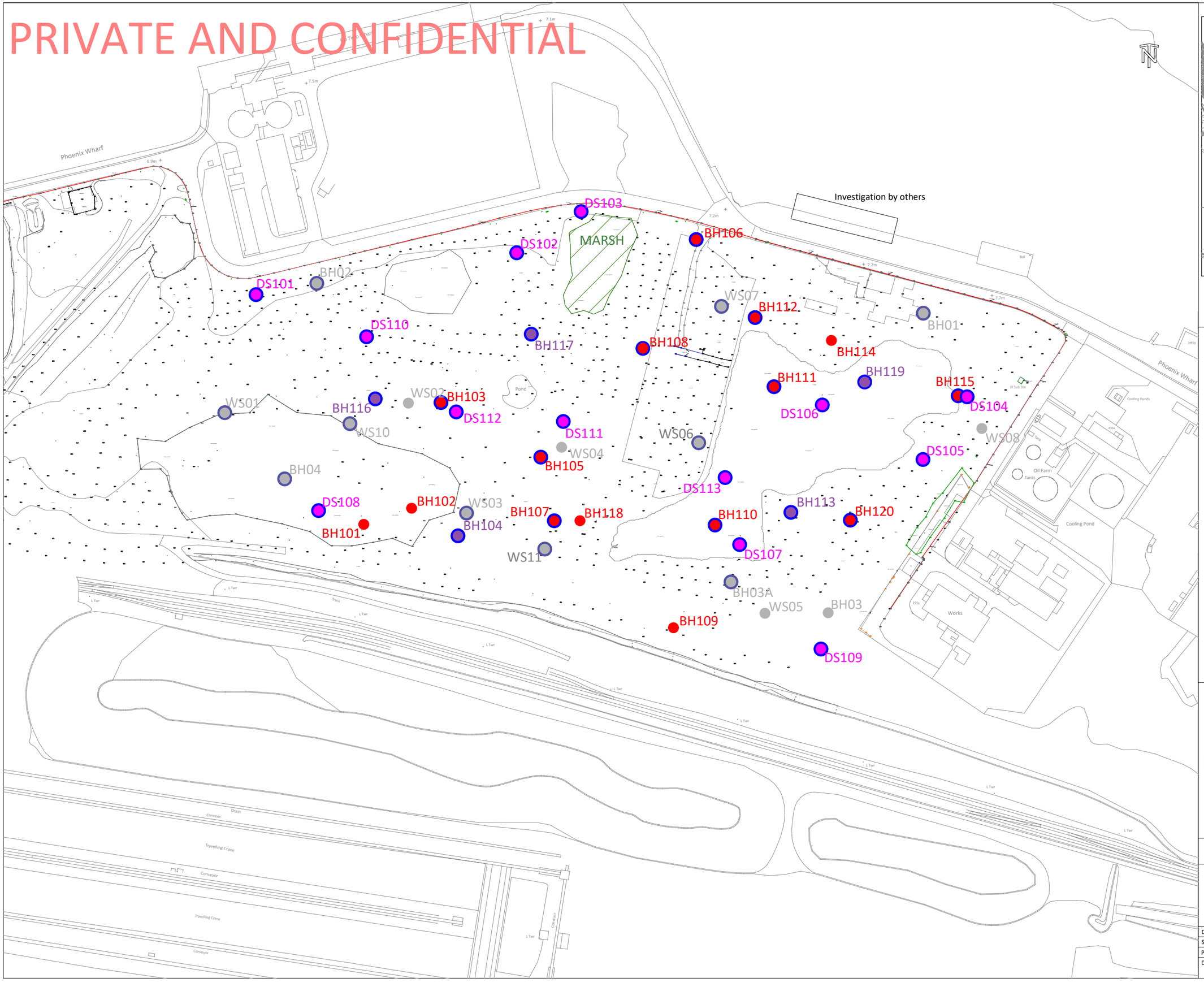
- Deep Borehole (with monitoring well)
- 2022 Borehole (with monitoring well)
- Borehole (with monitoring well)
- 2022 Dynamic sample hole (with monitoring well)
- Dynamic Sample Hole (with monitoring well)

PROJECT DRAGON

Groundwater and Ground Gas Montoring Well Plan

DATE: July 2023		
SCALE: N/A	DRN: RJE	CHKD: CH
PROJECT No: 2111006.005	DATE: 31-07-2023	DATE: 04-08-2023
DRAWING No. Report Figure 4		Rev. -

PRIVATE AND CONFIDENTIAL



LOCATION PLAN



KEY:

- Deep Borehole (with monitoring well)
- 2022 Borehole (with monitoring well)
- Borehole
- Borehole (with monitoring well)
- 2022 Dynamic Sample Hole (approximate only)
- 2022 Dynamic Sample Hole (with monitoring well)
- Dynamic Sample Hole (with monitoring well)

PROJECT DRAGON

Borehole Location Plan

DATE: July 2023		
SCALE: N/A	DRN: RJE	CHKD: CH
PROJECT No: 2111006.005	DATE: 31-07-2023	DATE: 04-08-2023
DRAWING No. Report Figure 5		Rev. -

Appendix A

Site Photographs



Photograph 1: View across site, from the site entrance facing south. *(Photograph taken 30 March 2023)*



Photograph 2: View across site, from the site entrance facing south. *(Photograph taken 11 July 2023)*



Photograph 3: View across western site area, facing south-west (location WS10) *(Photograph taken 30 March 2023)*



Photograph 4: View across western site area, facing south-west (location WS10) *(Photograph taken 30 July 2023)*



Photograph 5: View of Japanese Knotweed growing at the northern site boundary, adjacent to Phoenix Wharf Road. (*Photograph taken 30 March 2023*)



Photograph 6: View across site facing north-west towards the northern marsh areas (*Photograph taken 30 March 2023*)



Photograph 7: View facing south-east towards the eastern site boundary. Mature coniferous trees observed within neighbouring site. (*Photograph taken 30 March 2023*)



Photograph 8: View across site facing north towards the central site area lain to hardstanding concrete, noted have standing water. (*Photograph taken 30 March 2023*)



Photograph 9: View across the southern site area facing north-east towards a concrete slab and neighbouring site further on. (*Photograph taken 18 April 2023*)



Photograph 10: View of LPG cylinders within the north-eastern site area. (*Photograph taken 30 March 2023*)



Photograph 11: View of porcelain insulators located within the south-eastern site area, within vicinity of a historic electrical substation. (*Photograph taken 5 April 2023*)



Photograph 12: View of an unnamed (abandoned) borehole, referred to as U1, located within the western site area (now adjacent to DS112. (*Photograph taken 20 April 2023*)



Photograph 13: Encountered black tar-like substance within unnamed (abandoned) borehole, referred to as U1, located within the western site area (now adjacent to DS112. (*Photograph taken 20 April 2023*)



Photograph 14: Encountered potential ACM as a fragment of a corrugated sheet located within the south-eastern site are. (*Photograph taken 20 April 2023*)



Photograph 15: Encountered rock core samples within BH104 from 25m to 35mbgl.



Photograph 16: Encountered rock core samples within BH113 from 30m to 36mbgl.



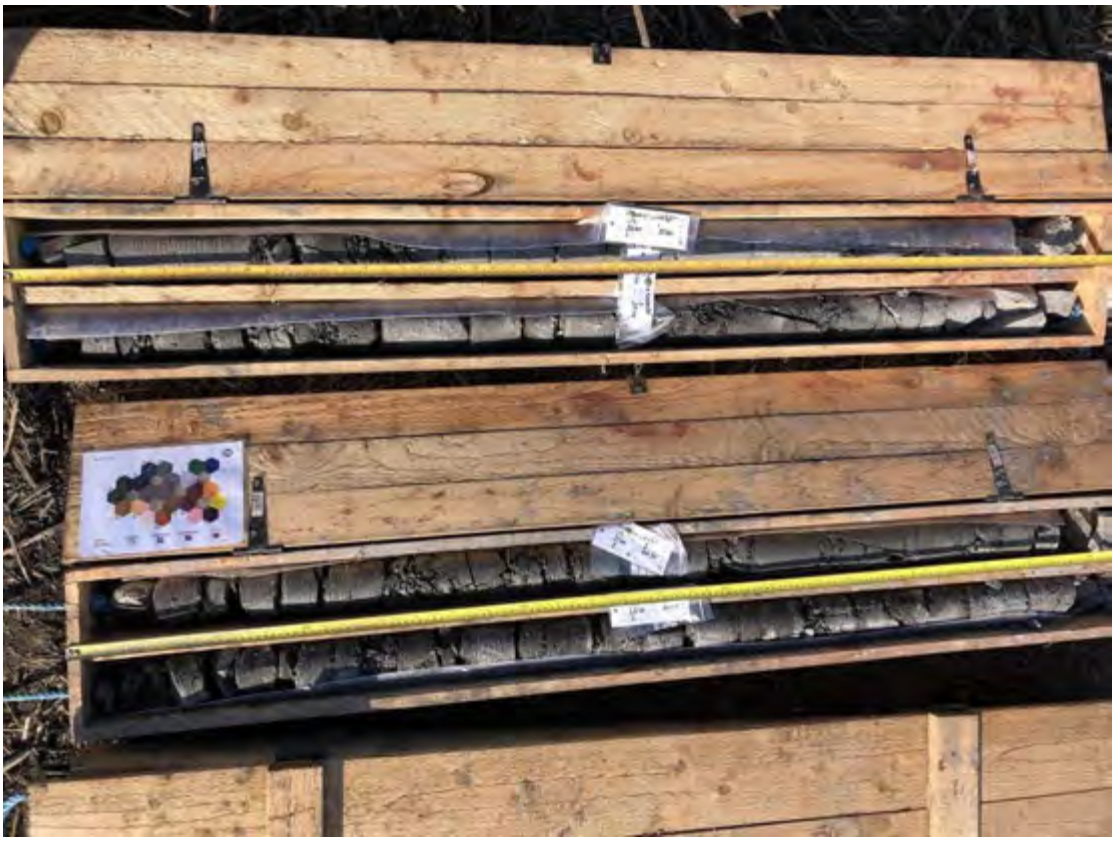
Photograph 17: Encountered rock core samples within BH113 from 36m to 42mbgl.



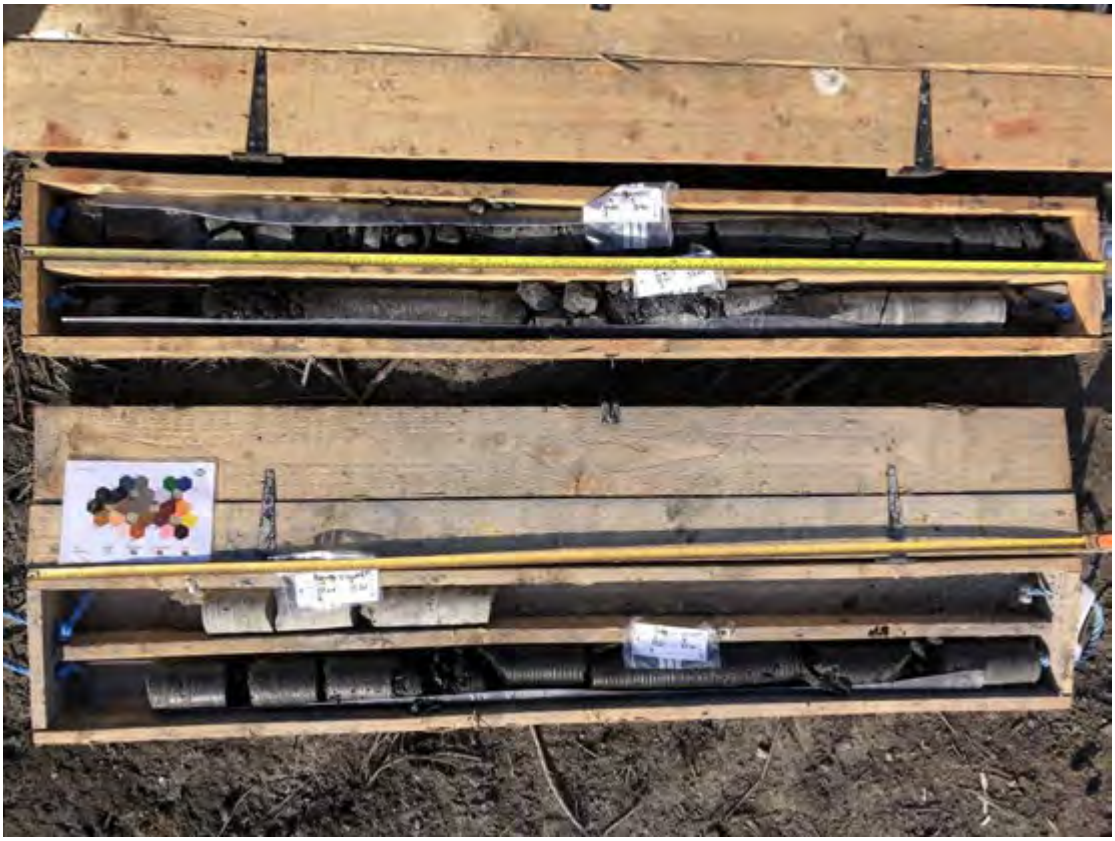
Photograph 18: Encountered rock core samples within BH116 from 30m to 45mbgl.



Photograph 19: Encountered rock core samples within BH117 from 27m to 42mbgl.



Photograph 20: Encountered rock core samples within BH119 from 24m to 30mbgl.



Photograph 21: Encountered rock core samples within BH119 from 30m to 35mbgl.



Photograph 22: Standing water (algae bloom) around hand pit, HP102.



Photograph 23: View of trial pit TP101, showing the natural groundwater level.



Photograph 24: Encountered ground conditions within TP101.



Photograph 25: View of trial pit TP102.



Photograph 26: Encountered ground conditions within TP102.



Photograph 27: View of trial pit TP103, encountered blue service tape.



Photograph 28: TP103 reinstatement.



Photograph 29: View of trial pit TP103A.



Photograph 30: Encountered ground conditions within TP103A.



Photograph 31: View of trial pit TP104.



Photograph 32: Encountered ground conditions within TP104.



Photograph 33: View of trial pit TP105.



Photograph 34: Encountered ground conditions within TP105.



Photograph 35: View of trial pit TP106.



Photograph 36: Encountered ground conditions within TP106.



Photograph 37: View of trial pit TP107.



Photograph 38: Encountered ground conditions within TP107.



Photograph 39: View of trial pit TP108.



Photograph 40: Encountered ground conditions within TP108.



Photograph 41: View of trial pit TP109.



Photograph 42: Encountered ground conditions within TP109.



Photograph 43: View of trial pit TP110.



Photograph 44: Encountered ground conditions within TP110.



Photograph 45: View of trial pit TP111.



Photograph 46: Encountered ground conditions within TP111.



Photograph 47: View of trial pit TP112.



Photograph 48: Encountered ground conditions within TP112.



Photograph 49: Encountered light blue and pink crystalised salts within TP113.



Photograph 50: Encountered ground conditions within TP113.



Photograph 51: View of trial pit TP114.



Photograph 52: Encountered ground conditions within TP114.



Photograph 53: View of trial pit TP115.



Photograph 54: Encountered ground conditions within TP115.



Photograph 55: View of trial pit TP116.



Photograph 56: Encountered ground conditions within TP116.



Photograph 57: View of trial pit TP117.



Photograph 58: Encountered ground conditions within TP117.



Photograph 59: View of trial pit TP118.



Photograph 60: Encountered ground conditions within TP118.



Photograph 61: View of trial pit TP119.



Photograph 62: Encountered ground conditions within TP119.



Photograph 63: View of trial pit TP120.



Photograph 64: Encountered ground conditions within TP120.



Photograph 65: View of trial pit TP121.



Photograph 66: Encountered ground conditions within TP121.



Photograph 67: View of trial pit TP122.



Photograph 68: Encountered ground conditions within TP122.



Photograph 69: View of trial pit TP123.



Photograph 70: Encountered ground conditions within TP123.



Photograph 71: View of trial pit TP124.



Photograph 72: Encountered ground conditions within TP124.



Photograph 73: View of trial pit TP124A – encountered electricity danger tape.



Photograph 74: Encountered ground conditions within TP124A.



Photograph 75: View of trial pit TP125.



Photograph 76: Encountered ground conditions within TP125.



Photograph 77: View of trial pit TP126.



Photograph 78: Encountered ground conditions within TP126.



Photograph 79: View of trial pit TP127.



Photograph 80: Encountered ground conditions within TP127.



Photograph 81: View of trial pit TP128.



Photograph 82: Encountered ground conditions within TP128.



Photograph 83: View of trial pit TP129.



Photograph 84: Encountered ground conditions within TP129.



Photograph 85: View of trial pit TP130.



Photograph 86: Encountered ground conditions within TP130.

Appendix B

Stage 2 Detailed UXO Risk Assessment



BRIMSTONE

DETAILED
UXO RISK ASSESSMENT

INTEGRITY PROFESSIONALISM KNOWLEDGE

STAGE 2 DETAILED UXO RISK ASSESSMENT

Client:	TEC Ltd
Project Ref:	TWEE89R
Site:	Project Dragon, Port Talbot
Report Ref:	DRA-23-1532-TWEE89R-ProjectDragon,PortTalbot
Revision:	2
Status:	Final
Release Date:	6th September 2023

Written By:	Alfie Hanford	Project Researcher	alfie.hanford@brimstoneuxo.com
Reviewed By:	Harry Smith	Senior Project Researcher	harry.smith@brimstoneuxo.com
Authorised By:	Aaron Florence	Managing Director	

EXECUTIVE SUMMARY

RESULT: Brimstone concludes that German UXBs and unexploded HAA shells poses a **LOW, LOW-MODERATE** and **MODERATE RISK** to the proposed works. See **FIGURE 7** for risk mapping.

THE SITE: The Site comprises three separate areas, known as Site A (west), Site B (centre) and Site C (east). These will be referred to collectively as 'the Site' for the purposes of this assessment, when not discussed individually.

The Site (approximately centred on the National Grid Refs: SS 76385 88669 (Site A), SS 76750 88541 (Site B) SS 77018 88747 (Site C)) is located in Port Talbot, within the county borough of Neath Port Talbot, Wales. Port Talbot Parkway railway station is located approximately 700m north of the Site.

Site A primarily comprises undeveloped land – consisting of grassy areas and mature vegetation – intermixed with brownfield land. It is bound to the north by an unlabelled roadway and a cement works factory, to the east by a thin parcel of undeveloped land and Site B, while open/wooded ground lies to the west and south.

Site B consists of undeveloped land with mature vegetation in the south, particularly along the border, while areas of hardstanding complete with industrial infrastructure, low-rise industrial warehouses and other structures lie in the north and west. Most of the ground in the north and west is laid to hardstanding, mainly used for open air storage and car parking purposes.

Site C consists of hardstanding brownfield land with an entrance to an unnamed roadway in the south and the entrance to a river runoff in the north. It is bound to the north by the hardstanding river run off, to the east by an unnamed roadway connecting to Harbour Way, to the south by an unnamed roadway and to the west by a vegetated border to the docks.

THE PROPOSED WORKS: Ground investigation works are proposed, although specific works were not provided.

Brimstone was not made aware of any future redevelopment works.

UXO RISK ASSESSMENT:

German UXO:

- Port Talbot was a key industrial hub during World War II, with its steelworks and coal production facilities playing a vital role in supporting the British war effort. The Margam Steelworks, within which Site C was located, were involved in the production of steel for munitions, tanks, ships, and other war materials. Consequently, the town and its industries became targets for German air raids carried out by the Luftwaffe. Indeed, Luftwaffe target photography indicates industries on Site and nearby were identified as primary bombing targets. A railway yard/storage station was recorded on target photography (Site B) and a steel works which made up Site C. This is further recorded within Luftwaffe target mapping, which highlights the copper works (Kupferworke) and hard coal briquettes (Steinkohlenbrikettebrik) within Site A as bombing targets, as well as the iron foundry (Eisengießerel) within which Site C was located.
- The majority of the official records obtained for Port Talbot did not specifically state the location of the incidents occurring, with many entries merely referring to bombing occurring over the town as a whole. It is of note, however, that one of the records reports an incident occurring at a copper works, a facility which consulted OS mapping confirms was present on and immediately adjacent to the north of Site A, as well as waste ground and railway sidings in the vicinity (partially included within / adjacent to Sites A and B), suggesting that bombing may have occurred on Site or in the immediate surrounds. Furthermore, bombing at the docks appears to have occurred on several occasions, with the south side referenced as sustaining a number of bombs, some of which were delayed action. A failure with the clockwork mechanism within the fuze of the delayed-action bombs is one cause of UXBs remaining in-situ. Sites A and B were located on the south side of the docks. The Margam Steelworks and/or its surrounding area is also stated to have been bombed on several occasions.

- No evidence of bomb damage to the copper works in Site A, the structure in the south-east of Site B, nor the section of the steelworks in Site C has been identified within historical aerial imagery and OS mapping, i.e. areas of clearance, missing roofs, repair works. Similarly, no obvious evidence of bomb damage was evident in the areas of open/undeveloped ground on Site; however, such evidence is typically less easily identifiable amongst open ground.
- However, evidence of repair works to the metal refinery in Site A has been observed within 1940 and 1946 aerial imagery, suggesting that bomb damage may have occurred early during WWII. The extent of this possible damage cannot be accurately discerned, although the whole roof appears to have been replaced. The coal briquette works, located within the north of Site B, may have sustained serious damage as identified within aerial vertical imagery. However, given the homogenous nature of this potential damage, as seen within **FIGURE 5.4**, it may be that the structure itself is incomplete or the intended design. A possible bomb crater has been identified approximately 30m south-west of Site A.
- Wartime conditions across the Site varied during WWII. Site A comprised a metal refinery, a section of a copper works, railway infrastructure and undeveloped open ground. Site B comprised a briquetting works in the north, small structure in the south-east, railway infrastructure and undeveloped open ground. Site C comprised a section of the Margam Steelworks. Any UXB strike to the undamaged structures on each of the Sites would have caused incontrovertible evidence of its incidence as it passed the structures and into the ground beneath. Similarly, a UXB strike to the railway sidings on/adjacent to each of the Sites is likely to have been identifiable at the time. Fire watchers were likely present at the industries located within each of the Sites, while the railway infrastructure located within/adjacent to each was likely subject to post-raid checks for evidence of UXO. Indeed, given the lack of identified damage in Site C within high-resolution 1946 aerial imagery, as well as to the copper works in the north-west of Site A and briquetting works in Site B, access is likely to have remained frequent in these areas. These factors increase the likelihood of bombing and subsequent evidence of UXO being observed in these areas.
- However, visual evidence of repair works to the metal refinery in Site A (white/brighter roofing) suggests that bomb damage may have occurred at this location. Evidence of a subsequent UXB strike at this location, which may have been damaged early during WWII, could conceivably have been obscured amongst existing damage and debris. It is conceivable that access may have been reduced for a time, depending on the extent of the damage. The majority of both Site A and Site B also comprised undeveloped open ground during WWII. Subsequently, any potential evidence of UXO is thought likely to have been less noticeable, with a UXB's descent into open land less obvious than through a structure or roadway, for example. Indeed, the entry hole of a 50kg UXB may be as little as 20cm in diameter and can therefore become easily obscured by growing vegetation. Furthermore, it is unlikely that the undeveloped open ground which comprised the majority of Sites A and B will have been accessed to a significant degree; these areas appear largely unused and unmaintained in 1940s aerial imagery. Evidence of a UXB strike in these areas may not have been observed, becoming obscured over time.
- In summary, factors pertinent to the risk of UXO contamination vary across each Site. As discussed above, the ground conditions within the majority of Sites A and B were unconducive to the detection of UXO. Bombs, including those with delayed-action fuzes, are recorded across the south of the docks, potentially on Sites A and B. Indeed, potential repair works indicative of bomb damage has been observed to the metal refinery in Site A. As a result, the majority of Site A and Site B has been assessed at a **Moderate Risk** from German UXBs. While evidence of a UXB will have been more readily observed amongst the undamaged structures and railway infrastructure within this zone, the potential for the J-Curve effect, whereby a UXB may travel laterally from its point of penetration, indicates that the risk from the open ground also presents at the footprint of the WWII structures and railway sidings. A buffer zone has therefore been added to account for this possibility.
- No evidence of damage to the copper works in Site A, railway infrastructure in both Site A and B, nor the structures in Site C, has been identified. The presence of significant and important infrastructure in these locations indicate that a UXB strike will have been observed and dealt with at the time. However, given recorded bombing to the copper works, south side of the docks and the steelworks, the risk from German UXBs is slightly elevated and has been assessed as **Low-Moderate**.

- Similar to the copper works and railway infrastructure within Site A, as well as structures in Site C, no confirmed visual evidence of damage has been observed to the briquetting works in Site B. A UXB strike is likely to have been observed at this location during WWII. Given this, a **Low Risk** has been assessed at the footprint of this structure, with the zone accounting for the possibility of J-Curve causing a UXB to come to rest beneath. As a result, this zone is smaller than the structure itself.

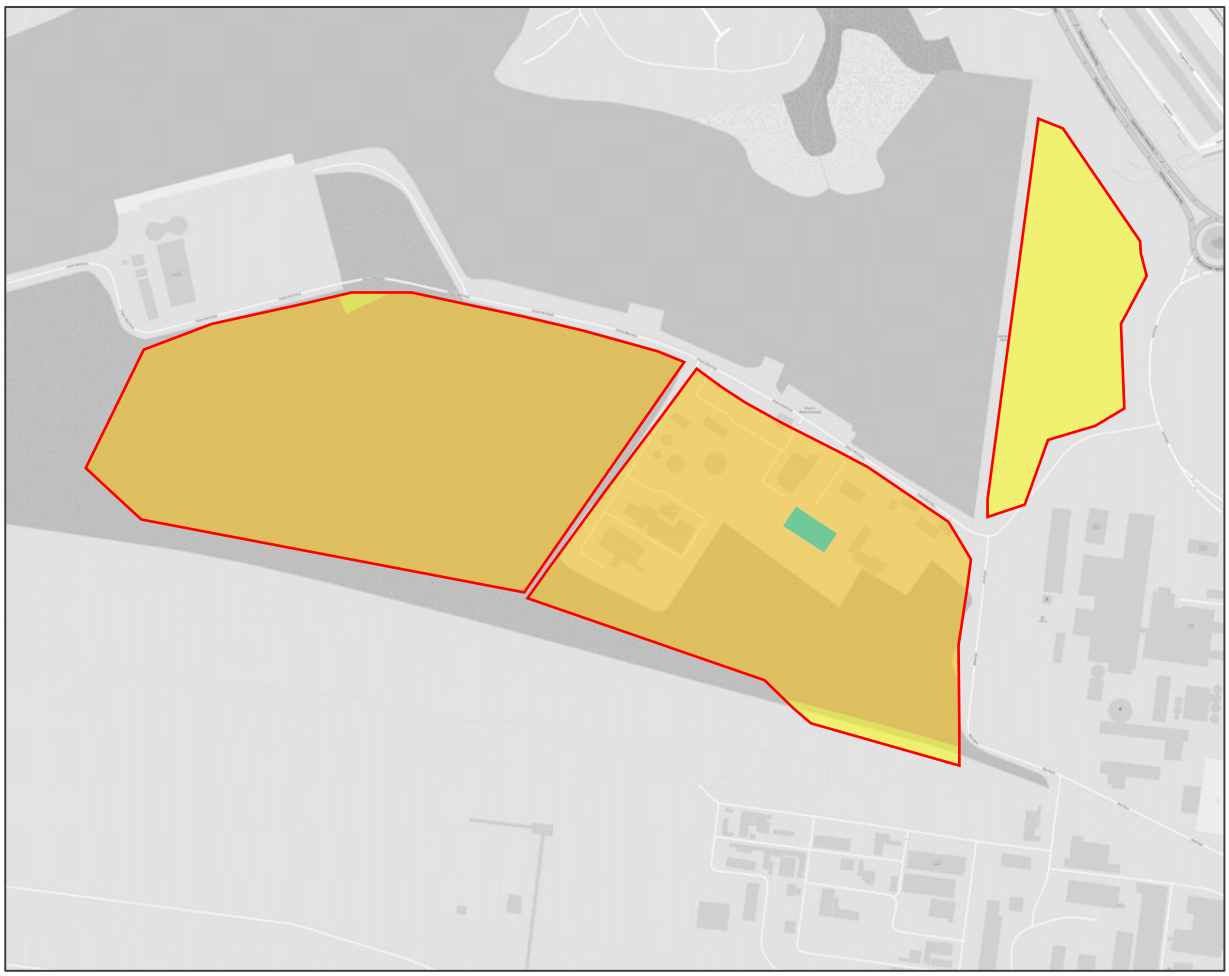
British / Allied UXO:

- Evidence indicates that the Margam Steelworks, within which Site C was located during WWI and WWII, was purpose built during WWI for war production. Further research suggests that the steelworks produced steel utilised for munitions, tanks, ships and other war materials. Three WWII-era bombs/shells have been uncovered at Tata Steel in the 21st century (none have been recorded on Site, although specific locations are unknown). No evidence has been found to suggest that shells were filled at the steelworks in Port Talbot. It is likely that the aforementioned shells consisted solely of the outer casing, given that each of them was certified inert and no mention was made of a high-explosive fill. Therefore, the risk from Allied UXO is assessed to be **Low** across the Site.
- Although all shells uncovered within the wider Tata Steel works have been found to be inert and are believed to be shell casings only, not ordnance, it cannot be assumed to be the case for any potential future items that are encountered. Any suspicious items should be assumed to be live / hazardous. If such an item is encountered on Site, the relevant authorities should be contacted in order to carry out an immediate investigation and initiate the necessary safety procedures.
- 16 permanent HAA batteries were active within range of the Site during WWII. LAA guns likely defended Port Talbot, within which the Site was located. Luftwaffe activity in the region was relatively infrequent. It is possible that an unexploded AA shell struck the open areas of the Site, and the risk is considered to be analogous to that of German UXBs.

Likelihood of UXO Remaining and UXO Encounter:

- Post-conflicts ground works for all three Sites have comprised the clearance of all WWII-era structures and railway lines. This would have consisted of grubbing out the foundations of the former structures, likely mitigating the risk in these areas to shallow depths (1-2m bgl). It is possible that the clearing of some structures may have required deep (>2m) intrusions, although this has not been possible to confirm. The open areas of the Site are likely to have to received minimal post-WWII ground works, which will likely have been to very shallow depths (<1m bgl). Site B has seen the construction of various low-rise structures, infrastructure and the addition of hardstanding across large areas in the north and west. The depths associated with these ground works likely range from very shallow to shallow.
- The risk associated with (any) very shallow and shallow buried UXO will have been partially mitigated in areas of WWII-era structures and infrastructure, as well as post-WWII ground works. The risk associated with (any) deep buried UXO likely remains unmitigated.

Risk Map:



Low Risk from German UXBs & HAA Shells
Low-Moderate Risk from German UXBs & HAA Shells
Moderate Risk from German UXBs & HAA Shells

RECOMMENDED RISK MITIGATION MEASURES: The measures detailed below are recommended to mitigate the risk to ALARP level.

Risk Mitigation Measure	Recommendation
UXO Safety Awareness Briefings	Prior to all intrusive works commencing.
Non-Intrusive Magnetometer Probe Survey	Open excavations on greenfield land within the **Moderate Risk** zone.
Intrusive Magnetometer Probe Survey	Of all pile positions within the **Moderate Risk** zone.
EOD Engineer - On Site Supervision	Watching brief of all open excavations and magnetometer survey of all borehole locations within the **Moderate Risk** zone.

CONTENTS

Executive Summary iii
Quality Management 1
1 Introduction 2
1.1 Background 2
1.2 Legislation 2
1.2.1 Construction Design and Management Regulations (CDM) 2015 2
1.2.2 The Health and Safety at Work Act 1974 2
1.3 Commercial Contractor and the Authorities 2
1.3.1 Commercial Contractors 2
1.3.2 UK Authorities 3
1.4 UXO Risk in the UK 3
1.5 UXO Detonations 3
2 Assessment Methodology 4
2.1 Introduction 4
2.2 SPRC Risk Model 4
2.3 Assessment Structure 4
2.4 Information Sources 5
2.5 ALARP Principle 5
2.6 Risk Tolerances 5
2.7 Reliance and Limitations 5
3 The Project 6
3.1 The Site 6
3.2 The Proposed Works 6
4 Site History 7
4.1 Site Introduction 7
4.2 Mapping 7
4.3 Photography/Aerial Photography 8
4.4 Additional Site-Specific History 8
5 UXO Risk - German Bombing 8
5.1 WWII Bombing History of the Site 8
5.1.1 Port Talbot 8
5.1.2 Site Specific 8
5.1.3 Bombing Decoy Sites 9
5.2 WWII Bombing Records 9
5.2.1 Introduction 9
5.2.2 Bombing Density Statistics 9
5.2.3 Wales Air Raid Summaries of Occurrences 10
5.2.4 Air Raid Summaries of Occurrences 10

5.2.5 Luftwaffe Attacks On South Wales And Surrounding Bridgend Area 10
5.2.6 Secondary Source / Anecdotal Evidence 11
5.2.7 Abandoned Bomb Register 11
5.3 Likelihood of UXB Contamination 12
5.4 Likelihood of Subsequent UXB Detection 13
5.5 Bombing During WWI 14
6 WWII German Bombs 14
6.1 Bombs Dropped on the UK 14
6.2 Bomb Failures 15
6.3 Bomb Ground Penetration 16
6.3.1 Introduction 16
6.3.2 The J-Curve Effect 16
6.3.3 Site Specific Geology 16
6.3.4 Site Specific Maximum Bomb Penetration Depth 17
7 UXO Risk - British/Allied Activity 17
7.1 Introduction 17
7.2 Potential Sources of UXO 17
7.2.1 Introduction 17
7.2.2 Margam Steelworks 17
7.2.3 WWII Anti-Aircraft Fire 18
8 UXO Risk Mitigating Circumstances 19
8.1 Introduction 19
8.2 Explosive Ordnance Clearance Tasks 19
8.3 Ground Works 19
8.4 Deductions 19
9 Conclusion 19
9.1 Accuracy of Historical Records 19
9.2 The Risk of UXO Contamination on Site 20
9.2.1 Key Findings – German UXO Risk 20
9.2.2 Key Findings - British UXO Risk 21
9.3 Site-Specific UXO Hazards 22
9.4 The Likelihood of UXO Encounter 22
9.4.1 Introduction 22
9.4.2 German UXBs 22
9.4.3 British / Allied UXO 23
9.4.4 Deductions 23
10 Overall Risk Rating 23
11 Risk Mitigation Recommendations 25

FIGURES

FIGURE 1: Site Location Maps

FIGURE 2: Recent Aerial Photograph

FIGURE 3: Current Site Plan

FIGURE 4: Historical OS Mapping

FIGURE 5: Historical Aerial Photography

FIGURE 6: Luftwaffe Target Map – September 1940

FIGURE 7: Risk Mapping

APPENDICES

APPENDIX 1: Recent UXO Incidents and Historical Analysis

APPENDIX 2: Data Sheets - German WWII Air-Delivered Munitions

APPENDIX 3: Data Sheet - British WWII Anti-Aircraft Munitions

APPENDIX 4: Glossary

APPENDIX 5: Bibliography

QUALITY MANAGEMENT

Brimstone is committed to the provision of UXO risk mitigation services, including the safe removal and disposal, in the UK and overseas. Since our inception in 2016 it has been our goal to provide unsurpassed UXO risk mitigation services. Brimstone is a client-driven organisation, we aim to provide the client the services they need, to the agreed requirement, in accordance with national and international standards.

We are committed to providing a safe, cost-effective and quality service, underpinned by our three core values;

- Integrity in advice, information and the manner in which we conduct ourselves and our operations,
- Professionalism in the way we handle our operations, people and processes, and
- Knowledge in new skills and information, to ensure we remain at the forefront of innovation and strategy.

We are committed to the applicable requirements of the ISO 9001 standards. We set and review quality monitoring objectives to measure the performance of our quality management system. Brimstone wholly endorses the ethos of 'continual improvement efforts' and allocates resources to meet this requirement.

This policy applies to the whole of the Brimstone services and affects roles from the managing director down. All staff are responsible for helping manage quality, seeking improvement through constant review, and by encouraging supplier and subcontractor involvement. We are committed to achieving customer satisfaction using quality procedures, which will be operated to meet or exceed the applicable requirements of ISO 9001.



Aaron Florence
Founder and Managing Director
Brimstone

COPYRIGHT © BRIMSTONE

The contents of this report are confidential. This report has been prepared for the use of the client and shall not be distributed or made available to any other company or person without the knowledge and written consent of either the client or Brimstone.

1 INTRODUCTION

1.1 Background

TEC Ltd (the Client) has commissioned Brimstone to carry out a Stage 2 Detailed Unexploded Ordnance Risk Assessment (DRA) of the proposed redevelopment works at the Project Dragon, Port Talbot site (the Site).

1.2 Legislation

There are no regulations that specifically govern the UXO risk mitigation industry in the UK. There are however two pieces of legislation that require consideration. It is industry best practice (and common sense) to frame your site in the context of UXO, and to put in place measures to protect people from risks. In 2009, CIRIA published Unexploded Ordnance (UXO) - A Guide for the Construction Industry C681. This publication, though not legally binding, provides the gold-standard framework to which UXO and construction companies operate.

1.2.1 Construction Design and Management Regulations (CDM) 2015

The regulations identify the client, the CDM coordinator, the designer, and the principal contractor as responsible parties. Under the regulations, responsible parties are held accountable for the way a construction project is managed and for the health and safety of workers. Responsible parties must:

- Provide an appropriate assessment of potential UXO risks, or ensure an assessment is completed by another party.
- Put in place appropriate risk mitigation measures if necessary.
- Supply all parties with information relevant to the risks.
- Ensure the preparation of an emergency response plan.

1.2.2 The Health and Safety at Work Act 1974

The Health and Safety at Work Act 1974 had a transformative impact on health and safety, saving thousands of lives since its enactment. Employers must consider their employees, workers not in their employment, and members of the public. The act places a duty on every employer 'as far as is reasonably practicable' to protect workers from risks. It also says that information must be provided about aspects of health and safety that affect their role.

1.3 Commercial Contractor and the Authorities

1.3.1 Commercial Contractors

If your site has been given a moderate or high-risk rating, then control measures will be recommended. The measures will be specific to the scope of works on site, usually in relation to the depth and extent of excavations, piling and similar activities. There are a range of different methods at Brimstone's disposal, including:

- Non-intrusive surveying (including drone surveying)
- Intrusive surveying
- Search and clear
- Watching brief
- Support to geotechnical investigations
- Target investigation
- Site-specific training packages
- Site safety briefings

Our UXO Engineers can assess suspicious items on site when they are found. This will avoid unnecessary site evacuations. If our engineer(s) decide the item is UXO, they will coordinate with the authorities, manage disruptions, and advise on control measures, such as evacuations and a cordon.

1.3.2 UK Authorities

If Brimstone is not on site and a suspicious item is found, the local police must be immediately called on the non-emergency number. Police will visit the site. They will then inform the Joint Services Explosive Ordnance Disposal (JSEOD) office, which will coordinate the callout of an army or navy response team.

A precautionary cordon will initially be put into effect, with possible evacuation of homes and businesses, road and rail closures. The cordon may be extended following the advice from JSEOD's response team.

To manage their resources, JSEOD triages incidents. A consideration of the type, size and location of the UXO is made. If an incident is not given a high priority rating, a team may not be available for up to two days following the initial report.

The use of JSEOD is under the Military Aid to Civil Authorities (MACA) framework, therefore the budget and personnel is limited, and there are no statutory obligations made of the MOD. Often the MOD will recommend involvement of a commercial UXO contractor to manage the ongoing risk – this is especially true of former airfields and training areas where contact with land service ammunition can be frequent.

1.4 UXO Risk in the UK

Fortunately, to the best of our knowledge, there has not been a single post-war incident in the UK where a construction worker has been killed or injured because of an item of UXO exploding. There have been cases in mainland Europe where UXO had been struck and then exploded, killing workers. In 2019 a WWII general purpose bomb spontaneously detonating in a field north of Frankfurt, Germany.

However, the incident in Frankfurt is not comparable to the UK, due to the way different countries manufactured ordnance. Bombs made in different countries have different associated hazards. British WWII bombs, for example, have a fuzing system which uses chemicals which makes them very unsafe. Please see **APPENDIX 1** for recent examples of UK UXO incidents.

Between 2013 and 2016 JSEOD responded to 7,500 callouts. These callouts range from falsely identified objects, inert objects, small items of UXO and large WWII German unexploded bombs (UXBs). Each year the construction industry inadvertently unearths UXO; often this goes unreported. UXO contamination comes from three main sources:

- **Enemy action:** during WWI and WWII the air forces of Germany, and to a lesser extent Italy, bombed targets throughout the UK. The German navy bombarded several coastal targets in eastern England during WWI and then in WWII German long-range artillery on the French coast bombarded parts of Kent.
- **Allied military activity:** during WWI and WWII several Allied nations used the UK as a staging area for military action in the European Theatre; predominantly the US and Canada.
- **UK military activity:** domestic British Army, Royal Air Force (RAF) and Royal Navy (RN) training activities during peacetime and conflict as well as anti-aircraft gun and rocket batteries during WWI and WWII.

1.5 UXO Detonations

A detonation is a violent chemical reaction which creates a huge volume of gas. This reaction appears to happen instantaneously – the velocity of the shockwave moving is up to 9000m per second. This chemical reaction is started using a small amount of very sensitive explosives called primary explosives. These types of explosives are highly sensitive to shock, friction, heat, and spark. As the explosive charge undergoes high order decomposition (detonation), the brisance, or shattering effect, causes the casing to splinter, projecting razor-sharp shrapnel across long distances.

The blast wave effect and the shrapnel effect can cause significant damage. Calculating safety distances is a complex process. As a rule of thumb, in open ground, a 250kg explosive charge (as would be found inside a typical 500kg bomb) would require an omnidirectional safety distance of at least 1.6km.

Bombs work by amplifying the explosive charge from the sensitive primary explosive through to the main charge or fill of the item. This process is called an explosive train, if any link in that chain is broken, the item will fail to

function as intended. This can be due to mechanical, electrical, or manufacturing tolerances or faults. Amongst other reasons, detonation of UXO could occur under the following circumstances:

- **UXO body impact:** A substantial impact onto the main body of a UXO; borehole rigs, piling rigs, jack hammers and mechanical excavator buckets.
- **Fuse impact:** Environmental conditions during decades of burial can result in the primary explosives located in the fuse pocket to crystallise and become shock sensitive. It would then take a relatively small impact or friction impact to cause the fuse to function and detonate the UXO.
- **Re-starting a timer:** A small proportion of German WWII bombs used clockwork fuses. In 2002 an Army EOD Engineer reported that the clockwork fuse in a UXB re-started. Decades of burial cause substantial corrosion in WWII German UXBs and therefore an incident such as this is extremely rare.

2 ASSESSMENT METHODOLOGY

2.1 Introduction

This assessment has been produced in accordance with the relevant CIRIA guidelines; *Unexploded Ordnance (UXO) - A Guide for the Construction Industry C681* (published in 2009). CIRIA C681 is a publication which originated from round table best practice discussions from industry leaders.

2.2 SPRC Risk Model

The Source, Pathway, Receptor, Consequence (SPRC) risk model can be applied to buried UXO as follows:

- **Sources:** UK and allied UXO sources include military firing ranges, bases, storage depots, munitions factories, anti-aircraft batteries, amongst others. There are many wartime causes of UXO contamination. The source for enemy contamination is overwhelmingly from WWII German air raids.
- **Pathways:** the pathway describes how the UXO reaches receptors. Usually UXO is buried and therefore pathways can be any activity which involve breaking ground. Examples include ground investigation works, site enabling works and excavations.
- **Receptors:** receptors are the people, assets and infrastructure that can be adversely affected by UXO exposure. This includes site personnel, plant, equipment, buildings, the general public, , and the environment.
- **Consequence:** the consequences of an inadvertent UXO detonation are catastrophic. They include injury and loss or life, as well as damage to property. Fortunately, the likelihood of UXO detonating is low, even when it is uncovered during works. Another consequence to consider however is delays to works, which itself can be a risk.

2.3 Assessment Structure

In accordance with CIRIA C681 this assessment addresses the following considerations in the appropriate order:

- The likelihood that the site was contaminated with UXO.
- The type of UXO that could have contaminated the site, and their associated hazards.
- The likelihood that UXO remains on the site.
- Theoretical bomb penetration depths.
- The likelihood that UXO will be uncovered during the proposed works.
- Risk rating and risk mapping (as appropriate).
- Risk mitigation recommendations.

2.4 Information Sources

To complete this risk assessment Brimstone has gathered information from a wide range of sources. Brimstone's research team has completed detailed historical research, including access of original archived records. The following is a general list of information sources that are consulted during the research process:

- The National Archives,
- Local archive centres,
- Ministry of Defence,
- The Council for British Archaeology,
- Groundsure mapping services,
- Historical aerial photography (Historic England, Britain From Above, Bluesky),
- Google open-source mapping,
- The British Geological Society,
- Open sources; published book, articles, web resources,
- Site specific information supplied by the Client,
- Brimstone's library and historical database, and
- Brimstone's former armed forces employees.

2.5 ALARP Principle

The ALARP (as low as reasonably practicable) principle corresponds to the actions that should be taken to reduce risks. The term 'ALARP' is in the Health and Safety at Work Act 1974, which says that risks must be controlled in a reasonable way.

Infinite time, effort and money could be spent trying to eliminate risk entirely. HSE uses the example that spending £1m to prevent five employees bruising their knees is disproportionate, whereas spending the same amount to prevent an explosion which could kill 150 people is proportionate.

Using this principle, Brimstone aims to reduce client costs by recommending strategies that are proportionate to the assessed risks, if any elevated risk is found at all.

2.6 Risk Tolerances

The Brimstone risk assessment process divides UXO risk into two tolerances:

- **Tolerable:** negligible risk or low risk ratings are tolerable. Where the risk cannot be completely discounted, it may be a useful strategy to opt for a low-cost measure, such as a UXO safety briefing from a qualified UXO engineer.
- **Intolerable:** moderate risk or high-risk ratings are intolerable. Proactive risk mitigation measures should be put in place. Various strategies are at Brimstone's disposal to meet your project-specific needs.

2.7 Reliance and Limitations

This report has been prepared using published information and information provided by the Client. Brimstone is not liable for any information which has become available following the publication of this report. No third-party liability or duty of care is extended. Any third-party using information contained in this assessment do so at their own risk.

3 THE PROJECT

3.1 The Site

The Site comprises three separate areas, known as Site A (west), Site B (centre) and Site C (east). These will be referred to collectively as 'the Site' for the purposes of this assessment, when not discussed individually.

The Site (approximately centred on the National Grid Refs: SS 76385 88669 (Site A), SS 76750 88541 (Site B) SS 77018 88747 (Site C)) is located in Port Talbot, within the county borough of Neath Port Talbot, Wales. Port Talbot Parkway railway station is located approximately 700m north of the Site.

Site A primarily comprises undeveloped land – consisting of grassy areas and mature vegetation – intermixed with brownfield land. It is bound to the north by an unlabelled roadway and a cement works factory, to the east by a thin parcel of undeveloped land and Site B, while open/wooded ground lies to the west and south.

Site B consists of undeveloped land with mature vegetation in the south, particularly along the border, while areas of hardstanding complete with industrial infrastructure, low-rise industrial warehouses and other structures lie in the north and west. Most of the ground in the north and west is laid to hardstanding, mainly used for open air storage and car parking purposes.

Site C consists of hardstanding brownfield land with an entrance to an unnamed roadway in the south and the entrance to a river runoff in the north. It is bound to the north by the hardstanding river run off, to the east by an unnamed roadway connecting to Harbour Way, to the south by an unnamed roadway and to the west by a vegetated border to the docks.

FIGURE 1: Site Location Maps **FIGURE 2:** Recent Aerial Photograph

3.2 The Proposed Works

Ground investigation works are proposed. All buildings on Site B are to be demolished. Once cleared, twelve trial pits, fifteen cable percussive boreholes and fifteen window samples are planned. Brimstone was not made aware of any future redevelopment works.

FIGURE 3: Existing Site Plan

4 SITE HISTORY

4.1 Site Introduction

Site-specific history can be assessed by reviewing historical mapping, historical aerial photography and by carrying out additional Site-specific research where appropriate. Below are descriptions of a selection of records relevant to the Site:

4.2 Mapping

Period	Map Date	Map Scale	Review
Pre-WWI	1896-1897	1:10,560	Site A comprises mud and heathland. Site B comprises mud and heathland with a small area of open water in the north. Site C comprises heathland, railway sidings and two minor structures, with small areas of open water in the west.
Pre-WWI / WWI	1913-1914	1:10,560	The composition of Site A varies. A coal works lies within the central section, with a small section of a copper works within the north-west, encompassed by undeveloped open ground. Both of these works are linked to extensive railway infrastructure, some of which lies within the south and west of Site A. The majority of the rest of Site A consists of undeveloped open ground. The dock and copper works lie to the north of Site A, railway infrastructure and heathland lie to the east and west with solely railway sidings to the south. Mud is no longer recorded. Site B mainly comprises heathland and an area of wet open land, with an unnamed structure in the south-east, and railway sidings which bisect Site B south-west to north-east in the south-eastern section. Site B is bound to the north by a tramway, railway infrastructure lies to the east and south, while undeveloped open ground lies to the west. Site C comprises railway sidings and undeveloped heathland, as well as a section of Military Road.
WWII	1939-1940	1:2,500	**FIGURE 4.1:** A metal refinery works has replaced the coal works in Site A. The open ground is now all labelled as heathland, while a large railway embankment and associated sidings lie within the south. An unlabelled large structure is now present in the northern section of Site B. No other changes are recorded. Site C now comprises a section of the Margam steel works, with associated industrial buildings in the eastern and northern areas, as well as railway sidings in the north. The west/south-west of the Site comprises undeveloped open ground. Railway infrastructure lies to the north, additional industrial buildings to the east and partially to the south alongside heathland, while the Copper Works Railway lies to the west.
Post-WWII	1947-1949	1:2,500	**FIGURE 4.2:** Additional railway infrastructure, a new structure in the east, and an extension to the metal refinery works (now labelled as a Steel Ceilings Factory) are recorded within Site A. A large section of railway has also been cleared, while several ponds and gravel pits are now recorded in the west. The previously unlabelled structure in the south-east of Site B is now recorded as an electrical substation, whilst the larger structure in the northern section is labelled as the Phoenix Briquetting Works. Additional railway sidings are now present in the south-east and north-east of the Site. Structures in the north-west of Site C have been cleared, with a travelling crane replacing them and the previously undeveloped open ground in the west/south-west. The east of Site C remains occupied by industrial structures; however, the structural layout has changed in areas, with several structures replaced as well as newer additions recorded.

4.3 Photography/Aerial Photography

Period	Photo Date	Review
WWII	21st December 1940	**FIGURE 5.1 & 5.2:** This low-resolution photograph was taken early during WWII. The layout of each Site aligns with pre-WWII OS mapping. Site A mainly comprises open ground, as well as railway infrastructure and two industrial works in the centre and north-west. Site B also consists mainly of open ground, as well as two structures in the north and south-east, respectively. Railway sidings are also present. Site C comprises numerous structures associated with a large steelworks. Possible repair works have been identified to the metal refinery in Site A, as well as potential severe damage to the structure in the north of Site B. A possible bomb crater is located approximately 30m south-west of Site A.
Post-WWII	7th June 1946	**FIGURE 5.3:** No significant change has been observed within this high-resolution photograph, taken less than a year after the end of WWII. No evidence of bombing or associated damage, other than that already discussed above, has been identified.
	1947	**FIGURE 5.4:** This oblique aerial image shows the vast majority of the Site two years after the end of WWII. The north of Site C is not visible. The briquette works in the north of Site B is shown in high-resolution within this image. What appeared to be damage in the images discussed above now appears more similar to the design of the building or still under construction. No obvious debris or ruins have been identified.

4.4 Additional Site-Specific History

Some sites will have been occupied by landmarks or significant buildings historically and in such cases specific written histories including significant wartime details are occasionally available in the public domain. Site C was located within the Margam Steelworks during WWII, which played a significant role in munitions production during World War II. The steel produced at Margam was used for various purposes, including the manufacturing of munitions, tanks, ships, and other war materials. The steelworks, along with the wider industrial infrastructure of Port Talbot, contributed to the British war effort.

5 UXO RISK - GERMAN BOMBING

5.1 WWII Bombing History of the Site

5.1.1 Port Talbot

Port Talbot, a town in South Wales, was a key industrial hub during World War II, with its steelworks and coal production facilities playing a vital role in supporting the British war effort. The Margam Steelworks, in particular, were involved in the production of steel for munitions, tanks, ships, and other war materials. Consequently, the town and its industries became targets for German air raids carried out by the Luftwaffe.

During the course of the war, Port Talbot experienced several air raids by the Luftwaffe, resulting in damage to its infrastructure, industries, and residential areas. While the town did not face the same level of bombardment as some larger British cities, it still faced disruption and destruction due to its strategic importance.

The air raids on Port Talbot led to the loss of lives, damage to property, and disruption of vital industrial operations. The local community faced significant challenges in coping with the aftermath of the bombings, including rebuilding efforts and the ongoing threat of further attacks. Despite these setbacks, the town and its industries continued to contribute to the British war effort throughout the conflict.

5.1.2 Site Specific

Luftwaffe target photography indicates that Port Talbot, within which the Sites are located, was a primary target. A railway yard/storage station was recorded on target photography (Site B) and a steel works which made up

Site C. This is further recorded within Luftwaffe target mapping (**FIGURE 6**), which highlights the copper works (Kupferworke) and hard coal briquettes (Steinkohlenbrikettebrik) within Site A as bombing targets, as well as the iron foundry (Eisengießerel) within which Site C was located.

5.1.3 Bombing Decoy Sites

In mid-1940 bombing decoys were introduced. The decoys used either;

- A system of lighting to simulate an urban area or a military airfield's runway
- Deliberately started fires to simulate a previously bombed target
- Dummy buildings and vehicles to simulate a military facility

792 static decoy sites were built at 593 locations in Britain. They were estimated to have drawn at least 5% of the total weight of bombs away from their intended targets. No decoys were operational within a significant radius of the Site during WWII. The closest was approximately 2.5km to the south.

5.2 WWII Bombing Records

5.2.1 Introduction

The bomb census recorded the location and type of bomb strikes to help with intelligence gathering and planning. It was compiled using information recorded by ARP wardens. These records were gathered by the Ministry of Home Security to calculate bombing density within administrative areas.

The bomb census was unreliable in the early stages of the war, though by 1941 procedures had been standardised. The quality of the census records also depended on where in the UK the records were produced. Some records are held at the National Archives and some are held at local borough archives.

Relevant records held at the National Archives and the West Glamorgan Archive Service were obtained for this risk assessment.

5.2.2 Bombing Density Statistics

The table below records the Ministry of Home Security's bombing density calculation for the Municipal Borough of Port Talbot. It gives a breakdown of the types of large German bombs reported and is understood to not include UXBs.

Admin Area	**Port Talbot**
Area Acreage	23,444
High Explosive Bombs (all types/weights)	87
High Explosive Parachute Mines	1
Flam (Oil) Bombs	3
40kg Phosphorus Incendiary Bombs (IBs)	0
40kg 'Fire Pot' IBs	0
V1 Flying Bomb	0
V2 Long Range Rocket	0
Total (excluding V-Weapons and 1kg / 2kg IBs)	91
Bombs Per 1,000 Acres	**3.9**

1kg / 2kg incendiary bombs (IBs) and 2kg anti-personnel (AP) bombs were often too numerous to record accurately and therefore are not included in the above figures.

5.2.3 Wales Air Raid Summaries of Occurrences

These summaries, obtained from the National Archives, provide general summaries of air raids across Wales. Only vague locations are recorded, with the number of bombs sometimes listed.

Port Talbot is mentioned on three occasions, affected by incendiary bombing, a UXB and HE bombing. No specific details are provided.

5.2.4 Air Raid Summaries of Occurrences

This record set, obtained from the National Archives, provides specific details pertaining to air raids across Wales. These details include the place, assumed target, number of bombs, and the specifics regarding damage caused. One record was found related to the Site, see below for details.

Place	Assumed Target	No. of Bombs	Details
Port Talbot	Morgam Steel Works	9	Most of the nine bombs appear to have affect residential areas, although bombs 7 and 8 were dropped on 'waste ground (G.W.R)' and bomb 9 was dropped 'on railway siding'.

5.2.5 Luftwaffe Attacks On South Wales And Surrounding Bridgend Area[1]

This online source provides a timeline of air raids in south Wales, providing specific details where possible. See below for relevant incidents pertaining to the Site.

Date	Bomb(s)	Location (*relevant to the Site)*
29/06/1940	1 x UXB	Port Talbot. *Precise location unknown.*
29/06/1940	1 x HE	Near the Grand Hotel. *Located approximately 710m to the north-west of Site C.*
29/06/1940	1 x HE	In the station approach. *Located approximately 710m to the north-west of Site C.*
29/06/1940	1 x HE	On the railway sidings near Port Talbot Steelworks. *Precise location unknown, railway sidings were located immediately to the west of Site C and within Site B; however, the bomb could have affected railway sidings on the eastern side of the works.*
29/06/1940	1 x HE	Between Margam Coke Ovens and Richard Thomas Steelworks. *Precise location unclear, likely within either the Margam Steel Works, in close proximity to Site C, or the Port Talbot Steel Works, approximately 550m to the north of Site A.*
29/06/1940	1 x HE	Talbot House. *Precise location unknown.*
29/06/1940	1 x HE	Between the Steelworks and Dock Ferry. *Precise location unknown, potentially near the Site.*
29/07/1940	3 x HE	Port Talbot harbour gates. *Located approximately 470m to the west of Site A.*
20/08/1940	HEs (number unspecified)	Port Talbot Docks. *Precise location unknown, potentially on/near Site A & B.*

[1] http://www.islandfarm.wales/Luftwaffe_Attacks_On_South_Wales.htm

24/08/1940	HEs (number unspecified)	Aluminium and Copper Works and docks at Port Talbot. *Precise location unknown, the affected copper works may be located partially within the north-west of Site A. Bombs on the docks could conceivable be on near Site A.*
25/08/1940	HEs (number unspecified)	Port Talbot. *Precise location unknown.*
26/09/1940	HEs (number unspecified)	Port Talbot. *Precise location unknown.*
09/10/1940	HEs (number unspecified)	Swansea and Port Talbot bombed. *Precise location unknown.*
17/01/1941	HEs (number unspecified)	Port Talbot Docks. *Precise location unknown, potentially on/near Site A.*

5.2.6 Secondary Source / Anecdotal Evidence

A search of online resources, as well as a review of local history publications was carried out with the intention of locating any eyewitness accounts of local bombing incidents.

An online source detailing the WWII history of the Port Talbot docks provides useful information pertaining to bombing during the period. See below for relevant excerpts.[2]

- 'The docks at Port Talbot were exceedingly fortunate in that they experience very few attacks from the air, and consequently suffered relatively little air-raid damage.'
- 'The first of the air raids occurred in the early hours of 29th June and 1st July 1940, when a number of bombs were dropped on the **docks**, some falling close to Messrs. Guest Keen & **Baldwins' Margam Works**, but fortunately there was not significant damage.'
- 'One lone raider appeared over the docks at 9.52 a.m. on 20th August 1940 and dropped a number of bombs on the **south side of the docks**, causing damage to dock railway lines, electricity cables and wagons of coal, etc.'
- 'Four days later, incendiary bombs and high explosive time bombs were dropped on No. 2 Grid. All traffic working on the **south side of the dock** was held up for two days until the unexploded bombs were recovered.'

5.2.7 Abandoned Bomb Register

Due to the overstretched bomb disposal units during WW2, many bombs were intentionally left undisturbed. UXBs were triaged based on where they were and how big they were. If they didn't pose a significant risk they were 'abandoned'. The locations of these bombs were recorded on the abandoned bomb register.

The abandoned bomb register is a public record document held at the Parliamentary Archives of the House of Commons, from which Brimstone has obtained a copy. The register should not be relied on for completeness or accuracy. The closest abandoned bomb is recorded approximately 11.4km north-west of the Site.

[2] http://www.swanseadocks.co.uk/docksnewsite/ptwar.html

5.3 Likelihood of UXB Contamination

Where detailed bombing records exist, it is possible to predict whether any UXBs could be found on a site. This likelihood is discussed in the following table:

Density of Bombing	
Number of Air Raids in the Vicinity:	A comparison of the bombing incident records confirms that at least eight air raids affected the study area. This number may be higher as no comprehensive official bombing records for Port Talbot have been uncovered.
Intensity of these Air Raids:	All bombs dropped locally were likely part of so called “tip and run” raids; aircraft jettisoning their remaining ordnance loads before the return journey to continental Europe. Small-scale targeted raids may also have taken place.
Bomb Strike Positions	
Closest Bomb Strikes	HE bombs: potentially on Site A/B. 1kg / 2kg IBs: unknown.
Alignment of recorded Bomb Strikes:	For areas with no bomb plot mapping or comprehensive written records, accurate analysis for the alignment of bomb strikes is not always possible. However, evidence obtained within an online source indicates that a stick of delayed-action HE bombs were dropped on the south side of the docks, potentially referring to Sites A and B. Additional attacks on the docks and the Margam steelworks are also referred to. This indicates that multiple aircraft may have flown over each of the Sites, elevating the possibility for a UXB to have been dropped overhead.
Bomb Failure Rate	
Evidence to suggest that the generally accepted failure rate of 10% differs in the vicinity of the site:	None.
UXBs recorded in close proximity to the site:	None.

5.4 Likelihood of Subsequent UXB Detection

A range of circumstances determine whether a UXB strike location would have been identified, during and after the war. This is discussed in the following table.

Historic Access
A UXB falling on a site which was frequently accessed would have had a better chance of being found. ARP Wardens actively searched for UXBs in heavily bombed residential areas. The importance of a site or nearby buildings and infrastructure was also a factor. Many industrial facilities had fire watchers tasked with extinguishing incendiary bombs and reporting UXBs.
As all air raids in the immediate vicinity are thought to have occurred during the hours of darkness, there is a greater probability that any UXB strike to the Site could have occurred unobserved as residents/employees were inside. However, fire watchers were likely present at the industries located within each of the Sites, while the railway infrastructure located within/adjacent to each of the Sites was likely subject to post-raid checks for evidence of UXO. Indeed, given the lack of identified damage in Site C within high-resolution 1946 aerial imagery, as well as to the copper works in the north-west of Site A and briquetting works in Site B, access is likely to have remained frequent in these areas. These factors increase the likelihood of bombing and subsequent evidence of UXO being observed in these areas. However, visual evidence of repair works to the metal refinery in Site A (white/brighter roofing) suggests that bomb damage may have occurred at this location. It is conceivable that access may have been reduced for a time, depending on the extent of the damage. Furthermore, it is unlikely that the undeveloped open ground which comprised the majority of Sites A and B will have been accessed to a significant degree; these areas appear largely unused and unmaintained in 1940s aerial imagery. Evidence of a UXB strike in these areas may not have been observed, becoming obscured over time.

Bomb Damage
As the bombing campaign continued, damaged areas became vulnerable to unreported UXBs. Bomb site wreckage or soil disturbance at a bomb crater could obscure evidence of a subsequent UXB strike.
No evidence of bomb damage to the copper works in Site A, the structure in Site B, nor the section of the steelworks in Site C has been identified within historical aerial imagery and OS mapping, i.e. areas of clearance, missing roofs, repair works. Similarly, no obvious evidence of bomb damage was evident in the areas of open/undeveloped ground on Site; however, such evidence is typically less easily identifiable amongst open ground. Evidence of repair works to the metal refinery in Site A has been observed within 1940 and 1946 aerial imagery, suggesting that bomb damage may have occurred early during WWII. The extent of this possible damage cannot be accurately discerned, although the whole roof appears to have been replaced. The coal briquette works, located within the north of Site B, may have sustained serious damage as identified within aerial vertical imagery (see **FIGURE 5.2**). However, given the homogenous nature of this potential damage, as seen within **FIGURE 5.4**, it may be that the structure itself is incomplete or the intended design. A possible bomb crater has been identified approximately 30m south-west of Site A.

Ground Cover Type
A UXB which falls on open field could easily go unnoticed, whereas a UXB dropped on a hard-surfaced car park would have been easily observed.
Any UXB strike to the undamaged structures on each of the Sites would have caused incontrovertible evidence of its incidence as it passed the structures and into the ground beneath. Similarly, a UXB strike to the railway sidings on/adjacent to each of the Sites is likely to have been identifiable at the time. Evidence of a UXB strike amongst the metal refinery in Site A, which may have been damaged early during WWII, could conceivably have been obscured amongst existing damage and debris. The majority of both Site A and Site B also comprised undeveloped open ground during WWII. Subsequently, any potential evidence of UXO which may have fallen at this time is thought likely to have been less noticeable, with a UXB's descent into open land less obvious than through a structure or roadway, for example. Indeed, the entry hole of a 50kg UXB may be as little as 20cm in diameter and can therefore become easily obscured by growing vegetation.

5.5 Bombing During WWI

During WWI, an estimated 9,000 German bombs were dropped on London, Eastern England and South-Eastern England during some 51 Zeppelin airship raids and 52 fixed-wing aircraft raids. London suffered the worst of the bombing with an estimated 250 tonnes of HE and incendiary bombs recorded across the Capital, over half of which fell on the City of London district.

The WWI bombing campaign waged by Germany was on a far smaller scale than the WWII campaign, in terms of the number of raids, the weight of ordnance dropped during each attack and the size of the bombs used. When coupled with the fact that most WWI bombed locations have since been redeveloped, German WWI UXB finds are extremely rare. Furthermore, most air raids took place during daylight hours and as it was the first time Britain had experienced strategic aerial bombardment, the raids often attracted public interest and even spectators, increasing the chances of any UXBs being reported.

A collection of written reports describing each air raid in the region was reviewed.[3] The wider Site area, however, did not experience any air raids during WWI. As such, the associated UXO risk is considered negligible and will not be further addressed.

6 WWII GERMAN BOMBS

6.1 Bombs Dropped on the UK

Nazi Germany used different types of ordnance against the UK for different effects. Some types were designed to cause fires, others for their destructive blast effect and other for their penetration capability. Each type of ordnance was fitted with at least one fuze. For some bombs multiple fuzes were used. Many different types of fuzes were available for use – each with its own set of associated hazards.

Data sheets on those bombs most likely to be encountered today are included at **APPENDIX 2**.

- **HE bombs – moderate NEQ (net explosive quantity):** the most common types of HE bombs dropped were the SC (general purpose - GP) and SD (semi-armour piercing - SAP) series of bombs. The NEQ is between 30-50%. SAP bombs are engineered to attack light fortifications, whereas GP bombs are used in a mixed destructive blast and anti-personnel fragmentation role. 70% of bombs dropped on the UK were the 50kg type.
- **HE bombs – high NEQ:** blast bombs and parachute mines have bodies made of thin steel, allowing for larger HE charges. These were designed to detonate above ground, maximising the blast effect. Parachute mines were weapons slowed by parachutes and designed to detonate without penetrating the ground. Although, in some marshland areas, partially buried parachute mines have been observed. Consequently, it is highly unlikely that any unexploded blast bombs remain buried in the UK today.

[3] https://www.iancastlezeppelin.co.uk/

- **HE bombs – low NEQ:** The PC series were armour piercing bombs used against heavy fortifications and reinforced bunkers. They were not commonly used over the UK.
- **Small incendiary bombs:** The 1kg and 2kg incendiaries were the most dropped bomb. Up to 620 x 1kg incendiaries could be packed into the largest container unit, which opened at a pre-determined height scattering its payload over a wide area. These small bombs could fully penetrate soft ground due to their small diameter. Variants of the 1kg and 2kg incendiary bombs contained a small HE charge designed for an anti-personnel role, and to increase its incendiary effect.
- **Large incendiary bombs - Thick skinned:** The C50 has a thick body and contained a mixture of incendiary liquids and white phosphorus. Another version of the C50 had a white phosphorus fill. The C50 'firepot' contained thermite incendiary containers (aka firepots) and a small HE charge.
- **Large incendiary bombs - Thin skinned:** The Flam 250 and Flam 500 models had thin steel bodies designed to break up on impact, spreading their oil-incendiary mixture, which was ignited by a small HE charge. Consequently, it is highly unlikely that any unexploded Flam bombs remain buried in the UK today. Their unreliability meant withdrawal from frontline use by January 1941.
- **Submunitions:** The SD2 'butterfly' bomb was a 2kg submunition dropped on several British cities and towns. It contained a 225gram HE charge. SD2s had no ground penetration ability so the vast majority were recovered at the time. However, SD2s are still found across Britain today.
- **V1 flying bombs and V2 rockets:** In the final year of WWII Germany began using pilotless weapons against England. Both V Weapons had 1,000kg HE warheads. Due to their light-body construction, they had no penetration ability and any impact left a noticeable debris field. As such, there is negligible risk from unexploded V weapons today.

6.2 Bomb Failures

Records from September 1940 to July 1941 show that an average of 84 UXBs were dropped on civilian targets each day. Around 8% of these were time delay bombs – designed to strike the ground and start a predetermined countdown which could last days.

There is a generally accepted 10% failure rate for WWII German HE bombs. This is estimated from records gathered by bomb disposal units. These statistics do not account for UXBs that went by unnoticed.

Failures can happen for different reasons, including:

- Equipment or human error in arming the bombs before release,
- Failure of a mechanism within the fuze (out of tolerance),
- Jettisoning payloads if the bomber was under attack or crashing, or
- Partially functioned bombs (e.g. cracks in the cast TNT)

6.3 Bomb Ground Penetration

6.3.1 Introduction

Using data gathered during WWII by the Ministry of Home Security, estimations can be made about how deep a bomb is likely to penetrate the ground. Over one thousand incidents were reported by the bomb disposal units to support this research. Further tests were carried out, dropping bombs of different sizes into chalk and measuring the depths they reached. This research is held at the National Archives. The estimates are:

Bomb weight (kg)	Ground Type (m)							
	Sand		Gravel		Chalk		Clay	
	Average	Max.	Average	Max.	Average	Max.	Average	Max.
50	2.8	7.8	2.8	7.8	3.5	7.7	4.0	9.1
250	4.8	13.7	4.8	13.7	6.0	13.1	6.8	15.8
500	6.0	17.3	6.0	17.3	7.6	16.4	8.7	19.8
1,000	7.6	21.9	7.6	21.9	9.6	20.7	10.9	24.9

Different layers of geology affect penetration depths. For example, 1m of made ground, then 1m of gravel before reaching clay – as is many areas of London – is not easily calculated from the data above.

When calculating how deep a bomb could have reached, we must make three assumptions:

- **Impact velocity:** German bombing raids were carried out at altitudes in excess of 5,000m. The velocity of impact is roughly 313ms^{-1} (not accounting for resistance). It is the same velocity regardless of mass.
- **Impact angle:** strike angles of 10 to 15 degrees to the vertical. It must be assumed that the bomb was stable at the moment of ground penetration.
- **Bomb design:** Some larger German bombs were occasionally fitted with 'kopfrings' - a metal ring, triangular in cross section, fitted around the nose of the bomb to help prevent penetration. It must be assumed that no 'kopfrings' were fitted.

6.3.2 The J-Curve Effect

During WWII BDUs reported that most buried UXBs were found horizontal or upturned. This observation confirmed the 'J-curve effect'. As an HE bomb penetrates the ground, slightly offset from the vertical, its passage underground creates a 'J' shape.

This is relevant because the J-curve effect results in a horizontal offset between the buried UXB and its point of entry. This is distance is estimated to be one third of the theoretical penetration depth. A low altitude attack, meaning a low impact angle, could produce an even greater offset, of up to 15m.

6.3.3 Site Specific Geology

BGS Mapping	**Superficial Deposits:** Tidal Flat Deposits – Clay, Silt and Sand	**Bedrock Deposits:** South Wales Middle Coal Measures Formation - Mudstone
SI Data	Recent SI data was provided by the Client. One of the boreholes on Site (BH01 – April 2022) encountered the following ground conditions: - 0.20m of very gravelly sand. Gravel of slag and concrete (made ground). - 1.00m of gravelly, silty sand with occasional silt. Gravel of slag, mudstone and rare brick fragments (made ground). - 1.00m of gravelly silty sand. Gravel of mudstone. - 2.00m of sandy silt. - 1.00m of sandy gravelly silt with low cobble content. - 0.80m of silt with low cobble content and frequent pockets of peat. - 3.30m of sandy silt. - 0.20m of peat. - 10.10m of sand with medium cobble content.	

6.3.4 Site Specific Maximum Bomb Penetration Depth

During WWII the Luftwaffe dropped many different types of HE bomb. The SC (general purpose) series was by far the most numerous and of this series, the SC 500 model (weighing 500kg) was the largest of the most commonly deployed and therefore this will be used as the benchmark weapon for the Site-specific bomb penetration depth calculations.

To calculate an accurate maximum bomb penetration depth, Brimstone would normally take the average of the averages of the figure for the predominant Site-specific geologies (silt, sand, gravel), in the table above. However, given the lack of BPD data for silt, as well as for mudstone and sandstone, this has not proved possible on this occasion. While dense gravel presents at depths of 10-14m bgl, a UXB will first have travelled through clay, silt or sand beforehand, indicating that the dampening effect of the dense gravel on the descent of a UXB will be marginal and near the tail-end. As a result of the variance of the geological conditions on Site, with areas of predominantly clay, silt and sand identified, the maximum penetration depth could be up to 14.25m.

NB: theoretically penetration depths could be greater if the UXB was larger, however, War Office statistics confirm that between October 1940 and May 1941 the majority of HE UXBs (>90%) were either 50kg or 250kg, with the 500kg bombs making up most of the remaining 10%.

7 UXO RISK - BRITISH/ALLIED ACTIVITY

7.1 Introduction

The table below lists potential sources of UXO (excluding enemy action). Those which are potentially relevant to the Site are discussed in the subsequent section(s).

Potential UXO Source	Potentially Significant
Army or RAF training areas / ranges	✗
Military bases and other installations	✗
Munitions and explosives factories	✗/✓
Military storage depots	✗
Defensive fortifications	✗
Wartime site requisitions	✗
WWII defensive mining (landmines)	✗
WWII Home Guard activity	✗
Wartime anti-aircraft fire	✓

7.2 Potential Sources of UXO

7.2.1 Introduction

Research has not located any evidence of significant British or Allied army, RAF or Royal Navy activity specifically on Site and none is likely to have occurred historically. However, evidence indicates that the Margam Steelworks, within which Site C was located during WWI and WWII, was purpose built during WWI for war production. The potential sources of British UXO contamination are therefore munitions factories and WWII AA artillery fire.

7.2.2 Margam Steelworks

Evidence indicates that the Margam Steelworks, within which Site C was located during WWI and WWII, was purpose built during WWI for war production. Further research suggests that the steelworks produced steel utilised for munitions, tanks, ships and other war materials. Three WWII-era bombs/shells have been uncovered at Tata Steel in the 21st century. The first, referred to as a 'bomb' within an in-house geo dataset, was encountered approximately 1.8km to the south-east of Site A in 2008 during excavation works; the area was

cordoned off and an EOD squad attended the scene, although the device was found to be inert. A 'shell' was discovered near the main railway line in 2011, which is located approximately 170m to the east of Site C at its closest point, although was likely encountered further to the south. It is unclear whether the shell was filled and fuzed and bomb disposal personnel carried out a controlled detonation.[4] Another 'shell' was uncovered in 2020 (precise location unknown) and was declared without a fuze and therefore inert by Army personnel; however, it is unknown whether it was filled with high explosives. [5]

No evidence has been found to suggest that shells were filled at the steelworks in Port Talbot. It is likely that each of the aforementioned shells consisted solely of the outer casing, produced by the Margam Steelworks, given that each of them was certified inert.

7.2.3 WWII Anti-Aircraft Fire

Anti-Aircraft (AA) Command was a British Army command established in 1939 to defend the UK during the anticipated German bombing campaign. It controlled the Territorial Army AA artillery and searchlight units. From 1940 to 1945 BDUs dealt with 7,000 unexploded AA shells in Britain. There were three main types of AA battery used for home defence (see below). Data sheets on these AA defences are included at **APPENDIX 3**.

- **Heavy Anti-Aircraft (HAA):** large calibre guns (3.7" and 4.5") for engaging high altitude bomber formations. Hundreds of permanent batteries were constructed in and around major cities and military bases during the 1930s. Some 2,000 of these guns were available during the Blitz. Each gun could fire between 10 and 20 rounds per minute and consequently HAA batteries could expend large quantities of shells during each engagement.

  British time fuses were poorly manufactured during WWII and this led to high failure rate for HAA shells, up to 30%. Unexploded HAA shells had the potential to land up to 27km from their battery, although more typically landed within a 15km radius.

- **Light Anti-Aircraft (LAA):** smaller calibre guns for engaging dive bombers and low altitude intruders. As such they were mostly used to defend specific industrial and military targets which were subject to precision bomber attack. LAA guns were either .303" calibre machine guns or 20mm and 40mm calibre cannon. The latter were fitted with simply impact fuses and small incendiary or HE bursting charges.

  The 40mm Bofors gun could fire 120 x HE shells / minute to a ceiling of 1,800m. Each shell was designed to self-destruct if it didn't strike an aircraft, however, inevitably some failed and fell back to earth.

- **Z (Rocket) Batteries**: a Z-Battery comprised a grid formation of 64 rocket projectors which fired 2" and later 3" Unrotated Projectile (UP) rockets to a maximum altitude of 5,800m; a ground range of some 9,000m. They were deployed in cities all around the UK from 1941 and proved to be an effective addition to the existing AA guns.

  The rockets measured 0.9m (2") and 1.8m (3") in length with four stabilising fins at the base and were fitted with 3.5kg or 8.2kg HE warheads. The larger warhead had an effective airborne blast radius of up to 20m. Some variants deployed a form of aerial mine described as a "small yellow bomb" which was designed to detach from the rocket at height and descend on a parachute with the objective of becoming snagged on target aircraft and then detonating.

Unlike bombs which were designed to strike the ground, AA projectiles and rockets were designed to function in the air. Due to their shape, and centre of gravity they would often not strike the ground nose first. This coupled with the lower mass of AA UXO resulted in shallower ground penetration depths, compared to UXBs. Although, in very soft conditions, unexploded AA projectiles have been found deeper than 1.5m bgl.

16 permanent HAA batteries were active within range of the Site during WWII. LAA guns likely defended Port Talbot, within which the Site was located. Luftwaffe activity in the region was relatively infrequent. It is possible that an unexploded AA shell struck the open areas of the Site.

[4] https://www.bbc.co.uk/news/uk-wales-south-west-wales-13877272

[5] https://www.walesonline.co.uk/news/local-news/port-talbot-tata-steel-bomb-17621716

8 UXO RISK MITIGATING CIRCUMSTANCES

8.1 Introduction

Works on a UXO contaminated site could result in the partial or complete removal of UXO risk. Construction or earthworks may have uncovered any UXO contamination, which would then have been reported and removed by the authorities. A site may have been subject to an explosive ordnance clearance (EOC) task conducted by the armed forces. EOC tasks involve surveying, subsequent target investigation and removal of UXO. Although the effectiveness of historic EOC tasks will have often been unsatisfactory.

8.2 Explosive Ordnance Clearance Tasks

The division of EOD tasks has been complex throughout British military history. It used to be the case that anything under the water level would be dealt with by navy units, and anything on land would be dealt with by army units. In recent years RAF EOD capability has been discontinued, and now only the Royal Navy and the British Army have EOD units. In the army, the Royal Logistics Corps and Royal Engineer EOD units have been amalgamated to form 29 EOD & Search Group. Often taskings are assigned to either the naval or army elements based on where in the country the threat is and the nature of the threat.

Brimstone has access to a database of historic EOC tasks. This database is only complete up until the early 2000s and therefore does not include recent EOC tasks. No such database for the RAF and Royal Navy EOD units is easily accessible. A search of this database has not resulted in any Army EOC tasks in the vicinity of the Site.

UXO encounters on civilian land are often reported in the media and therefore a web search of local media outlets was also carried out. Three inert bombs/shells have been encountered at Tata Steel in the 21st century, see ***Section 7.2.2*** above for additional information.

8.3 Ground Works

Post-conflicts ground works for all three Sites have comprised the clearance of all WWII-era structures and railway lines. This would have consisted of grubbing out the foundations of the former structures, likely mitigating the risk in these areas to shallow depths (1-2m bgl). It is possible that the clearing of some structures may have required deep (>2m) intrusions, although this has not been possible to confirm. The open areas of the Site are likely to have to received minimal post-WWII ground works, which will likely have been to very shallow depths (<1m bgl). Site B has seen the construction of various low-rise structures, infrastructure and the addition of hardstanding across large areas in the north and west. The depths associated with these ground works likely range from very shallow to shallow.

8.4 Deductions

The risk associated with (any) very shallow and shallow buried UXO will have been partially mitigated in areas of WWII-era structures and infrastructure, as well as post-WWII ground works. The risk associated with (any) deep buried UXO likely remains unmitigated.

9 CONCLUSION

9.1 Accuracy of Historical Records

Occasionally, the accuracy of some historical records can prove to be poor when compared with other sources of information. One significant consequence of this can be the possibility of unrecorded German bomb strikes in the study area. No comprehensive bombing records nor bomb plot mapping was available for the WWII-era Municipal Borough of Port Talbot during the production of this report from national and local archives. While anecdotal accounts provide the locations of various bombing incidents, 87 HE bombs are recorded as falling within the borough during WWII and therefore the locations of the vast majority of these are unknown. While an accurate risk level can be determined without the need for comprehensive records, their unavailability leads to uncertainty regarding whether bombs fell on/near the Site, resulting in an additional risk factor to consider.

9.2 The Risk of UXO Contamination on Site

9.2.1 Key Findings – German UXO Risk

- Port Talbot was a key industrial hub during World War II, with its steelworks and coal production facilities playing a vital role in supporting the British war effort. The Margam Steelworks, within which Site C was located, were involved in the production of steel for munitions, tanks, ships, and other war materials. Consequently, the town and its industries became targets for German air raids carried out by the Luftwaffe. Indeed, Luftwaffe target photography indicates industries on Site and nearby were identified as primary bombing targets. A railway yard/storage station was recorded on target photography (Site B) and a steel works which made up Site C. This is further recorded within Luftwaffe target mapping, which highlights the copper works (Kupferworke) and hard coal briquettes (Steinkohlenbrikettebrik) within Site A as bombing targets, as well as the iron foundry (Eisengießerel) within which Site C was located.
- The majority of the official records obtained for Port Talbot did not specifically state the location of the incidents occurring, with many entries merely referring to bombing occurring over the town as a whole. It is of note, however, that one of the records reports an incident occurring at a copper works, a facility which consulted OS mapping confirms was present on and immediately adjacent to the north of Site A, as well as waste ground and railway sidings in the vicinity (partially included within / adjacent to Sites A and B), suggesting that bombing may have occurred on Site or in the immediate surrounds. Furthermore, bombing at the docks appears to have occurred on several occasions, with the south side referenced as sustaining a number of bombs, some of which were delayed action. A failure with the clockwork mechanism within the fuze of the delayed-action bombs is one cause of UXBs remaining in-situ. Sites A and B were located on the south side of the docks. The Margam Steelworks and/or its surrounding area is also stated to have been bombed on several occasions.
- No evidence of bomb damage to the copper works in Site A, the structure in the south-east of Site B, nor the section of the steelworks in Site C has been identified within historical aerial imagery and OS mapping, i.e. areas of clearance, missing roofs, repair works. Similarly, no obvious evidence of bomb damage was evident in the areas of open/undeveloped ground on Site; however, such evidence is typically less easily identifiable amongst open ground.
- However, evidence of repair works to the metal refinery in Site A has been observed within 1940 and 1946 aerial imagery, suggesting that bomb damage may have occurred early during WWII. The extent of this possible damage cannot be accurately discerned, although the whole roof appears to have been replaced. The coal briquette works, located within the north of Site B, may have sustained serious damage as identified within aerial vertical imagery. However, given the homogenous nature of this potential damage, as seen within **FIGURE 5.4**, it may be that the structure itself is incomplete or the intended design. A possible bomb crater has been identified approximately 30m south-west of Site A.
- Wartime conditions across the Site varied during WWII. Site A comprised a metal refinery, a section of a copper works, railway infrastructure and undeveloped open ground. Site B comprised a briquetting works in the north, small structure in the south-east, railway infrastructure and undeveloped open ground. Site C comprised a section of the Margam Steelworks. Any UXB strike to the undamaged structures on each of the Sites would have caused incontrovertible evidence of its incidence as it passed the structures and into the ground beneath. Similarly, a UXB strike to the railway sidings on/adjacent to each of the Sites is likely to have been identifiable at the time. Fire watchers were likely present at the industries located within each of the Sites, while the railway infrastructure located within/adjacent to each was likely subject to post-raid checks for evidence of UXO. Indeed, given the lack of identified damage in Site C within high-resolution 1946 aerial imagery, as well as to the copper works in the north-west of Site A and briquetting works in Site B, access is likely to have remained frequent in these areas. These factors increase the likelihood of bombing and subsequent evidence of UXO being observed in these areas.

- However, visual evidence of repair works to the metal refinery in Site A (white/brighter roofing) suggests that bomb damage may have occurred at this location. Evidence of a subsequent UXB strike at this location, which may have been damaged early during WWII, could conceivably have been obscured amongst existing damage and debris. It is conceivable that access may have been reduced for a time, depending on the extent of the damage. The majority of both Site A and Site B also comprised undeveloped open ground during WWII. Subsequently, any potential evidence of UXO is thought likely to have been less noticeable, with a UXB's descent into open land less obvious than through a structure or roadway, for example. Indeed, the entry hole of a 50kg UXB may be as little as 20cm in diameter and can therefore become easily obscured by growing vegetation. Furthermore, it is unlikely that the undeveloped open ground which comprised the majority of Sites A and B will have been accessed to a significant degree; these areas appear largely unused and unmaintained in 1940s aerial imagery. Evidence of a UXB strike in these areas may not have been observed, becoming obscured over time.
- In summary, factors pertinent to the risk of UXO contamination vary across each Site. As discussed above, the ground conditions within the majority of Sites A and B were unconducive to the detection of UXO. Bombs, including those with delayed-action fuzes, are recorded across the south of the docks, potentially on Sites A and B. Indeed, potential repair works indicative of bomb damage has been observed to the metal refinery in Site A. As a result, the majority of Site A and Site B has been assessed at a **Moderate Risk** from German UXBs. While evidence of a UXB will have been more readily observed amongst the undamaged structures and railway infrastructure within this zone, the potential for the J-Curve effect, whereby a UXB may travel laterally from its point of penetration, indicates that the risk from the open ground also presents at the footprint of the WWII structures and railway sidings. A buffer zone has therefore been added to account for this possibility.
- No evidence of damage to the copper works in Site A, railway infrastructure in both Site A and B, nor the structures in Site C, has been identified. The presence of significant and important infrastructure in these locations indicate that a UXB strike will have been observed and dealt with at the time. However, given recorded bombing to the copper works, south side of the docks and the steelworks, the risk from German UXBs is slightly elevated and has been assessed as **Low-Moderate**.
- Similar to the copper works and railway infrastructure within Site A, as well as structures in Site C, no confirmed visual evidence of damage has been observed to the briquetting works in Site B. A UXB strike is likely to have been observed at this location during WWII. Given this, a **Low Risk** has been assessed at the footprint of this structure, with the zone accounting for the possibility of J-Curve causing a UXB to come to rest beneath. As a result, this zone is smaller than the structure itself.

9.2.2 Key Findings - British UXO Risk

- Evidence indicates that the Margam Steelworks, within which Site C was located during WWI and WWII, was purpose built during WWI for war production. Further research suggests that the steelworks produced steel utilised for munitions, tanks, ships and other war materials. Three WWII-era bombs/shells have been uncovered at Tata Steel in the 21st century (none have been recorded on Site, although specific locations are unknown). No evidence has been found to suggest that shells were filled at the steelworks in Port Talbot. It is likely that the aforementioned shells consisted solely of the outer casing, given that each of them was certified inert and no mention was made of a high-explosive fill. Therefore, the risk from Allied UXO is assessed to be **Low** across the Site.
- Although all shells uncovered within the wider Tata Steel works have been found to be inert and are believed to be shell casings only, not ordnance, it cannot be assumed to be the case for any potential future items that are encountered. Any suspicious items should be assumed to be live / hazardous. If such an item is encountered on Site, the relevant authorities should be contacted in order to carry out an immediate investigation and initiate the necessary safety procedures.
- 16 permanent HAA batteries were active within range of the Site during WWII. LAA guns likely defended Port Talbot, within which the Site was located. Luftwaffe activity in the region was relatively infrequent. It is possible that an unexploded AA shell struck the open areas of the Site, and the risk is considered to be analogous to that of German UXBs.

9.3 Site-Specific UXO Hazards

Different types of UXO pose differing types of hazard, depending on their structural design, Net Explosive Quantity (NEQ), fill type and likely contamination depth. The table below lists the main types of UXO most often encountered on urban UK sites and their relative hazard levels.

UXO Type	NEQ (NEQ Range)	Likely Burial Depth	Hazard Posed
WWII German General Purpose HE Bombs	25kg - 220kg (most commonly deployed bomb weights)	Likely deep burial (>2m)	HIGH RISK
WWII British Heavy Anti-Aircraft Shells	1.1kg - 1.7kg	Shallow burial (1-2m)	MODERATE-HIGH RISK
WWII British Land Service Ammunition	<2kg	Shallow burial (1-2m)	
WWII German 2kg Incendiary / HE Bombs	680g incendiary hazard + ~500g explosive hazard	Shallow burial (1-2m)	
WWII German 1kg IBs	680g (incendiary, not explosive hazard)	Shallow burial (1-2m)	MODERATE RISK
WWII British Light Anti-Aircraft Shells	4g - 70g	Very shallow burial (<1m)	LOW-MODERATE RISK

9.4 The Likelihood of UXO Encounter

9.4.1 Introduction

This report assesses the risk of UXO in relation to the proposed works, not simply the risk that UXO remains buried on site. The likelihood of UXO encounter during intrusive ground works will vary depending on the type of UXO and the type of construction methods employed during the project. With increased soil disturbance i.e. more excavations, the likelihood of encountering UXO increases.

Within an area of elevated UXO contamination likelihood, the sub-surface volume of potential UXO contamination will comprise the natural soil / geology in between WWII ground level and the maximum bomb penetration depth. Therefore, any intrusions into this layer will be at risk of UXO encounter.

Any post-WWII fill material deposited on a site is unlikely to be contaminated with UXO and therefore the risk of encountering UXO on such a site could vary with depth.

In the wake of the initial nine-month Blitz, many cities and towns were left with vast quantities of bomb site rubble that required removal and relocation. This material was put to use for in a variety of ways, for example >750,000 tons of London's rubble was used to build runways for new RAF and USAAF airfields and much of Liverpool's rubble was used to create and maintain sea / flood defences throughout Merseyside.

It is quite possible that unexploded British AA projectiles and German 1kg incendiaries were overlooked during removal, resulting in UXO contaminated fill material ending up on otherwise low UXO risk sites, possibly many miles from any high bombing density areas.

9.4.2 German UXBs

Although most German UXBs came to rest several metres below WWII ground level, these weapons can be found at any level between just below WWII ground level and the maximum bomb penetration depth. There are a number of reasons why these heavy bombs might be found at surprisingly shallow depths.

- **Tip and run:** When enemy aircraft had to take evasive action to escape RAF fighter intercepts or AA defences, they often dropped their bomb loads from a reduced height, potentially resulting in extreme J-curve effect.

- **Deflection:** the shape of German bomb nose sections meant they were susceptible to deflection when striking surface or shallow sub-surface obstacles, occasionally resulting in shallow burial or even UXBs skidding across hardstanding.
- **Aircraft Crash Site:** if an aircraft was unable to dump its bomb load before impacting the ground, due to mechanical fault, any externally fitted bombs could have become buried on impact.

German 1kg / 2kg incendiaries were cylindrical and approximately 50mm in diameter. They had tail sections, and so landed nose first. Within soft ground this could result in full penetration of the bomb below the surface. Such UXBs are usually found close to the surface.

9.4.3 British / Allied UXO

The nature of British/Allied military activity involving LSA and SAA and the smaller size of these munitions (in relation to German HE bombs) indicates that any resulting UXO contamination on a site will be limited to shallow depths, usually within 1.5m of the surface, notwithstanding added material to raise the ground level.

Domestic military LSA and SAA contamination will either be the result of expending blinds (dud ammunition) which bury into the ground on impact or munitions purposefully buried, for a number of reasons. Either way, these types of UXO are all found at shallow depth.

9.4.4 Deductions

An elevated likelihood of UXO contamination (German) and likelihood of that UXO remaining up to the present day has been identified across the majority of Site A and Site B. Therefore, some of the proposed works are considered to be exposed to a UXO encounter.

10 OVERALL RISK RATING

Ratings for the likelihood of UXO contaminating the Site, remaining within the Site up to the present day and being encountered during the proposed works, inform the overall risk rating. The UXO risk to the proposed works varies. **Low**, **Low-Moderate** and **Moderate Risk** zones for German UXBs and unexploded HAA shells have been identified, with a **Low Risk** from Allied UXO across the Site. These are illustrated within the risk mapping displayed at **FIGURE 7**.

Risk Table: Low Risk				
UXO TYPE (ASSOCIATED HAZARD)	**LIKELIHOOD OF UXO CONTAMINATION**	**LIKELIHOOD OF UXO REMAINING**	**LIKELIHOOD OF ENCOUNTER**	**OVERALL RISK RATING**
WWII German 'Iron' Bombs	Low	n/a		**Low**
WWII British Heavy Anti-Aircraft Shells	Low	n/a		
WWII British Land Service Ammunition	Low	n/a		
WWII German 2kg Incendiary / HE Bombs	Low	n/a		
WWII German 1kg Incendiary Bombs	Low	n/a		
WWII British Light Anti-Aircraft Shells	Low	n/a		
WWII British Small Arms Ammunition	Low	n/a		

Risk Table: Low-Moderate Risk				
UXO TYPE (ASSOCIATED HAZARD)	LIKELIHOOD OF UXO CONTAMINATION	LIKELIHOOD OF UXO REMAINING	LIKELIHOOD OF ENCOUNTER	OVERALL RISK RATING
WWII German 'Iron' Bombs	Low-Moderate	Moderate-High	Moderate	Low-Moderate
WWII British Heavy Anti-Aircraft Shells	Low-Moderate	Moderate-High	Moderate-High	
WWII British Land Service Ammunition	Low	n/a		Low
WWII German 2kg Incendiary / HE Bombs	Low	n/a		
WWII German 1kg Incendiary Bombs	Low	n/a		
WWII British Light Anti-Aircraft Shells	Low	n/a		
WWII British Small Arms Ammunition	Low	n/a		

Risk Table: Moderate Risk				
UXO TYPE (ASSOCIATED HAZARD)	LIKELIHOOD OF UXO CONTAMINATION	LIKELIHOOD OF UXO REMAINING	LIKELIHOOD OF ENCOUNTER	OVERALL RISK RATING
WWII German 'Iron' Bombs	Moderate	Moderate-High	Moderate	Moderate
WWII British Heavy Anti-Aircraft Shells	Moderate	Moderate-High	Moderate-High	
WWII British Land Service Ammunition	Low	n/a		Low
WWII German 2kg Incendiary / HE Bombs	Low	n/a		
WWII German 1kg Incendiary Bombs	Low	n/a		
WWII British Light Anti-Aircraft Shells	Low	n/a		
WWII British Small Arms Ammunition	Low	n/a		

11 RISK MITIGATION RECOMMENDATIONS

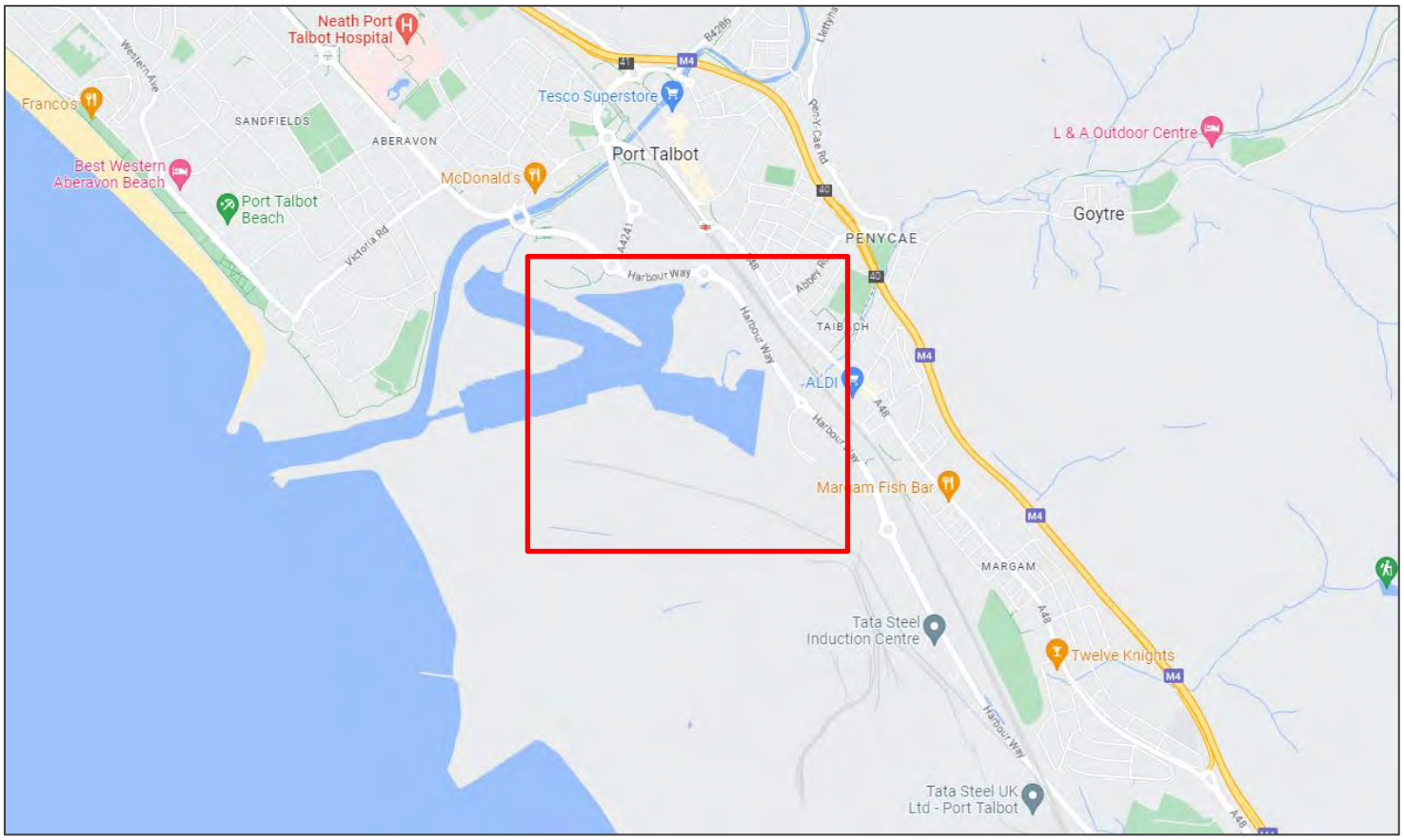
Brimstone has identified an elevated UXO risk to some of the proposed works. The measures detailed below are recommended to mitigate the risk to ALARP level.

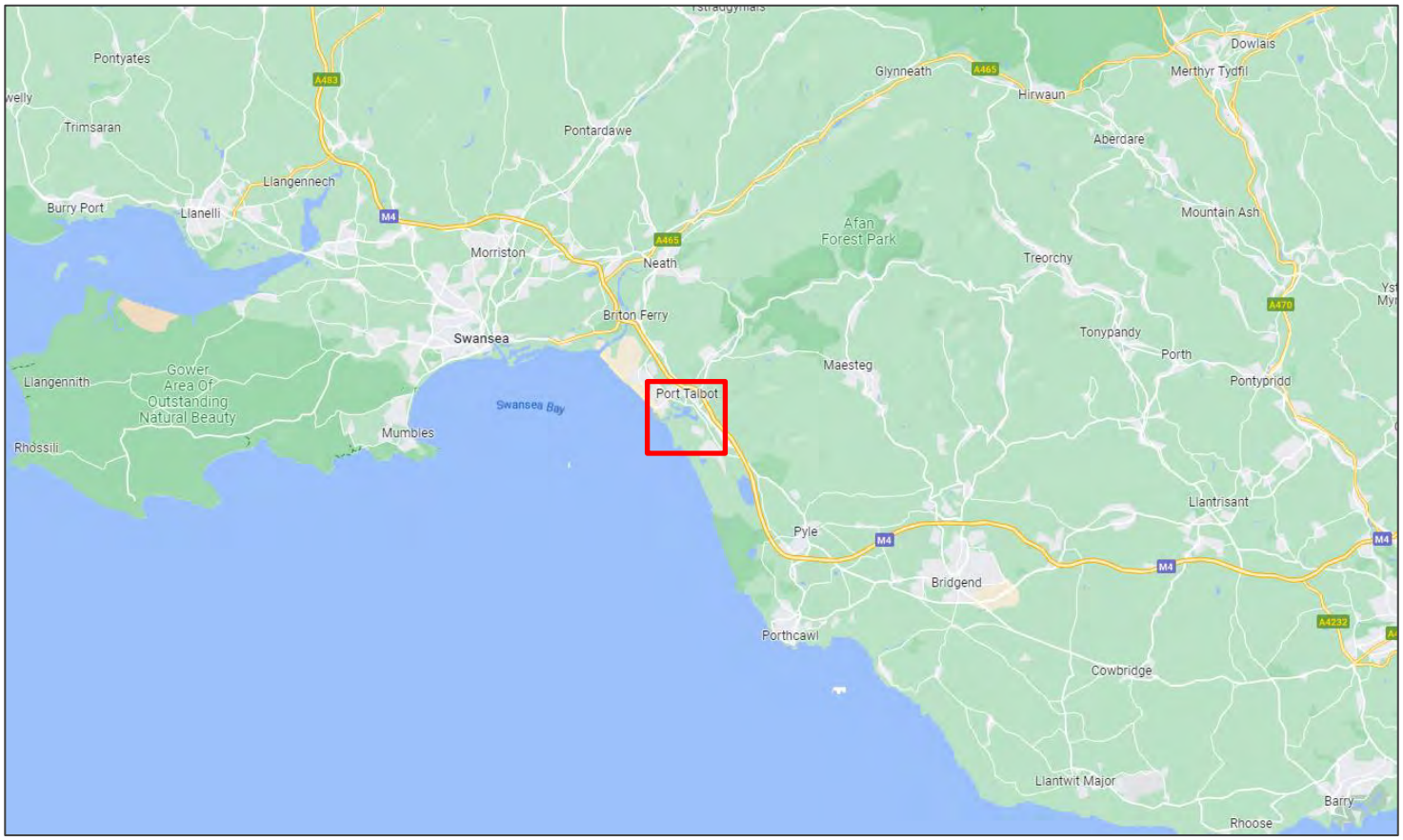
Risk Mitigation Measure	Recommendation
UXO Safety Awareness Briefings: To all personnel conducting intrusive works on Site. An essential part of the Health & Safety Plan for a site. Conforms to the requirements of CDM2015.	Prior to all intrusive works commencing.
EOD Engineer - On Site Supervision: Watching brief for open excavations below WWII ground level. Portable magnetometer instruments for clearing ground ahead of borehole positions and shallow excavations (where / when appropriate). Positive identification of suspicious (non UXO) objects. Liaison during confirmed UXO incidents. Provision of additional UXO Safety Awareness Briefings.	Watching brief of all open excavations and magnetometer survey of borehole locations within the **Moderate Risk** zone.
Intrusive Magnetometer Probe Survey: A range of intrusive magnetometer methodologies can be deployed to survey the ground (down to the maximum bomb penetration depth) prior to deep intrusive works; pile foundations. The appropriate technique is governed by a number of factors, the most important being the site-specific ground conditions.	Of any pile positions within the **Moderate Risk** zone.
Non-Intrusive Magnetometer Survey: A range of non-intrusive magnetometer methodologies can be deployed to survey large areas of land to a limited depth. Such surveys can typically detect a 50kg WWII bomb at a depth of 4.5m, in “clean” ground. This survey is only appropriate for greenfield land where “magnetic noise” is negligible. To extend survey range, a reduced dig and secondary survey can be carried out.	Open excavations on greenfield land within the **Moderate Risk** zone.

Figures: 1 - 7

BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

Title:	Site Location Maps	FIGURE: 1





N

Project	**Project Dragon, Port Talbot**
Client:	**TEC Ltd**
Report Ref:	**DRA-23-1532**
General Site Location	Info Source: Google (open-source)

BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

Title:	Recent Aerial Photograph	FIGURE: 2



N

Project	**Project Dragon, Port Talbot**
Client:	**TEC Ltd**
Report Ref:	**DRA-23-1532**
Approx. Site Boundary	Info Source: Google (open-source)

BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

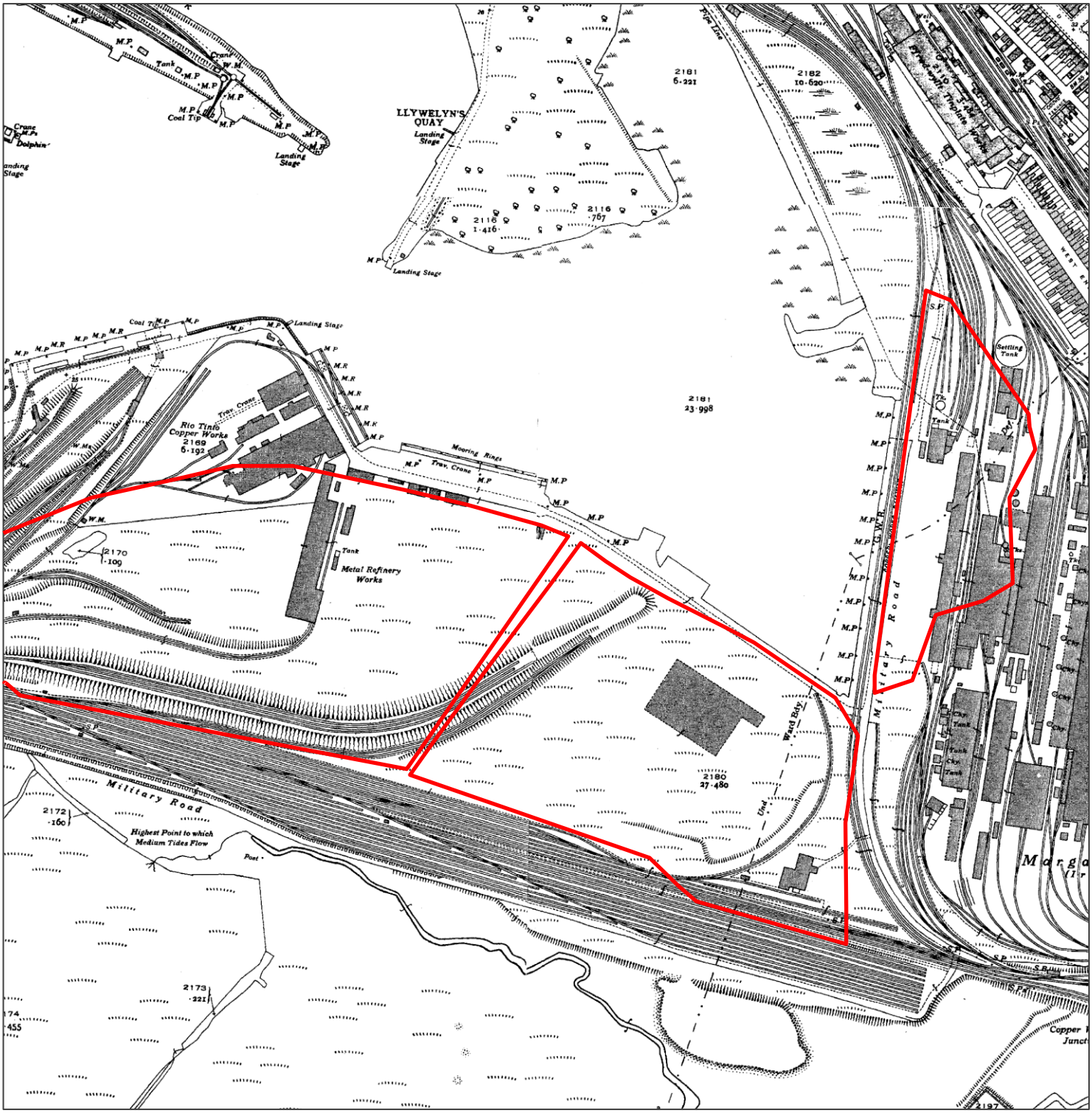
Title:	Existing Site Plan	FIGURE: 3



N	Project	Project Dragon, Port Talbot
	Client:	TEC Ltd
	Report Ref:	DRA-23-1532
	Site Boundary	Info Source: TEC Ltd

BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

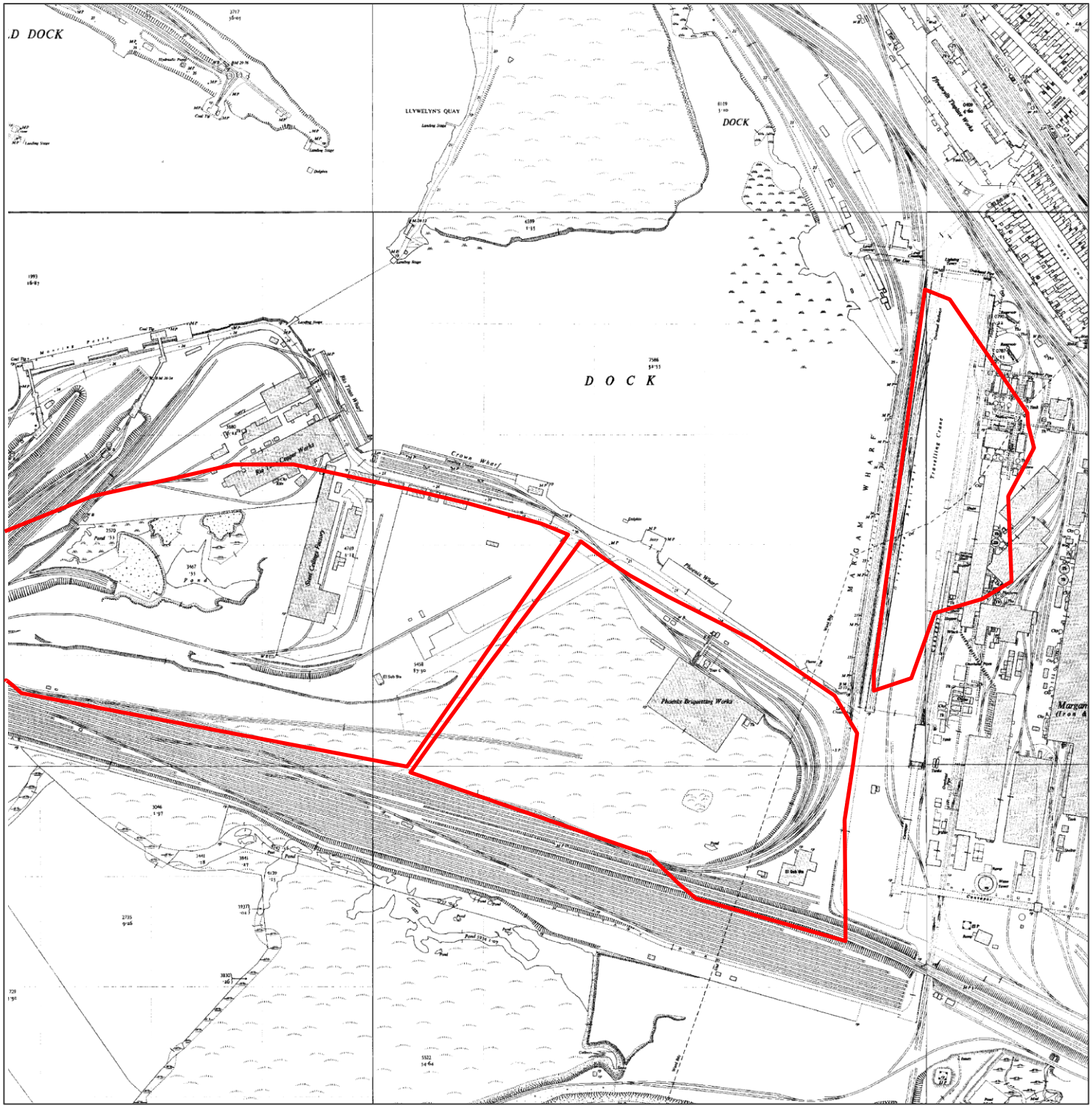
Title:	Historical OS Mapping – 1939-1940	FIGURE: 4.1



N	Project	Project Dragon, Port Talbot	
	Client:	TEC Ltd	
	Report Ref:	DRA-23-1532	
	Partial Site Boundary	Info Source:	Promap

BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

Title:	Historical OS Mapping – 1947-1949	FIGURE: 4.2



N	Project	Project Dragon, Port Talbot	
	Client:	TEC Ltd	
	Report Ref:	DRA-23-1532	
	Partial Site Boundary	Info Source:	Promap

BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

Title:	Historical Aerial Photography – 21st December 1940	FIGURE: 5.1



Project	Project Dragon, Port Talbot	
Client:	TEC Ltd	
Report Ref:	DRA-23-1532	
Approx. Site Boundary	Info Source: NCAP	

BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

Title:	Historical Aerial Photography – 21st December 1940	FIGURE: 5.2



Project	Project Dragon, Port Talbot	
Client:	TEC Ltd	
Report Ref:	DRA-23-1532	
Approx. Site Boundary	Info Source: NCAP	

BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

Title:	Historical Aerial Photography – 7th June 1946	FIGURE: 5.3



N

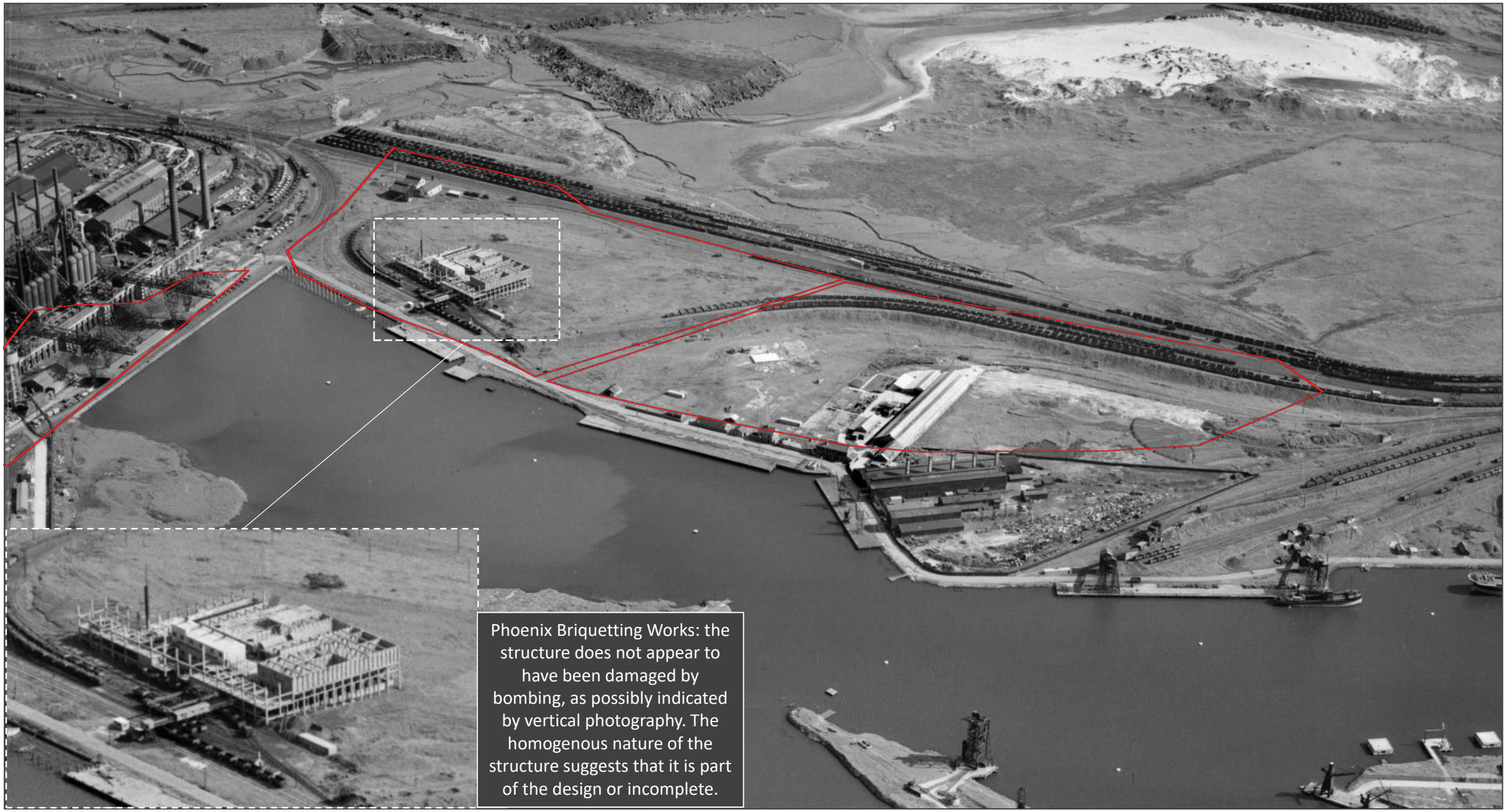
Project	**Project Dragon, Port Talbot**
Client:	**TEC Ltd**
Report Ref:	**DRA-23-1532**
Approx. Site Boundary	Info Source: Historic England

BRIMSTONE

Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU

+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

Title:	Historical Aerial Photography – 1947	FIGURE: 5.4



Phoenix Briquetting Works: the structure does not appear to have been damaged by bombing, as possibly indicated by vertical photography. The homogenous nature of the structure suggests that it is part of the design or incomplete.

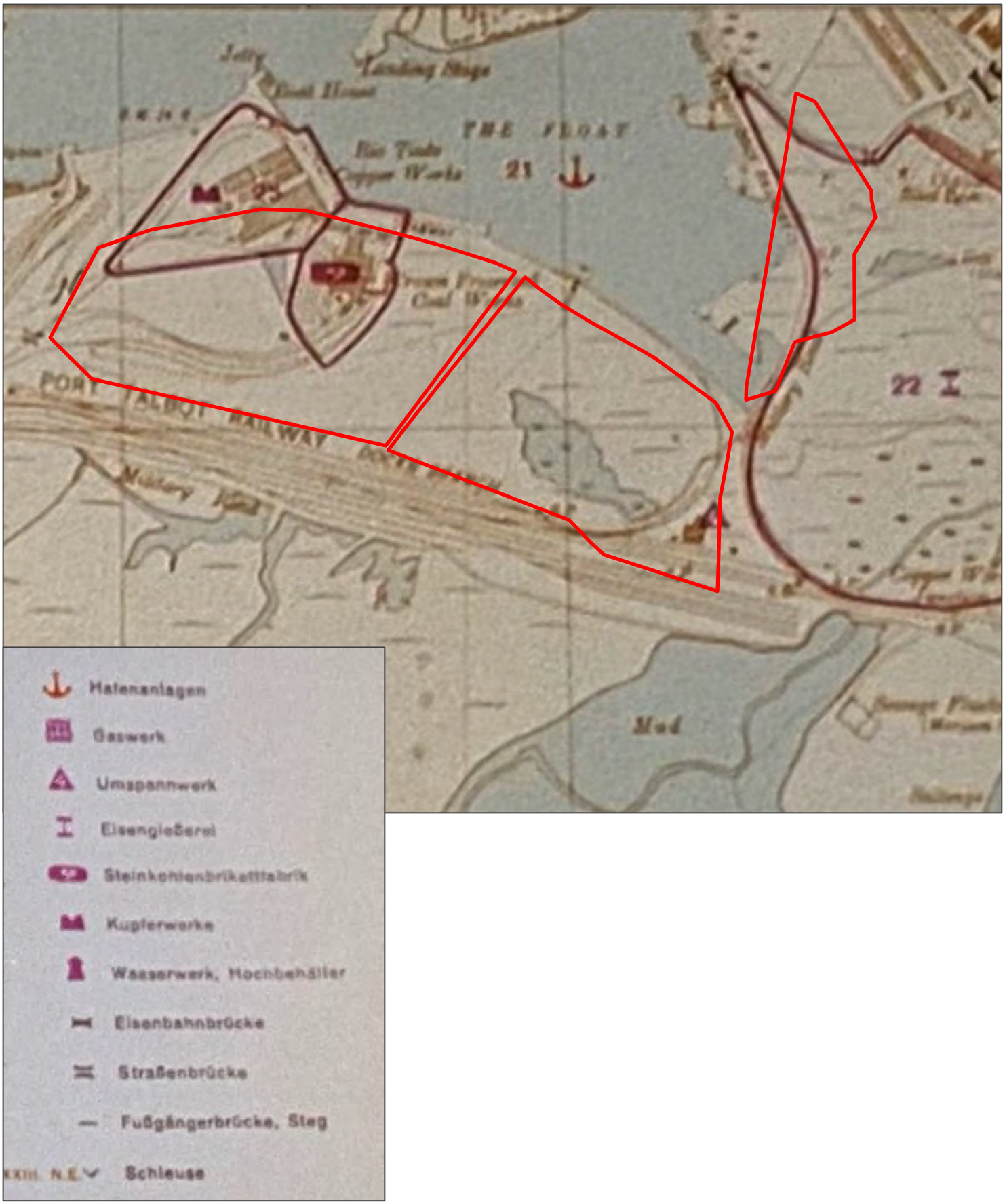
N

Partial Site Boundary

Report Ref:	DRA-23-1532	Project	Project Dragon, Port Talbot
Info Source:	Britain from Above	Client:	TEC Ltd

BRIMSTONE
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

Title:	Luftwaffe Target Map – September 1940	FIGURE: 6



N	Project	Project Dragon, Port Talbot
	Client:	TEC Ltd
	Report Ref:	DRA-23-1532
	Approx. Site Boundary	Info Source: Historic England

BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

Title:	Risk Map – Recent Aerial Photograph	FIGURE: 7.1



Low Risk from German UXBs & HAA Shells

Low-Moderate Risk from German UXBs & HAA Shells

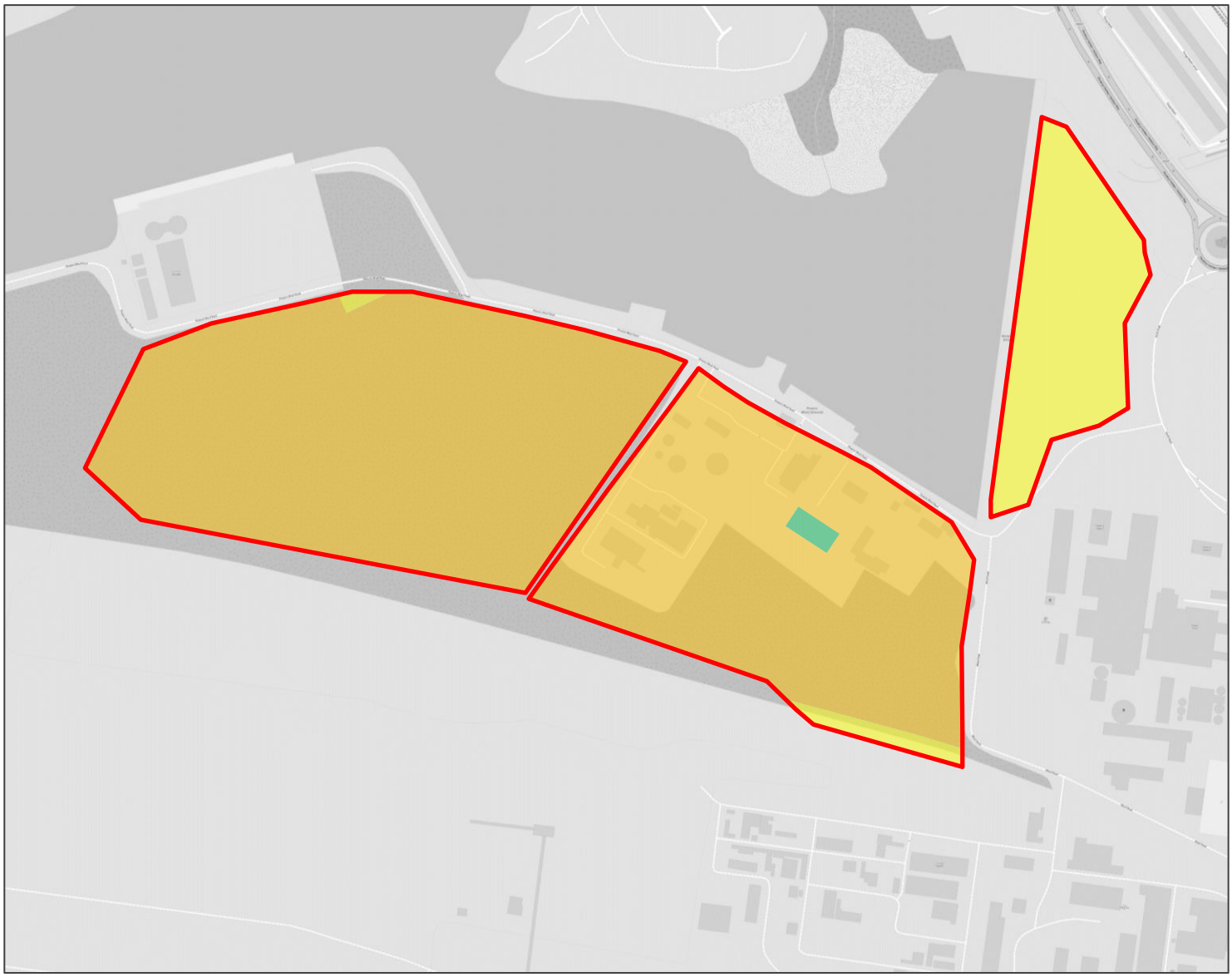
Moderate Risk from German UXBs & HAA Shells

N

Project	Project Dragon, Port Talbot
Client:	TEC Ltd
Report Ref:	DRA-23-1532
Approx. Site Boundary	Info Source: Google (open-source)

BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

Title:	Risk Map – OpenStreetMap	FIGURE: 7.2



Low Risk from German UXBs & HAA Shells

Low-Moderate Risk from German UXBs & HAA Shells

Moderate Risk from German UXBs & HAA Shells

N

Project	**Project Dragon, Port Talbot**
Client:	**TEC Ltd**
Report Ref:	**DRA-23-1532**
Approx. Site Boundary	Info Source: OpenStreetMap

BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

Appendices: 1 - 5

BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

Recent German UXB Finds in the UK + Historical Analysis

- ***23rd May 2019*** - An SC250 (standard 250kg HE bomb) was found during shallow excavations at a building site in Kingston upon Thames, London. *Historical Analysis: The UXB landed in a small residential back garden belonging to an undamaged terraced house. It came to rest approximately 3 to 4m bgl.*
- ***15th May 2017*** - An SC250 (standard 250kg HE bomb) was found during shallow excavations at a building site in Aston, Birmingham. *Historical Analysis: The UXB landed in a small back garden belonging to a terraced house, part of a row. It J-Curved under a neighbouring garden and came to rest at just 1.4m bgl. NB: These houses had not sustained bomb damage.*
- ***2nd March 2017*** - A 250kg HE bomb was found during deep excavations at a building site in Brondesbury Park, London. *Historical Analysis: UXB landed in a large residential back garden. A single storey building was built on top of the UXB post-WWII.*
- ***19th January 2017*** - An SD50 (semi-armour piercing 50kg HE bomb) was dredged from the Thames during barge dredging works near Westminster Bridge, London.
- ***12th May 2016*** - A 500kg HE bomb was found buried just 1m below the playground of the former Royal High Junior School in Bath. *Historical Analysis: The UXB landed in a plot of neglected, unmaintained vegetation in between the school gym and main school building.*
- ***23rd September 2015*** - A 1,000kg HE bomb was encountered by a mechanical excavator on a building site in Paradise Street, Coventry. *Historical Analysis: the UXB landed in a large residential back garden occupied by dense vegetation. A two storey building was built on top of the UXB post-WWII.*
- ***10th August 2015*** - A 250kg HE bomb was found immediately beneath a basement floor during refurbishment works in Temple Street, Bethnal Green (London). *Historical Analysis: The UXB struck a house that had been damaged beyond repair during a previous air raid. The existing house was then built on top of UXB post-WWII.*
- ***21st May 2015*** - An SC50 (general purpose 50kg HE bomb) was found during deep excavations at a construction site in Wembley, London. *Historical Analysis: UXB landed in a large residential back garden.*
- ***23rd March 2015*** - A 250kg HE bomb was found during deep excavations at a building site in Grange Walk, Bermondsey (London). *Historical Analysis: inconclusive - reported UXB position is likely inaccurate.*

NB: Domestic UXO finds in the UK are too numerous to list. Between 2006 and 2009, over 15,000 items of British / Allied UXO (excluding small arms ammunition) were found on UK construction sites (CIRIA).

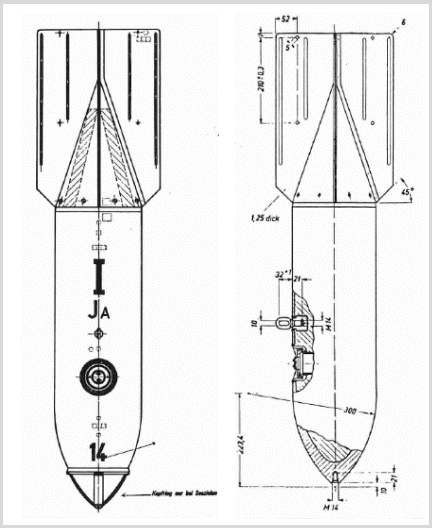
Initiation of WWII Allied Bombs

- ***6th January 2014*** - Mechanical excavator stuck a WWII bomb in Euskirchen (Germany) causing it to explode, killing the operator and injuring 13 more, two critically. The explosion was so large it damaged buildings 400m away.
- ***1st March 2013*** - During piling at a construction site in Ludwigshafen (Germany) a small buried WWII bomb exploded, injuring one worker.
- ***2nd June 2010*** - A British 500kg bomb detonated whilst being defused, killing three EOD engineers in Goettingen, Germany. The bomb was found as builders dug the foundations for a new sports hall. Several houses had their fronts blown off by the blast.
- ***19th September 2008*** - Seventeen people were injured and buildings were damaged when an excavator apparently drove over and set off a 250kg American bomb at a construction site in Hattingen, Germany.
- ***23rd October 2006*** - A construction worker breaking up tarmac at the side of a highway near the south-western German town of Aschaffenburg was killed when his machine struck and detonated a WWII bomb. In addition, the blast injured several motorists who were driving past.
- ***2006*** - A piling rig and dump truck were destroyed when a piling rig struck an Allied bomb on a construction site in Austria.
- ***2003*** - In the Austrian city of Salzburg, two people were killed while attempting to defuse a 250kg Allied bomb.
- ***1994*** - At a central Berlin construction site a piling rig struck a large WWII Allied bomb. 3 were killed and 14 more were injured. Dozens of cars in a 250m radius were wrecked, the top 10 floors of neighbouring office building collapsed and human remains were found 100m away.
- ***1990*** - In Wetzlar (Germany) two EOD engineers were blown up as they removed the detonator of an allied WWII UXB.

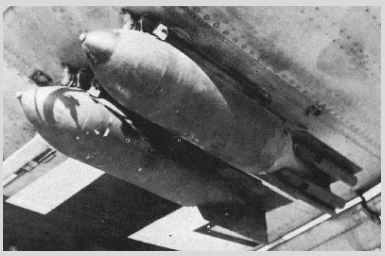
BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

SC 50

Bomb Weight:	40-54kg (110-119lb)
Explosive Weight:	25kg (55lb)
Filling:	TNT, Amatol or Trialen
Charge/Weight Ratio:	46%
Fuse Type:	Electrical impact fuse or mechanical delayed action fuse
Body Dimensions:	1,100mm length x 200mm diameter
Appearance:	Bomb body and tail painted grey/green with a yellow stripe on the tail unit. Steel construction.
Variants:	8 x variants. Additional fittings: Kopfring nose for limited penetration and Stabbo nose for dive-bombing.

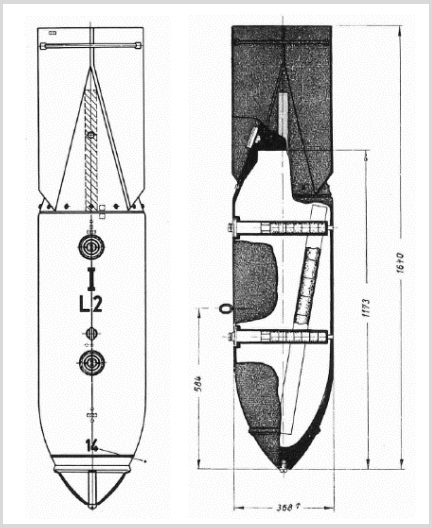






SC 250

Bomb Weight:	245-256kg (540-564lb)
Explosive Weight:	125-130kg (276-287lb)
Filling:	TNT, Amatol and Trialen mix
Charge/Weight Ratio:	44%
Fuse Type:	1 or 2 electrical impact fuse(s) or mechanical delayed action fuse(s)
Body Dimensions:	1,173mm length x 368mm diameter
Appearance:	Bomb body and tail painted grey/green with a yellow stripe on the tail unit. Steel construction.
Variants:	8 x variants. Kopfring nose for limited penetration. Stabbo nose for dive-bombing.

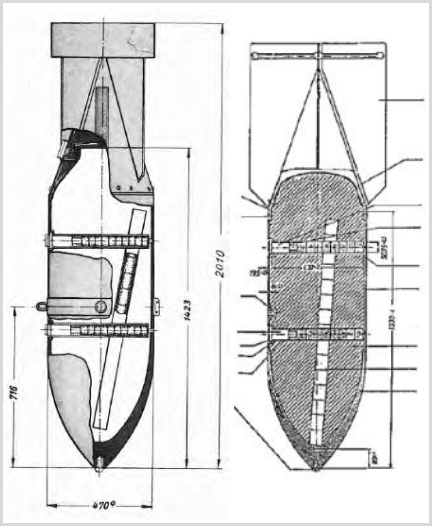






SC 500

Bomb Weight:	480-520kg (1,058-1,146lb)
Explosive Weight:	220kg (485lb)
Filling:	TNT, Amatol and Trialen mix
Charge/Weight Ratio:	44%
Fuse Type:	2 electrical impact fuses or mechanical delayed action fuses
Body Dimensions:	1,423mm length x 470mm diameter
Appearance:	Bomb body and tail painted grey/green or buff with a yellow stripe on the tail unit. Steel construction.
Variants:	3 x variants. Kopfring nose for limited penetration.



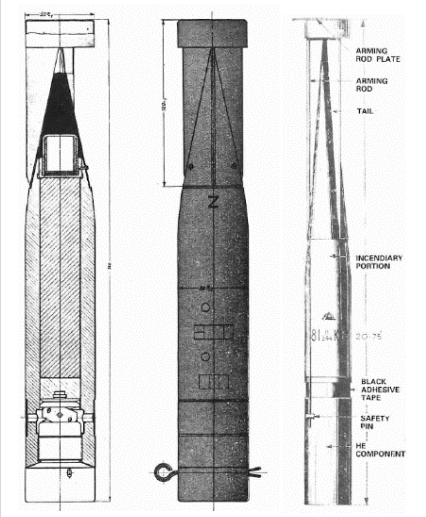




BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

B-1E Sub-Munition

Bomb Weight:	1-1.3kg (2.2-2.87lb)
Incendiary Weight:	680g (1.4lb)
Filling:	Thermite
Fuse Type:	Simple impact fuse
Body Dimensions:	247mm length x 50mm diameter
Appearance:	Grey body and dark green painted tail unit. Magnesium alloy case.
Operation:	Small percussion charge ignites Thermite (>1,000°C burn).
Variants:	Most common variant: B 2EZ (2kg) included a small HE charge
Remarks:	Drop containers varied in size. The smallest cluster bomb held 36 x B-1Es and the largest 620 x B-1Es.

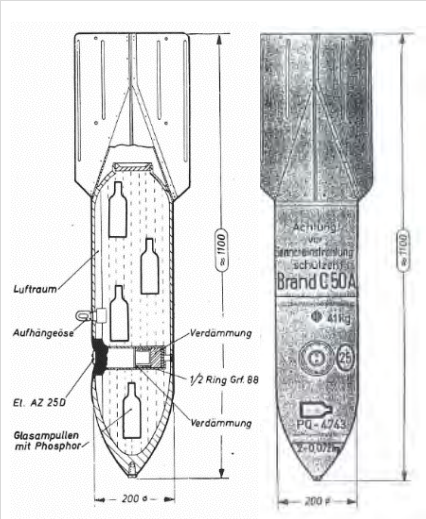






Brand C50

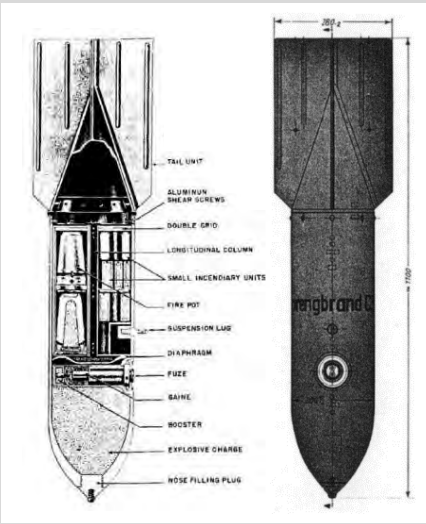
Bomb Weight:	41kg (90.4lb)
Incendiary Weight:	13kg (30lb)
Filling:	Main fill (86% Benzine, 10% Rubber) plus 4% Phosphorus in glass bottles
Fuse Type:	1 x electrical impact fuse
Bomb Dimensions:	762mm length x 203mm diameter
Appearance:	bomb body and tail painted grey or green with the rear of the bomb painted red and a red band around the centre of the body.
Variants:	C 50 B: 77% White Phos fill C 250 A: 87.7% Petroleum, 11.7% Polystyrene, 0.5% White Phos (185kg version)

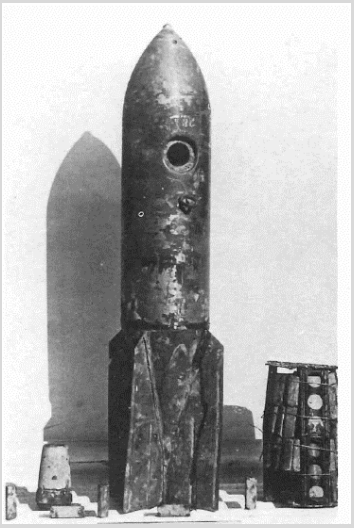




Spreng-Brand C50 - *Fire Pot*

Bomb Weight:	34kg (75lb)
Explosive Weight:	9kg (20lb)
Filling:	TNT burster charge, 6 x Thermite containers (fire pots) and 67 x small triangular incendiary elements.
Fuse Type:	1 x electrical impact fuses or aerial burst fuse
Bomb Dimensions:	711mm length x 203mm diameter
Appearance:	Bomb body and tail painted grey/green or pale blue with red base plug and red or green incendiary markings. Steel construction.
Operation:	A charge blows off the base plate, firing a plume of incendiary mixture 100 yds. Approx 1 second later the HE charge detonates.

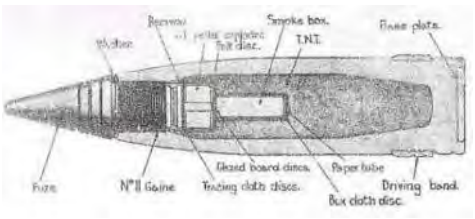




BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

HAA Battery - 3.7" QF Shell

Shell Weight:	12.7kg
Shell Dimensions:	94mm x 438mm
Fill Weight:	1.1kg
Fill Type:	TNT
Fuse Type:	Mechanical Time Delay fuse
Appearance:	Grey body, copper driving bands, brass neck
Rate of Fire:	10 - 20 rpm
Ceiling:	9,000 - 18,000m
Variants:	HE or shrapnel shells. Note, the 4.5" gun was also used in an HAA role throughout the UK.

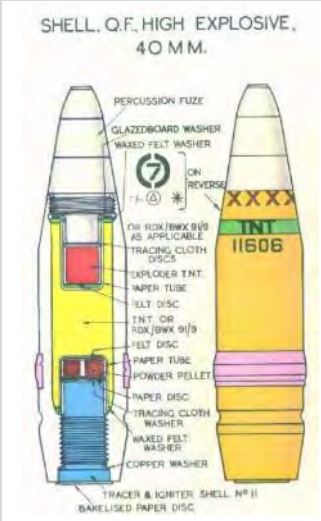






LAA Battery - 40mm Bofors Shell

Shell Weight:	0.84kg
Shell Dimensions:	40mm x 180mm
Fill Weight:	70g
Fill Type:	TNT
Fuse Type:	Impact fuse
Appearance:	Grey body, copper driving bands, brass neck
Rate of Fire:	120 rpm
Ceiling:	7,000m
Variants:	HE or AP shells. Both with rear tracer compartment



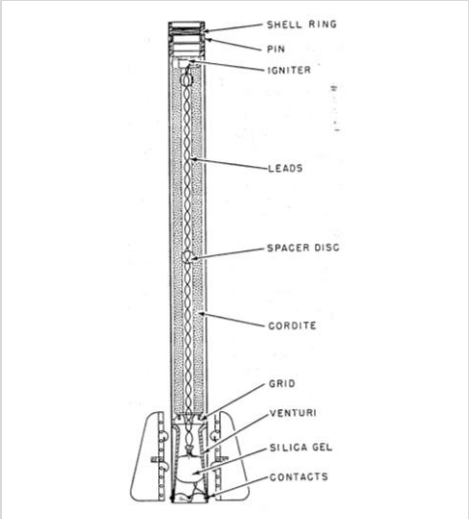






Z Battery - 3" U.P Rocket

Rocket Weight:	24.5kg
Warhead Weight:	1.94kg
Filling:	TNT warhead. Black Powder solid fuel rocket motor.
Fuse Type:	Mechanical Time Delay fuse
Rocket Dimensions:	1,930mm x 76mm
Ceiling:	6,770m
Operation:	Fired from single, tandem and (later) 36 x rail launchers (Z Batteries). Limited use throughout the UK.





Project	**Project Dragon, Port Talbot**
Client:	**TEC Ltd**
Report Ref:	**DRA-23-1532**
Info Source:	*W, Ramsey.1988 / various news sources*

BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

AA	*Anti-Aircraft (defences)*
AFS	*Auxiliary Fire Service*
AP	*Anti-Personnel*
ARP	*Air Raid Precautions*
ASW	*Anti-Submarine Warfare*
BDU	*Bomb Disposal Unit (historic term for EOD)*
Bgl	*Below Ground Level*
EOC	*Explosive Ordnance Clearance*
EOD	*Explosive Ordnance Disposal*
FP	*Fire Pot (German bomb)*
GI	*Ground Investigation*
HAA	*Heavy Anti-Air (gun battery)*
Ha	*Hectare (10,000m2)*
HE	*High Explosive*
IB	*Incendiary Bomb*
Kg	*Kilogram*
LAA	*Light Anti Air (gun battery)*
LCC	*London County Council*
LRRB	*Long Range Rocket Bomb (V2)*
LSA	*Land Service Ammunition*
Luftwaffe	*German Air Force*
OB	*Oil Bomb (German bomb)*
PM	*Parachute Mine (German bomb)*
RAF	*Royal Air Force*
RFC	*Royal Flying Corps*
RN	*Royal Navy (British)*
RNAS	*Royal Naval Air Service*
ROF	*Royal Ordnance Factory*
SAA	*Small Arms Ammunition*
SD2	*2kg AP bomb (German bomb)*
SI	*Site Investigation*
U/C	*Unclassified (German) bomb*
UP	*Unrotating Projectile (British 3" AA rocket)*
USAAF	*United States Army Air Force*
UX	*Unexploded*
UXB	*Unexploded Bomb*
UXO	*Unexploded Ordnance*
V1	*German Flying (pilotless) bomb - "Doodlebug"*
V2	*German LRRB - "Big Ben"*
WAAF	*Women's Auxiliary Air Force*
WWI	*World War One*
WWII	*World War Two*

BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com

- ***Bates. H. E***, Flying Bombs Over England, Frogletts Publications Ltd, 1994.
- ***Bulloch. G***, Steeds J E, Green K, Sainsbury M G, Brockwell J S & Slade N J, Land Contamination: Technical Guidance on Special Sites: MoD Land, Environment Agency, 2001.
- ***Castle. I,*** London 1914-17: The Zeppelin Menace, Osprey Publishing Ltd, 2008.
- ***Castle. I,*** London 1917-18: The Bomber Blitz, Osprey Publishing Ltd, 2010.
- ***CIRIA***, C681: Unexploded Ordnance (UXO), A Guide for the Construction Industry, 2009.
- ***Clarke. N. J***, Luftwaffe Target Reconnaissance, German Aerial Photography 1939-1942, 1996.
- ***Clarke. N. J***, Adolf's British Holiday Snaps: Luftwaffe Aerial Reconnaissance Photographs of England, Scotland and Wales, 2012.
- ***Cocroft. W. D***, Dangerous Energy, Historic England, 2000.
- ***Dobinson. C. S,*** AA Command: Britain's Anti-Aircraft Defences of the Second World War, Methuen Publishing Ltd, 2001.
- ***Dobinson. C. S***, Fields of Deception - Britain's Bombing Decoys of World War II, Methuen Publishing Ltd, 2013.
- ***Fleischer. W***, German Air-Dropped Weapons to 1945, Midland Publishing. 2004.
- ***Jappy. M. J,*** Danger UXB: The Remarkable Story of the Disposal of Unexploded Bombs during the Second World War. Channel 4 Books, 2001.
- ***Morris. J***, German Air Raids on Britain: 1914-1918, Nonsuch Publishing, 2007.
- ***Price. A***, Blitz on Britain 1939-45, Sutton Publishing Ltd, 2000.
- ***Ramsey. W,*** The Blitz Then and Now: Vol 1, Battle of Britain Prints International Limited, 1987.
- ***Ramsey. W,*** The Blitz Then and Now: Vol 2, Battle of Britain Prints International Limited, 1988.
- ***Ramsey. W,*** The Blitz Then and Now: Vol 3, Battle of Britain Prints International Limited, 1990.
- ***Whiting. C***, Britain Under Fire: The Bombing of Britain's Cities 1940-1945, Pen & Sword Books Ltd, 1999.

BRIMSTONE
Suite 6, Delta House
Laser Quay, Culpeper Close
Rochester, Kent
ME2 4HU
+44 (0) 207 117 2492
www.brimstoneuxo.com
enquire@brimstoneuxo.com



BRIMSTONE
SITE INVESTIGATION

INNOVATION CENTRE MEDWAY, MAIDSTONE ROAD, CHATHAM, ME5 9FD
BRIMSTONE SITE INVESTIGATION LTD, REGISTERED IN ENGLAND AND WALES
UNDER COMPANY NUMBER 10253758

WWW.BRIMSTONEUXO.COM | TEL: 0207 117 2492 | ENQUIRE@BRIMSTONEUXO.COM

Appendix C

Risk Methodologies and Evaluation

Risk Evaluation

The qualitative assessment methodology presented in CIRIA publication C552 (2001) titled *'Contaminated Land Risk Assessment: A Guide to Good Practice'* has been used by TEC for the basis of evaluating potential risk.

The method requires an assessment of the:

- magnitude of the probability or likelihood of the risk occurring (Table 1); and
- magnitude of the potential consequence or severity of the risk occurring (Table 2)

Table 1. Classification of Probability

Classification	Definition
High likelihood	There is a pollution linkage and an event that either appears very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term.
Low likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such an event would take place, and is less likely in the short-term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long-term.

Table 2. Classification of Consequence

Classification	Definition	Examples
Severe	Short-term (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resource. (Note: Water Resources Act contains no scope for considering significance of pollution). Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem, or organisation forming part of such ecosystem (note: the definitions of ecological systems within the draft circular on Contaminated Land, DETR, 2000).	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion, causing building collapse (can also equate to a short-term human health risk if buildings are occupied).
Medium	Chronic damage to human health ("significant harm" as defined in DETR, 2000). Pollution of sensitive water resources. (Note: Water Resources Act contains no scope for considering significance of pollution). A significant change in a particular ecosystem, or organism forming part of such ecosystem, (note: the definitions of ecological systems within draft circular on Contaminated Land, DETR, 2000).	Concentration of a contaminant from site exceeding the generic or site-specific assessment criteria. Leaching of contaminants from a site to a major or minor aquifer. Death of a species within a designated nature reserve.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ("significant harm" as defined in the draft circular on Contaminated Land, DETR, 2000). Damage to sensitive buildings/structures/services or the environment.	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy (for example foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc), easily repairable effects of damage to buildings, structures and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discolouration of concrete.

The combination of the two factors is determined using Table 3 and the resulting level of risk is described in Table 4. The evaluation can be applied to each of the scenarios identified in the risk model and the overall risk assessed.

Table 3. Combination of Consequence with Probability

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	**Very High Risk**	**High Risk**	**Moderate Risk**	**Moderate/Low Risk**
	Likely	**High Risk**	**Moderate Risk**	**Moderate/Low Risk**	**Low Risk**
	Low Likelihood	**Moderate Risk**	**Moderate/Low Risk**	**Low Risk**	**Very Low Risk**
	Unlikely	**Moderate/Low Risk**	**Low Risk**	**Very Low Risk**	**Very Low Risk**

Table 4. Description of risks and likely action required

Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, or there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short-term and are likely over the longer-term.
Moderate Risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the long-term.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Using the risk model the pollutant linkages are identified and a preliminary estimate of risk undertaken. If there is no pollutant linkage identified, then there is no risk. If the estimate of risk for all the linkages and exposure scenarios is very low at this stage then it is likely that no further assessment will be required.

Appendix D

Exploratory Hole Logs

Borehole Log

Borehole No. **CHST101A**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 02/05/2023-05/05/2023
Location: Port Talbot	Contractor: Marshall Drilling Limited	Co-ords: E276414.63 N188561.60
Project No. 2111006.005	Drilling Equipment: Comacchio 305	Level: 8.48m AOD
Hole Type: RO	Logged By: Drillers	Scale: 1:160

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
												SAND (WIND BLOWN SAND) (Drillers Description)
									6.50	1.98		ALLUVIUM (TIDAL FLAT DEPOSITS) (Drillers Description)
									14.00	-5.52		COBBLES (ALLUVIAL FAN DEPOSITS) (Drillers Description)
									25.00	-16.52		MUDSTONE (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers Description)
									31.00	-22.52		End of Borehole at 31.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
29.00	160																
31.00	160																

Remarks:

Borehole Log

Borehole No.
CHST101B
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 08/05/2023-11/05/2023
Location: Port Talbot	Contractor: Marshall Drilling Limited	Co-ords: E276414.63 N188561.60
Project No. 2111006.005	Drilling Equipment: Comacchio 305	Level: 8.42m AOD
Hole Type: RO	Logged By: Drillers	Scale: 1:160

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
												SAND (WIND BLOWN SAND) (Drillers Description)
									6.00	2.42		ALLUVIUM (TIDAL FLAT DEPOSITS) (Drillers Description)
									14.00	-5.58		COBBLES (ALLUVIAL FAN DEPOSITS) (Drillers Description)
									22.00	-13.58		MUDSTONE (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers Description)
									29.00	-20.58		End of Borehole at 29.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
29.00	160																

Remarks:

Borehole Log

Borehole No. **CHST101C**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 15/05/2023-17/05/2023
Location: Port Talbot	Contractor: Marshall Drilling Limited	Co-ords: E276414.63 N188561.60
Project No. 2111006.005	Drilling Equipment: Comacchio 305	Level: 8.21m AOD
Hole Type: RO	Logged By: Drillers	Scale: 1:160

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
												SAND (WIND BLOWN SAND) (Drillers Description)
									6.00	2.21		ALLUVIUM (TIDAL FLAT DEPOSITS) (Drillers Description)
									13.50	-5.29		COBBLES (ALLUVIAL FAN DEPOSITS) (Drillers Description)
									26.00	-17.79		MUDSTONE (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers Description)
									29.50	-21.29		End of Borehole at 29.500m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
29.50	160																

Remarks:

Borehole Log

Borehole No.
CHST102A
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 28/03/2023-17/04/2023
Location: Port Talbot	Contractor: Marshall Drilling Limited	Co-ords: E276517.78 N188535.85
Project No. 2111006.005	Drilling Equipment: Comacchio 305	Level: 7.97m AOD
Hole Type: RO	Logged By: Drillers	Scale: 1:160

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
									0.10	7.87		MADE GROUND. (Drillers Description)
												SAND (WIND BLOWN SAND) (Drillers Description)
									5.50	2.47		Alluvium and soft clay (TIDAL FLAT DEPOSITS) (Drillers Description)
									13.00	-5.03		Gravels/boulders (ALLUVIAL FAN DEPOSITS) (Drillers Description)
									20.00	-12.03		End of Borehole at 20.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
20.00	160																

Remarks:
Terminated at depth due to casing being stuck at 18m.

Borehole Log

Borehole No. **CHST102B**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 20/04/2023-28/04/2023
Location: Port Talbot	Contractor: Marshall Drilling Limited	Co-ords: E276517.78 N188535.85
Project No. 2111006.005	Drilling Equipment: Comacchio 305	Level: 7.97m AOD
Hole Type: RO	Logged By: RK/Drillers	Scale: 1:160

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
									0.40	7.57		MADE GROUND. (Drillers Description)
		1.60 - 2.40	B						0.60	7.37		MADE GROUND: Dark brown to dark grey slightly sandy gravelly silt with occasional rootlets up to 4mm. Gravel of coke, clinker and brick.
												SAND (WIND BLOWN SAND) (Drillers Description)
									5.50	2.47		Light brown slightly silty fine to medium grained SAND. (WIND BLOWN SAND)
									6.00	1.97		ALLUVIUM/CLAY (TIDAL FLAT DEPOSITS) (Drillers Description)
												Clay and alluvium (TIDAL FLAT DEPOSITS) (Drillers Description)
									10.00	-2.03		Cobbles. (Drillers Description)
									12.50	-4.53		COBBLES and SAND (ALLUVIAL FAN DEPOSITS) (Drillers Description)
									22.00	-14.03		?Mudstone (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers Description)
									23.50	-15.53		MUDSTONE (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers Description)
									26.00	-18.03		End of Borehole at 26.000m
									29.00	-21.03		

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
25.50	160																
26.00	160																

Remarks:

Borehole Log

Borehole No. **CHST102C**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 02/05/2023-05/05/2023
Location: Port Talbot	Contractor: Marshall Drilling Limited	Co-ords: E276517.00 N188535.00
Project No. 2111006.005	Drilling Equipment: Comacchio 305	Level: 7.95m AOD
Hole Type: RO	Logged By: Drillers	Scale: 1:160

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
									0.60	7.35		MADE GROUND: Dark brown to dark grey slightly sandy gravelly silt with occasional rootlets up to 4mm. Gravel of coke, clinker and brick.
												Light brown slightly silty fine to medium grained SAND. (WIND BLOWN SAND)
									5.50	2.45		ALLUVIUM/CLAY (TIDAL FLAT DEPOSITS) (Drillers Description)
									12.50	-4.55		COBBLES and SAND (ALLUVIAL FAN DEPOSITS) (Drillers Description)
									23.50	-15.55		MUDSTONE (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers Description)
									29.00	-21.05		End of Borehole at 29.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
25.50	160																

Remarks:

AGS

Borehole Log

Borehole No.
CHST102D
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 15/05/2023-17/05/2023
Location: Port Talbot	Contractor: Marshall Drilling Limited	Co-ords: E276512.46 N188536.23
Project No. 2111006.005	Drilling Equipment: Comacchio 305	Level: 7.93m AOD
Hole Type: RO	Logged By: Drillers	Scale: 1:160

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
									0.40	7.53		MADE GROUND (Drillers Description)
												SAND (WIND BLOWN SAND) (Drillers Description)
									6.00	1.93		ALLUVIUM (TIDAL FLAT DEPOSITS) (Drillers Description)
									10.00	-2.07		COBBLES (ALLUVIAL FAN DEPOSITS) (Drillers Description)
									26.00	-18.07		MUDSTONE (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers Description)
									29.50	-21.57		End of Borehole at 29.500m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
29.50	160																

Remarks:

AGS

Borehole Log

Borehole No. **BH101**

Sheet 1 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 27/03/2023-31/03/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276273.14 N188600.26
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.59m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.50 - 1.00	D					MADE GROUND: Brown to dark brown slightly clayey gravelly very silty sand with low cobble content and occasional roots up to 20mm. Gravel of slag, metal wire, wood fragments and brick. Cobbles of brick, concrete and tarmacadam.
		0.50 - 1.00	ES					
	▽	0.60 - 0.90	ES					
		1.00 - 1.45	B					
		1.00	SPT	N=4 (3,0/1,1,1,1)				
		1.45 - 2.00	B		1.40	7.18		
		1.50 - 2.00	ES					MADE GROUND: Brown slightly sandy slightly gravelly silty clay. Gravel of slag.
		2.00	SPT	N=4 (0,1/1,1,1,1)				
	▽	2.50 - 3.00	B		2.50	6.08		
		2.50 - 3.00	B					Soft, very low strength slightly sandy silty CLAY with occasional fibrous peat. Sand is fine grained. (TIDAL FLAT DEPOSITS)
		2.50 - 3.00	ES					
		3.00 - 3.45	D					
		3.00 - 3.45	D					
		3.00	SPT	N=4 (1,1/1,1,1,1)				
		4.00	D					
		4.00 - 4.45	D					
		4.00 - 4.45	U					
		5.00	D					
		5.00	HV	17 kPa				
	▽	6.00	D		6.00	2.58		
		6.00	SPT	N=4 (1,1/1,1,1,1)				Loose brown silty fine grained SAND. (WIND BLOWN SAND)
		6.50 - 7.00	B					
		7.00 - 7.45	D		7.00	1.58		
		7.00	SPT	N=17 (3,3/4,5,4,4)				Soft blueish grey to brownish grey sandy silty CLAY with occasional pseudofibrous peat and bands of fine to medium grained sand. (TIDAL FLAT DEPOSITS)
		8.00	D					
		8.00 - 8.45	D					
		8.00	SPT	N=4 (1,1/1,1,1,1)				
		9.00	U					
		10.00 - 10.45	D					
		10.00	SPT	N=8 (2,2/2,2,2,2)				
		11.00	D					
		11.00 - 11.45	D					
		11.00	SPT	N=4 (2,1/1,1,1,1)				
		12.00	D					

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
25.00	200	25.00	200	15.00	15.30	00:30				
				16.50	16.80	00:30				
				18.00	18.40	01:00				
				19.00	19.50	01:00				
				21.00	21.40	01:00				

Remarks:

Groundwater strike at 1.0m and 6.0m. Groundwater resting at 0.95m after 20minutes.

Borehole Log

Borehole No. **BH101**

Sheet 2 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 27/03/2023-31/03/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276273.14 N188600.26
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.59m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		12.00	SPT	N=8 (2,2/2,2,2,2)				Soft blueish grey to brownish grey sandy silty CLAY with occasional pseudofibrous peat and bands of fine to medium grained sand. (TIDAL FLAT DEPOSITS)
		13.00	D					
		13.00	SPT	N=8 (2,2/2,2,2,2)				
		14.00	D		14.00	-5.42		
		14.00	SPT	N=27 (4,4/6,7,7,7)				Stiff brown to dark brown fibrous to amorphous PEAT. (TIDAL FLAT DEPOSITS)
		15.00	D		15.00	-6.42		
		15.00 - 15.50	B					Dense brownish grey to brown gravelly SAND. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. (ALLUVIAL FAN DEPOSITS)
		15.00	SPT	N=43 (5,10/10,11,12,10)				
		16.00 - 16.50	B					
		16.50 - 16.90	D					
		16.50	SPT	50 (8,14/50 for 15mm)				
		17.50 - 18.00	B					
		18.00 - 18.45	D					
		18.00	SPT	50 (6,14/50 for 8mm)				
		19.00 - 19.50	B					
		19.50 - 19.90	D					
		19.50	SPT	N=39 (6,7/10,10,10,9)				
		20.50 - 21.00	B					
		21.00 - 21.45	D		21.00	-12.42		Dense to very dense brownish grey to brown sandy GRAVEL. Sand is fine to coarse grained. Gravel of fine to coarse subangular to brounded sandstone. (ALLUVIAL FAN DEPOSITS)
		21.00	SPT	0 (50 for 15mm/0 for 0mm)				
		22.00 - 22.50	B					
		22.50 - 22.90	D					
		23.50 - 24.00	B					
		24.00 - 24.45	D					

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
25.00	200	25.00	200	15.00	15.30	00:30				
				16.50	16.80	00:30				
				18.00	18.40	01:00				
				19.00	19.50	01:00				
				21.00	21.40	01:00				

Remarks:

Groundwater strike at 1.0m and 6.0m. Groundwater resting at 0.95m after 20minutes.

Borehole Log

Borehole No. **BH101**

Sheet 3 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 27/03/2023-31/03/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276273.14 N188600.26
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.59m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		24.00	SPT	N=42 (5,7/7,10,11,14)				Dense to very dense brownish grey to brown sandy GRAVEL. Sand is fine to coarse grained. Gravel of fine to coarse subangular to brounded sandstone. (ALLUVIAL FAN DEPOSITS)
					25.00	-16.42		End of Borehole at 25.00m

25 26 27 28 29 30 31 32 33 34 35

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
25.00	200	25.00	200	15.00	15.30	00:30				
				16.50	16.80	00:30				
				18.00	18.40	01:00				
				19.00	19.50	01:00				
				21.00	21.40	01:00				

Remarks:

Groundwater strike at 1.0m and 6.0m. Groundwater resting at 0.95m after 20minutes.

Borehole Log

Borehole No. **BH102**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 31/03/2023-05/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276300.45 N188609.79
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 9.19m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20 - 0.40	ES					MADE GROUND: Brown slightly gravelly silty sand. Gravel of slag, wood fragments and clinker.
		0.50 - 1.00	B					
	▼	1.00 - 1.45	D		1.00	8.19		MADE GROUND: Brown to light brown slightly gravelly silty sand. Gravel of slag.
		1.00	SPT	N=10 (3,2/2,3,2,3)				
		2.00	D					
		2.00 - 2.45	D					
		2.00	SPT	N=2 (0,0/0,1,0,1)				
		2.50 - 3.00	B		2.50	6.69		Soft light grey silty CLAY. (TIDAL FLAT DEPOSITS)
		3.00 - 3.45	U					
		3.00 - 3.50	B					
		4.00	D					
		4.00 - 4.45	D					
		4.00	SPT	N=4 (0,1/1,1,1,1)				
		4.50 - 5.00	B		4.50	4.69		Very loose to loose slightly clayey silty SAND with occasional bands of pseudofibrous. Sand is fine to medium grained. (WIND BLOWN SAND)
		5.00 - 5.45	D					
		5.00	SPT	N=2 (0,1/0,1,0,1)				
		6.00 - 6.50	B					
		6.50	SPT	N=6 (0,1/0,1,2,3)				
		7.50 - 8.00	B					
		8.00 - 8.45	D					
		8.00	SPT	N=2 (0,1/0,0,1,1)				
		9.50	D		9.50	-0.31		Soft to firm grey silty CLAY. (TIDAL FLAT DEPOSITS)
		9.50 - 9.95	D					
		9.50	SPT	N=4 (1,1/1,1,1,1)				
		11.00	D					
		11.00 - 11.45	D					
		11.00	SPT	N=8 (1,1/1,2,2,3)				

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
20.50	200	20.00	200	17.50	17.85	01:00				

Remarks:
Groundwater strike at 1.5m. Groundwater resting at 1.0m after 20minutes.

Borehole Log

Borehole No. **BH102**

Sheet 2 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 31/03/2023-05/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276300.45 N188609.79
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 9.19m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		12.50	D					Soft to firm grey silty CLAY. (TIDAL FLAT DEPOSITS)
		12.50 - 12.90	B					
		12.50 - 12.95	U					
		14.00	D					
		14.00 - 14.45	D					
		14.00	SPT	N=5 (1,3/2,1,1,1)				
		14.50 - 15.00	B					
					14.80	-5.61		Soft brown to dark brown slightly clayey fibrous to amorphous PEAT. (TIDAL FLAT DEPOSITS)
		15.50 - 15.90	D		15.50	-6.31		Very dense brown slightly gravelly SAND. Sand is fine to coarse grained. Gravel of fine to coarse subangular to subrounded sandstone. (ALLUVIAL FAN DEPOSITS)
		15.50	SPT	50 (10,10/50 for 90mm)				
		16.00 - 17.00	B					
		17.00 - 17.50	D		17.00	-7.81		Dense brownish grey to brown slightly sandy GRAVEL. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. (ALLUVIAL FAN DEPOSITS)
		17.00	SPT	0 (50 for 75mm/0 for 0mm)				
		18.00 - 18.50	B					
		18.50 - 18.90	D					
		18.50	SPT	55 (10,10/55 for 215mm)				
		19.50 - 20.00	B					
		20.00 - 20.20	D					
		20.00 - 24.50	B					
		20.00	SPT	25 (35 for 135mm/25 for 20mm)	20.50	-11.31		End of Borehole at 20.50m

13 14 15 16 17 18 19 20 21 22 23

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
20.50	200	20.00	200	17.50	17.85	01:00				

Remarks:
Groundwater strike at 1.5m. Groundwater resting at 1.0m after 20minutes.

AGS

Borehole Log

Borehole No. **BH103**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 18/04/2023-24/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276317.54 N188670.97
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.43m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.50 - 1.00	B					MADE GROUND: Dark grey mottled black slightly clayey silty very gravelly sand with occasional rootlets and roots up to 5mm. Gravel of slag.
		0.50 - 1.00	ES					
	▼	1.00 - 1.45	D					
		1.00	SPT	N=21 (3,7/5,5,5,5,6)				
		1.50 - 2.00	B		1.50	6.93		
	▽	2.00 - 2.45	D		2.00	6.43		MADE GROUND: Dark grey mottled grey slightly clayey silty very sandy gravel with rare fine rootlets. Gravel of slag, lime, plaster.
		2.00	SPT	N=17 (4,4/4,5,4,4)				MADE GROUND: Dark grey and black slightly clayey sandy gravel. Gravel of slag.
		2.50 - 3.00	B					
		2.50 - 3.00	ES					
		3.00	SPT	N=5 (2,1/1,2,1,1)	3.00	5.43		
		3.50 - 4.00	B					Soft, low strength brownish grey and grey mottled slightly sandy slightly gravelly silty CLAY with rare decayed rootlets and weak organic odour. Sand is fine grained. Gravel of fine subangular sandstone. (TIDAL FLAT DEPOSITS)
		3.90	PP	0.7 kg/cm2	4.00	4.43		
		3.90	HV	31 kPa				
		4.00	D					Firm, medium strength greyish brown and brown slightly sandy silty CLAY. Sand is fine grained. (TIDAL FLAT DEPOSITS)
		4.50	D					
		4.50	PP	1.0 kg/cm2				
		4.50	HV	43 kPa				
		4.60 - 5.00	B					
		5.00	D					
		5.00	SPT	N=4 (1,1/1,1,1,1)				
		5.50	D					
		6.50 - 6.95	U					
		6.90	D		6.80	1.63		Very soft to soft brownish grey slightly sandy silty CLAY. Sand is fine grained. (TIDAL FLAT DEPOSITS)
		7.00	PP	1.4 kg/cm2				
		7.00	HV	75 kPa				
		7.50 - 8.00	B		7.40	1.03		Very soft dark brownish grey slightly sandy slightly silty organic CLAY with frequent pockets of pseudofibrous peat and strong organic odour. Sand is fine grained. (TIDAL FLAT DEPOSITS)
		7.80	PP	0.5 kg/cm2				
		7.80	HV	21 kPa				
		8.00	D					
		8.00	SPT	N=4 (2,2/1,1,1,1)				
		8.80	PP	0.4 kg/cm2				
		8.80	HV	22 kPa				
		9.00 - 9.50	B					
		9.50 - 9.95	U					
		9.95	D					
		10.60 - 11.00	B					
		11.00	D					
		11.00	SPT	N=8 (1,2/2,2,2,2)				
		12.00 - 12.50	B					

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
22.00	200	22.00	200	14.10	14.50	01:00				
				15.50	16.50	01:00				
				16.60	17.00	01:00				
				17.00	17.40	00:45				
				21.50	22.00	01:00				

Remarks:
Groundwater strike at 2.0m. Groundwater resting at 1.0m after 20minutes.

Borehole Log

Borehole No. **BH103**

Sheet 2 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 18/04/2023-24/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276317.54 N188670.97
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.43m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		12.50	D					Very soft dark brownish grey slightly sandy slightly silty organic CLAY with frequent pockets of pseudofibrous peat and strong organic odour. Sand is fine grained. (TIDAL FLAT DEPOSITS)
		12.50	SPT	N=7 (1,1/1,2,2,2)	12.80	-4.37		
		13.80 - 14.00	B					Very dense greyish brown sandy GRAVEL. Sand is medium to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. (ALLUVIAL FAN DEPOSITS)
		14.00	SPT	50 (25 for 25mm/50 for 20mm)				
		15.00	D					
		15.00 - 15.50	B					
		15.50	D					
		15.50	SPT	50 (25 for 80mm/50 for 30mm)				
		16.60 - 17.00	B					
		17.00	D					
		17.00	SPT	0 (50 for 50mm/0 for 0mm)				
		17.50	D					
		18.00 - 18.50	B					
		18.50	SPT	50 (25 for 140mm/50 for 60mm)				
		19.50 - 20.00	B					
		20.00	D					
		20.00	SPT	0 (50 for 70mm/0 for 0mm)				
		21.00 - 21.50	B					
		21.50	D					
		21.50	SPT	0 (50 for 25mm/0 for 0mm)				
		22.00	D		22.00	-13.57		End of Borehole at 22.00m
		22.00	SPT	50 (11,19/50 for 150mm)				

13 14 15 16 17 18 19 20 21 22 23

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
22.00	200	22.00	200	14.10	14.50	01:00				
				15.50	16.50	01:00				
				16.60	17.00	01:00				
				17.00	17.40	00:45				
				21.50	22.00	01:00				

Remarks:
Groundwater strike at 2.0m. Groundwater resting at 1.0m after 20minutes.

Borehole Log

Borehole No. **BH104**

Sheet 1 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 05/04/2023-12/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276327.41 N188593.70
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.73m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.00 - 0.35	D					MADE GROUND: Dark brown slightly clayey silty gravelly sand. Gravel of brick, sandstone, wood fragments, clinker and coke.
		0.00 - 0.35	ES		0.35	8.38		
		0.35 - 1.00	B					Brown slightly gravelly fine to coarse grained SAND. Gravel of fine to coarse subangular sandstone. (WIND BLOWN SAND)
		0.35 - 1.00	ES					
		1.00 - 1.45	D					
		1.00	SPT	N=8 (2,2/2,2,2,2)				
		1.50 - 2.00	B		1.50	7.23		Firm brown slightly gravelly slightly sandy silty CLAY. Gravel of fine to medium subangular sandstone. (TIDAL FLAT DEPOSITS)
		1.50 - 2.00	ES					
		2.00 - 2.40	B					
		2.00 - 2.45	ES					
		2.50 - 3.00	B		2.40	6.33		Very loose brownish grey slightly gravelly fine to medium grained SAND. Gravel of fine to medium subangular to subrounded sandstone. (WIND BLOWN SAND)
		2.50 - 3.00	ES					
		3.00	D					
		3.00	SPT	N=4 (1,1/1,1,1,1)				
		3.80 - 4.00	B					
		4.00 - 4.45	D		4.00	4.73		Very loose greyish brown slightly gravelly fine to medium grained SAND with occasional pocket of clayey amorphous peat. Gravel of fine to medium subangular to subrounded sandstone. (WIND BLOWN SAND)
		4.00 - 4.45	U					
		4.00	SPT	N=2 (0,0/1,0,0,1)				
		4.50 - 5.00	B					
		5.00 - 5.45	D					
		5.00	SPT	N=2 (0,0/1,0,0,1)				
		6.00 - 6.50	B					
		6.50 - 6.95	D		6.50	2.23		Loose brownish grey slightly clayey silty fine to medium grained SAND with occasional pockets of silty organic clay and thin pockets of fibrous peat. (WIND BLOWN SAND)
		6.50	SPT	N=7 (1,1/1,2,2,2)	6.80	1.93		
		7.50 - 800.00	B					Very soft to firm, very low strength brown mottled yellowish brown slightly sandy silty organic CLAY with occasional to frequent pockets of fibrous to pseudofibrous peat and rare shell fragments Sand is fine grained. (TIDAL FLAT DEPOSITS)
		8.00 - 8.45	D					
		8.00	SPT	N=1 (0,0/0,0,0,1)				
		9.00 - 9.50	B					
		9.50 - 9.95	D					
		9.50 - 9.95	U					
		9.50	SPT	N=13 (5,6/5,3,2,3)				
		10.50 - 11.00	B					
		11.00 - 11.45	D					
		11.00	SPT	N=14 (4,3/3,4,4,3)				
		12.00 - 12.50	B		12.00	-3.27		

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
25.00	200	24.50	200	18.65	19.05	01:00				
				19.05	19.50	01:00				
				21.60	22.10	01:00				
				23.00	23.60	00:30				

Remarks:

Groundwater strike at 2.0m. Groundwater resting at 1.5m after 20minutes. Borehole deepened with rotary drilling (see BH104 follow on).

Borehole Log

Borehole No. **BH104**

Sheet 2 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 05/04/2023-12/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276327.41 N188593.70
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.73m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		12.50 - 12.95	D					Soft to firm brown to dark brown slightly clayey fibrous to amorphous PEAT. (TIDAL FLAT DEPOSITS)
		13.50 - 14.00	B					
		14.00	D					
		14.00	SPT	N=21 (1,2/3,5,6,7)				
		15.00 - 15.50	B					
		15.50 - 15.95	D					
		15.50	SPT	N=52 (3,3/3,7,12,30)				
		16.50 - 17.00	B		16.50	-7.77		
		17.00	SPT	N=50 (5,7/7,11,14,18)				Dense to very dense greyish brown sandy GRAVEL with low cobble content. Sand is medium to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. Cobbles of medium strong to strong brownish grey sandstone. (ALLUVIAL FAN DEPOSITS)
		18.00 - 18.50	B					
		18.50	SPT	50 (6,6/50 for 15mm)				
		19.50 - 20.00	B					
		20.00	SPT	N=36 (5,6/8,8,10,10)				
		21.00 - 21.50	B					
		21.50	SPT	25 (35 for 85mm/25 for 5mm)				
		22.50 - 23.00	B					
		23.60 - 24.00	B					

13 14 15 16 17 18 19 20 21 22 23

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
25.00	200	24.50	200	18.65	19.05	01:00				
				19.05	19.50	01:00				
				21.60	22.10	01:00				
				23.00	23.60	00:30				

Remarks:

Groundwater strike at 2.0m. Groundwater resting at 1.5m after 20minutes. Borehole deepened with rotary drilling (see BH104 follow on).

Borehole Log

Borehole No. **BH104**

Sheet 3 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 05/04/2023-12/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276327.41 N188593.70
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.73m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		24.00	SPT	N=54 (4,5/8,12,16,18)	25.00	-16.27		Dense to very dense greyish brown sandy GRAVEL with low cobble content. Sand is medium to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. Cobbles of medium strong to strong brownish grey sandstone. (ALLUVIAL FAN DEPOSITS) End of Borehole at 25.00m

25 26 27 28 29 30 31 32 33 34 35

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
25.00	200	24.50	200	18.65	19.05	01:00				
				19.05	19.50	01:00				
				21.60	22.10	01:00				
				23.00	23.60	00:30				

Remarks:

Groundwater strike at 2.0m. Groundwater resting at 1.5m after 20minutes. Borehole deepened with rotary drilling (see BH104 follow on).

Borehole Log

Borehole No. **BH105**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 28/03/2023-03/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276375.21 N188639.30
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.44m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.00 - 0.30	D					
		0.10 - 0.30	ES		0.30	8.14		MADE GROUND: Dark brown, black and greyish brown slightly clayey silty very sandy gravel with frequent root up to 25mm. Gravel of brick, wood fragments, clinker and coke.
	▼	0.60 - 3.00	B		0.60	7.84		MADE GROUND: Grey slighlty clayey sandy gravel. Gravel of brick and concrete.
		0.60 - 3.00	ES					
		1.00	D					
	▽	1.00 - 1.45	D					MADE GROUND: Grey to black sandy gravel. Gravel of brick, concrete, slag, wood fragmants and porcelain fragments.
	▼	1.00	SPT	N=15 (1,2/4,4,4,3)				
		2.00	D					
		2.00 - 2.45	D					
		2.00	SPT	N=15 (5,4/3,3,4,5)				
		3.00 - 3.45	D		3.00	5.44		
		3.00 - 7.00	B					Soft to locally firm, very low strength grey silty CLAY. (TIDAL FLAT DEPOSITS)
		3.00	SPT	N=3 (1,0/0,1,1,1)				
		4.00	D					
		4.00 - 4.45	U					
		4.40 - 4.60	D					
		5.00	D					
		5.00	HV	22 kPa				
		6.00 - 6.45	D					
		6.00	SPT	N=14 (2,3/4,3,3,4)				
		7.00 - 10.00	B		7.00	1.44		
		7.00 - 7.40	D					Firm, very low strength brownish grey slightly sandy silty CLAY. (TIDAL FLAT DEPOSITS)
		7.40 - 7.60	U					
		8.00	D					
		8.00 - 8.45	D					
		8.00	SPT	N=5 (1,0/1,1,1,2)				
		9.00	D					
		9.00	D		9.10	-0.66		
		9.00	HV	5 kPa				Very soft to soft grey silty organic CLAY with occasional pockets of amorphous peat. (TIDAL FLAT DEPOSITS)
		10.00 - 10.40	U		9.80	-1.36		
		10.00 - 12.00	B					Soft brown to dark brown slightly clayey fibrous to amorphous PEAT. (TIDAL FLAT DEPOSITS)
		10.40 - 10.60	D					
		11.00	D					
		11.50 - 11.95	D					
		11.50	SPT	N=10 (1,1/2,2,2,4)				
		12.00	D					

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
23.00	200	23.00	200	0.30	0.60	01:00				
				14.70	15.00	01:00				
				15.80	16.30	01:30				
				17.00	17.80	01:30				
				18.50	18.90	02:00				

Remarks:

Groundwater strike at 1.3m and 13.5m. Groundwater resting at 0.7m after 20minutes.

Borehole Log

Borehole No. **BH105** Sheet 2 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 28/03/2023-03/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276375.21 N188639.30
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.44m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		13.00	D		13.20	-4.76		Soft brown to dark brown slightly clayey fibrous to amorphous PEAT. (TIDAL FLAT DEPOSITS)
		13.50 - 17.00	B					Very dense greyish brown slightly clayey silty very sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. Cobbles of medium strong to strong brownish grey sandstone. (ALLUVIAL FAN DEPOSITS)
		13.50 - 19.95	D					
		13.50	SPT	N=50 (4,8/50 for 276mm)				
		14.00	D					
		14.50	D					
		15.00	D					
		15.00 - 15.45	D					
		15.00	SPT	52 (8,11/52 for 208mm)				
		16.00	D					
		16.50 - 16.95	D					
		16.50	SPT	53 (11,13/53 for 166mm)				
		17.00	D					
		17.00 - 23.00	B					
		18.00	D					
		18.00 - 18.45	D					
		18.00	SPT	50 (5,10/50 for 189mm)				
		19.00	D					
		19.50 - 19.95	D					
		19.50	SPT	50 (25 for 85mm/50 for 150mm)				
		20.00	D					
		21.00	D					
		21.50 - 21.95	D					
		21.50	SPT	36 (4,8/9,12,15,)				
		22.00	D					
		23.00	D		23.00	-14.56		End of Borehole at 23.00m
		23.00 - 23.95	D					
		23.00	SPT	50 (25 for 10mm/50 for 30mm)				

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
23.00	200	23.00	200	0.30	0.60	01:00				
				14.70	15.00	01:00				
				15.80	16.30	01:30				
				17.00	17.80	01:30				
				18.50	18.90	02:00				

Remarks:
Groundwater strike at 1.3m and 13.5m. Groundwater resting at 0.7m after 20minutes.

Borehole Log

Borehole No. **BH106**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 20/03/2023-27/03/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276465.14 N188764.96
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 7.13m AOD
Hole Type: CP	Logged By: MT	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.30 - 1.00	B					Greyish brown and brown mottled very gravelly SILT. Gravel of brick and concrete. (MADE GROUND)
		1.00	D		1.00	6.13		Very soft greyish brown very sandy CLAY. (TIDAL FLAT DEPOSITS)
		1.00 - 2.00	B					
		1.00 - 2.00	ES					
		1.00	SPT	N=2 (1 for 75mm/2 for 150mm)				
		2.00	D		2.00	5.13		Very soft greyish brown slightly gravelly clayey very silty SAND. sand is fine to medium grained. Gravel of fine to medium subangular sandstone (TIDAL FLAT DEPOSITS)
		2.00 - 4.00	B					
		2.00 - 4.00	ES					
		2.00	SPT	N=5 (1 for 75mm/5 for 225mm)				
		3.00	D					
		4.00	B		4.00	3.13		Very soft dark grey organic CLAY. (TIDAL FLAT DEPOSITS)
		4.00	D					
		4.00 - 4.40	D					
		4.40 - 4.60	D					
		5.00	D					
		5.00	HV	4 kPa	5.10	2.03		Soft, very low strength greyish brown slightly sandy CLAY. (TIDAL FLAT DEPOSITS)
		5.60 - 6.50	U		5.60	1.53		Very soft, very low strength slightly sandy slightly peaty organic silty CLAY. Sand is fine to medium grained (TIDAL FLAT DEPOSITS)
		6.00	D					
		6.20	D					
		7.00	D		7.00	0.13		Soft, very low strength plastic dark grey slightly sandy silty clayey fibrous PEAT with weak organic odour. (TIDAL FLAT DEPOSITS)
		7.40	SPT	N=9 (3,1/2,2,2,3)				
		8.00	D					
		8.40	HV	8 kPa				
		9.00	D					
		9.40 - 10.00	B					
		9.44 - 9.80	D					
		9.80 - 10.00	D					
		10.00	B		10.00	-2.87		Very dense (locally medium dense at 18.3mbgl) brownish grey gravelly SAND with medium cobble content. Gravels of fine to coarse angular to rounded sandstone. Cobbles of subangular to subrounded sandstone. (ALLUVIAL FAN DEPOSITS)
		10.00	D					
		10.00	SPT	N=50 (3,9/50 for 236mm)				
		11.00	D					
		11.50	SPT	N=50 (6,9/50 for 225mm)				
		12.00	D					

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
20.95	200	20.00	200	0.10	0.40	01:00				
				11.90	12.30	01:00				
				13.50	13.90	01:00				
				14.00	16.50	04:00				
				18.30	18.60	01:00				

Remarks:

Resting groundwater at groundlevel. Groundwater strike at 10.0m. Groundwater resting at groundlevel after 20minutes.

Borehole Log

Borehole No. **BH106**

Sheet 2 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 20/03/2023-27/03/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276465.14 N188764.96
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 7.13m AOD
Hole Type: CP	Logged By: MT	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		13.00	D					Very dense (locally medium dense at 18.3mbgl) brownish grey gravelly SAND with medium cobble content. Gravels of fine to coarse angular to rounded sandstone. Cobbles of subangular to subrounded sandstone. (ALLUVIAL FAN DEPOSITS)
		13.00	SPT	N=60 (6,11/60 for 165mm)				
		14.00	D					
		14.60	SPT	N=50 (8,12/50 for 266mm)				
		15.00	D					
		16.00	D					
		16.00	SPT	N=50 (25 for 96mm/50 for 161mm)				
		17.00	D					
		17.50	SPT	N=50 (14,11/50 for 225mm)				
		18.30	D					
		18.30 - 18.60	B					
		18.30	SPT	N=26 (3,7/6,4,7,9)				
		19.00	D					
		19.30	SPT	N=50 (25 for 75mm/50 for 10mm)				
		20.00	D					
		20.30	SPT	N=50 (25 for 75mm/50 for 95mm)				
		20.50	SPT	N=50 (25 for 31mm/50 for 0mm)	21.00	-13.87		End of Borehole at 21.00m

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
20.95	200	20.00	200	0.10	0.40	01:00				
				11.90	12.30	01:00				
				13.50	13.90	01:00				
				14.00	16.50	04:00				
				18.30	18.60	01:00				

Remarks:

Resting groundwater at groundlevel. Groundwater strike at 10.0m. Groundwater resting at groundlevel after 20minutes.

Borehole Log

Borehole No. **BH107**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 15/05/2023-18/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276382.99 N188602.53
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.61m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.40 - 0.60	ES					MADE GROUND: Dark grey and black slightly clayey silty very gravelly sand with rare rootlets and low cobble content. Gravel of concrete, metal, brick, tarmacadam and slag. Cobbles of brick and slag.
		0.50 - 1.00	B					
		1.00	D					
		1.00	SPT	N=6 (3,2/1,1,2,2)	1.30	7.31		
		1.50 - 2.00	B					Loose brown and grey silty SAND. Sand is fine to medium grained. (WIND BLOWN SAND)
		1.80 - 2.00	ES					
		2.00	D					
		2.00	SPT	N=8 (1,1/1,2,2,3)				
		2.50 - 3.00	B		2.50	6.11		Soft, low strength brown and grey mottled sandy silty CLAY. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
		3.00	D					
		3.00	SPT	N=4 (1,1/1,1,1,1)				
		3.50 - 4.00	B		3.50	5.11		Soft to firm, low strength brown very sandy silty CLAY. Sand is fine to coarse grained. (TIDAL FLAT DEPOSITS)
		3.80	PP	0.4 kg/cm2				
		3.80	HV	26 kPa				
		4.00	D					
		4.00	SPT	N=6 (1,1/1,1,2,2)	4.50	4.11		
		4.50 - 5.00	B					Soft to firm, low to medium strength slightly gravelly silty CLAY. Gravel of fine to coarse subangular to subrounded sandstone. (TIDAL FLAT DEPOSITS)
		4.80	PP	0.5 kg/cm2				
		4.80	HV	42 kPa	5.00	3.61		
		5.00	D					
		5.00	SPT	N=5 (1,1/1,1,1,2)				Soft to locally firm greyish brown slightly gravelly very sandy silty CLAY with very weak organic odour. Sand is fine to coarse grained. Gravel of fine to medium subangular to subrounded sandstone. (TIDAL FLAT DEPOSITS)
		6.00 - 6.50	B					
		6.50	D					
		6.50	SPT	N=9 (2,1/2,2,2,3)				
		7.50 - 8.00	B		7.50	1.11		Soft to locally firm slightly sandy silty organic CLAY with occasional to frequent pockets of pseudofibrous peat and weak organic odour. (TIDAL FLAT DEPOSITS)
		8.00	D					
		8.00	SPT	N=4 (1,1/1,1,1,1)				
		9.00	B					
		9.50	D					
		9.50	SPT	N=4 (1,1/1,1,1,1)				
		10.50 - 11.00	B					
		11.00	D		11.00	-2.39		Soft, spongy brown mottled grey very clayey amorphous to fibrous PEAT with weak organic odour. (TIDAL FLAT DEPOSITS)
		11.00	SPT	N=13 (1,3/3,3,3,4)				
		12.00 - 12.50	B					

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
22.00	200	22.00	200	18.50	19.00	01:00				
				19.00	19.50	01:00				
				19.50	20.00	01:00				
				22.00	22.00	00:30				

Remarks:
Groundwater strike at 0.8m. Groundwater resting at 0.5m after 20minutes.

Borehole Log

Borehole No. **BH107**

Sheet 2 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 15/05/2023-18/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276382.99 N188602.53
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.61m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		12.50	D					Soft, spongy brown mottled grey very clayey amorphous to fibrous PEAT with weak organic odour. (TIDAL FLAT DEPOSITS)
		12.50	SPT	N=15 (1,1/3,3,4,5)				
		13.50 - 14.00	B					
		13.50	SPT	N=24 (1,1/2,5,7,10)				
		14.00	D					
		14.30 - 14.60	B		14.30	-5.69		
		15.50	SPT	25 (36 for 90mm/25 for 5mm)				Very dense to dense grey slightly sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. Cobbles of medium strong to strong grey sandstone and extremely strong brownish grey quartzitic sandstone. (ALLUVIAL FAN DEPOSITS)
		16.50 - 17.00	B					
		17.00	SPT	50 (10,10/50 for 50mm)				
		18.00 - 18.50	B					
		18.50	SPT	0 (50 for 50mm/0 for 0mm)				
		19.50 - 20.00	B					
		20.00	SPT	0 (50 for 70mm/0 for 0mm)				
		21.00 - 21.50	B					
		21.50	SPT	N=47 (7,10/11,11,12,13)				
		22.00	SPT	0 (50 for 70mm/0 for 0mm)	22.00	-13.39		End of Borehole at 22.00m

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
22.00	200	22.00	200	18.50	19.00	01:00				
				19.00	19.50	01:00				
				19.50	20.00	01:00				
				22.00	22.00	00:30				

Remarks:
Groundwater strike at 0.8m. Groundwater resting at 0.5m after 20minutes.

Borehole Log

Borehole No. **BH108**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 10/05/2023-15/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276434.19 N188702.27
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 7.30m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.00 - 0.50	B					MADE GROUND: Dark brown slightly sandy silty gravelly clay with rare rootlets and roots up to 8mm. Gravel of brick, concrete, tile, sandstone and clinker.
					0.60	6.70		
		1.00 - 2.00	B					MADE GROUND: Black gravelly sandy silt. Gravel of clinker, slag and brick.
		1.00	SPT	N=3 (1,0/0,1,1,1)				
		2.00	D					
		2.00	SPT	N=2 (1,1/1,0,1,0)				
					2.50	4.80		
		3.00 - 3.50	B					MADE GROUND: Brownish grey slightly gravelly slightly sandy silty organic CLAY with rare metal fragments.
		3.00	SPT	N=8 (1,2/2,2,2,2)				
		4.00 - 5.00	B					
		4.00	SPT	N=5 (1,1/1,1,0,3)				
		5.00	D		5.00	2.30		
		5.00 - 6.00	B					Very soft to soft brownish grey mottled yellowish brown slightly silty organic CLAY with rare pockets of pseudofibrous peat. (TIDAL FLAT DEPOSITS)
		5.00	SPT	N=0 (0,0/0,0,0,0)				
		6.00	SPT	N=0 (0,0/0,0,0,0)	6.00	1.30		Soft, spongy brown to brownish grey clayey amorphous to fibrous PEAT with weak organic odour. (TIDAL FLAT DEPOSITS)
		7.50	SPT	N=0 (0,0/0,0,0,0)				
		8.00 - 9.00	B		8.00	-0.70		Very soft greyish brown mottled yellowish brown slightly gravelly sandy silty CLAY. Sand is fine to coarse grained. Gravel of fine to coarse subangular to subrounded sandstone. (TIDAL FLAT DEPOSITS)
		9.00	D					
		9.00	SPT	N=0 (0,0/0,0,0,0)				
		10.00	D					
		10.00 - 10.40	B					
		10.50	D					
		10.50	SPT	N=4 (1,1/1,1,1,1)				
		11.80 - 12.00	B					
		12.00	SPT	N=20 (3,5/5,4,5,6)	12.00	-4.70		

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
21.30	200	21.30	200	18.60 20.60	18.90 21.00	00:30 00:30				

Remarks:

Groundwater strike at 0.8m. Groundwater resting at 0.4m after 20minutes.

Borehole Log

Borehole No. **BH108**

Sheet 2 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 10/05/2023-15/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276434.19 N188702.27
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 7.30m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Medium dense brown sandy GRAVEL. Sand is fine to coarse grained. Gravel of fine to coarse subangular to subrounded sandstone. (ALLUVIAL FAN DEPOSITS)
		13.00 - 13.50	B		13.00	-5.70		
		13.50	SPT	N=50 (10,9/10,12,16,12)				Medium dense to very dense brown slightly sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. Cobbles of medium strong to strong grey sandstone. (ALLUVIAL FAN DEPOSITS)
		15.00	D					
		15.00 - 15.50	B					
		15.00	SPT	N=50 (11,13/13,13,17,7)				
		16.50	SPT	N=44 (3,11/12,10,11,11)				
		18.00	SPT	N=39 (8,9/9,11,10,9)				
		19.00	D					
		19.50	SPT	N=24 (2,2/2,6,7,9)				
		20.80 - 21.00	B					
		21.00	SPT	50 (20,5/50 for 102mm)				
					21.30	-14.00		End of Borehole at 21.30m

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
21.30	200	21.30	200	18.60 20.60	18.90 21.00	00:30 00:30				

Remarks:
Groundwater strike at 0.8m. Groundwater resting at 0.4m after 20minutes.

Borehole Log

Borehole No. **BH109**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 19/05/2023-22/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276451.94 N188540.60
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 7.77m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	▼	0.50 - 1.00	B					MADE GROUND: Brown and brownish grey slightly gravelly silty sand. Gravel of wood fragments, coke and brick.
		0.60 - 0.80	ES		0.80	6.97		
		1.00	D					Medium dense yellowish brown and light brown slightly silty fine to medium grained SAND. (WIND BLOWN SAND)
		1.00	SPT	N=7 (2,2/2,2,2,1)				
		1.50 - 2.00	B					
		1.80 - 2.00	ES					
		2.00	D					
		2.00	SPT	N=11 (2,2/2,3,3,3)				
		2.50 - 3.00	B					
		3.00	SPT	N=4 (1,1/1,1,1,1)				
		3.50 - 4.00	B					
		4.00	SPT	N=41 (6,7/9,9,11,12)				
		4.50	D					
		5.00	SPT	N=35 (5,5/7,8,10,10)				
		5.50 - 6.00	B		5.50	2.27		Loose yellowish brown and light brown fine to medium grained SAND with rare pockets of pseudofibrous peat. (WIND BLOWN SAND)
		6.50	SPT	N=8 (1,1/1,2,2,3)	6.50	1.27		End of Borehole at 6.50m

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
6.50	200	6.50	200							

Remarks:

Groundwater strike at 0.8m. Groundwater resting at 0.5m after 20minutes. Terminated at depth due to unstable working area caused by blowing sands.

Borehole Log

Borehole No. **BH110**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 04/05/2023-09/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276476.01 N188599.95
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 7.91m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.50 - 1.00	B					MADE GROUND: Dark grey slightly sandy gravelly silty clay with rare rootlets and roots up to 4mm. Gravel of slag, wood fragments and brick.
		0.60 - 0.80	ES		0.80	7.11		
		1.00	D					MADE GROUND: Brownish grey slightly gravelly very silty sand with occasional pockets of yellowish brown mottled grey silty clay. Gravel of slag.
		1.00	SPT	N=4 (1,1/1,1,1,1)				
		1.50 - 2.00	B					
		2.00	D		2.00	5.91		Soft, low strength brownish grey slightly gravelly sandy silty CLAY with occasional thin pockets of pseudofibrous to fibrous peat. Sand is fine to coarse grained. Gravel of fine to coarse subangular sandstone. (TIDAL FLAT DEPOSITS)
		2.00	SPT	N=4 (1,1/1,1,1,1)				
		2.50 - 3.00	B					
		2.60 - 2.90	ES					
		2.60	PP	0.6 kg/cm2				
		2.60	HV	32 kPa	3.00	4.91		
		3.00	D					Firm to locally stiff, medium strength greenish brown mottled yellowish brown and grey slightly gravelly silty CLAY. Gravel of fine subangular sandstone. (TIDAL FLAT DEPOSITS)
		3.00	SPT	N=4 (1,1/1,1,1,1)				
		3.50 - 4.00	B					
		3.60	PP	0.6 kg/cm2				
		3.60	HV	35 kPa				
		4.00	D					
		4.00	SPT	N=10 (1,1/2,2,3,3)	4.50	3.41		
		4.50 - 5.00	B					Firm to locally stiff, high strength greenish brown mottled yellowish brown and grey silty CLAY with rare gravel of fine to coarse subangular to subrounded sandstone. (TIDAL FLAT DEPOSITS)
		4.60	PP	1.3 kg/cm2				
		4.60	HV	72 kPa				
		5.00	D					
		5.00	SPT	N=10 (1,1/2,2,3,3)				
		6.00 - 6.50	B		6.00	1.91		Soft, low strength brownish grey slightly sandy silty CLAY with weak organic odour. Gravel of fine to coarse subangular to subrounded sandstone. (TIDAL FLAT DEPOSITS)
		6.20	PP	1.8 kg/cm2				
		6.20	HV	85 kPa				
		6.50	D					
		6.50	SPT	N=9 (1,1/2,2,2,3)				
		7.50 - 8.00	B		7.50	0.41		Soft to firm greyish brown and brown slightly clayey amorphous to fibrous PEAT with weak organic odour. (TIDAL FLAT DEPOSITS)
		8.00	D					
		9.00 - 9.50	B					
		9.00	PP	0.6 kg/cm2				
		9.00	HV	32 kPa				
		9.50	D					
		9.50	SPT	N=7 (1,1/1,1,2,3)				
		10.50 - 11.00	B					
		11.00	D		11.00	-3.09		Very soft to soft brownish grey mottled greyish brown silty organic CLAY. (TIDAL FLAT DEPOSITS)
		11.00	SPT	N=8 (2,2/2,2,2,2)				
		12.00 - 12.50	B					

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
19.00	200	19.00	200							

Remarks:
Groundwater strike at 4.0m. Groundwater resting at 3.1m after 20minutes.

Borehole Log

Borehole No. **BH110** Sheet 2 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 04/05/2023-09/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276476.01 N188599.95
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 7.91m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		12.50	D					Very soft to soft brownish grey mottled greyish brown silty organic CLAY. (TIDAL FLAT DEPOSITS)
		12.50	SPT	N=11 (1,1/1,2,3,5)	12.90	-4.99		
		13.50 - 14.00	B					Very dense brownish grey slightly clayey sandy GRAVEL. Sand is fine to coarse grained. Gravel of fine to coarse subangular to subrounded sandstone. (ALLUVIAL FAN DEPOSITS)
		14.00	D					
		14.00	SPT	50 (26 for 85mm/50 for 10mm)				
		15.00 - 15.50	B					
		15.50	D		15.50	-7.59		
		15.50	SPT	0 (50 for 75mm/0 for 0mm)				Very dense brownish grey slightly clayey slightly silty sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subrounded to rounded sandstone. Cobbles of medium strong to strong yellowish brown and grey sandstone. (ALLUVIAL FAN DEPOSITS)
		16.50 - 17.00	B					
		17.00	D					
		17.00	SPT	25 (35 for 125mm/25 for 10mm)				
		18.00 - 18.50	B					
		18.50	D					
		18.50 - 19.00	B					
		18.50	SPT	50 (25 for 125mm/50 for 40mm)	19.00	-11.09		End of Borehole at 19.00m
		19.00	D					
		19.00	SPT	25 (50 for 90mm/25 for 10mm)				

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
19.00	200	19.00	200							

Remarks:
Groundwater strike at 4.0m. Groundwater resting at 3.1m after 20minutes.

Borehole Log

Borehole No. **BH111** Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 10/05/2023-15/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276510.34 N188679.57
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 7.45m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.00	B					MADE GROUND: Black to dark grey slightly gravelly silt with rare rootlets. Gravel of clinker, slag, brick and wood fragments.
		0.50	B		0.45	7.00		MADE GROUND: Black to brownish grey slightly silty sandy gravel with low cobble content. Gravel of slag, brick, concrete, and sandstone. Cobbles of concrete and slag.
		1.00	SPT	N=7 (4,3/2,3,1,1)				
		1.50	B					
		2.00	SPT	N=12 (2,2/2,3,3,4)	2.00	5.45		Firm, medium strength grey mottled yellowish brown slightly sandy slightly gravelly silty CLAY with rare decayed rootlets. Sand is fine to medium grained. Gravel of fine to medium subangular to subrounded sandstone. (TIDAL FLAT DEPOSITS)
		2.50	B		2.50	4.95		
		2.80	PP	1.4 kg/cm2				
		2.80	HV	70 kPa				
		3.00	D					Very soft to locally firm, very low strength dark grey mottled greyish brown slightly sandy slightly silty organic CLAY. Sand if fine to medium grained. (TIDAL FLAT DEPOSITS)
		3.00	SPT	N=6 (1,1/1,1,2,2)				
		3.50	B					
		3.80	PP	1.2 kg/cm2				
		3.80	HV	58 kPa				
		4.00	D					
		4.00	SPT	N=4 (1,1/1,1,1,1)				
		4.50	B					
		5.00	D					
		5.00	SPT	N=4 (1,1/1,1,1,1)				
		6.00 - 6.50	B					
		6.50	D					
		6.50	SPT	N=4 (1,1/1,1,1,1)				
		7.50 - 8.00	B		7.50	-0.05		Very soft dark grey slightly silty organic CLAY with occasional pockets of amorphous to pseudofibrous peat and with a strong organic odour. (TIDAL FLAT DEPOSITS)
		8.00	D					
		8.00	SPT	N=4 (1,1/1,1,1,1)				
		9.00 - 9.50	B					
		9.50	D					
		9.50	SPT	N=11 (1,1/2,3,3,3)				
		10.50 - 11.00	B					
		11.00	D		10.80	-3.35		Dense brown brown to greyish brown slightly sandy GRAVEL. Sand is medium to coarse grained. Gravel of fine to coarse subangular to subrounded sandstone. (ALLUVIAL FAN DEPOSITS)
		11.00	SPT	N=32 (4,5/7,7,8,10)				
		11.20 - 12.00	B					

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
18.00	200	18.00	200							

Remarks:
Groundwater strike at 0.8m. Groundwater resting at 0.3m after 20minutes.

Borehole Log

Borehole No. **BH111** Sheet 2 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 10/05/2023-15/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276510.34 N188679.57
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 7.45m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		12.50	D		12.50	-5.05		Dense brown brown to greyish brown slightly sandy GRAVEL. Sand is medium to coarse grained. Gravel of fine to coarse subangular to subrounded sandstone. (ALLUVIAL FAN DEPOSITS)
		12.50	SPT	0 (50 for 45mm/0 for 0mm)				
		13.50 - 14.00	B					Very dense brown sandy GRAVEL with low cobble content. Sand is medium to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. Cobbles of medium strong to strong grey sandstone. (ALLUVIAL FAN DEPOSITS)
		14.00	D					
		14.00	SPT	50 (25 for 85mm/50 for 15mm)				
		15.00 - 15.50	B					
		15.50	D					
		15.50	SPT	0 (50 for 30mm/0 for 0mm)				
		16.50 - 17.60	B					
		17.00	D					
		17.00	SPT	0 (50 for 75mm/0 for 0mm)				
		17.60 - 18.00	B					
		18.00	D		18.00	-10.55		End of Borehole at 18.00m
		18.00	SPT	0 (50 for 75mm/0 for 0mm)				

13 14 15 16 17 18 19 20 21 22 23

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
18.00	200	18.00	200							

Remarks:
Groundwater strike at 0.8m. Groundwater resting at 0.3m after 20minutes.

AGS

Borehole Log

Borehole No. **BH112**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 04/05/2023-09/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276499.21 N188719.98
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 7.15m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.00 - 1.00	B					MADE GROUND: Black to dark brown slightly sandy gravelly silty clay with occasional rootlets and roots up to 7mm. Gravel of clinker, coke, wood fragments, slag and porcelain fragments.
		0.20 - 0.60	ES					
		1.00	D					
		1.00 - 3.00	B					
		1.00	SPT	N=0 (1,0/0,0,0,0)	1.40	5.75		
		1.50 - 2.00	ES					MADE GROUND: Brownish grey gravelly sandy silt. Gravel of slag, brick and coke.
		2.00	D					
		2.00	SPT	N=1 (1,0/0,1,0,0)				
					2.80	4.35		Soft to locally firm brownish grey mottled brown and grey slightly sandy silty CLAY. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
		3.00	D					
		3.00 - 4.00	B					
		3.00	SPT	N=7 (1,1/1,2,2,2)				
		4.00	D		4.00	3.15		Soft, very low strength brownish grey mottled brown and grey slightly sandy silty CLAY with occasional pockets of amorphous to fibrous peat. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
		4.00 - 8.40	B					
		4.00	HV	19 kPa				
		5.00	D					
		5.00 - 5.45	U					
		6.00	D					
		6.00	SPT	N=6 (1,1/1,1,2,2)				
		7.00	D					
		7.00	HV	14 kPa				
		8.00	D					
		8.00 - 8.40	U					
		8.40 - 11.20	B					
		9.00	D					
		9.00	SPT	N=9 (1,2/2,2,2,3)				
		10.00	D					
		10.00	SPT	N=17 (1,3/3,5,4,5)				
		11.20	D		11.20	-4.05		Very dense brownish grey silty SAND with moderately strong organic odour. Sand is fine to medium grained. (ALLUVIAL FAN DEPOSITS)
		11.20 - 18.20	B					
		11.20	SPT	56 (25 for 110mm/56 for 225mm)				

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
22.00	200	22.00	200	13.20	13.60	01:00				

Remarks:

Groundwater strike at 1.3m and 11.5m. Groundwater resting at 0.3m after 20minutes. Yellowish brown sheen observed within standing groundwater. Borehole collapsed to 7.4m. Borehole installed to 7.4m to serve as additional monitoring location.

Borehole Log

Borehole No. **BH112**

Sheet 2 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 04/05/2023-09/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276499.21 N188719.98
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 7.15m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		12.20	D		12.50	-5.35		Very dense brownish grey silty SAND with moderately strong organic odour. Sand is fine to medium grained. (ALLUVIAL FAN DEPOSITS)
		12.70	SPT	50 (6,9/50 for 150mm)				Dense to locally very dense brownish grey sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. Cobbles of of medium strong to strong grey sandstone. (ALLUVIAL FAN DEPOSITS)
		13.20	D					
		14.20	D					
		14.20	SPT	N=48 (24 for 110mm/11,9,14,14)				
		15.20	D					
		15.70	SPT	50 (4,9/50 for 191mm)				
		16.20	D					
		17.20	D					
		17.20	SPT	40 (11,13/40 for 225mm)				
		18.20	B					
		18.20	SPT	N=19 (3,4/4,5,4,6)				
		19.20	D					
		19.40 - 19.80	B					
		19.40	SPT	N=30 (6,6/8,7,7,8)				
		20.40	SPT	N=36 (6,7/7,10,9,10)				
		21.80 - 22.00	B		22.00	-14.85		End of Borehole at 22.00m

13 14 15 16 17 18 19 20 21 22 23

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
22.00	200	22.00	200	13.20	13.60	01:00				

Remarks:

Groundwater strike at 1.3m and 11.5m. Groundwater resting at 0.3m after 20minutes. Yellowish brown sheen observed within standing groundwater. Borehole collapsed to 7.4m. Borehole installed to 7.4m to serve as additional monitoring location.

AGS

Borehole Log

Borehole No. **BH113**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 25/04/2023-27/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276520.09 N188607.42
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.08m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	▼	0.50 - 1.00	B					MADE GROUND: Dark brown to black slightly sandy gravelly silt with occasional rootlets. Gravel of concrete, metal fragments, clinker and coke.
		0.60 - 0.80	ES					
		1.00	D		1.00	7.08		
		1.00	SPT	N=9 (3,3/2,1,3,3)				MADE GROUND: Dark brown to greyish brown and brown slightly clayey slightly gravelly silty sand. Gravel of coke and clinker.
		1.50 - 2.00	B					
		1.60 - 1.80	ES					
		2.00	D					
		2.00	SPT	N=4 (3,1/0,0,1,3)				
		2.50 - 3.00	B		2.50	5.58		MADE GROUND: Greyish brown, brownish grey and blueish grey slightly sandy gravelly silty clay with occasional pockets of amorphous peat. Gravel of slag, sandstone, porcelain and terracotta fragments.
		3.00	D					
		3.00	SPT	N=4 (3,1/1,1,1,1)				
					3.40	4.68		Very loose to loose brownish grey slightly clayey silty sandy GRAVEL with low cobble content and rare pockets of pseudofibrous to amorphous peat. Sand is fine to coarse grained. Gravel of fine to coarse subangular to subrounded sandstone. Cobbles of medium strong to strong grey sandstone. (TIDAL FLAT DEPOSITS)
		3.70 - 4.00	B					
		4.00	D		4.00	4.08		
		4.00	SPT	N=2 (2,1/1,0,0,1)				
		4.50 - 5.00	B					
		5.00	D					
		5.00	SPT	N=2 (1,0/0,0,1,1)				Soft to locally firm, low strength brownish grey silty CLAY with frequent decayed rootlets. (TIDAL FLAT DEPOSITS)
		5.50 - 6.00	B		5.50	2.58		Brown spongy slightly sandy silty clayey pseudofibrous to amorphous PEAT with strong organic odour. Sand is fine grained. (TIDAL FLAT DEPOSITS)
		6.50	D					
		6.50	SPT	N=4 (1,1/1,1,1,1)				
		7.50 - 8.00	B					
		8.00	D					
		8.00	SPT	N=4 (1,1/1,1,1,1)				
		8.50 - 9.00	B					
		9.50 - 10.00	B					
		9.50 - 9.95	U					
		10.50 - 11.00	B					
		11.00	D					
		11.00	SPT	N=4 (1,1/1,1,1,1)				
		11.50 - 12.00	B		11.40	-3.32		Loose to medium dense grey to brownish grey slightly clayey very silty SAND with rare pseudofibrous peat. Sand is fine grained. (ALLUVIAL FAN DEPOSITS)

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
17.50	200	17.00	200	14.00	14.50	01:00				
				14.50	15.00	01:00				
				15.00	15.50	01:00				
				16.50	17.00	01:00				

Remarks:

Groundwater strike at 0 .5m. Groundwater resting at 0.5m after 20minutes. Borehole deepened with rotary drilling (see BH113 follow on).

Borehole Log

Borehole No. **BH113** Sheet 2 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 25/04/2023-27/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276520.09 N188607.42
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.08m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		12.50 12.50	D SPT	N=23 (1,1/3,6,7,7)				Loose to medium dense grey to brownish grey slightly clayey very silty SAND with rare pseudofibrous peat. Sand is fine grained. (ALLUVIAL FAN DEPOSITS)
		13.50 - 14.00	B		13.50	-5.42		
		14.00 14.00	D SPT	25 (45 for 85mm/25 for 5mm)				Very dense greyish brown sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. (ALLUVIAL FAN DEPOSITS)
		15.00 - 15.50	B					
		15.50 15.50	D SPT	50 (10,18/50 for 15mm)				
		16.50 - 17.00	B					
		17.00 17.00	D SPT	0 (50 for 75mm/0 for 0mm)				
		17.50 17.50	D SPT	0 (50 for 75mm/0 for 0mm)	17.50	-9.42		End of Borehole at 17.50m

13 14 15 16 17 18 19 20 21 22 23

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
17.50	200	17.00	200	14.00	14.50	01:00				
				14.50	15.00	01:00				
				15.00	15.50	01:00				
				16.50	17.00	01:00				

Remarks:
Groundwater strike at 0 .5m. Groundwater resting at 0.5m after 20minutes. Borehole deepened with rotary drilling (see BH113 follow on).

Borehole Log

Borehole No. **BH114**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 27/04/2023-03/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276543.27 N188706.83
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 7.84m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.00 - 1.20	B					MADE GROUND: Brownish grey to dark grey slightly clayey gravelly silt with rare rootlets and roots up to 3mm. Gravel of slag, brick, wood and sandstone.
	▼	0.80 - 1.40	ES					
		1.20	D		1.20	6.64		
	▽	1.20	SPT	N=3 (1 for 75mm/3 for 225mm)				MADE GROUND: (Very soft) Black slightly sandy silty clay. Sand is fine grained.
		2.20	D					
		2.20 - 2.80	B					
	▼	2.20	SPT	N=4 (1 for 75mm/1,1,1,1)	2.80	5.04		
		2.40 - 2.60	ES					MADE GROUND: Dark grey to black slightly silty slightly sandy gravel with low to medium cobble content. Gravel and cobbles of concrete, brick and slag.
		2.80 - 4.00	B					
		2.80	SPT	0 (25 for 0mm/0 for 0mm)	3.60	4.24		
		4.00 - 5.00	B		4.00	3.84		MADE GROUND: (Very soft) Brownish grey gravelly very silty clay. Gravel of siltstone and brick.
		4.00	SPT	N=4 (2,3/1,1,1,1)				Very soft, extremely low strength dark grey and brown mottled greyish brown silty CLAY with very weak organic odour. (TIDAL FLAT DEPOSITS)
		5.00	D					
		5.00 - 6.90	B					
		5.00	SPT	N=6 (7,4/2,1,2,1)				
		6.00 - 8.50	B					
		6.00	SPT	N=6 (1,1/1,1,2,2)				
		7.00	D					
		7.00 - 8.50	B					
		7.00	HV	8 kPa				
		8.00	D					
		8.00 - 8.40	U					
		8.50 - 9.50	B		8.50	-0.66		Very soft, extremely low strength plastic brown mottled greyish brown clayey amorphous to pseudofibrous PEAT with weak organic odour. (TIDAL FLAT DEPOSITS)
		8.50	SPT	N=9 (6,3/2,2,3,2)				
		9.50	D		9.50	-1.66		Soft, extremely low strength grey and greyish brown mottled sandy silty CLAY with rare cemented sandstone.(TIDAL FLAT DEPOSITS)
		9.50 - 10.00	B					Very dense brownish grey very gravelly SAND recovered as sandy gravel. Sand is fine to coarse grained. Gravel of fine to coarse subangular to subrounded sandstone. (ALLUVIAL FAN DEPOSITS)
		9.50 - 9.95	U					
		10.00 - 10.50	B					
		10.00	SPT	N=6 (1,1/1,1,1,3)				
		10.50	D		10.50	-2.66		Dense strong grey to dark grey cobbles of quartzitic sandstone with rare veins of quartz. (ALLUVIAL FAN DEPOSITS)
		10.50 - 11.00	B					
	▽	10.50	SPT	50 (3,8/50 for 225mm)	11.00	-3.16		Very dense greyish brown sandy GRAVEL. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. (ALLUVIAL FAN DEPOSITS)
		11.00	D					
		11.10 - 11.50	B		11.50	-3.66		
		11.10	SPT	0 (25 for 20mm/0 for 0mm)				
		11.50 - 15.00	B					

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
22.20	200	22.20	200	2.80	3.20	01:00				
				3.20	3.60	01:30				
				11.00	11.40	01:00				
				15.00	15.50	01:00				
				15.50	16.00	01:00				

Remarks:

Groundwater strike at 1.5m and 11.2m. Groundwater resting at 0.8m after 20minutes.

Borehole Log

Borehole No. **BH114**

Sheet 2 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 27/04/2023-03/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276543.27 N188706.83
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 7.84m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		11.50	SPT	N=44 (21,4/16,10,9,9)				Very dense greyish brown sandy GRAVEL. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. (ALLUVIAL FAN DEPOSITS)
		12.00	D					
		13.00	D					
		13.00	SPT	50 (13,12/50 for 179mm)				
		14.00	D					
		14.50	SPT	50 (6,16/50 for 150mm)				
					15.00	-7.16		Dense to very dense greyish brown silty sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. Cobbles of very strong orangish brown and grey sandstone. (ALLUVIAL FAN DEPOSITS)
		16.00	SPT	50 (25 for 120mm/50 for 225mm)				
		17.00	D					
		17.00	SPT	50 (7,11/50 for 200mm)				
		18.00 - 19.60	B					
		18.50	SPT	N=28 (4,1/3,3,7,15)				
		19.00	D					
		19.50 - 22.20	B		19.50	-11.66		Very dense greyish brown slightly silty sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subangular to subrounded sandstone. Cobbles of strong grey to greenish grey sandstone. (ALLUVIAL FAN DEPOSITS)
		19.50	SPT	N=32 (9,3/7,7,8,10)				
		20.00	D					
		20.50	SPT	N=50 (8,13/10,16,16,8)				
		22.00	D					
		22.00	SPT	50 (25 for 75mm/50 for 21mm)	22.20	-14.36		End of Borehole at 22.20m

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
22.20	200	22.20	200	2.80	3.20	01:00				
				3.20	3.60	01:30				
				11.00	11.40	01:00				
				15.00	15.50	01:00				
				15.50	16.00	01:00				

Remarks:

Groundwater strike at 1.5m and 11.2m. Groundwater resting at 0.8m after 20minutes.

Borehole Log

Borehole No. **BH115**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 25/04/2023-27/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276616.36 N188674.81
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 7.48m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.00 - 1.00	B					MADE GROUND: Dark grey slightly sandy gravelly silt with low cobble content. Gravel of tarmacadam, wood fragments, coke and brick. Cobbles of brick.
		1.00	D		1.00	6.48		MADE GROUND: Black very silty gravel. Gravel of siltstone and slag.
		1.00	D					
		1.00 - 2.00	B					
		1.00	SPT	N=9 (1,2/2,2,3,2)				
		2.00	D					
		2.00	D					
		2.00 - 5.00	B					
		2.00	SPT	N=5 (1,0/1,1,1,2)				
		2.20 - 2.50	ES					
		3.00	D					
		3.00	D					
		3.00	SPT	N=8 (1,1/1,2,2,3)				
		4.00	D					
		4.00	D					
		4.00	SPT	N=1 (1,0/0,0,1,0)				
		5.00	D		4.90	2.58		Soft, very low strength dark grey mottled grey slightly gravelly silty organic CLAY with occasional decayed rootlets. Gravel of fine to coarse subangular siltstone. (TIDAL FLAT DEPOSITS)
		5.00 - 6.00	B					
		5.00	HV	12 kPa				
		6.00	D		6.00	1.48		Very soft to soft, very low strength greyish brown mottled dark grey silty organic CLAY. (TIDAL FLAT DEPOSITS)
		6.00 - 6.40	U					
		6.40	D					
		7.00	D					
		7.00	SPT	N=3 (1,0/0,1,1,1)				
		7.00	PP	0.4 kg/cm2				
		7.00	HV	19 kPa				
		8.00	D					
		8.00	HV	8 kPa				
		9.00	D		9.00	-1.52		Loose greyish brown silty sandy GRAVEL. Sand is fine to coarse grained. Gravel of fine to coarse subangular to subrounded sandstone with low cobble content. (TIDAL FLAT DEPOSITS)
		9.00 - 10.20	B					
		9.00 - 9.40	U					
		9.60	D					
		10.00	D					
		10.20 - 11.20	B					
		10.50	D					Soft, spongy greyish brown to dark brown pseudofibrous to amorphous PEAT with weak organic odour. (TIDAL FLAT DEPOSITS)
		10.50	SPT	N=6 (1,1/1,1,2,2)	10.90	-3.42		Medium dense to dense brownish grey slightly silty sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subangular to subrounded sandstone. Cobbles of medium strong to strong grey sandstone. (ALLUVIAL FAN DEPOSITS)
		11.00 - 11.60	B					
		11.10	D					
		11.20	D					
		11.20 - 17.20	B		11.60	-4.12		
		11.20	SPT	N=12 (2,1/2,3,4,3)				
		11.60	D					

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
20.40	200	20.20	200	18.60	19.10	01:00				
				19.40	19.80	01:00				
				20.20	20.40	01:00				

Remarks:
Groundwater strike at 1.3m and 9.7m. Groundwater resting at 0.5m after 20minutes.

Borehole Log

Borehole No. **BH115**

Sheet 2 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 25/04/2023-27/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276616.36 N188674.81
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 7.48m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		11.60	SPT	N=21 (2,3/3,5,7,6)				Medium dense to dense brownish grey slightly silty sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subangular to subrounded sandstone. Cobbles of medium strong to strong grey sandstone. (ALLUVIAL FAN DEPOSITS)
		12.10	D					
		12.10 - 17.20	B					
		13.00	D					
		13.60 - 14.05	B					
		13.60	SPT	N=31 (7,6/8,6,8,9)				
		14.00	D					
		15.00	D					
		15.10	D					
		15.10	SPT	N=40 (6,8/14,9,8,9)				
		16.00	D					
		16.50	D					
		16.50	SPT	N=49 (10,11/49 for 225mm)				
		17.00	D					
		17.20	D		17.20	-9.72		Dense yellowish brown sandy GRAVEL with low cobble content. Sand is medium to coarse grained. Gravel of fine to coarse subangular to subrounded sandstone. (ALLUVIAL FAN DEPOSITS)
		17.20 - 18.20	B					
		17.20	SPT	N=38 (3,5/6,8,11,13)				
		18.00	D					
		18.20	D		18.20	-10.72		Dense brown slightly clayey silty sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. (ALLUVIAL FAN DEPOSITS)
		18.20 - 19.20	B					
		18.20	SPT	N=42 (8,7/10,11,11,10)				
					19.20	-11.72		Firm to stiff, medium to high strength brown mottled greyish brown gravelly silty CLAY. Gravel of extremely weak fine to medium angular mudstone. (TIDAL FLAT DEPOSITS)
		20.20	D		20.20	-12.72		
		20.20	SPT	50 (10,15/50 for 106mm)	20.40	-12.92		Very dense greyish brown slightly silty sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. Cobbles of strong grey to greenish grey sandstone. (ALLUVIAL FAN DEPOSITS)
		21.10	SPT	N=36 (3,6/7,10,9,10)				
								End of Borehole at 20.40m

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
20.40	200	20.20	200	18.60	19.10	01:00				
				19.40	19.80	01:00				
				20.20	20.40	01:00				

Remarks:

Groundwater strike at 1.3m and 9.7m. Groundwater resting at 0.5m after 20minutes.

Borehole Log

Borehole No. **BH116**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 13/04/2023-18/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276279.62 N188672.66
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.72m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.50	ES					MADE GROUND: Black to dark grey slightly clayey silty very gravelly sand with rare rootlets. Gravel of wood, slag and brick.
		0.50 - 1.00	B					
		1.00 - 1.45	D		1.00	7.72		
		1.00	SPT	N=10 (1,1/2,3,3,2)				MADE GROUND: Black silty gravel. Gravel of slag and coke.
		1.50 - 2.00	B					
		2.00 - 2.45	D					
		2.00	SPT	N=4 (1,1/1,1,1,1)				
		2.50 - 3.00	B					
		3.00	D					
		3.00	SPT	N=2 (0,1/0,1,0,1)				
		3.50 - 3.90	B					
		3.90 - 4.00	D		3.90	4.82		
		4.00 - 4.45	D					Soft greyish brown slightly sandy silty CLAY with occasional decayed rootlets. Sand is fine grained. (TIDAL FLAT DEPOSITS)
		4.00	SPT	N=5 (2,1/1,1,1,2)				
		4.50 - 5.00	B		4.50	4.22		
		4.80	PP	0.5 kg/cm2				Very soft to soft and locally firm, low strength greyish brown mottled greenish grey slightly sandy silty CLAY with rare pockets of amorphous peat and faint organic odour. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
		4.80	HV	25 kPa				
		5.00 - 5.45	D					
		5.00	SPT	N=4 (1,1/1,1,1,1)				
		6.00 - 6.50	B					
		6.00	PP	0.6 kg/cm2				
		6.00	HV	34 kPa				
		6.50 - 6.95	U					
		7.50 - 8.00	B					
		8.00 - 8.95	D					
		8.00	SPT	N=8 (2,2/2,2,2,2)				
		9.10	D		9.10	-0.38		
		9.10 - 9.50	B					Soft to firm dark grey to blueish grey silty very sandy organic CLAY with occasional pockets of pseudofibrous peat, shell fragments, rare decayed rootlets and strong organic odour. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
		9.50 - 9.95	D		9.50	-0.78		
		9.50	SPT	N=12 (1,2/3,3,3,3)				
		10.50 - 10.95	B					Soft dark grey slightly sandy silty CLAY with occasional fibrous to pseudofibrous and faint organic odour. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
		11.00 - 11.45	D		10.90	-2.18		
		11.00	SPT	N=4 (1,1/1,1,1,1)				Very soft dark grey to greyish brown slightly sandy silty organic CLAY with amorphous peat and strong organic odour. Sand is fine grained. (TIDAL FLAT DEPOSITS)
		12.00 - 12.50	B					

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
19.50	200	19.50	200	15.50	16.00	01:00				
				17.00	17.50	01:00				
				17.50	18.00	01:00				
				19.50	19.70	01:00				
				19.70	19.90	01:00				

Remarks:

Groundwater strike at 1.0m. Groundwater resting at 0.5m after 20minutes. Borehole deepened with rotary drilling (see BH116 follow on).

Borehole Log

Borehole No. **BH116**

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 13/04/2023-18/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276279.62 N188672.66
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.72m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		12.50 - 12.95	D		12.60	-3.88		Very soft dark grey to greyish brown slightly sandy silty organic CLAY with amorphous peat and strong organic odour. Sand is fine grained. (TIDAL FLAT DEPOSITS)
		12.50	SPT	N=30 (1,2/2,5,9,14)				Dense to very dense greyish brown slightly silty slightly clayey sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of strong to very strong fine to coarse subangular to rounded sandstone. Cobbles of strong to very strong grey sandstone. (ALLUVIAL FAN DEPOSITS)
		13.50 - 14.00	B					
		15.00 - 15.50	B					
		15.50	SPT	25 (35 for 85mm/25 for 5mm)				
		16.50 - 17.00	B					
		17.00	SPT	25 (50 for 85mm/25 for 5mm)				
		18.50 - 19.00	B					
		19.00	SPT	N=29 (5,5/5,7,7,10)				
		19.60	SPT	0 (50 for 0mm/0 for 0mm)	19.50	-10.78		End of Borehole at 19.50m
		19.70	SPT	0 (50 for 0mm/0 for 0mm)				

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
19.50	200	19.50	200	15.50	16.00	01:00				
				17.00	17.50	01:00				
				17.50	18.00	01:00				
				19.50	19.70	01:00				
				19.70	19.90	01:00				

Remarks:

Groundwater strike at 1.0m. Groundwater resting at 0.5m after 20minutes. Borehole deepened with rotary drilling (see BH116 follow on).

Borehole Log

Borehole No. **BH117**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 13/04/2023-18/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276369.73 N188710.52
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.35m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.00 - 2.45 0.20 - 0.60	B ES					MADE GROUND: Dark brown slightly gravelly sandy silt with rare rootlets and roots upto 8mm. Gravel of wood, slag, coke and rebar.
		1.00	SPT	N=20 (17,7/10,5,3,2)	0.90 1.10	7.45 7.25		MADE GROUND: Grey cobbles of concrete.
		2.00 2.00	B SPT	N=32 (11,9/7,7,8,10)				MADE GROUND: (Soft) Dark brown mottled brown slightly gravelly slightly sandy clayey silt with low cobble content. Gravel and cobbles of slag.
		3.00 - 4.00 3.00	D SPT	N=8 (2,4/2,2,3,1)				
					3.70	4.65		MADE GROUND: Dark grey slightly sandy gravel with low cobble content. Gravel of clinker, slag, coke and metal fragments. Cobbles of slag.
		4.00 - 4.10 4.00 - 4.45 4.00	B D SPT	N=9 (1,2/2,2,3,2)	4.00	4.35		Very soft to soft, medium becoming very low strength greenish grey mottled brown slightly sandy slightly peaty silty CLAY. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
		5.00	D					
		6.00 - 6.40	U					
		6.40 6.40 - 6.60	D D					
		7.00 7.00	D SPT	N=5 (1,1/1,1,1,2)				
		8.00 8.00	D HV	5 kPa				
		9.00 - 9.40 9.40 - 9.60	D D					
		10.00 - 10.45 10.00	D SPT	N=11 (2,2/4,3,2,2)	10.00	-1.65		Very soft to soft, low strength brown slightly sandy clayey plastic amorphous PEAT with moderately strong organic odour. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
		11.50 - 11.90	U					
					12.00	-3.65		

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
22.00	200	22.20	200	2.10	2.40	01:00				
				18.50	19.00	01:00				
				19.80	20.30	01:00				
				22.00	22.30	01:00				
				22.30	22.30	01:00				

Remarks:

Groundwater strike at 1.2m and 12.1m. Groundwater resting at 0.3m after 20minutes. Borehole deepened with rotary drilling (see BH117 follow on).

Borehole Log

Borehole No. **BH117** Sheet 2 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 13/04/2023-18/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276369.73 N188710.52
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.35m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		12.10	D					Dense to very dense brownish grey to grey slightly silty gravelly SAND with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. Cobbles of medium strong to strong grey sandstone. (ALLUVIAL FAN DEPOSITS)
		12.10 - 15.00	B					
		12.10	SPT	N=39 (4,6/9,9,11,10)				
		13.50 - 14.00	D					
		13.60	SPT	N=36 (3,7/36 for 150mm)				
		14.50 - 14.95	D					
		14.50	SPT	50 (12,13/50 for 116mm)				
		15.00 - 19.00	B		15.00	-6.65		Very dense brown fine to coarse grained SAND.
		15.50	D					
		16.00	SPT	50 (16,9/50 for 177mm)				
		16.50	D					
		17.50	D					
		17.50	SPT	50 (25 for 106mm/50 for 225mm)				
		18.80	D					
		19.00			19.00	-10.65		Dense to very dense brown to greyish brown sandy GRAVEL. Sand is fine to coarse grained. Gravel of fine to medium subangular to subrounded sandstone and rare quartz. (ALLUVIAL FAN DEPOSITS)
		19.00 - 19.50	B					
		19.00	SPT	N=32 (6,8/7,8,8,9)				
		19.50	SPT	50 (25 for 117mm/50 for 106mm)				
		19.80	D					
		20.50	D					
		21.00	SPT	50 (25 for 75mm/50 for 75mm)				
		21.50	D					
		22.00	SPT	50 (25 for 75mm/50 for 30mm)	22.20	-13.85		End of Borehole at 22.20m

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
22.00	200	22.20	200	2.10	2.40	01:00				
				18.50	19.00	01:00				
				19.80	20.30	01:00				
				22.00	22.30	01:00				
				22.30	22.30	01:00				

Remarks:
Groundwater strike at 1.2m and 12.1m. Groundwater resting at 0.3m after 20minutes. Borehole deepened with rotary drilling (see BH117 follow on).

Borehole Log

Borehole No. **BH118**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 04/04/2023-12/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276559.81 N188686.20
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.38m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.00 - 1.00	D					MADE GROUND: Brownish grey slightly gravelly sandy silt. Gravel of wood fragements, plastic, metal wire, brick, concrete and rubber.
		0.30 - 0.60	ES					
	▼	1.00	D		1.00	7.38		MADE GROUND: Dark grey slighlty gravelly silty sand. Gravel of clinker, metal fragments, wood and brick.
	▼	1.00 - 3.00	B		1.30	7.08		MADE GROUND: Brownish grey slightly gravelly silty sand. Gravel of sandstone and rare brick.
	▽	1.00	SPT	N=34 (1,4/8,8,9,9)				
		1.10 - 1.50	ES					
		2.00	D					
		2.00	SPT	N=1 (1,0/0,0,0,1)				
		3.00	D		3.00	5.38		Soft to firm, grey silty CLAY. (TIDAL FLAT DEPOSITS)
		3.00	SPT	N=12 (1,1/2,3,3,4)				
		4.00	D					
		4.00	SPT	N=7 (1,1/1,2,2,2)				
		4.30 - 5.00	B					
					4.70	3.68		Soft to firm, low to very low strength grey mottled black silty CLAY with occasional pockets of amorphous peat. (TIDAL FLAT DEPOSITS)
		5.00	D					
		5.00	SPT	N=4 (1,1/1,1,1,1)				
		7.00	U					
		7.40	D					
		8.00	D					
		8.00	SPT	N=7 (2,2/1,2,2,2)				
		9.00	D					
		9.00	HV	2 kPa				
		10.00	D					
		10.00 - 10.45	U					
		10.50	D		10.50	-2.12		Very soft, very low strength brown mottled dark brown slightly clayey plastic amorphous PEAT with moderately strong organic odour. (TIDAL FLAT DEPOSITS)
		10.50	SPT	N=8 (1,0/1,1,2,4)				
		11.50	D		11.50	-3.12		Very soft grey mottled brownish grey silty organic CLAY. (TIDAL FLAT DEPOSITS)
		11.50	SPT	N=1 (1,0/0,0,1,0)				
		12.00	HV	3 kPa				

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
20.50	200	20.00	200	1.00	3.00	01:00				
				17.50	18.00	01:00				
				19.60	20.00	01:00				
				20.00	20.50	01:30				

Remarks:
Groundwater strike at 1.5m and 20.5m. Groundwater resting at 0.9m after 20minutes.

Borehole Log

Borehole No. **BH118**

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 04/04/2023-12/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276559.81 N188686.20
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.38m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		13.50	SPT	N=3 (1,0/1,0,1,1)				Very soft grey mottled brownish grey silty organic CLAY. (TIDAL FLAT DEPOSITS)
					14.20	-5.82		
		14.50	D					Dense to very dense brown to greyish brown sandy GRAVEL. Sand is fine to coarse grained. Gravel of fine to medium subangular to subrounded sandstone and rare quartz. (ALLUVIAL FAN DEPOSITS)
		14.50	SPT	N=31 (3,6/8,8,7,8)				
		16.50	D					
		17.00 - 18.50	B					
		17.00	SPT	50 (25 for 114mm/50 for 116mm)				
		17.50	D					
		18.50	D					
		18.50	SPT	50 (25 for 106mm/50 for 150mm)				
		18.60 - 20.00	B					
					20.50	-12.12		End of Borehole at 20.50m

13 14 15 16 17 18 19 20 21 22 23

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
20.50	200	20.00	200	1.00	3.00	01:00				
				17.50	18.00	01:00				
				19.60	20.00	01:00				
				20.00	20.50	01:30				

Remarks:
Groundwater strike at 1.5m and 20.5m. Groundwater resting at 0.9m after 20minutes.

Borehole Log

Borehole No. **BH119**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 19/04/2023-24/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276559.81 N188686.20
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.25m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.00 - 1.00 0.10 - 1.00	B ES					MADE GROUND: Dark grey and grey sandy gravelly silt. Gravel of slag, wood and rubber.
		1.00 1.00	D SPT	N=16 (1,4/3,2,2,9)	1.00	7.25		MADE GROUND: Dark brown grey slightly gravelly slightly sandy slightly clayey silt. Gravel of slag.
		2.00 2.00 - 4.00 2.00	D B SPT	N=3 (1,0/0,1,1,1)	2.00	6.25		MADE GROUND: Dark brown and black mottled slightly gravelly sandy silt with rare rootlets. Gravel of slag.
		3.00 3.00	D SPT	N=4 (1,1/1,1,1,1)				
		4.00 4.00 - 6.00 4.00	D B SPT	N=16 (1,2/2,3,5,6)				
		5.00 5.00 - 5.20 5.00	D ES SPT	N=19 (2,3/3,6,5,5)				
		6.00 6.00 - 9.00 6.00	D B HV	13 kPa	6.00	2.25		MADE GROUND: Black and dark grey slightly gravelly clayey sand with occasional fine rootlets and moderately strong organic odour. Gravel of slag.
		7.00 7.00 - 7.40 7.40	D U D		6.90	1.35		Soft, very low strength brownish grey mottled black slightly sandy peaty silty CLAY with occasional pockets of amorphous to fibrous peat. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
		8.00 8.00	D SPT	N=9 (1,2/2,2,2,3)				
		9.00 - 11.50 9.00	B HV	4 kPa	9.00	-0.75		Stiff, medium grained greyish brown slightly sandy silty CLAY with frequent pockets of brown fibrous peat. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
		10.00 10.00 - 10.45	D U					
		11.00 11.00 - 12.80 11.50	D B SPT	N=19 (2,3/5,4,5,5)	11.00	-2.75		Soft greyish brown slightly sandy silty CLAY. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
		12.00	D					

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
20.00	200	20.00	200	12.90	13.30	01:00				
				14.10	14.60	01:30				
				14.60	14.90	01:00				
				16.00	16.50	01:30				
				19.00	19.50	01:30				

Remarks:

Groundwater strike at 1.3m and 12.5m. Groundwater resting at 0.5m after 20minutes. Borehole deepened with rotary drilling (see BH119 follow on).

Borehole Log

Borehole No. **BH119**

Sheet 2 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 19/04/2023-24/04/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276559.81 N188686.20
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.25m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		12.10 - 20.00	B		12.10	-3.85		Soft greyish brown slightly sandy silty CLAY. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
		12.10	SPT	50 (8,12/50 for 181mm)				Very dense greyish brown silty sandy GRAVEL. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. Cobbles of medium strong to strong grey sandstone. (ALLUVIAL FAN DEPOSITS)
		13.00	D					
		13.50	SPT	50 (4,6/50 for 116mm)				
		14.00	D					
		15.00	SPT	38 (14,5/38 for 225mm)				
		16.00	SPT	50 (25 for 75mm/50 for 165mm)				
		17.50	SPT	50 (25 for 123mm/50 for 195mm)				
		19.50	SPT	50 (25 for 100mm/50 for 114mm)				
					20.00	-11.75		End of Borehole at 20.00m

13 14 15 16 17 18 19 20 21 22 23

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
20.00	200	20.00	200	12.90	13.30	01:00				
				14.10	14.60	01:30				
				14.60	14.90	01:00				
				16.00	16.50	01:30				
				19.00	19.50	01:30				

Remarks:

Groundwater strike at 1.3m and 12.5m. Groundwater resting at 0.5m after 20minutes. Borehole deepened with rotary drilling (see BH119 follow on).

Borehole Log

Borehole No. **BH120**

Sheet 1 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 27/04/2023-03/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276554.17 N188602.94
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.38m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.50 - 1.00	B					MADE GROUND: Dark brown slightly sandy slightly gravelly silt with rare rootlets and roots up to 2mm to 5mm. Gravel of slag, wood and brick.
		0.60 - 0.80	ES					
		1.00	D		1.00	7.38		MADE GROUND: Brown slightly gravelly very silty sand.
		1.00	SPT	N=7 (0,0/1,1,2,3)				
	▼	1.50 - 2.00	B					
		2.00	D		2.00	6.38		MADE GROUND: Very soft, very low strength dark grey and grey mottled slightly gravelly sandy silty organic CLAY with occasional thin pockets of sand. Sand is fine to medium grained. Gravel of fine to medium subangular sandstone.
		2.00	SPT	N=3 (0,1/0,1,1,1)				
		2.40 - 2.90	ES					
		2.50 - 3.00	B					
		2.80	PP	0.4 kg/cm2				
	▽	2.80	HV	14 kPa	3.00	5.38		
		3.00	D					MADE GROUND: Very soft dark grey mottled brown slightly gravelly sandy silty organic CLAY with low cobble content. Gravel and cobbles of strong to very strong subangular to subrounded dark grey to greenish grey igneous lithology of gabronorite with anorthite and pyroxene inclusions and rare thin streamers and well rounded nodules of mineralised copper.
		3.00	SPT	N=4 (1,1/1,1,1,1)				
		3.50 - 4.00	B					
		4.00	D					
		4.00	SPT	N=4 (1,1/1,1,1,1)				
		4.50 - 5.00	B					
		5.00	D		5.00	3.38		Very soft greyish brown mottled brown slightly gravelly sandy silty CLAY with rare pockets of amorphous peat. Sand is fine to medium grained. Gravel of fine to coarse subangular sandstone. (TIDAL FLAT DEPOSITS)
		5.00	SPT	N=6 (1,1/1,1,2,2)				
		5.50 - 6.00	B					
					6.00	2.38		Very soft, very low strength dark grey and greyish brown mottled silty organic CLAY. (TIDAL FLAT DEPOSITS)
		6.50	D					
		6.50	SPT	N=4 (1,1/1,1,1,1)				
		7.50 - 8.00	B					
		7.80	PP	0.4 kg/cm2				
		7.80	HV	15 kPa	8.00	0.38		Very soft greyish brown mottled brown very silty organic CLAY. (TIDAL FLAT DEPOSITS)
		8.00	D					
		8.00	SPT	N=4 (1,1/1,1,1,1)				
		9.00 - 9.50	B					
		9.50	D		9.50	-1.12		Very soft, greyish brown mottled brownish grey silty CLAY with rare decayed rootlets. (TIDAL FLAT DEPOSITS)
		9.50 - 10.00	B					
		9.50	SPT	N=4 (1,1/1,1,1,1)	10.00	-1.62		Very soft, plastic to spongy greyish brown and brown clayey amorphous to pseudofibrous slightly gravelly silty clayey PEAT with faint organic odour. gravel of fine to coarse subrounded to rounded sandstone. (TIDAL FLAT DEPOSITS)
		10.50 - 11.00	B					
		11.00	D					
		11.00	SPT	N=11 (2,2/2,3,3,3)				
		12.00 - 12.50	B					

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
21.50	200	21.50	200	15.50	16.00	01:00				
				16.00	16.50	01:00				
				16.50	17.00	01:00				
				17.00	17.50	01:00				

Remarks:
Groundwater strike at 3.0m. Groundwater resting at 1.5m after 20minutes.

Borehole Log

Borehole No. **BH120** Sheet 2 of 2

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 27/04/2023-03/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276554.17 N188602.94
Project No. 2111006.005	Drilling Equipment: Dando 2000	Level: 8.38m AOD
Hole Type: CP	Logged By: RK	Scale: 1:60

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		12.50	D		12.50	-4.12		Very soft, plastic to spongy greyish brown and brown clayey amorphous to pseudofibrous slightly gravelly silty clayey PEAT with faint organic odour. gravel of fine to coarse subrounded to rounded sandstone. (TIDAL FLAT DEPOSITS)
		12.50	SPT	50 (9,16/50 for 92mm)				
		13.20 - 14.00	B					Very dense brownish grey slightly clayey slightly silty sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. Cobbles of very strong grey sandstone. (ALLUVIAL FAN DEPOSITS)
		14.00	D					
		14.00	SPT	N=50 (4 for 88mm/50 for 240mm)				
		15.00 - 15.50	B					
		15.00	SPT	0 (50 for 75mm/0 for 0mm)				
		15.50	D					
		16.50 - 17.00	B					
		17.00	D		17.00	-8.62		Very dense greenish brown very sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. Cobbles of strong grey sandstone. (ALLUVIAL FAN DEPOSITS)
		17.00	SPT	50 (10,10/50 for 15mm)				
		17.50 - 18.00	B					
		18.50	SPT	50 (8,7/50 for 20mm)				
		20.00	SPT	50 (25 for 80mm/50 for 20mm)				
					21.50	-13.12		End of Borehole at 21.50m

Hole Diameter		Casing Diameter		Chiselling			Inclination & Orientation			
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Duration (hh:mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation
21.50	200	21.50	200	15.50	16.00	01:00				
				16.00	16.50	01:00				
				16.50	17.00	01:00				
				17.00	17.50	01:00				

Remarks:
Groundwater strike at 3.0m. Groundwater resting at 1.5m after 20minutes.

Borehole Log

Borehole No. **BH104 follow on**
Sheet 1 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 27/04/2023-02/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276327.41 N188593.70
Project No. 2111006.005	Drilling Equipment: Klem KR802	Level: 8.73m AOD
Hole Type: RC	Logged By: RK	Scale: 1:105

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
									0.35	8.38		See log BH104
									2.40	6.33		
									4.00	4.73		
									6.50	2.23		
									6.80	1.93		
									12.00	-3.27		
									16.50	-7.77		Dense to very dense greyish brown sandy GRAVEL with low cobble content. Sand is medium to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. Cobbles of medium strong to strong brownish grey sandstone. (ALLUVIAL FAN DEPOSITS) (Logged through cable percussive drilling - see BH104)
									20.00	-11.27		Clayey GRAVEL. (ALLUVIAL FAN DEPOSITS) (Drillers logs)

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
25.00	200																
62.00	100																

Remarks:
Rotary follow on over cable percussive hole BH103. See BH103.

Borehole Log

Borehole No. **BH104 follow on**
Sheet 2 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 27/04/2023-02/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276327.41 N188593.70
Project No. 2111006.005	Drilling Equipment: Klem KR802	Level: 8.73m AOD
Hole Type: RC	Logged By: RK	Scale: 1:105

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
												Clayey GRAVEL. (ALLUVIAL FAN DEPOSITS) (Drillers logs)
									25.00	-16.27		MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)(Drillers logs)
		32.65 - 32.79	C						32.00	-23.27		Weak dark grey highly fractured MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		33.06 - 33.19	C		100	81	26					
		32.50 - 34.00							34.00	-25.27		Weak to medium strong grey to dark grey to grey very thinly bedded to thinly bedded SILTSTONE with occasional very thinly bedded mudstone and occasional sub vertical fractures and occasional silt infill (2/4/20), dipping 14 to 19 degrees. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		34.70 - 34.80	C		53	34	7					
		34.00 - 35.50			100	85	78					
		36.70 - 36.90	C						37.00	-28.27		MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
		35.50 - 37.00										

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
25.00	200																
62.00	100																

Remarks:
Rotary follow on over cable percussive hole BH103. See BH103.

Borehole Log

Borehole No. **BH104 follow on**
Sheet 3 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 27/04/2023-02/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276327.41 N188593.70
Project No. 2111006.005	Drilling Equipment: Klem KR802	Level: 8.73m AOD
Hole Type: RC	Logged By: RK	Scale: 1:105

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
									43.00	-34.27		MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
												SANDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									47.00	-38.27		MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									54.20	-45.47		Dark grey MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									55.00	-46.27		Interbedded MUDSTONE and SANDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									62.00	-53.27		End of Borehole at 62.00m

43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
25.00	200																
62.00	100																

Remarks:
Rotary follow on over cable percussive hole BH103. See BH103.

AGS

Borehole Log

Borehole No. **BH113 follow on**
Sheet 1 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 15/05/2023-16/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276520.09 N188607.42
Project No. 2111006.005	Drilling Equipment: Klem KR802	Level: 8.08m AOD
Hole Type: RC	Logged By: RK	Scale: 1:105

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
												See log BH113
									3.40	4.68		
									4.00	4.08		
									5.50	2.58		
									11.40	-3.32		
									13.50	-5.42		Very dense greyish brown sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. (ALLUVIAL FAN DEPOSITS) (Logged through cable percussive drilling - see BH113)
									17.50	-9.42		Clayey GRAVEL. (ALLUVIAL FAN DEPOSITS) (Drillers logs)

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
17.50	200																
60.00	100																

Remarks:
Rotary follow on over cable percussive hole BH113. See BH113.

Borehole Log

Borehole No. **BH113 follow on**
Sheet 2 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 15/05/2023-16/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276520.09 N188607.42
Project No. 2111006.005	Drilling Equipment: Klem KR802	Level: 8.08m AOD
Hole Type: RC	Logged By: RK	Scale: 1:105

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
												Clayey GRAVEL. (ALLUVIAL FAN DEPOSITS) (Drillers logs)
									25.70	-17.62		MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									27.00	-18.92		Interbedded MUDSTONE and SILTSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									30.00	-21.92		Medium strong grey SANDSTONE with occasional horizontal laminae of siltstone and thin veins of quartz. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		31.00 - 31.20	C		93	71	45					
		30.00 - 31.50			100	43	25		31.90	-23.82		Weak dark grey SILTSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
									31.90	-23.82		Weak black COAL. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		31.50 - 33.00							32.15	-24.07		
		34.00 - 34.20	C		67	43	8		32.20	-24.12		
									32.30	-24.22		Weak black COAL. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		33.00 - 34.50			100	63	10		33.60	-25.52		Weak to medium strong grey to dark grey interbedded SANDSTONE and SILTSTONE with rare fractures and infill of silty clay. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		34.50 - 36.00			100	86	8					Weak dark grey SILTSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		36.00 - 37.50	C		75	19	13		38.30	-30.22		Medium strong grey to dark grey thinly laminated SANDSTONE and SILTSTONE with rare vertical veins of quartz. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		38.00 - 38.20										
		37.50 - 39.00			53	17	0					Very weak to weak and locally medium strong grey to dark grey thickly laminated to medium bedded interbedded SILTSTONE and MUDSTONE dipping 40 to 48 degrees. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		40.00 - 40.15	C									
		39.00 - 40.50			63	13	12					
		41.50 - 41.70	C						42.00	-33.92		

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
17.50	200																
60.00	100																

Remarks:
Rotary follow on over cable percussive hole BH113. See BH113.

Borehole Log

Borehole No. **BH113 follow on**
Sheet 3 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 15/05/2023-16/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276520.09 N188607.42
Project No. 2111006.005	Drilling Equipment: Klem KR802	Level: 8.08m AOD
Hole Type: RC	Logged By: RK	Scale: 1:105

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
		40.50 - 42.00										MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									44.90	-36.82		Interbedded MUDSTONE and SANDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									51.00	-42.92		SANDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									60.00	-51.92		End of Borehole at 60.00m

43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
17.50	200																
60.00	100																

Remarks:
Rotary follow on over cable percussive hole BH113. See BH113.

AGS

Borehole Log

Borehole No. **BH116 follow on**
Sheet 1 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 03/05/2023-05/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276279.62 N188672.66
Project No. 2111006.005	Drilling Equipment: Klem KR802	Level: 8.72m AOD
Hole Type: RC	Logged By: RK	Scale: 1:105

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
												See log BH116
									3.90	4.82		
									9.10	-0.38		
									9.50	-0.78		
									10.90	-2.18		
									12.60	-3.88		Dense to very dense greyish brown slightly silty slightly clayey sandy GRAVEL with low cobble content. Sand is fine to coarse grained. Gravel of strong to very strong fine to coarse subangular to rounded sandstone. Cobbles of strong to very strong grey sandstone. (ALLUVIAL FAN DEPOSITS)(Logged through cable percussive drilling - see BH116)
									19.50	-10.78		Clayey GRAVEL. (ALLUVIAL FAN DEPOSITS) (Drillers logs)

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
19.50	200																
60.00	100																

Remarks:
Rotary follow on over cable percussive hole BH116. See BH116.

Borehole Log

Borehole No. **BH116 follow on**
Sheet 2 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 03/05/2023-05/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276279.62 N188672.66
Project No. 2111006.005	Drilling Equipment: Klem KR802	Level: 8.72m AOD
Hole Type: RC	Logged By: RK	Scale: 1:105

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
												Clayey GRAVEL. (ALLUVIAL FAN DEPOSITS) (Drillers logs)
									29.00	-20.28		Stiff grey clayey fracured MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
					90	14	0		30.00	-21.28		
		30.00 - 30.50							30.50	-21.78		Weak dark grey highly fractured MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (poor recovery)
												Weak dark grey highly fractured MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									35.00	-26.28		Extremely weak to weak brownish grey to dark grey MUDSTONE extremely closely to very closely spaced with occasional fractures and occasional silt infill (0/4/30). (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
					20	5	0					
		35.00 - 36.50			25	0	0					
		36.50 - 37.50							37.50	-28.78		Soft MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
												Weak to medium strong very closely to closely spaced dark grey MUDSTONE with rare vertical veins quartz, with rare fractures and occasional silt infill (0/0/2), dipping 2 to 5 degrees. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
									40.00	-31.28		
					20	0	0					
		40.00 - 41.50										

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
19.50	200																
60.00	100																

Remarks:
Rotary follow on over cable percussive hole BH116. See BH116.

Borehole Log

Borehole No. **BH116 follow on**
Sheet 3 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 03/05/2023-05/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276279.62 N188672.66
Project No. 2111006.005	Drilling Equipment: Klem KR802	Level: 8.72m AOD
Hole Type: RC	Logged By: RK	Scale: 1:105

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
		42.40 - 43.00	C		27	13	0					Weak to medium strong very closely to closely spaced dark grey MUDSTONE with rare vertical veins quartz, with rare fractures and occasional silt infill (0/0/2), dipping 2 to 5 degrees. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		41.50 - 43.00										
		44.00 - 44.15	C		67	57	9					
		44.70 - 44.90	C						44.50	-35.78		SILTSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
		43.50 - 45.00										
									53.20	-44.48		Dark grey MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									53.90	-45.18		Interbedded SANDSTONE and SILTSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
									60.00	-51.28		End of Borehole at 60.00m

43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
19.50	200																
60.00	100																

Remarks:
Rotary follow on over cable percussive hole BH116. See BH116.

Borehole Log

Borehole No. **BH117 follow on**
Sheet 1 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 09/05/2023-10/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276397.70 N188602.45
Project No. 2111006.005	Drilling Equipment: Klem KR802	Level: 8.35m AOD
Hole Type: RC	Logged By: RK	Scale: 1:105

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
												See log BH117
									4.00	4.35		
									10.00	-1.65		
									12.00	-3.65		
									15.00	-6.65		
									19.00	-10.65		Dense to very dense brown to greyish brown sandy GRAVEL. Sand is fine to coarse grained. Gravel of fine to medium subangular to subrounded sandstone and rare quartz. (ALLUVIAL FAN DEPOSITS) (Logged through cable percussive drilling - see BH117)

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
22.00	200																
55.00	100																

Remarks:
Rotary follow on over cable percussive hole BH117. See BH117.

Borehole Log

Borehole No. **BH117 follow on**
Sheet 2 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 09/05/2023-10/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276397.70 N188602.45
Project No. 2111006.005	Drilling Equipment: Klem KR802	Level: 8.35m AOD
Hole Type: RC	Logged By: RK	Scale: 1:105

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
									22.20	-13.85		Dense to very dense brown to greyish brown sandy GRAVEL. Sand is fine to coarse grained. Gravel of fine to medium subangular to subrounded sandstone and rare quartz. (ALLUVIAL FAN DEPOSITS) (Logged through cable percussive drilling - see BH117)
									24.20	-15.85		Clayey GRAVEL. (ALLUVIAL FAN DEPOSITS) (Drillers logs)
												MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									27.00	-18.65		
		27.30 - 27.56	C		100	58	44					Strong to very strong and locally weak to medium strong grey thinly bedded to medium bedded SANDSTONE with very thinly laminated bands of siltstone with rare clean voids (1/1/4) and rare veins of quartzite. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		27.60 - 27.85	C									
		27.00 - 28.50			27	57	0					
		28.50 - 30.00										
					62	55	18					
		36.00 - 37.50	C									
		37.50 - 37.80	C		100	51	73					
		38.30 - 38.70	C						39.00	-30.65		Weak dark grey MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		37.50 - 39.00	C		82	58	51		39.40	-31.05		Strong to very strong and locally medium strong grey very thinly bedded to thickly bedded SANDSTONE with very thinly laminated bands of siltstone with rare clean voids (1/1/5), dipping 23 to 30 degrees. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		39.40 - 39.60	C									
		40.20 - 40.35			33	17	8					
		39.00 - 40.50										
									42.00	-33.65		

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
22.00	200																
55.00	100																

Remarks:
Rotary follow on over cable percussive hole BH117. See BH117.

Borehole Log

Borehole No. **BH117 follow on**
Sheet 3 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 09/05/2023-10/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276397.70 N188602.45
Project No. 2111006.005	Drilling Equipment: Klem KR802	Level: 8.35m AOD
Hole Type: RC	Logged By: RK	Scale: 1:105

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
		40.50 - 42.00										MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									49.50	-41.15		Interbedded SANDSTONE and SILTSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									55.00	-46.65		End of Borehole at 55.00m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
22.00	200																
55.00	100																

Remarks:
Rotary follow on over cable percussive hole BH117. See BH117.

Borehole Log

Borehole No. **BH119 follow on**
Sheet 1 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 11/05/2023-15/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276559.81 N188686.20
Project No. 2111006.005	Drilling Equipment: Klem KR802	Level: 8.25m AOD
Hole Type: RC	Logged By: RK	Scale: 1:106

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
												See log BH119
									6.90	1.35		
									9.00	-0.75		
									12.10	-3.85		Very dense greyish brown silty sandy GRAVEL. Sand is fine to coarse grained. Gravel of fine to coarse subangular to rounded sandstone. Cobbles of medium strong to strong grey sandstone. (ALLUVIAL FAN DEPOSITS) (Logged through cable percussive drilling - see BH119)
									20.00	-11.75		Clayey GRAVEL. (ALLUVIAL FAN DEPOSITS) (Drillers logs)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
20.00	200																
54.00	100																

Remarks:
Rotary follow on over cable percussive hole BH119. See BH119.

AGS

Borehole Log

Borehole No. **BH119 follow on**
Sheet 2 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 11/05/2023-15/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276559.81 N188686.20
Project No. 2111006.005	Drilling Equipment: Klem KR802	Level: 8.25m AOD
Hole Type: RC	Logged By: RK	Scale: 1:106

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
									21.40	-13.15		Clayey GRAVEL. (ALLUVIAL FAN DEPOSITS) (Drillers logs)
												MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									24.00	-15.75		
		24.90 - 25.00	C		100	77	23					Weak to medium strong grey thinly laminated to thinly bedded SILTSTONE with thin fractures with occasional clay infill. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		24.00 - 25.50			100	81	7					
		25.50 - 27.00			100	77	0					
		27.00 - 28.50			100	94	0					
		28.50 - 30.00			100	61	11		30.50	-22.25		
		31.00 - 31.20	C						30.60	-22.35		Very weak to weak black COAL. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		30.00 - 31.50	C						31.20	-22.95		
		32.00 - 32.15	C		100	37	28		31.85	-23.60		Weak to medium strong and locally very weak dark grey MUDSTONE with rare to occasional very thin veins of pyrite between fractures. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		32.80 - 33.00			100	70	0					
		31.50 - 33.00	C		100	81	40		34.00	-25.75		Weak dark grey dark grey to black MUDSTONE with occasional very thinly bedded bands of coal, and rare to occasional very thin veins of pyrite between fractures. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		33.00 - 33.50							35.00	-26.75		
		34.30 - 34.50										Weak to locally medium strong grey interbedded SILTSTONE and MUDSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
		33.50 - 35.00										Weak to locally medium strong dark grey MUDSTONE with rare thin veins of pyrite. (SOUTH WALES MIDDLE COAL MEASURES FORMATION)
												Interbedded MUDSTONE and SILTSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
20.00	200																
54.00	100																

Remarks:
Rotary follow on over cable percussive hole BH119. See BH119.

Borehole Log

Borehole No. **BH119 follow on**
Sheet 3 of 3

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 11/05/2023-15/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276559.81 N188686.20
Project No. 2111006.005	Drilling Equipment: Klem KR802	Level: 8.25m AOD
Hole Type: RC	Logged By: RK	Scale: 1:106

Well	Water Strikes	Depth (m)	Type	Results	Coring TCR	Coring SCR	Coring RQD	Coring If (mm)	Depth (m)	Level (m)	Legend	Stratum Description
												Interbedded MUDSTONE and SILTSTONE. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) (Drillers logs)
									54.00	-45.75		End of Borehole at 54.00m

43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
20.00	200																
54.00	100																

Remarks:
Rotary follow on over cable percussive hole BH119. See BH119.

Borehole Log

Borehole No. **DS101**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 26/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276210.61 N188733.26
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 8.27m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.40 - 0.80	ES		0.30	7.97		Dark brown sandy SILT with occasional rootlets and a single brick cobble. (MADE GROUND)
		1.00	SPT	N=8 (4 for 75mm/2,2,2,2)				Light yellowish brown slightly gravelly SAND. Gravel of slag. (MADE GROUND)
		1.40 - 1.80	ES		1.60	6.67		Black silty GRAVEL of slag. (MADE GROUND)
		2.00	SPT	N=0 (1 for 450mm/0 for 0mm)	1.85	6.42		Yellowish brown fine to medium SAND. (WIND BLOWN SAND)
		3.00	SPT	N=0 (2 for 450mm/0 for 0mm)	3.00	5.27		End of Borehole at 3.00m

1 2 3 4 5 6

Remarks:
Groundwater strike at 1.2mbgl.
Groundwater resting at 1.2mbgl after 10mins.
Terminated due to blowing sands.

AGS

Borehole Log

Borehole No.
DS102A
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 25/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276361.36 N188757.44
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 8.25m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.60	7.65		Dark brown and black mottled slightly sandy gravelly SILT with rare rootlets. Gravel of brick and wood. (MADE GROUND)
								End of Borehole at 0.60m

1
2
3
4
5
6

Remarks:
Refusal at 0.6mbgl on suspected brick cobble.

AGS

Borehole Log

Borehole No.
DS102B
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 25/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276361.36 N188757.44
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 8.25m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.70 - 1.00	ES		0.70	7.55		Dark brown and black mottled slightly sandy very gravelly SILT with low cobble content and rare rootlets. Gravel and cobbles of brick. (MADE GROUND)
		1.00	SPT	N=50 (1,2/50 for 265mm)	1.00	7.25		Black slightly sandy SILT with rare rootlets and rare pockets of ash. (MADE GROUND)
								End of Borehole at 1.00m

Remarks:
Refusal at 1.0mbgl on suspected brick cobble.

Borehole Log

Borehole No. **DS102C**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 25/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276361.36 N188757.44
Project No. 2111006.005	Drilling Equipment: Archway Competitor	Level: 8.25m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Dark brown and black mottled slightly sandy very gravelly SILT with low cobble content and rare rootlets. Gravel and cobbles of brick. (MADE GROUND)
					0.70	7.55		Black slightly sandy SILT with rare rootlets and pockets of ash. (MADE GROUND)
		1.00	SPT	N=50 (1,2/50 for 255mm)	1.00	7.25		End of Borehole at 1.00m

Remarks:
Refusal at 1.0mbgl on suspected brick cobble.

Borehole Log

Borehole No.
DS102D
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 25/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276361.36 N188757.44
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 8.25m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.50	7.75		Dark brown and black mottled slightly sandy very gravelly SILT with low cobble content and rare rootlets. Gravel and cobbles of brick. (MADE GROUND)
								Black slightly sandy slightly gravelly SILT with rare pockets of ash. Gravel of slag. (MADE GROUND)
		1.00	SPT	N=50 (1 for 300mm/50 for 105mm)	1.00	7.25		End of Borehole at 1.00m

1
2
3
4
5
6

Remarks:
Refusal at 1.0mbgl on suspected brick cobble.

AGS

Borehole Log

Borehole No. **DS103**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 26/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276398.41 N188781.28
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 7.71m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30 - 0.80	ES					Dark brown slightly sandy slightly gravelly SILT with rare rootlets. Gravel of brick and slag. (MADE GROUND)
		1.00	SPT	N=17 (5,4/4,3,4,6)	1.00	6.71		
		1.40 - 1.60	ES					Brownish grey clayey fine to medium SAND with rare pockets of soft grey clay. (TIDAL FLAT DEPOSITS)
		2.00	SPT	N=7 (1,1/2,2,1,2)				
		3.00	SPT	N=1 (1 for 300mm/1 for 150mm)				
		4.00	SPT	N=1 (1 for 225mm/1 for 225mm)				
		5.00	SPT	N=0 (1 for 450mm/0 for 0mm)	5.00	2.71		End of Borehole at 5.00m

Remarks:
Groundwater strike at 1.2mbgl.
Groundwater resting at 1.0mbgl after 10 mins.

AGS

Borehole Log

Borehole No. **DS104**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 25/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276621.82 N188674.21
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 7.51m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20 - 0.60	ES					Dark brown mottled black slightly sandy slightly gravelly SILT with rare rootlets and a single cobble of slag. Gravel of brick and slag. (MADE GROUND)
		1.00	SPT	N=5 (3,2/1,1,2,1)				
					1.70	5.81		Black slightly sandy silty GRAVEL of slag. (MADE GROUND)
		2.00	SPT	N=4 (1,1/1,1,1,1)				
		2.40 - 2.80	ES					
		3.00	SPT	N=1 (1 for 300mm/1 for 150mm)				
		4.00	SPT	N=0 (1 for 450mm/0 for 0mm)				
		4.70 - 5.00	ES		4.70	2.81		Black gravelly SILT. Gravel of slag. (MADE GROUND)
		5.00	SPT	N=0 (1 for 450mm/0 for 0mm)				
					5.60	1.91		Soft dark greyish brown slightly sandy CLAY. (TIDAL FLAT DEPOSITS)
		6.00	SPT	N=2 (1,0/1,0,1,0)	6.00	1.51		End of Borehole at 6.00m

Remarks:

Groundwater strike at 1.7mbgl.
Groundwater resting at 1.2mbgl.

AGS

Borehole Log

Borehole No.
DS105A
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 25/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276596.34 N188637.87
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 8.28m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.80	7.48		Dark brown and black mottled slightly sandy slightly gravelly SILT. Gravel of brick, slag and plastic. (MADE GROUND)
								End of Borehole at 0.80m

1
2
3
4
5
6

Remarks:
Refusal at 0.8mbgl on suspected brick cobble.

AGS

Borehole Log

Borehole No. **DS105B**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 25/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276596.34 N188637.87
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 8.28m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30 - 0.70	ES		0.40	7.88		Brown slightly sandy gravelly SILT with rare rootlets. Gravel of slag. (MADE GROUND)
		1.00	SPT	N=12 (6,5/4,3,2,3)				Dark brown and black mottled slightly sandy gravelly SILT. Gravel of brick, slag and plastic. (MADE GROUND)
		1.40 - 1.70	ES		1.40	6.88		Black, brown and brownish grey mottled slightly gravelly silty SAND with low cobble content. Gravel and cobbles of brick and slag. (MADE GROUND)
	▽	2.00	SPT	N=7 (7,4/2,2,1,2)				
					2.60	5.68		Black silty GRAVEL of slag. (MADE GROUND)
		3.00	SPT	N=3 (1 for 225mm/1,1,1,0)				
		4.00	SPT	N=4 (1,0/1,1,1,1)	4.00	4.28		End of Borehole at 4.00m

Remarks:

Groundwater strike at 2.0mbgl.
Groundwater resting at 2.1mbgl after 10 mins.
Hole collapse from 4.0m to 3.3mbgl.

Borehole Log

Borehole No. **DS106**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 25/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276537.96 N188669.21
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 8.06m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20 - 0.60	ES					Dark brown and black mottled slightly sandy slightly gravelly SILT with rare rootlets and pockets of ash. Gravel of brick, slag and wood. (MADE GROUND)
		1.00	SPT	N=23 (1,1/5,6,6,6)				
		1.40 - 1.80	ES					
	▼				1.80	6.26		
		2.00	SPT	N=4 (2,2/1,1,1,1)				Dark brown and black mottled slightly gravelly very sandy SILT. (MADE GROUND)
					2.80	5.26		
		3.00	SPT	N=1 (1 for 375mm/1 for 75mm)				Black slightly sandy silty GRAVEL of slag with a weak organic/ tar odour. (MADE GROUND)
		3.30 - 3.60	ES					
		4.00	SPT	N=1 (1,0/1,0,0,0)				
					4.80	3.26		Brownish grey fine to medium SAND. (TIDAL FLAT DEPOSITS)
		5.00	SPT	N=1 (1 for 300mm/1 for 150mm)	5.00	3.06		End of Borehole at 5.00m

Remarks:

Groundwater strike at 1.8mbgl.
Groundwater resting at 1.8mbgl after 10 mins.

Borehole Log

Borehole No. **DS107**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 25/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276490.12 N188588.89
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 8.08m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20 - 0.50	ES					Dark brown and black mottled slightly gravelly sandy SILT with rare rootlets, roots (2-5mm diameter) and pockets of ash. Gravel of slag. (MADE GROUND)
					0.50	7.58		Brown and yellowish brown mottled fine to medium SAND. (TIDAL FLAT DEPOSITS)
	▽	1.00	SPT	N=5 (1,2/1,2,1,1)				
		1.50 - 1.80	ES					
		2.00	SPT	N=1 (1 for 300mm/1 for 150mm)	2.00	6.08		Soft grey CLAY with occasional pockets of brown pesudo-fibrous PEAT. (TIDAL FLAT DEPOSITS)
		2.60	HV	13 kPa				
		3.00	SPT	N=0 (1 for 450mm/0 for 0mm)				
		3.60	HV	14 kPa				
		4.00	SPT	N=2 (1,0/1,0,1,0)				
		4.60	HV	11 kPa				
		5.00	SPT	N=4 (1,0/1,1,1,1)	5.00	3.08		End of Borehole at 5.00m

Remarks:

Groundwater strike at 1.2mbgl.
Groundwater resting at 1.1mbgl after 10 mins.
Reported HSV data is the average of 3 readings.

Borehole Log

Borehole No. **DS108**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 24/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276246.79 N188608.28
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 8.81m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.10 - 0.30	ES					Greyish brown slightly gravelly sandy SILT with occasional rootlets. Gravel of brick, slag and wood. (MADE GROUND)
					0.35	8.46		Soft greyish brown mottled brown slightly sandy CLAY with rare rootlets and decayed rootlets. (TIDAL FLAT DEPOSITS)
		0.80	PP	1.0 kg/cm2				
		0.80	HV	43 kPa				
		1.00	SPT	N=1 (1,0/1,0,0,0)				
		1.60	PP	0.5 kg/cm2				
		1.60	HV	30 kPa				
		1.80 - 2.00	ES					
		2.00	SPT	N=1 (1 for 300mm/1 for 150mm)	1.95	6.86		Light brown fine to medium SAND. (TIDAL FLAT DEPOSITS)
					2.05	6.76		Soft grey CLAY. (TIDAL FLAT DEPOSITS)
		2.60	PP	1.0 kg/cm2	2.60	6.21		Firm grey slightly sandy CLAY. (TIDAL FLAT DEPOSITS)
		2.60	HV	50 kPa				
		2.90	PP	1.0 kg/cm2				
		2.90	HV	52 kPa				
		3.00	SPT	N=5 (1,0/1,1,1,2)				
		3.60	PP	1.0 kg/cm2				
		3.60	HV	35 kPa				
		3.63	HV	30 kPa				
		3.90	PP	1.0 kg/cm2				
		3.90	HV	48 kPa	4.00	4.81		Soft grey very sandy CLAY with occasional pockets of brown amorphous PEAT. (TIDAL FLAT DEPOSITS)
		4.00	SPT	N=6 (1,1/1,1,2,2)				
					4.90	3.91		Greyish brown fine to medium SAND. (TIDAL FLAT DEPOSITS)
		5.00	SPT	N=5 (1,2/1,1,2,1)	5.00	3.81		End of Borehole at 5.00m

Remarks:

Groundwater strike at 1.0mbgl.
Groundwater resting at 1.8mbgl after 10 mins.
Reported HSV data is the average of 3 readings.
Reported PP data is the average of 5 readings.

Borehole Log

Borehole No. **DS109**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 24/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276536.94 N188528.25
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 7.96m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20 - 0.40	ES					Dark brown slightly sandy slightly gravelly SILT with rare rootlets and occasional pockets of soft dark brown clay. Gravel of brick, glass and concrete. (MADE GROUND)
					0.60	7.36		Dark brown slightly sandy GRAVEL of brick, concrete and slag. (MADE GROUND)
					0.90	7.06		Light brown fine to medium SAND. (WIND BLOWN SAND)
		1.20	SPT	N=18 (2,2/3,4,5,6)				
		1.40 - 1.60	D					
		1.40 - 1.60	ES					
		2.00	SPT	N=0 (1 for 450mm/0 for 0mm)	2.00	5.96		End of Borehole at 2.00m

1 2 3 4 5 6

Remarks:

Groundwater strike at 1.2mbgl.
Groundwater resting at 0.65mbgl after 10 mins.
Terminated at 2.0mbgl due to blowing sands.

Borehole Log

Borehole No. **DS110**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 24/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276274.64 N188708.85
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 8.01m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20 - 0.60	ES					Dark brown and black mottled slightly sandy gravelly SILT with rare rootlets. Gravel of brick, slag and wood. (MADE GROUND)
		1.00	SPT	N=14 (2,2/3,3,2,6)				
		1.60 - 2.00	ES		1.60	6.41		Black slightly sandy very gravelly SILT. Gravel of slag. (MADE GROUND)
		2.00	SPT	N=9 (2,3/3,3,2,1)				
		3.00	SPT	N=2 (2 for 225mm/2 for 225mm)	2.60	5.41		Black and dark reddish brown mottled slightly sandy GRAVEL of slag and brick. (MADE GROUND)
		4.00	SPT	N=1 (1 for 300mm/1 for 150mm)	3.80 4.00	4.21 4.01		Soft dark grey and black mottled organic CLAY with frequent decayed rootlets. (TIDAL FLAT DEPOSITS) Very soft to soft grey sandy CLAY. (TIDAL FLAT DEPOSITS)
		4.80 4.80 5.00	PP HV SPT	0.5 kg/cm2 18 kPa N=3 (1,0/1,0,1,1)	5.00	3.01		End of Borehole at 5.00m

Remarks:

Groundwater strike at 1.6mbgl.
Groundwater resting at 1.3mbgl after 10 mins.
Reported HSV data is the average of 3 readings.
Reported PP data is the average of 5 readings.

Borehole Log

Borehole No.
DS111A
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 24/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276388.00 N188660.11
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 8.29m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30 - 0.70	ES					Dark brown, black and grey mottled slightly sandy slightly gravelly SILT with rare rootlets. Gravel of brick and slag. (MADE GROUND) *Blue textile membrane*
		1.00	SPT	N=34 (11,14/11,9,7,7)				
		1.50	SPT	N=50 (16,23/50 for 135mm)	1.50	6.79		End of Borehole at 1.50m

Remarks:
Refusal at 1.5mbgl on suspected brick cobble.

Borehole Log

Borehole No.
DS111B
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 24/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276388.00 N188660.11
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 8.29m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.60	SPT	N=50 (16,22/50 for 255mm)	0.60	7.69		Dark brown, black and grey mottled slightly sandy slightly gravelly SILT with rare rootlets. Gravel of brick and slag. (MADE GROUND)
								End of Borehole at 0.60m

1
2
3
4
5
6

Remarks:
Refusal at 0.6mbgl on suspected cobble of slag.

Borehole Log

Borehole No. **DS112**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 24/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276326.26 N188665.34
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 8.64m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20 - 0.60	ES					Dark brown and black mottled slightly sandy slightly gravelly SILT with rare rootlets. Gravel of slag and brick. (MADE GROUND)
					0.70	7.94		Light brown fine to medium SAND. (MADE GROUN)
		1.00	SPT	N=24 (6,6/7,6,6,5)	0.90	7.74		Dark brown and black mottled slightly gravelly sandy SILT. Gravel of slag and brick. (MADE GROUND)
		1.40 - 1.70	ES					
	▼	2.00	SPT	N=6 (1,1/2,1,1,2)	2.00	6.64		Dark grey and black mottled slightly gravelly very sandy CLAY. Gravel of brick and slag. (MADE GROUND)
		3.00	SPT	N=7 (1,1/2,1,3,1)	3.00	5.64		Black slightly gravelly sandy CLAY with rare decayed rootlets/plant matter and strong organic/tar odour. (TIDAL FLAT DEPOSITS)
		3.40 - 3.70	ES					
		4.00	SPT	N=5 (1,1/1,2,1,1)	3.90	4.74		Dark brownish grey fine to medium SAND with distinct organic/tar odour. (TIDAL FLAT DEPOSITS)
		5.00	SPT	N=2 (1,0/1,0,1,0)				
		5.80 - 6.00	ES		5.80	2.84		
					5.90	2.74		Light greyish brown fine to medium SAND. (TIDAL FLAT DEPOSITS)
		6.00	SPT	N=4 (1,1/1,1,1,1)	6.00	2.64		Soft dark brownish grey CLAY. (TIDAL FLAT DEPOSITS)
								End of Borehole at 6.00m

Remarks:

Groundwater strike at 2.0mbgl.
Groundwater resting at 4.5mbgl after 10 mins.

Borehole Log

Borehole No. **DS113**

Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 25/05/2023
Location: Port Talbot	Contractor: Apex Drilling Services	Co-ords: E276481.91 N188627.20
Project No. 2111006.005	Drilling Equipment: Archway competitor	Level: 7.29m AOD
Hole Type: WS	Logged By: MT	Scale: 1:33

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.10 - 0.50	ES		0.30	6.99		Dark brown and black mottled slightly gravelly slightly clayey SILT. Gravel of wood, brick and slag. (MADE GROUND)
					0.75	6.54		Multicoloured slightly sandy silty GRAVEL of brick and slag. (MADE GROUND)
	▼	1.00	SPT	N=6 (1,2/1,2,1,2)				Brownish grey clayey fine to medium SAND. (TIDAL FLAT DEPOSITS)
		1.40 - 1.70	ES					
		2.00	SPT	N=0 (1 for 450mm/0 for 0mm)				
		3.00	SPT	N=0 (1 for 450mm/0 for 0mm)				
		4.00	SPT	N=1 (1 for 375mm/1 for 75mm)				
		5.00	SPT	N=2 (1,0/1,0,0,1)	5.00	2.29		End of Borehole at 5.00m

Remarks:

Groundwater strike at 1.1mbgl.
Groundwater resting at 0.9mbgl after 10 mins.

Trial Pit Log

Trial Pit No. **TP101** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 15/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276191.59 N188690.16
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.48m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.40 - 0.60	ES					MADE GROUND: Dark brown silty very sandy gravel with occasional rootlets and roots up to 25mm and low cobble content. Gravel of brick, slag, clinker, concrete, metal fragments, glass and wood fragments. Cobbles of concrete and slag.
	0.80	D					
▽	1.80 - 2.20	ES					
				2.50	5.98		End of Trial Pit at 2.50m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.20	0.90	Unstable.						

Remarks:
Collapsing sides from 1.7m. Groundwater encountered at 1.7m, resting at 1.8m after 10minutes.

Trial Pit Log

Trial Pit No. **TP102** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 15/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276234.52 N188608.81
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.92m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
				0.25	8.67		MADE GROUND: Dark brown slightly sandy gravelly silt with occasional rootlets and roots up to 15mm. Gravel of brick, porcelain fragments and wood fragments.
	0.40 - 0.60	ES					Yellowish brown to light brown slightly clayey gravelly silty SAND with occasional pockets of silty clay. Sand is fine to medium grained. Gravel of fine to coarse angular to subangular sandstone (TIDAL FLAT DEPOSITS)
	0.60 - 1.20	B					
				1.00	7.92		Soft to locally firm greyish brown mottled orangish brown sandy silty CLAY with occasional lenses of fine to medium grained sand. (TIDAL FLAT DEPOSITS)
	1.60 - 2.00	ES					
▽	1.80	D					
				2.10	6.82		Soft greyish brown mottled dark grey sandy silty CLAY with rare to occasional pockets of amorphous to pseudofibrous peat. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
				2.60	6.32		End of Trial Pit at 2.60m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.00	0.90	Unstable.						

Remarks:
Collapsing sides from 0.8m. Groundwater encountered at 1.9m, resting at 2.4m after 10minutes. Terminated due to collapsing sides.

Trial Pit Log

Trial Pit No.
TP103
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 24/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276279.26 N188748.37
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 7.98m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
				0.50	7.48		MADE GROUND: Brown to greyish brown slightly gravelly sandy silt with rare rootlets and roots up to 14mm and low cobble content. Gravel of brick, plastic, wood fragments, coke, metal fragments and plastic. Cobbles of brick.
							End of Trial Pit at 0.50m

1
2
3
4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.80	0.75	Stable.						

Remarks:
No groundwater encountered. Terminated at depth due to encountered service tape (blue).

AGS

Trial Pit Log

Trial Pit No.
TP103A
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 24/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276279.26 N188748.37
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 7.98m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.50	D					MADE GROUND: Brown to greyish brown slightly gravelly sandy silt with rare rootlets and roots up to 14mm and low cobble content. Gravel of brick, plastic, wood fragments, coke, metal fragments and plastic. Cobbles of brick and concrete.
	0.60 - 0.80	ES		0.60	7.38		MADE GROUND: Dark brown and greyish brown slightly gravelly silty sand with low cobble and boulder content. Gravel of coke, slag, rubber, plastic, clinker and brick. Cobbles and boulders of coke and concrete.
	1.20 - 1.80	B					
	1.80 - 2.00	ES					
				2.00	5.98		End of Trial Pit at 2.00m

1
2
3
4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.90	0.75	Unstable.						

Remarks:
Groundwater (slight seepage) encountered at 1.8m, remaining dry after 10minutes. Terminated due to metal lintels/ columns.

Trial Pit Log

Trial Pit No. **TP104** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 15/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276313.46 N188585.62
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.26m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.20 - 0.60	ES					MADE GROUND: Dark brown slightly gravelly sandy silt with rare rootlets and roots up to 25mm. Gravel of wood fragments, sandstone, brick, slag and plastic.
				0.75	7.51		
	1.00	D					Soft to locally firm low to medium strength sandy CLAY and (loose) yellowish brown, light brown and grey slightly clayey silty SAND with occasional pockets of silty clay. Sand is fine to medium grained. (WIND BLOWN SAND)
	1.00 - 1.40	B					
	1.20	PP	0.6 kg/cm2				
	1.20	HV	41 kPa				
▽				1.60	6.66		Soft grey mottled dark grey sandy silty CLAY with occasional pockets of amorphous peat. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
	1.80 - 2.20	ES					
▼				3.60	4.66		End of Trial Pit at 3.60m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.20	0.90	Stable.						

Remarks:
Groundwater encountered at 1.5m, resting at 3.4m after 10minutes.

Trial Pit Log

Trial Pit No. **TP105** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 17/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276378.51 N188660.27
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.21m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.20 - 0.40	ES					MADE GROUND: Brown to dark brown slightly sandy gravelly silt with occasional roots up to 20mm. Gravel of slag, metal wire and brick.
				0.65	7.56		MADE GROUND: Yellowish brown and grey slightly sandy gravel of slag.
				0.85	7.36		MADE GROUND: Brownish grey and brown slightly clayey silty very sandy gravel with low cobble content. Gravel of slag, coke, brick, plastic, tile, metal wire, metal fragments, glass, concrete and porcelain fragments.
	1.00 - 1.40	B					
	1.60 - 1.80	ES					
				2.20	6.01		End of Trial Pit at 2.20m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.00	0.80	Stable.						

Remarks:
Groundwater encountered at 0.75m, resting at 1.55m after 10minutes.

Trial Pit Log

Trial Pit No.
TP106
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 15/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276364.92 N188726.68
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.73m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.40 - 0.60	ES					MADE GROUND: Black slightly clayey silty gravelly sand with occasional pockets of clay, rare rootlets and roots up to 35mm and low cobble and boulder content. Gravel of coke, slag, glass, rubber, plastic, concrete, tiles, brick and wood fragments.
▽	1.00	D					
				1.40	7.33		MADE GROUND: Dark grey gravel with low cobble content. Gravel of brick, tiles and concrete. Cobbles of concrete.
				1.50	7.23		End of Trial Pit at 1.60m

1
2
3
4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.40	0.90	Unstable.						

Remarks:
Groundwater encountered at 1.25m, resting at 1.3m after 10minutes. Terminated on concrete slab.

Trial Pit Log

Trial Pit No. **TP107** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 16/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276472.99 N188638.82
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 6.72m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
							MADE GROUND: Dark brown mottled greyish brown slightly gravelly very sandy silt. Gravel of wood fragments, coke, brick and glass.
				0.50	6.22		Yellowish brown silty fine to medium grained SAND.
				0.70	6.02		Light brown and greyish brown slightly clayey silty SAND. Sand is fine to medium grained.
				2.00	4.72		End of Trial Pit at 2.00m

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.00	0.80	Unstable.						

Remarks:
Collapsing sides from 0.7m. Groundwater encountered at 0.6m, resting at 1.0m after 10minutes. Terminated at depth due to rapid ingress of groundwater.

Trial Pit Log

Trial Pit No. **TP108** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 15/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276498.20 N188700.10
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 7.28m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
▽	0.40 - 0.60	ES					MADE GROUND: Dark brown slightly clayey slightly gravelly sandy silt with occasional rootlets and roots up to 32mm. Gravel of wood fragments, sandstone, plastic, brick and terracotta.
				0.70	6.58		MADE GROUND: Grey gravelly sand with low to medium boulder content. Gravel of concrete, slag and brick. Boulders of brick walls and brick footings.
	1.20	D					
	1.50 - 1.60	ES					
				1.80	5.48		End of Trial Pit at 1.80m

1
2
3
4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.30	1.00	Unstable.						

Remarks:
Groundwater encountered at 0.7m, resting at 0.9m after 10minutes. Terminated due to refusal on boulders of concrete.

Trial Pit Log

Trial Pit No. **TP109** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 15/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276500.71 N188748.61
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 6.86m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.20 - 0.40	ES					MADE GROUND: Dark brown slightly clayey slightly gravelly sandy silt with frequent rootlets and roots up to 12mm and low cobble and boulder content. Gravel of brick and concrete. Cobbles and boulders of concrete.
				0.60	6.26		Light brown slightly silty clayey SAND with occasional pockets of silty clay and moderately strong organic/? hydrocarbon odour. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
▼	1.50	D					
	2.40 - 2.60	ES					
				3.00	3.86		End of Trial Pit at 3.00m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.40	1.00	Unstable.						

Remarks:
Collapsing sides from 1.6m. Groundwater encountered at 1.6m, resting at 1.6m after 10minutes.

Trial Pit Log

Trial Pit No. **TP110** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 17/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276534.01 N188517.91
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 7.74m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.40 - 0.60	ES					MADE GROUND: Brown to dark brown slightly gravelly sandy silt with rare rootlets and roots up to 35mm. Gravel of wood fragments, coke, brick, slag and porcelain fragments.
				0.85	6.89		
	1.00 - 1.40	B					Light brown fine to medium grained SAND. (WIND BLOWN SAND)
	1.80	D					
	2.00 - 2.20	ES					
				2.50	5.24		End of Trial Pit at 2.50m

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.00	1.20	Unstable.						

Remarks:
Collapsing sides from 0.9m. Groundwater encountered at 0.7m, resting at 0.8m after 10minutes. Terminated due to collapsing sides.

Trial Pit Log

Trial Pit No. **TP111** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 17/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276547.94 N188564.50
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.52m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.40 - 0.60	ES					MADE GROUND: Dark grey slightly silty sandy gravel. Gravel of coke, slag, brick, glass, porcelain fragments and metal fragments.
				0.70	7.82		
				0.90	7.62		MADE GROUND: Brown slightly gravelly sand with low cobble content. Gravel plastic, brick and metal wire and cables. Cobbles of brick.
	1.00 - 1.40	B					(Very loose to loose) Yellowish brown and light brown slightly clayey slightly silty fine to medium grained SAND. (WIND BLOWN SAND)
	1.60 - 1.80	ES					
				2.00	6.52		End of Trial Pit at 2.00m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.30	1.20	Unstable.						

Remarks:
Collapsing sides from 0.4m. Groundwater encountered at 1.2m, resting at 0.8m after 10minutes. Terminated due to collapsing sides.

Trial Pit Log

Trial Pit No. **TP112** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 16/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276590.85 N188696.22
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 7.64m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
							MADE GROUND: Dark brown to greyish brown silty gravelly sand with rare rootlets and roots up to 20mm and low cobble content. Gravel of slag, tiles, brick and concrete.
				0.50	7.14		MADE GROUND: Light brown and grey slightly sandy gravel with medium cobble and boulder content. Gravel of brick, concrete and coke. Cobbles and boulders of brick walls and brick footings.
				0.80	6.84		MADE GROUND: Black slightly sandy gravel with white lime at southern end of trial pit. Gravel of coke and slag.
▼	0.90 - 1.20	ES					
	1.80	D					
				2.50	5.14		End of Trial Pit at 2.50m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.40	0.80	Unstable.						

Remarks:
Collapsing sides from 1.5m. Groundwater encountered at 1.1m, resting at 1.1m after 10minutes.

Trial Pit Log

Trial Pit No. **TP113** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 15/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276379.77 N188623.54
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.51m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.40 - 0.80	B					MADE GROUND: Dark brown silty gravelly sand rare rootlets and roots up to 15mm. And low boulders content. Gravel of brick, concrete, plastic, slag, wood fragments, railway sleeper, metal wire and metal fragments. Boulder of concrete.
	0.60	D					
	0.80 - 1.00	ES		0.80	7.71		
▽							MADE GROUND: Light grey and light blue slightly gravelly slightly sandy silt. Gravel of concrete, clinker, wood fragments, blue crystallised salts and pink crystallised salts.
	1.50	D					
	1.80 - 2.00	ES					
▽				2.50	6.01		End of Trial Pit at 2.50m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
3.00	0.90	Unstable.						

Remarks:
Collapsing sides from 1.3m. Groundwater encountered at 1.1m, resting at 2.2m after 10minutes. Terminated due to collapsing sides.

Trial Pit Log

Trial Pit No. **TP114** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 17/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276434.02 N188547.84
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.01m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.40 - 0.60	ES		0.60	7.41		MADE GROUND: Brown to dark brown slightly gravelly sandy silt with rare rootlets and roots up to 25mm. Gravel of wood fragments, brick, slag and porcelain fragments.
▽	0.80 - 1.20	B					Light brown slightly clayey slightly silty fine to medium grained SAND. (WIND BLOWN SAND)
				2.50	5.51		End of Trial Pit at 2.50m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.40	1.00	Unstable.						

Remarks:
Collapsing sides from 0.3m. Groundwater encountered at 0.6m, resting at 1.0m after 10minutes. Terminated due to collapsing sides.

Trial Pit Log

Trial Pit No. **TP115** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 16/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276396.65 N188660.99
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.23m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.30 - 0.50	ES					MADE GROUND: Dark brown slightly gravelly slightly sandy silt with rare rootlets and roots up to 35mm and low cobble content. Gravel of coke, plastic, brick, siltstone and wood fragments. Cobbles of concrete.
				0.95	7.28		MADE GROUND: Dark brown to dark grey gravelly silty sand with low cobble content. Gravel of concrete, brick and slag. Cobbles of brick and concrete.
▽	1.40	ES					
				2.00	6.23		Light brown to light grey silty fine grained SAND. (TIDAL FLAT DEPOSITS)
	2.20	D					
				2.50	5.73		End of Trial Pit at 2.50m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.20	0.75	Unstable.						

Remarks:
Collapsing sides from 1.1m. Groundwater encountered at 1.4m, resting at 1.8m after 10minutes. Terminated due to collapsing sides.

Trial Pit Log

Trial Pit No. **TP116** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 15/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276221.65 N188622.31
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 9.69m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
				0.15	9.54		MADE GROUND: Dark brown slightly gravelly sandy silt with rare rootlets and roots up to 12mm. Gravel of wood fragments, sandstone and brick.
	0.40 - 0.60	ES					Light brown and yellowish brown slightly clayey silty SAND with occasional pockets of silty clay. Sand is fine grained. (WIND BLOWN SAND)
	0.60 - 1.20	B					
	1.40 - 1.80	D		1.40	8.29		Soft greyish brown mottled orangish brown and brown becoming light grey mottled blueish grey slightly sandy silty CLAY with occasional pockets of pseudofibrous to amorphous peat. (TIDAL FLAT DEPOSITS)
	1.80 - 2.40	ES					
	2.50	B					
				3.50	6.19		End of Trial Pit at 3.50m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
1.90	0.90	Stable.						

Remarks:
Collapsing sides from 0.4m. Groundwater encountered at 1.5m, resting at 2.4m after 10minutes.

Trial Pit Log

Trial Pit No. **TP117** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 16/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276527.66 N188625.62
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.30m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
							MADE GROUND: Dark grey slightly clayey slightly gravelly sandy silt with occasional rootlets and roots up to 25mm. Gravel of slag, coke, brick, wood fragments and porcelain fragments.
				0.90	7.40		Grey CONCRETE SLAB.
	1.30 - 1.50	ES		1.20	7.10		MADE GROUND: Black to dark grey silty sandy gravel with moderately strong hydrocarbon odour. Gravel of coke, brick and wood fragments.
▽	1.80 - 2.00	ES		1.60	6.70		Grey to greenish grey slightly clayey SAND with occasional pockets of clay, amorphous to pseudofibrous peat and weak organic odour. Sand is fine medium grained. (TIDAL FLAT DEPOSITS)
	2.80	D					
				3.00	5.30		End of Trial Pit at 3.00m

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
6.20	0.90	Unstable.						

Remarks:
Collapsing sides from 1.7m. Groundwater encountered at 1.8m, resting at 2.4m after 10minutes.

Trial Pit Log

Trial Pit No. **TP118** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 26/04/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276342.10 N188729.31
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.24m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.50 - 0.80	ES					MADE GROUND: Dark grey to greyish brown very silty sandy gravel with low cobble content and occasional rootlets and roots to 25mm in diameter. Gravel of brick, concrete, slag and coke. Cobbles of brick and concrete.
				1.10	7.14		
	1.50	D					MADE GROUND: Dark grey, grey and yellowish brown slightly silty sandy gravel with low cobble and boulder content. Gravel of clinker, coke, slag, metal fragments, concrete, brick, glass, wood fragments, rubber and fabric (cloth). Cobbles and boulders of concrete.
				1.80	6.44		End of Trial Pit at 1.80m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.30	1.00	Stable.						

Remarks:
Groundwater encountered at 0.7m, resting at 0.9m after 10minutes. Terminated due to refusal on boulders of concrete.

Trial Pit Log

Trial Pit No.
TP119
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 16/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276590.97 N188729.98
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 7.08m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
				0.00	7.08		MADE GROUND: Dark brown grey and black mottled slightly gravelly sandy silt with rare roots up to 15mm. Gravel of brick, coke, concrete, plastic, metal fragments, metal piping, and metal wire.
▼	0.60 - 0.80	ES		0.55	6.53		MADE GROUND: Black slightly gravelly silty sand. Gravel of coke and brick.
				1.20	5.88		MADE GROUND: Black to dark grey slightly silty sandy gravel with low cobble content. Gravel of coke, slag, brick, wood fragments and metal fragments. Cobbles of coke, wood fragments and brick.
	1.80 - 2.20	ES					
	2.50	D					
				2.80	4.28		End of Trial Pit at 2.80m

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.30	0.50	Unstable.						

Remarks:
Collapsing sides from 0.4m. Groundwater encountered at 0.6m, resting at 0.6m after 10minutes. Terminated due to collapsing sides.

Trial Pit Log

Trial Pit No. **TP120** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 16/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276534.15 N188738.80
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 7.18m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
				0.10	7.08		MADE GROUND: Dark brown slightly sandy silt. Gravel of brick, concrete, plastic and metal fragments.
	0.40 - 0.60	ES		0.40	6.78		MADE GROUND: Brown sandy gravel with medium cobble and low boulder content. Gravel of brick and wood fragments. Cobbles and boulders of concrete.
▽				0.60	6.58		MADE GROUND: Dark brown to dark grey gravelly sandy silt with strong hydrocarbon odour and low cobble content. Gravel of brick slag, wood fragments. Cobbles of brick.
							MADE GROUND: Light brown and light grey clayey sand with weak hydrocarbon odour and low cobble content. Sand is fine to medium grained. Cobbles of brick.
▼	1.80 - 2.00	ES					
	2.20	D					
				2.50	4.68		End of Trial Pit at 2.50m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.20	0.50	Unstable.						

Remarks:
Collapsing sides from 0.8m. Groundwater encountered at 0.65m, resting at 0.16m after 10minutes.

Trial Pit Log

Trial Pit No. **TP121** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 16/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276470.41 N188747.01
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 6.97m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
				0.50	6.47		MADE GROUND: Brown to dark brown slightly gravelly sandy silt. Gravel of wood fragments, brick, coke and metal fragments.
	0.60 - 0.80	ES		0.80	6.17		MADE GROUND: Orangish brown and greyish brown slightly sandy gravel. Gravel of coke and brick.
	1.40 - 1.60	ES		2.00	4.97		MADE GROUND: Brownish grey to brown slightly gravelly sand with low cobble content. Gravel of brick and concrete. Cobbles of brick.
	2.50	D		3.00	3.97		Light brown to brown slightly clayey SAND with occasional pockets of clay. Sand is fine to coarse grained. (TIDAL FLAT DEPOSITS)
							End of Trial Pit at 3.00m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.40	0.60	Unstable.						

Remarks:
Collapsing sides from 0.8m. Groundwater encountered at 0.45m, resting at 0.4m after 10minutes.

Trial Pit Log

Trial Pit No. **TP122** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 26/04/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276254.05 N188690.89
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.49m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.40 - 0.60	ES					MADE GROUND: Dark grey to greyish brown very silty sandy gravel with low cobble content and occasional rootlets and roots to 30mm in diameter. Gravel of clinker, coke, metal fragments and concrete. Cobbles of brick and concrete.
				1.10	7.39		
▽	1.20 - 1.40	ES					MADE GROUND: Yellowish brown and dark grey slightly clayey slightly silty gravelly sand. Sand is fine to medium grained. Gravel of fine to coarse subangular slag.
	1.50	D					
	1.60	D					
				1.80	6.69		End of Trial Pit at 1.80m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
1.60	1.40	Unstable.						

Remarks:
Collapsing sides from 0.5m. Groundwater encountered at 1.4m, resting at 1.3m after 10minutes. Terminated due to collapsing sides.

Trial Pit Log

Trial Pit No. **TP123** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 26/04/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276266.40 N188707.22
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 7.96m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	1.00 - 1.20	ES					MADE GROUND: Dark grey to greyish brown slightly clayey sandy gravelly silt with low cobble and boulder content and occasional rootlets and roots to 40mm in diameter. Gravel of slag, coke, rebar, clinker and brick. Cobbles and boulders of concrete.
	1.80	D		1.60	6.36		MADE GROUND: Black silty sandy gravel with faint putrid odour. Gravel of coke, ?mudstone and rare metal fragments.
				2.00	5.96		End of Trial Pit at 2.00m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.30	1.10	Unstable.						

Remarks:
Collapsing sides from 1.5m. Groundwater encountered at 0.45m, resting at 1.2m after 10minutes. Terminated due to collapsing sides.

Trial Pit Log

Trial Pit No.
TP124
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 24/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276393.06 N188776.96
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 7.62m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.30 - 0.50	ES		0.50	7.12		MADE GROUND: Dark brown and brown slightly gravelly sandy silt with rare roots up to 20mm and low cobble and boulder content. Gravel of wood fragments and brick. Cobble and boulders of concrete.
							End of Trial Pit at 0.50m

1
2
3
4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.40	1.20	Stable.						

Remarks:
No groundwater encountered. Terminated at depth due to encountered services (90mm blue plastic pipe).

Trial Pit Log

Trial Pit No.
TP124A
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 24/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276393.06 N188776.96
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 7.62m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
							MADE GROUND: Brown slightly sandy silt with occasional rootlets. Gravel of coke, plastic, brick.
				0.45	7.17		
				0.60	7.02		MADE GROUND: Yellowish brown to light brown and brownish grey slightly gravelly fine to medium grained sand. Gravel of brick.
							End of Trial Pit at 0.60m

1
2
3
4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.40	1.40	Stable.						

Remarks:
No groundwater encountered. Terminated at depth due to encountered service tape (yellow).

Trial Pit Log

Trial Pit No.
TP125
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 16/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276582.08 N188675.75
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.36m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
				0.10	8.26		MADE GROUND: Wood chipping.
	0.80 - 1.00	ES					MADE GROUND: Brown to dark brown mottled slightly gravelly sandy silt with low cobble and boulder content and rare rootlets and roots up to 20mm. Gravel of coke, brick, concrete, porcelain fragments, light blue crystallised salts, plastic and rubber. Cobbles and boulders of concrete.
	1.20	D					
				1.30	7.06		End of Trial Pit at 1.30m

1
2
3
4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
10.00	0.80	Stable.						

Remarks:
No groundwater encountered. Terminated on conctrete slab.

AGS

Trial Pit Log

Trial Pit No.
TP126
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 16/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276568.51 N188643.40
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.20m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
							MADE GROUND: Brown to dark brown gravel silty sand with rare rootlets and roots up to 6mm. Gravel of tile, brick, coke, slag, concrete and wood fragments.
	0.70 - 1.00	ES		0.65	7.55		MADE GROUND: Brown, dark brown and brownish grey silty sandy gravel with low cobble content. Gravel of brick, concrete, metal fragments, corrugated sheeting (ACM) metal sheeting, metal piping, glass, sandstone, porcelain fragments and clear to off-white crystallised salts. Cobbles of brick and concrete.
				1.10	7.10		End of Trial Pit at 1.10m

1
2
3
4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
9.00	0.90	Stable.						

Remarks:
No groundwater encountered. Terminated on conctrete slab. Concrete column/footing recorded at northern end of trial pit with a width of 1.2m and height of 0.6m.

Trial Pit Log

Trial Pit No. **TP127** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 16/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276493.17 N188635.02
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 7.52m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.40 - 0.60	ES					MADE GROUND: Dark brown silty gravelly sand with rare rootlets and root up to 25mm. Gravel of coke, brick, wood fragments, blue crystallised salts and concrete.
▽				0.80	6.72		
	1.40 - 1.80	ES					Yellowish brown to light brown slightly clayey SAND with rare pockets of silty clay. Sand is fine to medium grained. (TIDAL FLAT DEPOSITS)
	2.00	D					
				2.20	5.32		End of Trial Pit at 2.20m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.20	0.50	Unstable.						

Remarks:
Collapsing sides from 0.3m. Groundwater encountered at 0.8m, resting at 1.4m after 10minutes. Terminated due to collapsing sides.

Trial Pit Log

Trial Pit No. **TP128** Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 16/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276483.11 N188592.44
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.06m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.40 - 0.60	ES		0.60	7.46		MADE GROUND: Dark brown slightly gravelly sandy silt with occasional rootlets and roots up to 32mm. Gravel of clicker, coke and brick.
	1.70 - 1.90	ES		1.90	6.16		Yellowish brown to light brown slightly clayey slightly gravelly SAND with occasional pockets of silty clay. Sand is fine to coarse grained. Gravel of fine to coarse subangular to subrounded sandstone. (WIND BLOWN SAND)
	2.00 2.00	PP HV	0.4 kg/cm2 16 kPa	3.20	4.86		Very soft, very low strength grey to dark grey and greenish grey mottled slightly sandy silty organic CLAY with occasional pockets of amorphous to pseudofibrous peat. (TIDAL FLAT DEPOSITS)
	2.50	D					End of Trial Pit at 3.20m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.00	0.60	Stable.						

Remarks:
Groundwater seepage encountered at 1.0m, resting at 3.0m after 10minutes.

Trial Pit Log

Trial Pit No.
TP129
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 17/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276555.49 N188547.30
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.56m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
				0.15	8.41		MADE GROUND: Brown slightly gravelly sandy silt with rare rootlets and roots up to 15mm. Gravel of wood fragments, brick and slag.
	0.80 - 1.00	ES					MADE GROUND: Brown slightly sandy gravel with high cobble content. Gravel of wood fragments, metal piping, sheeting (PCM) coke, glass, porcelain fragments, plastic, concrete, metal wire, brick, concrete pipe and tile. Cobbles of brick and concrete.
▽				1.20	7.36		Light brown fine to medium grained SAND. (WIND BLOWN SAND)
	1.50	D					
				2.00	6.56		End of Trial Pit at 2.00m

1 2 3 4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.10	1.60	Stable.						

Remarks:
Groundwater encountered at 1.3m, resting at 1.2m after 10minutes.

Trial Pit Log

Trial Pit No.
TP130
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 17/05/2023
Location: Port Talbot	Contractor: Tom Prichards Ltd	Co-ords: E276542.98 N188535.93
Project No. 2111006.005	Drilling Equipment: JCB 3CX	Level: 8.09m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.60 - 0.80	ES					MADE GROUND: Brown to dark brown slightly gravelly sandy silt with rare rootlets and roots up to 25mm. Gravel of wood fragments, metal fragments, plastic, glass, metal rebar, concrete, brick, slag and porcelain fragments.
▽				0.95	7.14		Light brown fine to medium grained SAND with rare decayed rootlets. (WIND BLOWN SAND)
				2.20	5.89		End of Trial Pit at 2.20m

1
2
3
4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
2.20	0.80	Unstable.						

Remarks:
Collapsing sides from 0.7m. Groundwater encountered at 1.0m, resting at 1.1m after 10minutes. Terminated due to collapsing sides.

Trial Pit Log

Trial Pit No.
HP101
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 30/03/2023
Location: Port Talbot	Contractor: TEC	Co-ords: E276509.00 N188599.00
Project No. 2111006.005	Drilling Equipment: Hand tools	Level: 8.20m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.10 - 0.30	ES		0.14	8.06		MADE GROUND: Dark grey slightly clayey sandy gravel. Gravel of slag, coke, wood fragments, sandstone, metal fragments, glass and chert.
▼				0.27	7.93		MADE GROUND: Brown to orangish brown sandy gravel. Gravel of metal fragments, wood fragments, slag and coke.
				0.50	7.70		Yellowish brown to CONCRETE SLAB. Void
				0.90	7.30		MADE GROUND: Dark grey sandy gravel. Gravel of slag, concrete, brick and coke.
				1.00	7.20		End of Trial Pit at 0.90m

1
2
3
4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
0.50	0.50	Stable.						

Remarks:
Groundwater resting at 0.6m.

Trial Pit Log

Trial Pit No.
HP102
Sheet 1 of 1

Project Name: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	Client: LanzaTech UK Limited	Date: 30/03/2023
Location: Port Talbot	Contractor: TEC	Co-ords: E276482.00 N188769.00
Project No. 2111006.005	Drilling Equipment: Hand tools	Level: 7.00m AOD
Hole Type: TP	Logged By: RK	Scale: 1:25

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.05 - 0.10	ES		0.30	6.70		MADE GROUND: Brownish grey slightly gravelly sandy silt. Gravel of wood fragments, limestone, sandstone, plastic with occasional orangish brown and green to yellow algae.
							End of Trial Pit at 0.30m

1
2
3
4

Dimensions		Trial Pit Support		Soakage Testing				
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Test No.	Date Test	Duration (hh:mm)	Soil Infiltration Rate (m/s)	Remarks
0.30	0.30	Stable.						

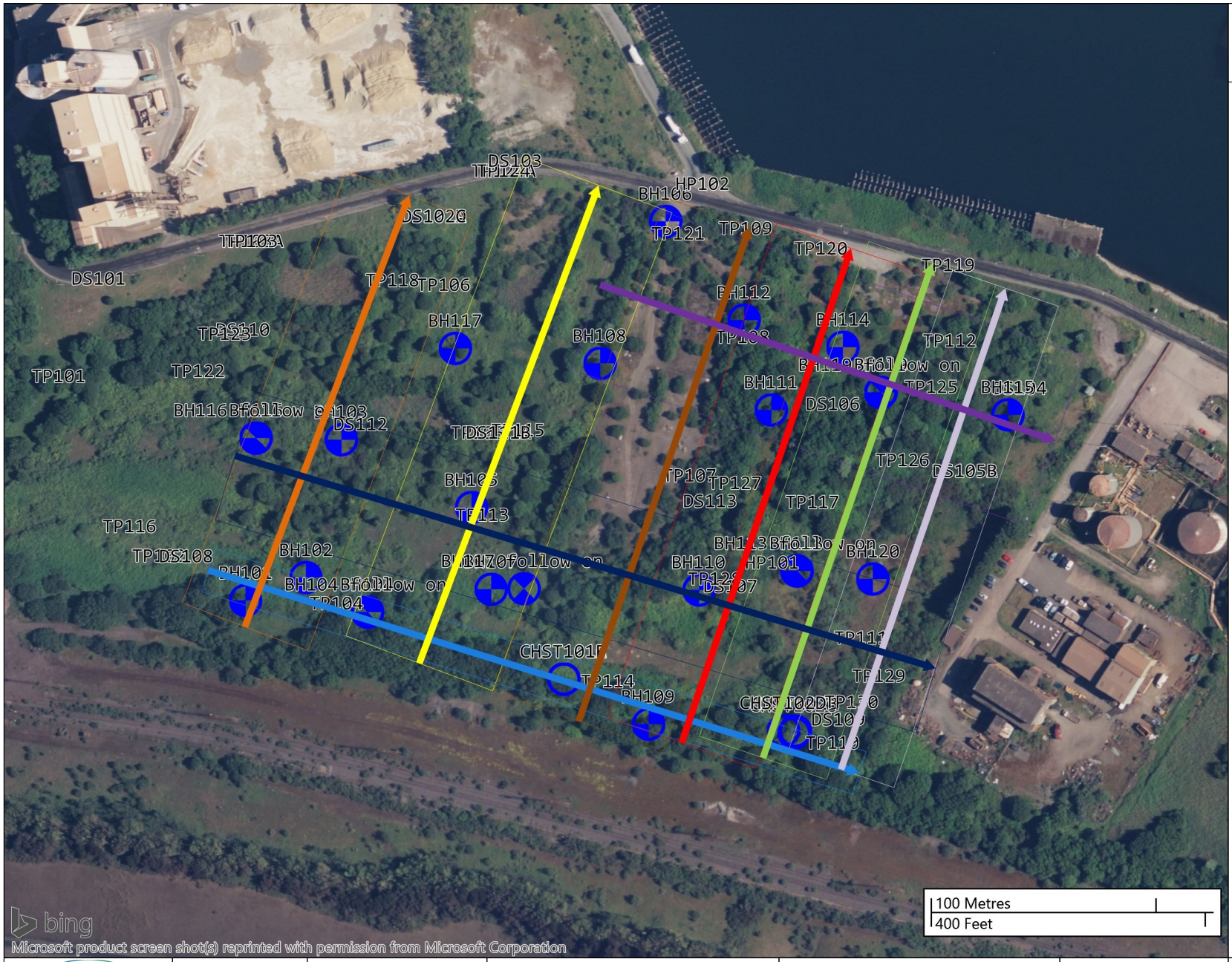
Remarks:
No groundwater encountered.

AGS

Appendix E

Ground Profile Cross-sections

Exploratory Hole Location Plan



Key:

- Sections - Section Line A
- Sections - Section Line B
- Sections - Section Line C
- Sections - Section Line D
- Sections - Section Line E
- Sections - Section Line F
- Sections - Section Line G
- Sections - Section Line H
- Sections - Section Line I
- Locations By Type - CP
- Locations By Type - RC
- Locations By Type - RO

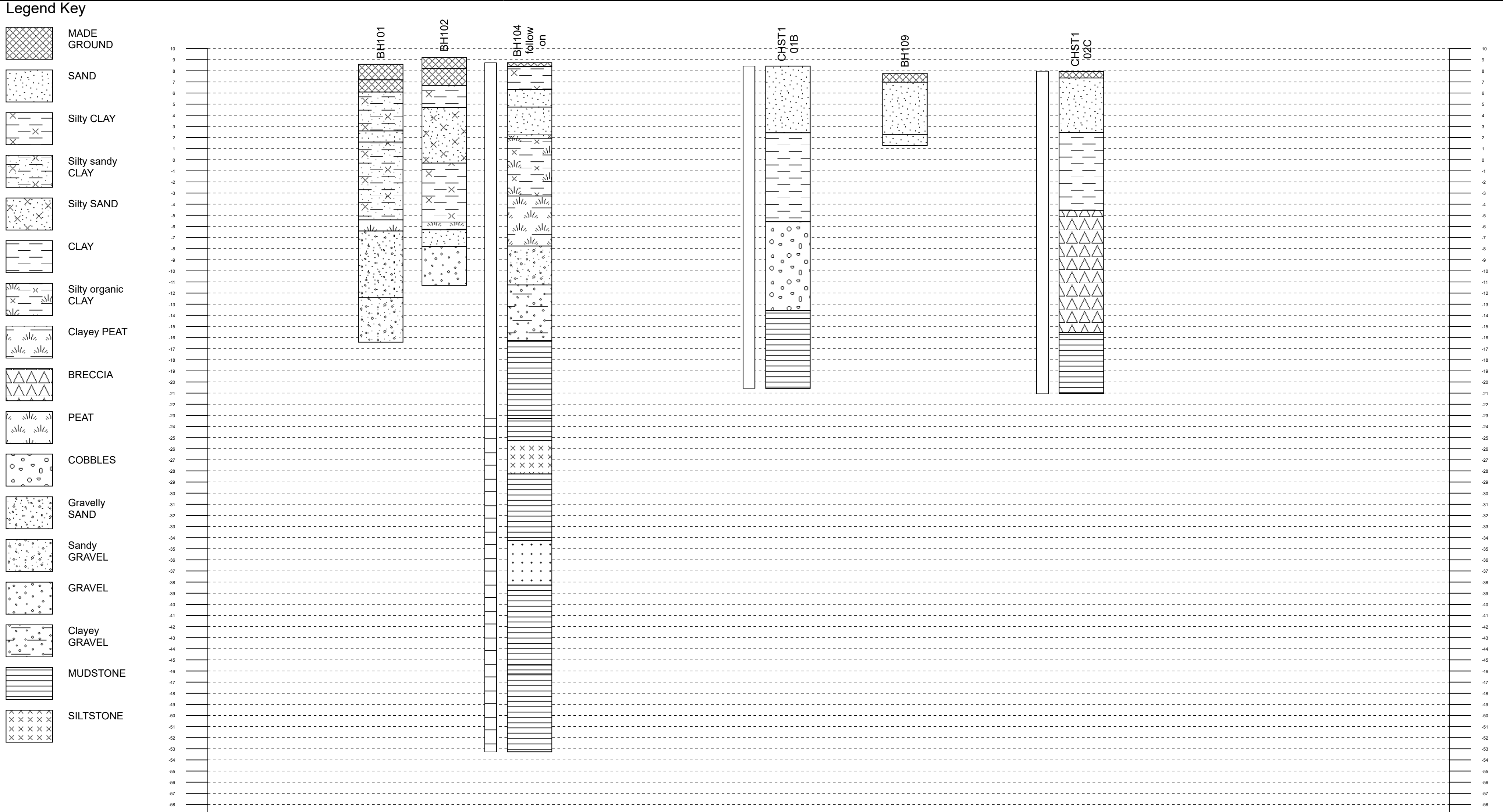
TEC
The Old Chapel
35a Southover
Wells, Somerset
BA5 1UH

Tel: 01749 677760
Email: info@tecon.co.uk
Web: www.tecon.co.uk

Site Name:	Client:	Project No:	Figure No:	Date:	Scale:
Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility	LanzaTech UK Limited	2111006.005		August 2023	1:2500

Project Id: 2111006.005
Project Title: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility
Location: Port Talbot
Client: LanzaTech UK Limited

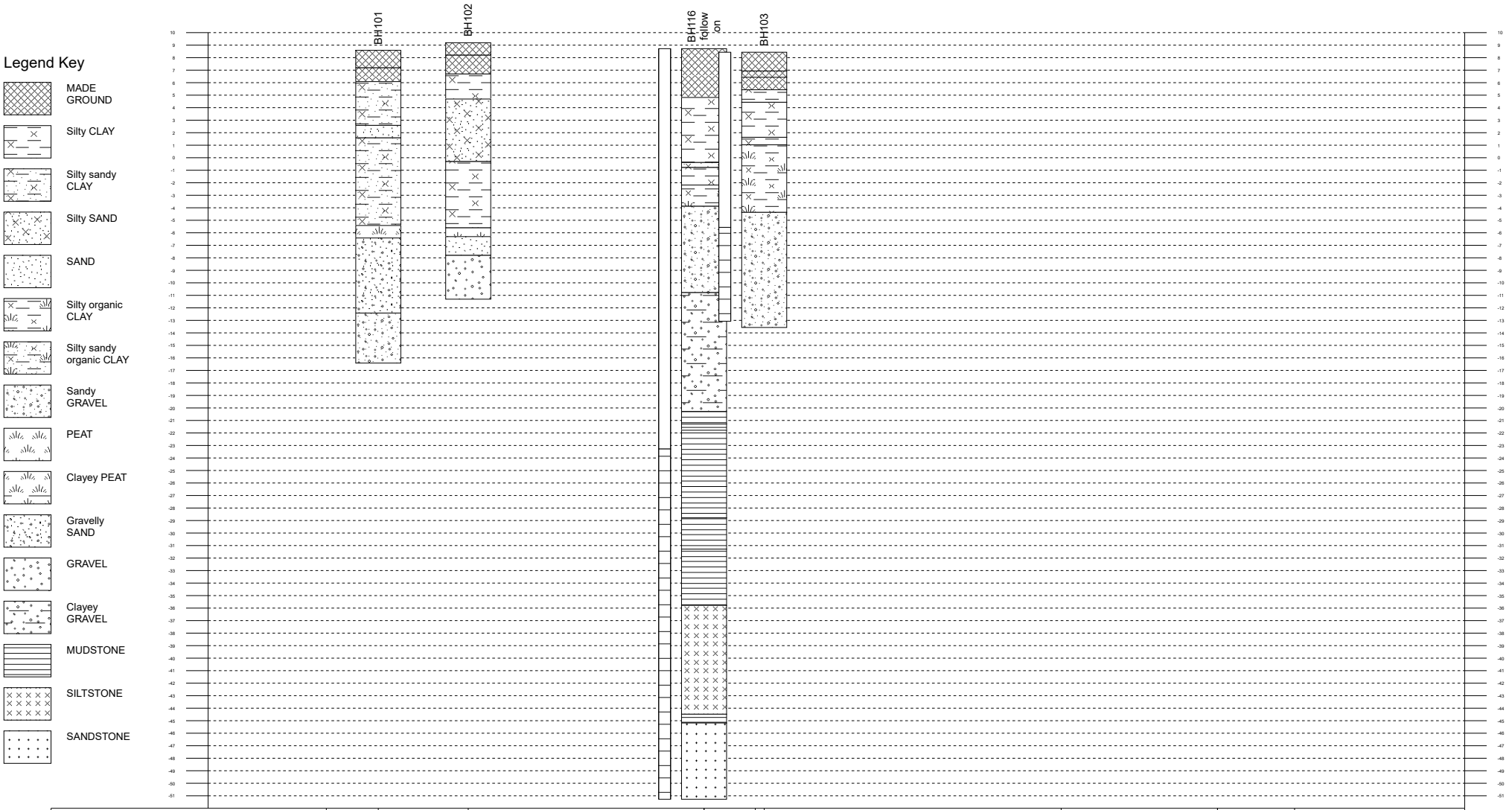
Title: Section Line A
Vertical Scale: 1:500
Horizontal Scale: 1:2000
Engineer: MT/RK/OD



Chainage (m)	0.00	20.18	43.01	63.06	73.70	166.60	189.38	208.68	267.41	[illegible]	[illegible]	305.19
Elevation (mAOD)		7.95	9.80	8.94	3.18	0.65	6.20	7.32	7.88	[illegible]	[illegible]	
Offset (m)		8.59	9.19	8.26	8.73	[illegible]	8.01	7.77	7.93	[illegible]	[illegible]	

Project Id: 2111006.005
Project Title: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility
Location: Port Talbot
Client: LanzaTech UK Limited

Title: Section Line B
Vertical Scale: 1:450
Horizontal Scale: 1:1200
Engineer: MT/RK/OD



Chainage (m)	0.00	11.07	30.24	**80.51**	91.44 99.33	156.63	**189.96**	206.39	
Elevation (mAOD)	3.63	18.02	**25.09**	20.84 10.63	11.22	**18.37**			
Offset (m)	8.59	9.19	**8.72**	8.64 8.43	8.24	**8.25**			

Project Id: 2111006.005

Project Title: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility

Location: Port Talbot

Client: LanzaTech UK Limited

Title: Section Line C

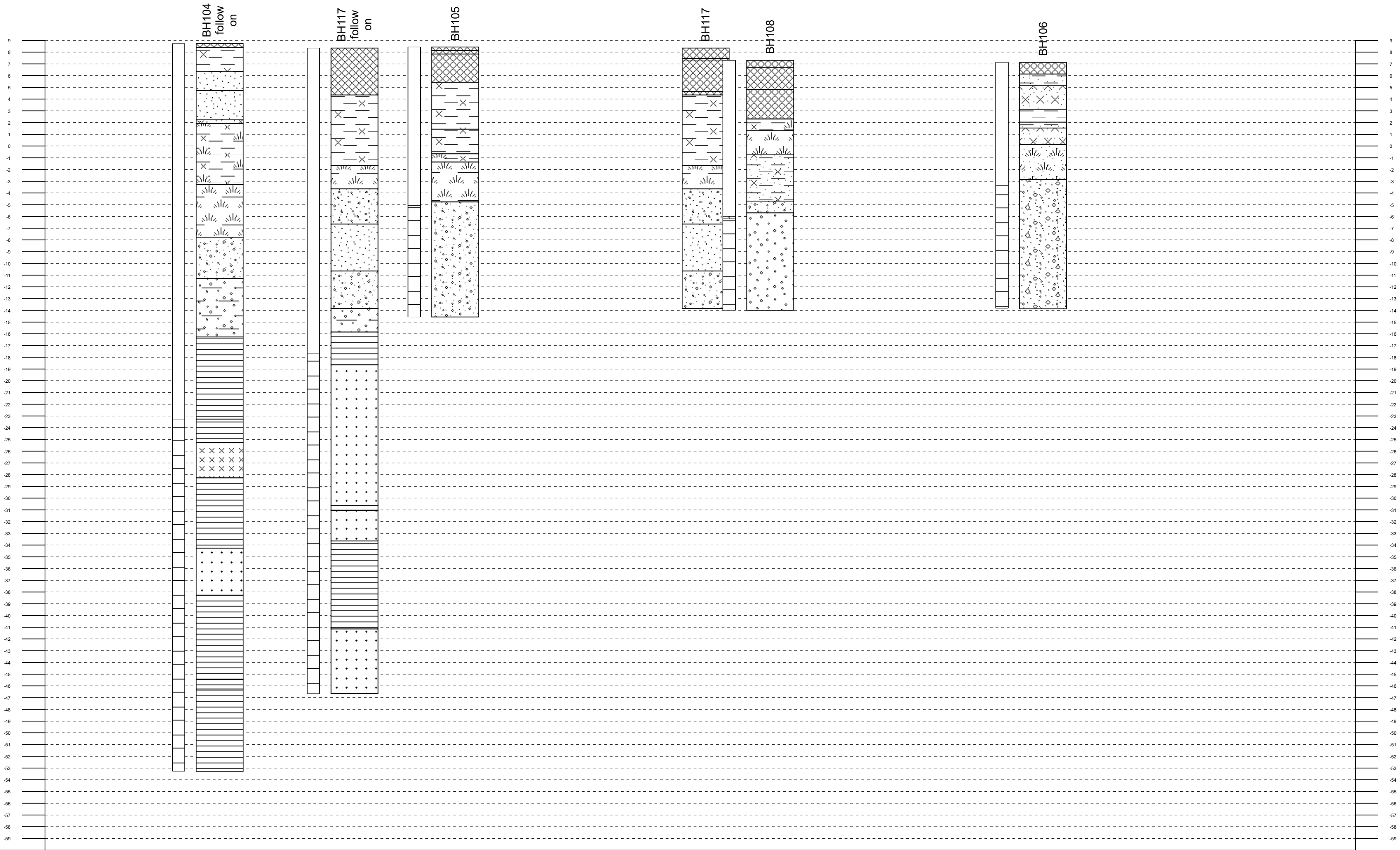
Vertical Scale: 1:500

Horizontal Scale: 1:1500

Engineer: MT/RK/OD

Legend Key

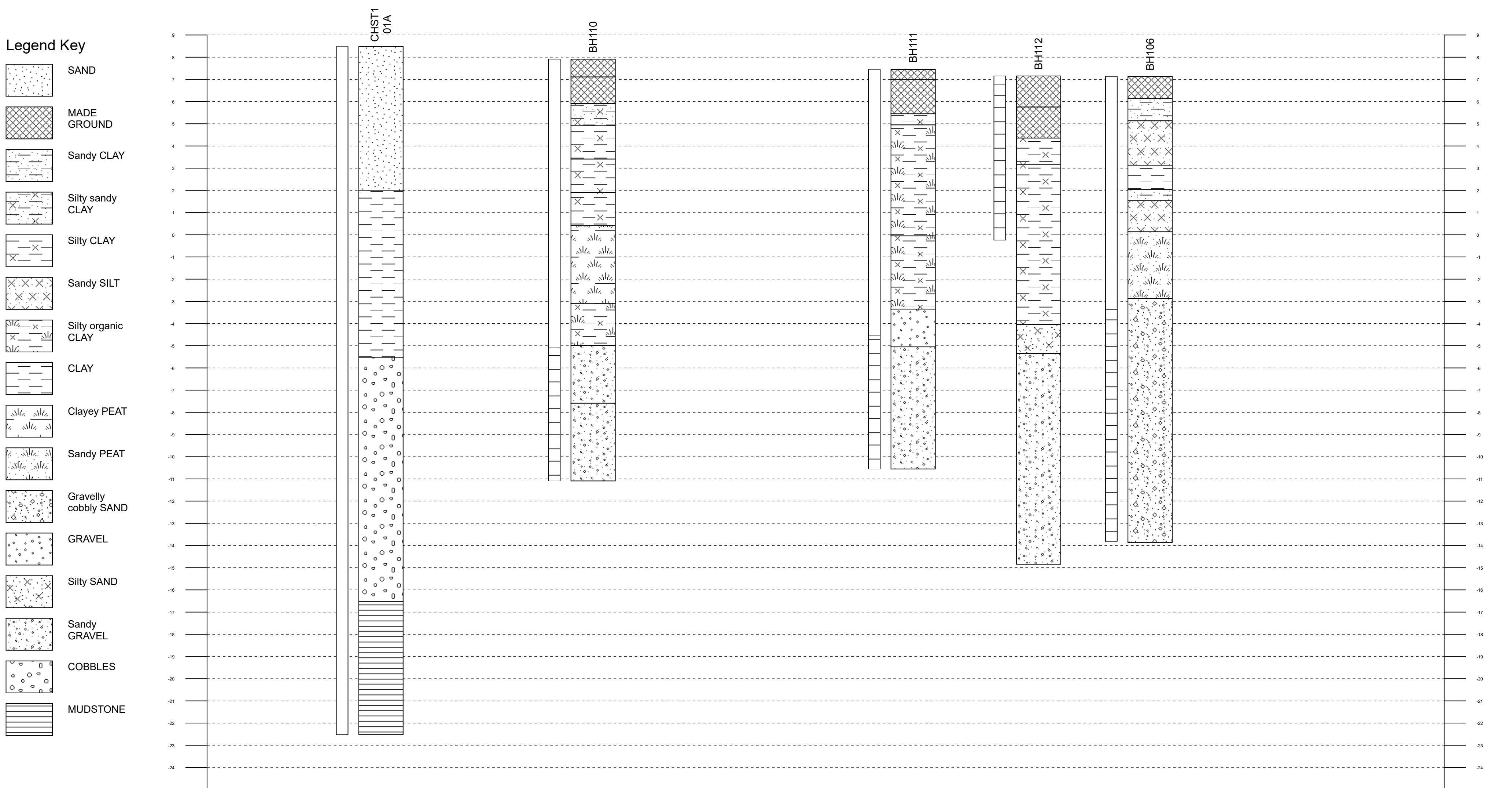
- MADE GROUND
- Silty CLAY
- SAND
- Sandy CLAY
- Sandy SILT
- CLAY
- Silty organic CLAY
- Silty SAND
- Clayey PEAT
- Sandy PEAT
- Silty sandy CLAY
- Gravelly cobbly SAND
- Gravelly SAND
- Sandy GRAVEL
- GRAVEL
- Clayey GRAVEL
- MUDSTONE



Chainage (m)	0.00	13.13	42.15	47.58	60.42	73.33	94.01	97.41	101.46	137.30	153.80	213.65	223.52	228.17
Elevation (mAOD)		29.62	18.61	32.28	7.76	2.39	7.18	1.68	9.37	34.14	28.71	34.07	33.91	
Offset (m)		8.73	8.61	8.35	8.51	8.44	8.21	8.29	8.23	8.35	7.30	7.71	7.13	

Project Id: 2111006.005
Project Title: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility
Location: Port Talbot
Client: LanzaTech UK Limited

Title: Section Line D
Vertical Scale: 1:250
Horizontal Scale: 1:1500
Engineer: MT/RK/OD



Chainage (m)	0.00	[illegible]	15.56	72.98	100.57	108.33	111.84	159.58	174.56	193.53	208.76	220.87	[illegible]	[illegible]
Elevation (mAOD)		[illegible]	12.27	31.78	27.76	15.33	35.57	36.04	17.48	11.46	24.99	2.83	[illegible]	21.84
Offset (m)		[illegible]	[illegible]	7.91	7.29	6.72	7.52	7.45	7.28	7.15	6.97	6.86	[illegible]	7.00

Project Id: 2111006.005

Project Title: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility

Location: Port Talbot

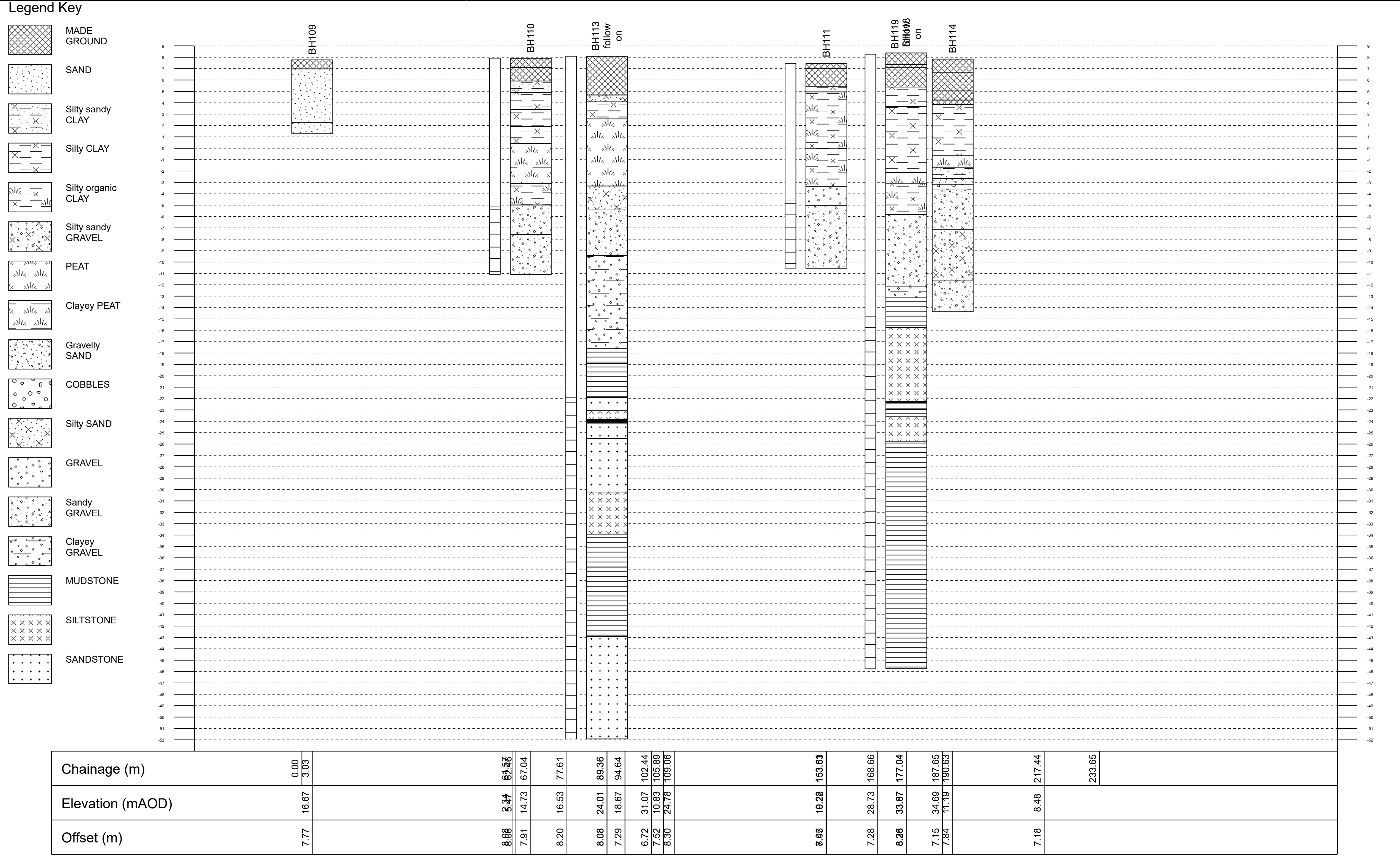
Client: LanzaTech UK Limited

Title: Section Line E

Vertical Scale: 1:450

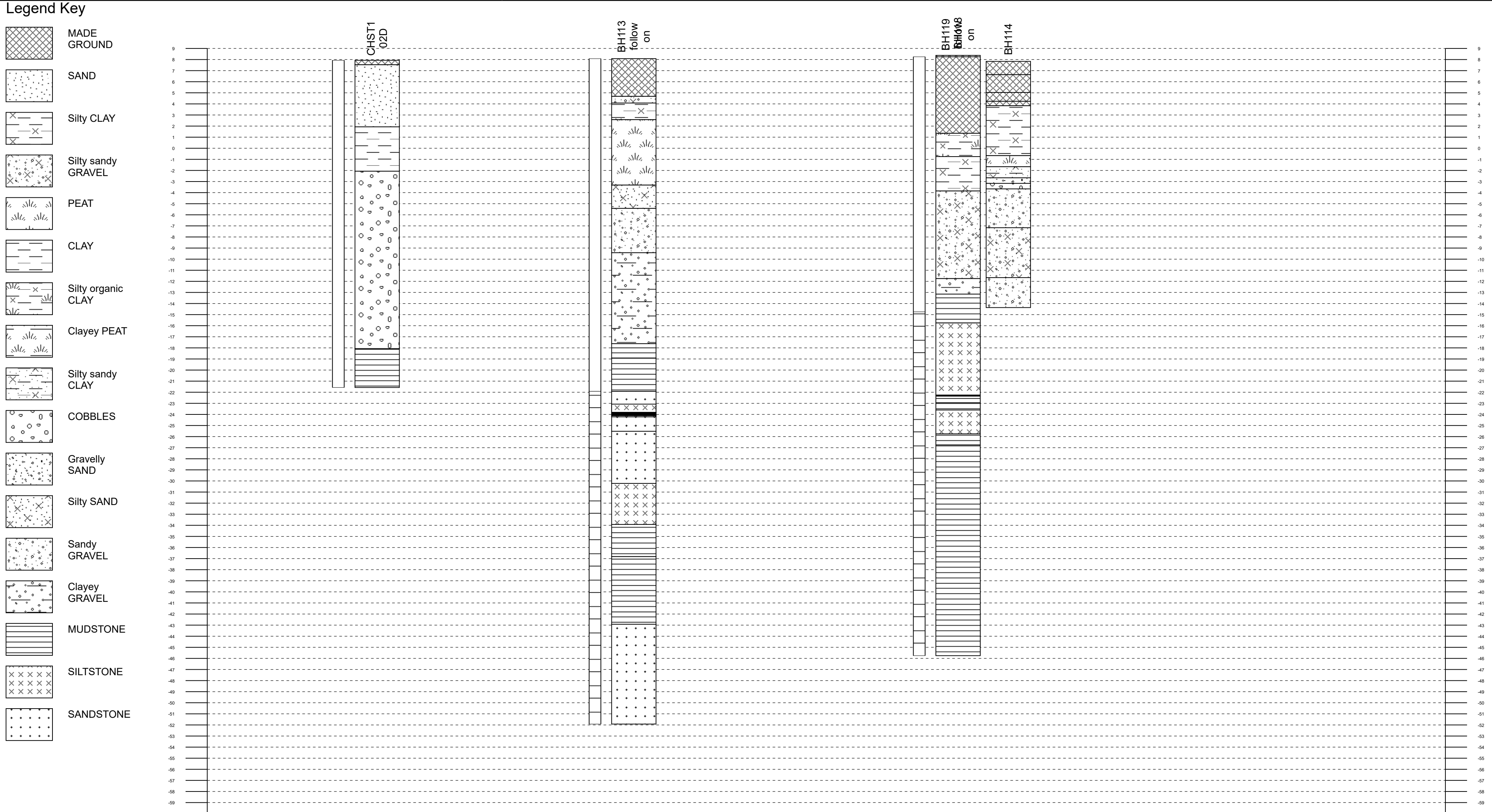
Horizontal Scale: 1:1500

Engineer: MT/RK/OD



Project Id: 2111006.005
Project Title: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility
Location: Port Talbot
Client: LanzaTech UK Limited

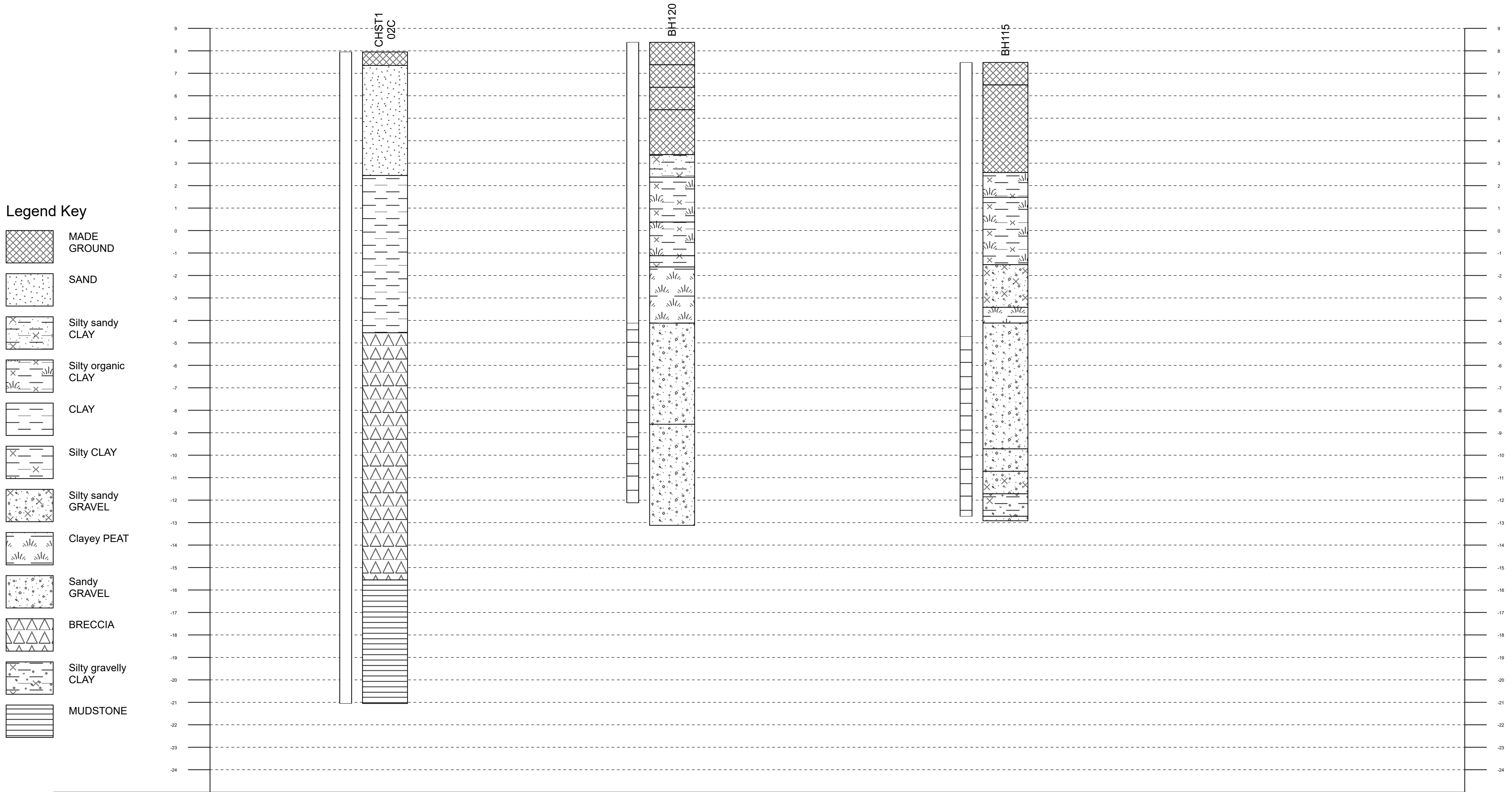
Title: Section Line F
Vertical Scale: 1:500
Horizontal Scale: 1:1500
Engineer: MT/RK/OD



Chainage (m)	Elevation (mAOD)	Offset (m)
0.00		
14.45	4.97	[illegible]
[illegible]	[illegible]	[illegible]
53.29	28.41	8.52
72.10	20.09	8.20
83.85	12.62	8.08
91.50	20.89	8.38
103.54	11.84	8.30
134.42	20.28	8.20
148.00	17.35	8.07
169.47	21.75	8.36
171.52	2.75	[illegible]
185.12	25.44	7.84
191.71	22.86	7.64
223.41	11.25	7.08
233.65		

Project Id: 2111006.005
Project Title: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility
Location: Port Talbot
Client: LanzaTech UK Limited

Title: Section Line G
Vertical Scale: 1:250
Horizontal Scale: 1:1500
Engineer: MT/RK/OD



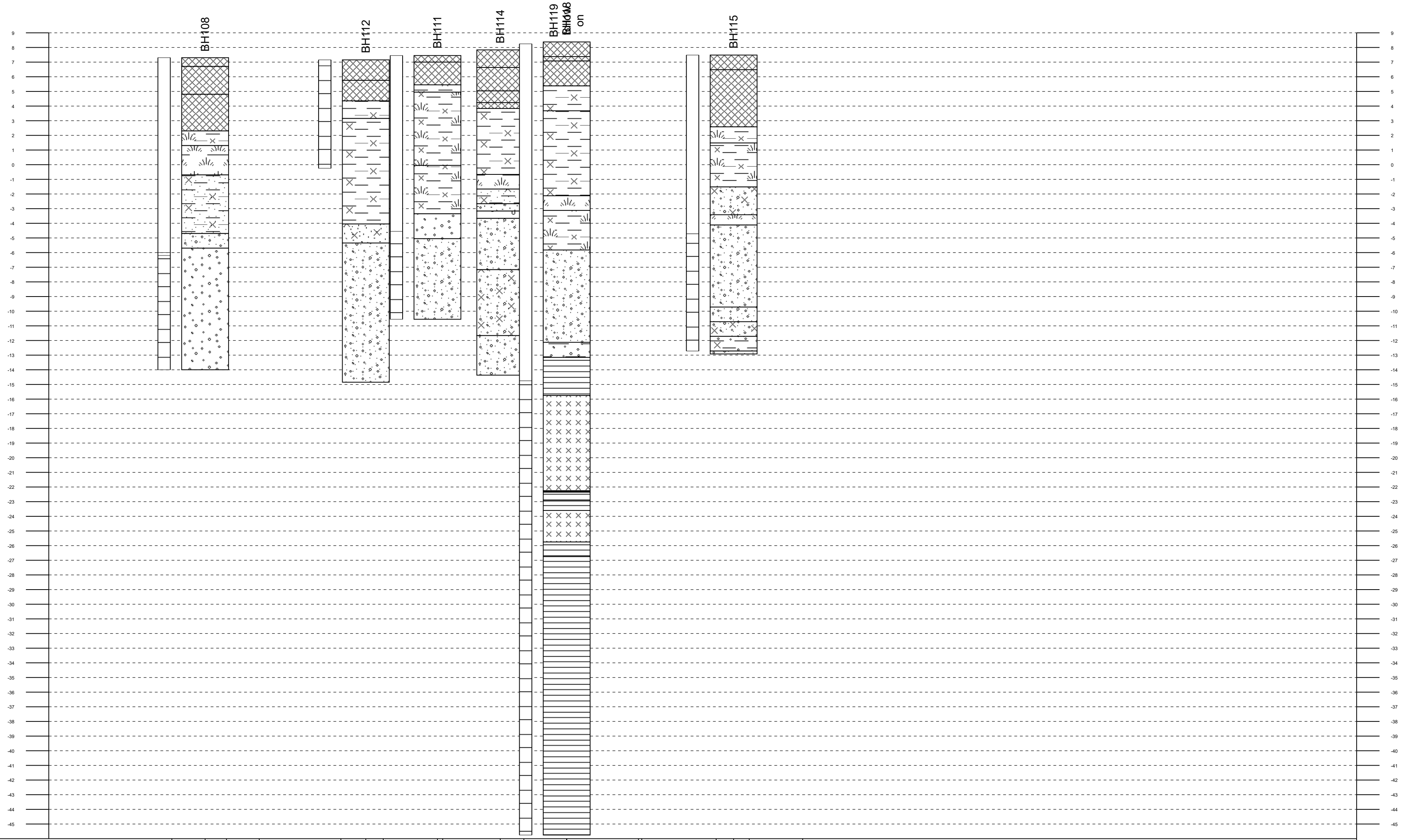
Chainage (m)	0.00	5.03	[illegible]	25.04	40.04	53.58	91.80	134.72	139.15	169.77	180.73	192.01	223.72	235.05
Elevation (mAOD)		0.78	[illegible]	1.41	9.22	3.80	11.24	11.77	16.26	10.22	22.27	9.07	20.62	
Offset (m)		7.74	[illegible]	8.09	8.56	8.52	8.38	8.20	8.28	8.36	7.48	7.64	7.08	

Project Id: 2111006.005
Project Title: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility
Location: Port Talbot
Client: LanzaTech UK Limited

Title: Section Line H
Vertical Scale: 1:400
Horizontal Scale: 1:2000
Engineer: MT/RK/OD

Legend Key

- MADE GROUND
- Silty CLAY
- Silty organic CLAY
- Clayey PEAT
- Silty sandy CLAY
- Silty sandy GRAVEL
- Gravelly SAND
- COBBLES
- GRAVEL
- Sandy GRAVEL
- Silty SAND
- Silty gravelly CLAY
- Clayey GRAVEL
- MUDSTONE
- SILTSTONE
- COAL



Chainage (m)	0.00	11.36	18.65	29.82	57.69	66.21	72.15	90.65 / 92.45	112.09	120.15	134.76	158.27 / 159.40	185.78	191.75	197.08	215.32
Elevation (mAOD)		33.34	36.19	21.19	33.19	5.82	13.18	28.23 / 35.58	8.76	28.37	4.86	6.93 / 15.51	37.52	4.07	5.40	
Offset (m)		7.30	7.13	6.97	6.86	7.15	7.28	7.45 / 7.48	7.84	8.07	8.28	8.36 / 8.84	8.28	7.48	7.51	

Project Id: 2111006.005

Project Title: Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility

Location: Port Talbot

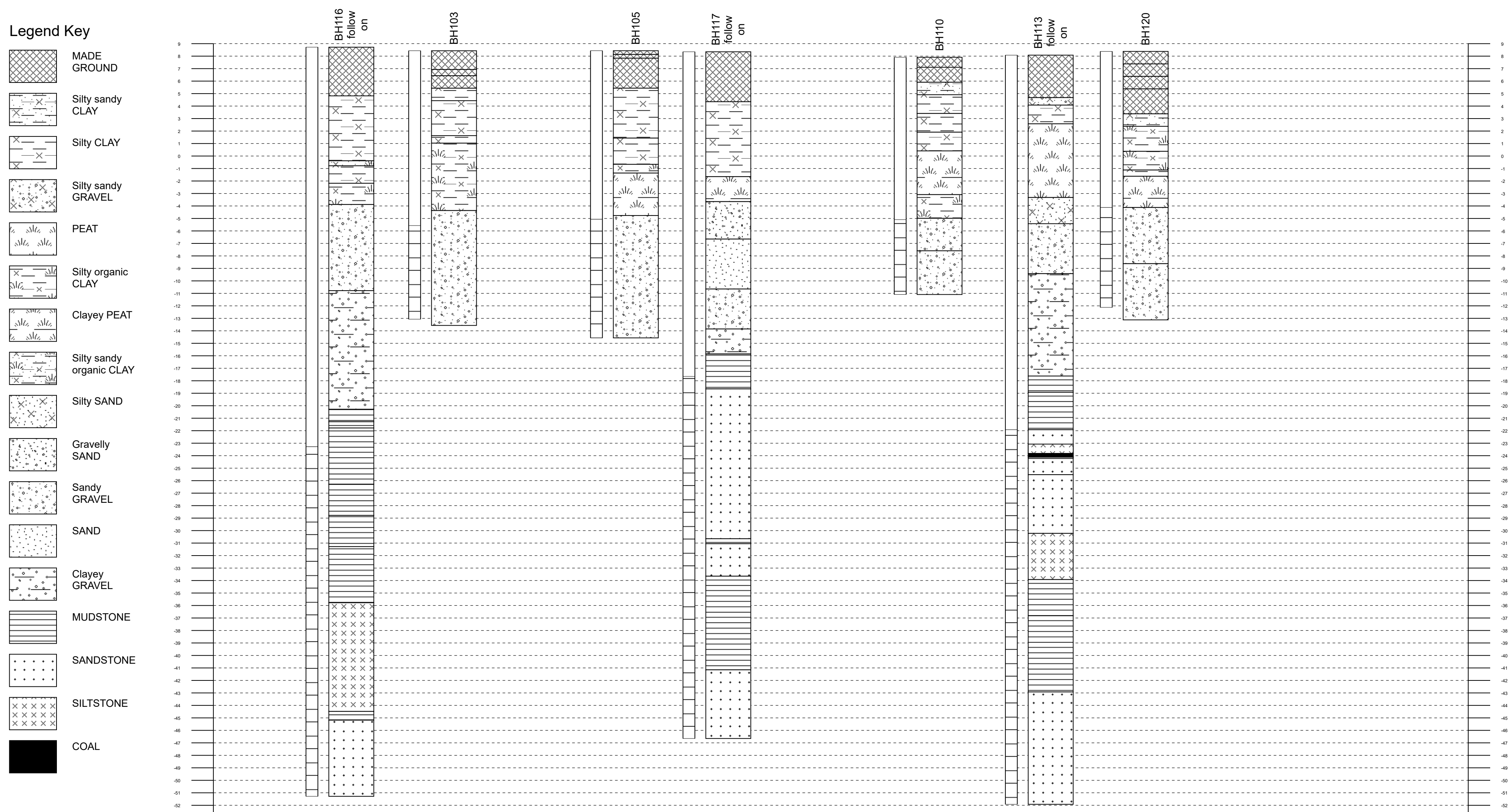
Client: LanzaTech UK Limited

Title: Section Line I

Vertical Scale: 1:450

Horizontal Scale: 1:2000

Engineer: MT/RK/OD



Chainage (m)	0.00	7.06	43.60	53.65	104.86	108.28	117.55	127.18	141.17	216.34	225.43	233.19	247.97	255.87	289.64	295.75	308.30	327.81
Elevation (mAOD)		10.27	20.53	17.91	29.44	8.49	5.06	24.00	19.48	2.65	2.26	3.44	12.07	23.53	29.94	8.51	22.49	
Offset (m)		8.72	8.43	8.64	8.21	8.44	8.51	8.61	8.35	7.91	8.06	8.08	8.20	8.08	8.38	8.52	8.56	

Appendix F

Geochemical Certificates of Analysis

Mitchell Tucker
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

t: 01749 677 760
f: 01749 679 345
e: mitchell.tucker@tecon.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-26743

Project / Site name:	Project Dragon - Phoenix Wharf, Port Talbot	Samples received on:	05/04/2023
Your job number:	2111006.005	Samples instructed on/ Analysis started on:	05/04/2023
Your order number:		Analysis completed by:	20/04/2023
Report Issue Number:	1	Report issued on:	20/04/2023
Samples Analysed:	3 soil samples		

Signed:

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-26743
Project / Site name: Project Dragon - Phoenix Wharf, Port Talbot

Lab Sample Number				2639376	2639377	2639378
Sample Reference				HP101	BH101	BH105
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.30	0.60-0.90	0.10-0.30
Date Sampled				30/03/2023	30/03/2023	30/03/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	8.8	21	24
Total mass of sample received	kg	0.001	NONE	0.5	0.4	0.4
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	IZJ	IZJ	IZJ

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.4	7.8	8.9
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	1.6
Total Sulphate as SO4	mg/kg	50	MCERTS	-	810	980
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.06	0.025	0.088
Sulphide	mg/kg	1	MCERTS	190	24	59
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.6	5.6	4.3

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.64	< 0.05	0.91
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.14
Acenaphthene	mg/kg	0.05	MCERTS	0.34	63	2.8
Fluorene	mg/kg	0.05	MCERTS	0.34	61	2.6
Phenanthrene	mg/kg	0.05	MCERTS	3.3	650	38
Anthracene	mg/kg	0.05	MCERTS	0.67	190	9.1
Fluoranthene	mg/kg	0.05	MCERTS	3.8	580	49
Pyrene	mg/kg	0.05	MCERTS	3.5	480	42
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.7	250	24
Chrysene	mg/kg	0.05	MCERTS	2	240	20
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2	230	24
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.74	85	8.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.7	190	18
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.75	87	9
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.22	23	1.6
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.85	99	9.3

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	22.5	3240	259

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-26743
Project / Site name: Project Dragon - Phoenix Wharf, Port Talbot

Lab Sample Number				2639376	2639377	2639378
Sample Reference				HP101	BH101	BH105
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.30	0.60-0.90	0.10-0.30
Date Sampled				30/03/2023	30/03/2023	30/03/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	27	27	54
Barium (aqua regia extractable)	mg/kg	1	MCERTS	140	140	580
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1	0.54	0.76
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	1.6	2.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.8	3.5	64
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	170	22	130
Copper (aqua regia extractable)	mg/kg	1	MCERTS	110	520	4300
Lead (aqua regia extractable)	mg/kg	1	MCERTS	94	110	430
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	2.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	79	37	250
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	96	39	98
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	470	230	1500
Monoaromatics & Oxygenates						
Benzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	< 5.0
Petroleum Hydrocarbons						
TPH C10 - C40 $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	MCERTS	-	1500	280
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-	8.2	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-	22	4.2
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	35	14
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	70	53
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	-	130	72
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-	3	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-	79	6.5
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	770	68
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	1000	110
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	-	1800	180
PCBs by GC-MS						
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-26743
Project / Site name: Project Dragon - Phoenix Wharf, Port Talbot

Lab Sample Number				2639376	2639377	2639378
Sample Reference				HP101	BH101	BH105
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.30	0.60-0.90	0.10-0.30
Date Sampled				30/03/2023	30/03/2023	30/03/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	-	-

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	MCERTS	< 0.007	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-26743

Project / Site name: Project Dragon - Phoenix Wharf, Port Talbot

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2639376	HP101	None Supplied	0.10-0.30	Brown loam and gravel with vegetation.
2639377	BH101	None Supplied	0.60-0.90	Brown loam and clay with gravel and vegetation.
2639378	BH105	None Supplied	0.10-0.30	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 23-26743
Project / Site name: Project Dragon - Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

Analytical Report Number : 23-26743
Project / Site name: Project Dragon - Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Mitchell Tucker
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

t: 01749 677 760
f: 01749 679 345
e: mitchell.tucker@tecon.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-27949

Project / Site name:	Phoenix Wharf, Port Talbot	Samples received on:	12/04/2023
Your job number:	2111006.005	Samples instructed on/ Analysis started on:	12/04/2023
Your order number:		Analysis completed by:	25/04/2023
Report Issue Number:	1	Report issued on:	25/04/2023
Samples Analysed:	1 leachate sample - 2 soil samples		

Signed:

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-27949
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2645665	2645666
Sample Reference				BH102	BH118
Sample Number				None Supplied	None Supplied
Depth (m)				0.20-0.40	0.30-0.60
Date Sampled				05/04/2023	05/04/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	9.6	12
Total mass of sample received	kg	0.001	NONE	0.4	0.4

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MJN	MJN

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.8	8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0098	0.014
Sulphide	mg/kg	1	MCERTS	9.2	< 1.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	3	5.2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	140
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	57	570
Fluorene	mg/kg	0.05	MCERTS	59	600
Phenanthrene	mg/kg	0.05	MCERTS	730	2300#
Anthracene	mg/kg	0.05	MCERTS	180	1400#
Fluoranthene	mg/kg	0.05	MCERTS	720	2200#
Pyrene	mg/kg	0.05	MCERTS	600	2100#
Benzo(a)anthracene	mg/kg	0.05	MCERTS	310	1800#
Chrysene	mg/kg	0.05	MCERTS	280	1700#
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	300	1900#
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	85	520#
Benzo(a)pyrene	mg/kg	0.05	MCERTS	220	1400#
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	93	620
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	32	180
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	98	690

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	3760	18100

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-27949
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2645665	2645666
Sample Reference				BH102	BH118
Sample Number				None Supplied	None Supplied
Depth (m)				0.20-0.40	0.30-0.60
Date Sampled				05/04/2023	05/04/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	39	21
Barium (aqua regia extractable)	mg/kg	1	MCERTS	88	230
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.49	0.47
Boron (water soluble)	mg/kg	0.2	MCERTS	0.2	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	12	13
Copper (aqua regia extractable)	mg/kg	1	MCERTS	220	450
Lead (aqua regia extractable)	mg/kg	1	MCERTS	76	150
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	23	21
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110	150

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-27949
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2645667
Sample Reference				BH118
Sample Number				None Supplied
Depth (m)				1.10-1.50
Date Sampled				05/04/2023
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status	
General Inorganics				
pH (automated)	pH Units	N/A	ISO 17025	7.6
Total Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO_4	mg/l	0.1	ISO 17025	6.8
Sulphide	µg/l	5	NONE	< 5.0
Total Organic Carbon (TOC)	mg/l	0.1	NONE	5.11
Total Phenols				
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	0.32
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	0.76
Fluorene	µg/l	0.01	ISO 17025	0.41
Phenanthrene	µg/l	0.01	ISO 17025	1.2
Anthracene	µg/l	0.01	ISO 17025	0.26
Fluoranthene	µg/l	0.01	ISO 17025	0.23
Pyrene	µg/l	0.01	ISO 17025	0.16
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.2	NONE	3.3
Heavy Metals / Metalloids				
Arsenic (dissolved)	µg/l	1	ISO 17025	1.2
Barium (dissolved)	µg/l	0.05	ISO 17025	74
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	13
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.8
Copper (dissolved)	µg/l	0.7	ISO 17025	11
Lead (dissolved)	µg/l	1	ISO 17025	3
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	0.7
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	3.3
Zinc (dissolved)	µg/l	0.4	ISO 17025	7.5

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-27949
Project / Site name: Phoenix Wharf, Port Talbot

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2645665	BH102	None Supplied	0.20-0.40	Brown sandy loam with vegetation.
2645666	BH118	None Supplied	0.30-0.60	Brown loam and sand with vegetation.

Analytical Report Number : 23-27949
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
NRA Leachate Prep	10:1 extract with de-ionised water shaken for 24 hours then filtered.	In-house method based on National Rivers Authority	L020-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS

Analytical Report Number : 23-27949
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon in leachate	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Over range data, sample was diluted and results are estimated from an extrapolated calibration. Results should be interpreted with care.

Sample Deviation Report

Analytical Report Number : 23-27949

Project / Site name: Phoenix Wharf, Port Talbot

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH102	None Supplied	S	2645665	c	Sulphide in soil	L010-PL	c
BH102	None Supplied	S	2645665	c	Total cyanide in soil	L080-PL	c
BH118	None Supplied	S	2645666	c	Sulphide in soil	L010-PL	c
BH118	None Supplied	S	2645666	c	Total cyanide in soil	L080-PL	c

Oliver Dustan
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

t: 01749 677 760
f: 01749 679 345
e: oliver.dustan@tecon.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-29285

Project / Site name:	Phoenix Wharf Port Talbot	**Samples received on:**	20/04/2023
Your job number:	2111006 005	**Samples instructed on/ Analysis started on:**	20/04/2023
Your order number:		**Analysis completed by:**	05/05/2023
Report Issue Number:	1	**Report issued on:**	05/05/2023
Samples Analysed:	1 leachate sample - 1 soil sample		

Izabela Wójcik
Signed:

Izabela Wójcik
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-29285
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2653195
Sample Reference				BH117
Sample Number				None Supplied
Depth (m)				0.20-0.60
Date Sampled				13/04/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	19
Total mass of sample received	kg	0.001	NONE	0.3

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MLO

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.3
Total Cyanide	mg/kg	1	MCERTS	1.6
Total Sulphate as SO4	mg/kg	50	MCERTS	1700
Sulphide	mg/kg	1	MCERTS	13
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	3.3

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.76
Acenaphthylene	mg/kg	0.05	MCERTS	0.08
Acenaphthene	mg/kg	0.05	MCERTS	0.24
Fluorene	mg/kg	0.05	MCERTS	0.28
Phenanthrene	mg/kg	0.05	MCERTS	2.8
Anthracene	mg/kg	0.05	MCERTS	0.61
Fluoranthene	mg/kg	0.05	MCERTS	4.4
Pyrene	mg/kg	0.05	MCERTS	3.5
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2
Chrysene	mg/kg	0.05	MCERTS	2.5
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.7
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.55
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.57
Coronene	mg/kg	0.05	NONE	< 0.05

Total PAH

Total WAC-17 PAHs	mg/kg	0.85	NONE	22

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-29285
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2653195
Sample Reference				BH117
Sample Number				None Supplied
Depth (m)				0.20-0.60
Date Sampled				13/04/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	220
Barium (aqua regia extractable)	mg/kg	1	MCERTS	210
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1
Boron (water soluble)	mg/kg	0.2	MCERTS	1.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	1.7
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	100
Copper (aqua regia extractable)	mg/kg	1	MCERTS	580
Lead (aqua regia extractable)	mg/kg	1	MCERTS	140
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	31
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	160
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	410
Monoaromatics & Oxygenates				
Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
Petroleum Hydrocarbons				
TPH C10 - C40 $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	MCERTS	42
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	1.3
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	2.2
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	9.3
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	16
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	11
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	13
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	26

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-29285
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2653196
Sample Reference				BH116
Sample Number				None Supplied
Depth (m)				0.50-0.50
Date Sampled				13/04/2023
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH (automated)	pH Units	N/A	ISO 17025	7.7
Total Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO_4	mg/l	0.1	ISO 17025	4.4
Sulphide	µg/l	5	NONE	< 5.0
Total Organic Carbon (TOC)	mg/l	0.1	NONE	4.55
Total Phenols				
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2
Heavy Metals / Metalloids				
Arsenic (dissolved)	µg/l	1	ISO 17025	1.1
Barium (dissolved)	µg/l	0.05	ISO 17025	16
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	< 10
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4
Copper (dissolved)	µg/l	0.7	ISO 17025	6.5
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	0.9
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7
Zinc (dissolved)	µg/l	0.4	ISO 17025	7.5

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-29285
Project / Site name: Phoenix Wharf Port Talbot

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2653195	BH117	None Supplied	0.20-0.60	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 23-29285
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
NRA Leachate Prep	10:1 extract with de-ionised water shaken for 24 hours then filtered.	In-house method based on National Rivers Authority	L020-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270.	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS

Analytical Report Number : 23-29285
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon in leachate	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics

Analytical Report Number : 23-29285
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
AL	Aliphatics				
AR	Aromatics				
#1	EH_2D_Total but with humics mathematically subtracted				
#2	EH_2D_Total but with fatty acids mathematically subtracted				
_	Operator - understore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

Mitchell Tucker
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

t: 01749 677 760
f: 01749 679 345
e: mitchell.tucker@tecon.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-30498

Project / Site name:	Phoenix Wharf Port Talbot	Samples received on:	26/04/2023
Your job number:	2111006-005	Samples instructed on/ Analysis started on:	26/04/2023
Your order number:		Analysis completed by:	11/05/2023
Report Issue Number:	1	Report issued on:	11/05/2023
Samples Analysed:	1 leachate sample - 2 soil samples - 1 water sample		

Signed:

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-30498
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2660080	2660081
Sample Reference				BH103	BH119
Sample Number				None Supplied	None Supplied
Depth (m)				0.50-1.00	0.10-1.00
Date Sampled				20/04/2023	20/04/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	8.4	11
Total mass of sample received	kg	0.001	NONE	0.4	0.3

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	JBH	JBH

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.8	7.8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	-	1800
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.37	-
Sulphide	mg/kg	1	NONE	38	4.5
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	3.7	3.8

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	2	0.67
Acenaphthylene	mg/kg	0.05	NONE	0.15	0.05
Acenaphthene	mg/kg	0.05	NONE	0.25	0.6
Fluorene	mg/kg	0.05	NONE	0.66	0.68
Phenanthrene	mg/kg	0.05	NONE	4.5	7.7
Anthracene	mg/kg	0.05	NONE	0.8	1.7
Fluoranthene	mg/kg	0.05	NONE	4.6	9.3
Pyrene	mg/kg	0.05	NONE	3	7.5
Benzo(a)anthracene	mg/kg	0.05	NONE	2.2	4.3
Chrysene	mg/kg	0.05	NONE	2.5	4.6
Benzo(b)fluoranthene	mg/kg	0.05	NONE	2.6	4.9
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.62	1.8
Benzo(a)pyrene	mg/kg	0.05	NONE	1.4	3.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	0.67	1.6
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	0.26	0.48
Benzo(ghi)perylene	mg/kg	0.05	NONE	0.63	1.7
Coronene	mg/kg	0.05	NONE	-	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	27	-
Total WAC-17 PAHs	mg/kg	0.85	NONE	-	51.2

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-30498
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2660080	2660081
Sample Reference				BH103	BH119
Sample Number				None Supplied	None Supplied
Depth (m)				0.50-1.00	0.10-1.00
Date Sampled				20/04/2023	20/04/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	56	56
Barium (aqua regia extractable)	mg/kg	1	MCERTS	200	200
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.4	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	2.6
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	54	96
Copper (aqua regia extractable)	mg/kg	1	MCERTS	240	280
Lead (aqua regia extractable)	mg/kg	1	MCERTS	71	110
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	42	69
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	110	54
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	190	420
Monoaromatics & Oxygenates					
Benzene	µg/kg	5	NONE	-	< 5.0
Toluene	µg/kg	5	NONE	-	< 5.0
Ethylbenzene	µg/kg	5	NONE	-	< 5.0
p & m-xylene	µg/kg	5	NONE	-	< 5.0
o-xylene	µg/kg	5	NONE	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0
Petroleum Hydrocarbons					
TPH C10 - C40 $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	NONE	-	71
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	NONE	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	NONE	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	NONE	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	NONE	-	13
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	-	17
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	NONE	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	NONE	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	NONE	-	18
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	NONE	-	31
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	-	50

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-30498
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2660083
Sample Reference				U1
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				20/04/2023
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	
General Inorganics				
pH (L005B)	pH Units	N/A	ISO 17025	8.6
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	2000
Total Cyanide	µg/l	10	ISO 17025	U/S##
Complex Cyanide	µg/l	10	ISO 17025	U/S##
Free Cyanide	µg/l	10	ISO 17025	U/S##
Sulphate as SO4	µg/l	45	ISO 17025	170000
Sulphide	µg/l	5	NONE	1900
Chloride	mg/l	0.15	ISO 17025	340
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	31000
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	30.7
Total Phenols				
Total Phenols (monohydric)	µg/l	10	ISO 17025	U/S##
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	2650$
Acenaphthylene	µg/l	0.01	ISO 17025	78
Acenaphthene	µg/l	0.01	ISO 17025	98.4
Fluorene	µg/l	0.01	ISO 17025	215
Phenanthrene	µg/l	0.01	ISO 17025	599
Anthracene	µg/l	0.01	ISO 17025	132
Fluoranthene	µg/l	0.01	ISO 17025	408
Pyrene	µg/l	0.01	ISO 17025	289
Benzo(a)anthracene	µg/l	0.01	ISO 17025	116
Chrysene	µg/l	0.01	ISO 17025	103
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	105
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	40.1
Benzo(a)pyrene	µg/l	0.01	ISO 17025	84.1
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	37.9
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	10.4
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	42.8
Total PAH				
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	5010

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-30498
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2660083
Sample Reference				U1
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				20/04/2023
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	
Heavy Metals / Metalloids				
Boron (dissolved)	µg/l	10	ISO 17025	410
Calcium (dissolved)	mg/l	0.012	ISO 17025	65
Chromium (hexavalent)	µg/l	5	ISO 17025	U/S##
Iron (dissolved)	mg/l	0.004	ISO 17025	0.039
Magnesium (dissolved)	mg/l	0.005	ISO 17025	28
Phosphorus (dissolved)	µg/l	20	ISO 17025	753
Potassium (dissolved)	mg/l	0.025	ISO 17025	29
Sodium (dissolved)	mg/l	0.01	ISO 17025	340
Antimony (dissolved)	µg/l	0.4	ISO 17025	3.7
Arsenic (dissolved)	µg/l	0.15	ISO 17025	95.2
Barium (dissolved)	µg/l	0.06	ISO 17025	200
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.05
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.4
Cobalt (dissolved)	µg/l	0.2	ISO 17025	0.4
Copper (dissolved)	µg/l	0.5	ISO 17025	1.5
Lead (dissolved)	µg/l	0.2	ISO 17025	0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	93
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.08
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	15
Nickel (dissolved)	µg/l	0.5	ISO 17025	5.3
Selenium (dissolved)	µg/l	0.6	ISO 17025	1
Tin (dissolved)	µg/l	0.2	ISO 17025	0.25
Vanadium (dissolved)	µg/l	0.2	ISO 17025	13
Zinc (dissolved)	µg/l	0.5	ISO 17025	1.9
Monoaromatics & Oxygenates				
Benzene	µg/l	3	ISO 17025	24.3
Toluene	µg/l	3	ISO 17025	32.2
Ethylbenzene	µg/l	3	ISO 17025	30.1
p & m-xylene	µg/l	3	ISO 17025	184
o-xylene	µg/l	3	ISO 17025	131
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-30498
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2660083
Sample Reference				U1
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				20/04/2023
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	
Petroleum Hydrocarbons				
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	17000
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	21000
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	NONE	< 10#
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	NONE	< 1.0#
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	NONE	< 1.0#
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	NONE	< 1.0#
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	NONE	19#
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	NONE	27#
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	NONE	310#
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	4100
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	4900
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	5700
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	6000
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	21000
VOCs				
Chloromethane	µg/l	3	ISO 17025	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0
Trichloromethane	µg/l	3	ISO 17025	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0
Trans-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0
Benzene	µg/l	3	ISO 17025	24.3
Tetrachloromethane	µg/l	3	ISO 17025	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0
Toluene	µg/l	3	ISO 17025	32.2

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-30498
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2660083
Sample Reference				U1
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				20/04/2023
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	30.1
p & m-Xylene	µg/l	3	ISO 17025	184
Styrene	µg/l	3	ISO 17025	< 3.0
Tribromomethane	µg/l	3	ISO 17025	< 3.0
o-Xylene	µg/l	3	ISO 17025	131
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	5.2
Bromobenzene	µg/l	3	ISO 17025	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	68.1
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	138
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0

Alcohols by headspace GC-MS

Ethanol	mg/l	0.1	NONE	< 0.10

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	210
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-30498
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2660083
Sample Reference				U1
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				20/04/2023
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	2700
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	250
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	78
Acenaphthene	µg/l	0.01	ISO 17025	98
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05
Dibenzofuran	µg/l	0.05	NONE	180
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05
Fluorene	µg/l	0.01	ISO 17025	210
Azobenzene	µg/l	0.05	NONE	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	600
Anthracene	µg/l	0.01	ISO 17025	130
Carbazole	µg/l	0.05	NONE	400
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	410
Pyrene	µg/l	0.01	ISO 17025	290
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	120
Chrysene	µg/l	0.01	ISO 17025	100
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	110
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	40
Benzo(a)pyrene	µg/l	0.01	ISO 17025	84
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	38
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	10
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	43

3&4-Methylphenol	µg/l	0.1	NONE	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-30498
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2660082
Sample Reference				BH119
Sample Number				None Supplied
Depth (m)				5.00-5.20
Date Sampled				20/04/2023
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status	
General Inorganics				
pH (automated)	pH Units	N/A	ISO 17025	7.7
Total Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO_4	mg/l	0.1	ISO 17025	37.9
Sulphide	µg/l	5	NONE	< 5.0
Total Organic Carbon (TOC)	mg/l	0.1	NONE	5.42
Total Phenols				
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2
Heavy Metals / Metalloids				
Arsenic (dissolved)	µg/l	1	ISO 17025	7.8
Barium (dissolved)	µg/l	0.05	ISO 17025	13
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	29
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.5
Copper (dissolved)	µg/l	0.7	ISO 17025	6.4
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.4
Selenium (dissolved)	µg/l	4	ISO 17025	8.9
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7
Zinc (dissolved)	µg/l	0.4	ISO 17025	17

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-30498
Project / Site name: Phoenix Wharf Port Talbot

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2660080	BH103	None Supplied	0.50-1.00	Brown clay and sand with gravel.
2660081	BH119	None Supplied	0.10-1.00	Brown loam and sand with gravel and vegetation.

Analytical Report Number : 23-30498
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
NRA Leachate Prep	10:1 extract with de-ionised water shaken for 24 hours then filtered.	In-house method based on National Rivers Authority	L020-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Complex cyanide in water	Determination of complex cyanide by calculation. Accredited matrices SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Mineral Oil (Waters) C10 - C40	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE

Analytical Report Number : 23-30498
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270.	L064-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	NONE
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025

Analytical Report Number : 23-30498
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH2 (Waters)	Determination of hydrocarbons C6-C10 by headspace GC-MS. Accredited Matrices SW, PW. GW.	In-house method based on USEPA8260	L088-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total organic carbon in leachate	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	NONE
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
DRO (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	NONE
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Alcohols in water by HS-GC-MS	Determination of alcohols in water by headspace GC-MS.	In house method	L054B-PL	W	NONE

Analytical Report Number : 23-30498
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	ISO 17025
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Chloride in water	Determination of Chloride (diissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

- Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.
- Sample was oily.
$ - Result over calibration range, concentration determined by extrapolated calibration. The result should be interpreted with caution.

Sample Deviation Report

Analytical Report Number : 23-30498
Project / Site name: Phoenix Wharf Port Talbot

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
U1	None Supplied	W	2660083	c	Ammoniacal Nitrogen as N in water	L082-PL	c
U1	None Supplied	W	2660083	c	Ammonium as NH4 in water	L082-PL	c
U1	None Supplied	W	2660083	c	Electrical conductivity at 20oC of water	L031-PL	c
U1	None Supplied	W	2660083	c	pH at 20oC in water (automated)	L099-PL	c

Mitchell Tucker
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

t: 01749 677 760
f: 01749 679 345
e: mitchell.tucker@tecon.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-31579

Project / Site name:	Phoenix Wharf, Port Talbot	Samples received on:	03/05/2023
Your job number:	2111006.005	Samples instructed on/ Analysis started on:	03/05/2023
Your order number:		Analysis completed by:	17/05/2023
Report Issue Number:	1	Report issued on:	17/05/2023
Samples Analysed:	1 leachate sample - 6 soil samples		

Signed:

Dominika Warjan
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2666585	2666586	2666587	2666588	2666589
Sample Reference				TP118	TP122	TP122	TP123	BH113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50-0.80	0.40-0.60	1.20-1.40	1.00-1.20	0.60-0.80
Date Sampled				26/04/2023	26/04/2023	26/04/2023	26/04/2023	28/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	23	12	15	9.8	9.8
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.4	0.4	0.6
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KWB	KWB	KWB	KWB	KWB

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.1	8.4	8.8	9.2	8.5
Electrical Conductivity	µS/cm	10	ISO 17025	280	190	-	520	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-
Total Sulphate as SO4	mg/kg	50	MCERTS	6700	750	-	1000	1400
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.11	0.06	0.012	0.23	-
Sulphide	mg/kg	1	NONE	18	9.7	6.6	50	7.9
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	18	5.3	-	34	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	< 0.5	< 0.5	-	< 0.5	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.033	0.026	-	0.025	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	3.3	2.6	0.6	2.5	4

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	0.32	0.6	0.22	0.92	0.38
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	0.11	0.06	0.15	0.06
Acenaphthene	mg/kg	0.05	NONE	0.19	< 0.05	< 0.05	0.12	0.19
Fluorene	mg/kg	0.05	NONE	0.27	0.32	0.07	0.56	0.15
Phenanthrene	mg/kg	0.05	NONE	2.8	1.3	0.55	1.6	1.7
Anthracene	mg/kg	0.05	NONE	0.48	0.27	0.16	0.24	0.36
Fluoranthene	mg/kg	0.05	NONE	4.3	1.4	0.79	1.7	2.2
Pyrene	mg/kg	0.05	NONE	3.2	0.95	0.53	1.2	2
Benzo(a)anthracene	mg/kg	0.05	NONE	2.6	0.99	0.5	0.91	1.5
Chrysene	mg/kg	0.05	NONE	2.5	1.2	0.63	0.92	1.6
Benzo(b)fluoranthene	mg/kg	0.05	NONE	2.7	0.95	0.41	0.9	1.8
Benzo(k)fluoranthene	mg/kg	0.05	NONE	1.2	0.42	0.21	0.27	0.78
Benzo(a)pyrene	mg/kg	0.05	NONE	1.9	0.61	0.26	0.55	1.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	1.1	0.34	0.13	0.27	0.77
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	0.37	0.18	< 0.05	0.1	0.2
Benzo(ghi)perylene	mg/kg	0.05	NONE	1.2	0.34	0.14	0.29	0.82
Coronene	mg/kg	0.05	NONE	-	-	-	-	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	25.1	9.88	4.66	10.6	-
Total WAC-17 PAHs	mg/kg	0.85	NONE	-	-	-	-	15.7

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2666585	2666586	2666587	2666588	2666589
Sample Reference				TP118	TP122	TP122	TP123	BH113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50-0.80	0.40-0.60	1.20-1.40	1.00-1.20	0.60-0.80
Date Sampled				26/04/2023	26/04/2023	26/04/2023	26/04/2023	28/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	21	8	-	4.1	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	120	43	8.3	22	40
Barium (aqua regia extractable)	mg/kg	1	MCERTS	340	170	20	160	200
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.2	1	0.21	1.2	0.83
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	0.6	0.3	2.1	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	13	2.4	0.4	3.6	1.3
Chromium (hexavalent)	mg/kg	1.2	NONE	-	-	< 1.2	-	< 1.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	-	< 1.8	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	240	55	8.5	48	96
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	16	12	-	10	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	1500	86	12	68	160
Iron (aqua regia extractable)	mg/kg	40	MCERTS	93000	54000	-	24000	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	380	220	16	99	79
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	9800	1400	-	1400	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	5.5	1.7	-	1.7	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	40	28	6.4	27	94
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	18000	760	-	390	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	23	11	-	6.1	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	460	100	18	55	78
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	2500	530	82	640	190
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	130000	17000	-	27000	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	9100	3100	-	5500	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	1900	1600	-	1900	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	1500	170	-	220	-
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	< 5.0###	< 5.0
Toluene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	< 5.0###	< 5.0
Ethylbenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	< 5.0###	< 5.0
p & m-xylene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	< 5.0###	< 5.0
o-xylene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	< 5.0###	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0###	< 5.0###	-	< 5.0###	< 5.0
Petroleum Hydrocarbons								
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	410	< 50	-	50	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	1200	< 10	-	61	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	1500	26	-	100	310
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	-

Analytical Report Number: 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2666585	2666586	2666587	2666588	2666589
Sample Reference				TP118	TP122	TP122	TP123	BH113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50-0.80	0.40-0.60	1.20-1.40	1.00-1.20	0.60-0.80
Date Sampled				26/04/2023	26/04/2023	26/04/2023	26/04/2023	28/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0	4.4
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	NONE	3.5	< 2.0	-	2.1	10
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	NONE	57	< 8.0	-	< 8.0	32
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	NONE	910	< 8.0	-	47	92
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	970	< 10	-	54	140
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	NONE	< 1.0	< 1.0	-	1.6	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	NONE	8.5	8.5	-	8.7	8.3
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	NONE	24	< 10	-	< 10	19
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	NONE	260	< 10	-	20	58
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	290	25	-	39	85
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	160	17	-	30	-
VOCs###								
Chloromethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Bromomethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Cis-1,2-dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,1-Dichloroethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Trichloromethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,1,1-Trichloroethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,2-Dichloroethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,1-Dichloropropene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Benzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Tetrachloromethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Trichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Dibromomethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Bromodichloromethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Cis-1,3-dichloropropene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Trans-1,3-dichloropropene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Toluene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,1,2-Trichloroethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,3-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Dibromochloromethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,2-Dibromoethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Chlorobenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Ethylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
p & m-Xylene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Styrene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-

Analytical Report Number: 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2666585	2666586	2666587	2666588	2666589
Sample Reference				TP118	TP122	TP122	TP123	BH113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50-0.80	0.40-0.60	1.20-1.40	1.00-1.20	0.60-0.80
Date Sampled				26/04/2023	26/04/2023	26/04/2023	26/04/2023	28/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Tribromomethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
o-Xylene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Isopropylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
n-Propylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
2-Chlorotoluene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
4-Chlorotoluene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,3,5-Trimethylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
tert-Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,2,4-Trimethylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
sec-Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,3-Dichlorobenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
p-Isopropyltoluene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,2-Dichlorobenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,4-Dichlorobenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,2,4-Trichlorobenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
1,2,3-Trichlorobenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	-
SVOCs								
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	-
Phenol	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	-
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	-
2-Methylphenol	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	-
Hexachloroethane	mg/kg	0.05	NONE	< 0.05	< 0.05	-	< 0.05	-
Nitrobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	-
Isophorone	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	-
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	-
Naphthalene	mg/kg	0.05	NONE	0.32	0.6	-	0.92	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	0.4	1.4	-	2	-
2-Chloronaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	-
Dimethylphthalate	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	-
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	0.11	-	0.15	-
Acenaphthene	mg/kg	0.05	NONE	0.19	< 0.05	-	0.12	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	-
Dibenzofuran	mg/kg	0.2	NONE	< 0.2	0.3	-	0.4	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	-

Analytical Report Number: 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2666585	2666586	2666587	2666588	2666589
Sample Reference				TP118	TP122	TP122	TP123	BH113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50-0.80	0.40-0.60	1.20-1.40	1.00-1.20	0.60-0.80
Date Sampled				26/04/2023	26/04/2023	26/04/2023	26/04/2023	28/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Diethyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	-
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	-
Fluorene	mg/kg	0.05	NONE	0.27	0.32	-	0.56	-
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	-
Phenanthrene	mg/kg	0.05	NONE	2.8	1.3	-	1.6	-
Anthracene	mg/kg	0.05	NONE	0.48	0.27	-	0.24	-
Carbazole	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	-
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	-
Anthraquinone	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	-
Fluoranthene	mg/kg	0.05	NONE	4.3	1.4	-	1.7	-
Pyrene	mg/kg	0.05	NONE	3.2	0.95	-	1.2	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	-
Benzo(a)anthracene	mg/kg	0.05	NONE	2.6	0.99	-	0.91	-
Chrysene	mg/kg	0.05	NONE	2.5	1.2	-	0.92	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	2.7	0.95	-	0.9	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	1.2	0.42	-	0.27	-
Benzo(a)pyrene	mg/kg	0.05	NONE	1.9	0.61	-	0.55	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	1.1	0.34	-	0.27	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	0.37	0.18	-	0.1	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	1.2	0.34	-	0.29	-

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	NONE	-	-	-	-	< 0.001
PCB Congener 52	mg/kg	0.001	NONE	-	-	-	-	< 0.001
PCB Congener 101	mg/kg	0.001	NONE	-	-	-	-	0.001
PCB Congener 118	mg/kg	0.001	NONE	-	-	-	-	< 0.001
PCB Congener 138	mg/kg	0.001	NONE	-	-	-	-	< 0.001
PCB Congener 153	mg/kg	0.001	NONE	-	-	-	-	0.002
PCB Congener 180	mg/kg	0.001	NONE	-	-	-	-	0.002

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	NONE	-	-	-	-	< 0.007

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2666590
Sample Reference				BH115
Sample Number				None Supplied
Depth (m)				2.20-2.50
Date Sampled				28/04/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	12
Total mass of sample received	kg	0.001	NONE	0.3

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KWB

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.6
Electrical Conductivity	µS/cm	10	ISO 17025	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-
Free Cyanide	mg/kg	1	MCERTS	-
Total Sulphate as SO4	mg/kg	50	MCERTS	480
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-
Sulphide	mg/kg	1	NONE	5.4
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	1.4
Acenaphthylene	mg/kg	0.05	NONE	< 0.05
Acenaphthene	mg/kg	0.05	NONE	1.9
Fluorene	mg/kg	0.05	NONE	1.7
Phenanthrene	mg/kg	0.05	NONE	17
Anthracene	mg/kg	0.05	NONE	4.1
Fluoranthene	mg/kg	0.05	NONE	20
Pyrene	mg/kg	0.05	NONE	18
Benzo(a)anthracene	mg/kg	0.05	NONE	9.7
Chrysene	mg/kg	0.05	NONE	9.3
Benzo(b)fluoranthene	mg/kg	0.05	NONE	11
Benzo(k)fluoranthene	mg/kg	0.05	NONE	3.1
Benzo(a)pyrene	mg/kg	0.05	NONE	8.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	4.6
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	0.97
Benzo(ghi)perylene	mg/kg	0.05	NONE	5
Coronene	mg/kg	0.05	NONE	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	-
Total WAC-17 PAHs	mg/kg	0.85	NONE	117

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2666590
Sample Reference				BH115
Sample Number				None Supplied
Depth (m)				2.20-2.50
Date Sampled				28/04/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Heavy Metals / Metalloids				
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21
Barium (aqua regia extractable)	mg/kg	1	MCERTS	160
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	2.6
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	38
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	110
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	98
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	48
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	37
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	530

Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-

Monoaromatics & Oxygenates

Benzene	µg/kg	5	NONE	< 5.0
Toluene	µg/kg	5	NONE	< 5.0
Ethylbenzene	µg/kg	5	NONE	< 5.0
p & m-xylene	µg/kg	5	NONE	< 5.0
o-xylene	µg/kg	5	NONE	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0

Petroleum Hydrocarbons

Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-

TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	160

TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2666590
Sample Reference				BH115
Sample Number				None Supplied
Depth (m)				2.20-2.50
Date Sampled				28/04/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	NONE	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	NONE	2.1
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	NONE	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	NONE	48
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	57
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	NONE	2.3
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	NONE	7.3
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	NONE	29
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	NONE	40
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	79
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	-

VOCs# # #

Chloromethane	µg/kg	5	NONE	-
Chloroethane	µg/kg	5	NONE	-
Bromomethane	µg/kg	5	NONE	-
Vinyl Chloride	µg/kg	5	NONE	-
Trichlorofluoromethane	µg/kg	5	NONE	-
1,1-Dichloroethene	µg/kg	5	NONE	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-
Cis-1,2-dichloroethene	µg/kg	5	NONE	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-
1,1-Dichloroethane	µg/kg	5	NONE	-
2,2-Dichloropropane	µg/kg	5	NONE	-
Trichloromethane	µg/kg	5	NONE	-
1,1,1-Trichloroethane	µg/kg	5	NONE	-
1,2-Dichloroethane	µg/kg	5	NONE	-
1,1-Dichloropropene	µg/kg	5	NONE	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-
Benzene	µg/kg	5	NONE	-
Tetrachloromethane	µg/kg	5	NONE	-
1,2-Dichloropropane	µg/kg	5	NONE	-
Trichloroethene	µg/kg	5	NONE	-
Dibromomethane	µg/kg	5	NONE	-
Bromodichloromethane	µg/kg	5	NONE	-
Cis-1,3-dichloropropene	µg/kg	5	NONE	-
Trans-1,3-dichloropropene	µg/kg	5	NONE	-
Toluene	µg/kg	5	NONE	-
1,1,2-Trichloroethane	µg/kg	5	NONE	-
1,3-Dichloropropane	µg/kg	5	NONE	-
Dibromochloromethane	µg/kg	5	NONE	-
Tetrachloroethene	µg/kg	5	NONE	-
1,2-Dibromoethane	µg/kg	5	NONE	-
Chlorobenzene	µg/kg	5	NONE	-
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	-
Ethylbenzene	µg/kg	5	NONE	-
p & m-Xylene	µg/kg	5	NONE	-
Styrene	µg/kg	5	NONE	-

Analytical Report Number: 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2666590
Sample Reference				BH115
Sample Number				None Supplied
Depth (m)				2.20-2.50
Date Sampled				28/04/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Tribromomethane	µg/kg	5	NONE	-
o-Xylene	µg/kg	5	NONE	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-
Isopropylbenzene	µg/kg	5	NONE	-
Bromobenzene	µg/kg	5	NONE	-
n-Propylbenzene	µg/kg	5	NONE	-
2-Chlorotoluene	µg/kg	5	NONE	-
4-Chlorotoluene	µg/kg	5	NONE	-
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-
tert-Butylbenzene	µg/kg	5	NONE	-
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-
sec-Butylbenzene	µg/kg	5	NONE	-
1,3-Dichlorobenzene	µg/kg	5	NONE	-
p-Isopropyltoluene	µg/kg	5	NONE	-
1,2-Dichlorobenzene	µg/kg	5	NONE	-
1,4-Dichlorobenzene	µg/kg	5	NONE	-
Butylbenzene	µg/kg	5	NONE	-
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-
Hexachlorobutadiene	µg/kg	5	NONE	-
1,2,3-Trichlorobenzene	µg/kg	5	NONE	-

SVOCs

Aniline	mg/kg	0.1	NONE	-
Phenol	mg/kg	0.2	NONE	-
2-Chlorophenol	mg/kg	0.1	NONE	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-
2-Methylphenol	mg/kg	0.3	NONE	-
Hexachloroethane	mg/kg	0.05	NONE	-
Nitrobenzene	mg/kg	0.3	NONE	-
4-Methylphenol	mg/kg	0.2	NONE	-
Isophorone	mg/kg	0.2	NONE	-
2-Nitrophenol	mg/kg	0.3	NONE	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-
Naphthalene	mg/kg	0.05	NONE	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-
4-Chloroaniline	mg/kg	0.1	NONE	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-
Dimethylphthalate	mg/kg	0.1	NONE	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-
Acenaphthylene	mg/kg	0.05	NONE	-
Acenaphthene	mg/kg	0.05	NONE	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-
Dibenzofuran	mg/kg	0.2	NONE	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2666590
Sample Reference				BH115
Sample Number				None Supplied
Depth (m)				2.20-2.50
Date Sampled				28/04/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Diethyl phthalate	mg/kg	0.2	NONE	-
4-Nitroaniline	mg/kg	0.2	NONE	-
Fluorene	mg/kg	0.05	NONE	-
Azobenzene	mg/kg	0.3	NONE	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-
Hexachlorobenzene	mg/kg	0.3	NONE	-
Phenanthrene	mg/kg	0.05	NONE	-
Anthracene	mg/kg	0.05	NONE	-
Carbazole	mg/kg	0.3	NONE	-
Dibutyl phthalate	mg/kg	0.2	NONE	-
Anthraquinone	mg/kg	0.3	NONE	-
Fluoranthene	mg/kg	0.05	NONE	-
Pyrene	mg/kg	0.05	NONE	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-
Chrysene	mg/kg	0.05	NONE	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	NONE	-
PCB Congener 52	mg/kg	0.001	NONE	-
PCB Congener 101	mg/kg	0.001	NONE	-
PCB Congener 118	mg/kg	0.001	NONE	-
PCB Congener 138	mg/kg	0.001	NONE	-
PCB Congener 153	mg/kg	0.001	NONE	-
PCB Congener 180	mg/kg	0.001	NONE	-

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	NONE	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2666591
Sample Reference				BH113
Sample Number				None Supplied
Depth (m)				1.60-1.80
Date Sampled				28/04/2023
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status	
General Inorganics				
pH (automated)	pH Units	N/A	ISO 17025	8.4
Total Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO_4	mg/l	0.1	ISO 17025	11.6
Sulphide	µg/l	5	NONE	< 5.0
Total Organic Carbon (TOC)	mg/l	0.1	NONE	5.21
Total Phenols				
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2
Heavy Metals / Metalloids				
Arsenic (dissolved)	µg/l	1	ISO 17025	2.6
Barium (dissolved)	µg/l	0.05	ISO 17025	10
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	43
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.8
Copper (dissolved)	µg/l	0.7	ISO 17025	11
Lead (dissolved)	µg/l	1	ISO 17025	2.7
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.7
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	1.7
Zinc (dissolved)	µg/l	0.4	ISO 17025	10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2666585	TP118	None Supplied	0.50-0.80	Brown sand with gravel and vegetation.
2666586	TP122	None Supplied	0.40-0.60	Brown sand with gravel.
2666587	TP122	None Supplied	1.20-1.40	Brown sand with gravel.
2666588	TP123	None Supplied	1.00-1.20	Brown sand with gravel.
2666589	BH113	None Supplied	0.60-0.80	Brown sand with gravel.
2666590	BH115	None Supplied	2.20-2.50	Brown sand with gravel.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
NRA Leachate Prep	10:1 extract with de-ionised water shaken for 24 hours then filtered.	In-house method based on National Rivers Authority	L020-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Complex Cyanide in soil	Determination of complex cyanide by calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
DRO C10-28 (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by electrometric measurement.	In-house method	L031-PL	D	ISO 17025
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS

Analytical Report Number : 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270.	L064-PL	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	NONE
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon in leachate	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	NONE

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	NONE
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
DRO (Soil)	Determination of extractable hydrocarbons in soil by GC-MS/FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	NONE
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-31579
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

###Quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Mitchell Tucker
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

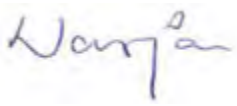
t: 01749 677 760
f: 01749 679 345
e: mitchell.tucker@tecon.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-33077

Project / Site name:	Phoenix Wharf Port Talbot	Samples received on:	10/05/2023
Your job number:	2111006 005	Samples instructed on/ Analysis started on:	10/05/2023
Your order number:		Analysis completed by:	25/05/2023
Report Issue Number:	1	Report issued on:	29/05/2023
Samples Analysed:	1 leachate sample - 8 soil samples		



Signed:

Dominika Warjan
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33077
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2675014	2675015	2675016	2675017	2675018
Sample Reference				BH110	BH110	BH112	BH112	BH114
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	2.60-2.90	0.20-0.60	1.50-2.00	0.80-1.40
Date Sampled				04/05/2023	04/05/2023	04/05/2023	04/05/2023	04/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	20	40	25	25	12
Total mass of sample received	kg	0.001	NONE	0.4	0.6	0.3	0.4	0.3
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SCA	SCA	SCA	SCA	SCA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.1	8.2	7.7	8.2	7.8
Electrical Conductivity	µS/cm	10	ISO 17025	-	-	-	-	660
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	-	-	-	< 1.0
Free Cyanide	mg/kg	1	MCERTS	-	-	-	-	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	-	-	3300	-	1600
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.053	0.21	0.89	0.16	0.38
Sulphide	mg/kg	1	NONE	< 1.0	43	46	35	3.5
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	-	-	35
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	-	-	-	< 0.5
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	-	-	-	0.028
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	5.1	4.9	6.4	3.4	2.8
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	2.7	< 0.05	1.8	4.1	0.43
Acenaphthylene	mg/kg	0.05	NONE	0.2	< 0.05	< 0.05	0.25	0.06
Acenaphthene	mg/kg	0.05	NONE	6.1	< 0.05	3	4.4	0.38
Fluorene	mg/kg	0.05	NONE	5.3	< 0.05	3.1	4.2	0.41
Phenanthrene	mg/kg	0.05	NONE	34	0.52	26	44	4.1
Anthracene	mg/kg	0.05	NONE	7	0.11	6.5	14	0.89
Fluoranthene	mg/kg	0.05	NONE	36	0.58	35	71	6
Pyrene	mg/kg	0.05	NONE	29	0.52	29	66	4.8
Benzo(a)anthracene	mg/kg	0.05	NONE	17	0.32	16	43	3.6
Chrysene	mg/kg	0.05	NONE	17	0.32	17	47	3.7
Benzo(b)fluoranthene	mg/kg	0.05	NONE	17	0.33	17	72	3.9
Benzo(k)fluoranthene	mg/kg	0.05	NONE	6.6	0.14	6.3	20	1.9
Benzo(a)pyrene	mg/kg	0.05	NONE	13	0.26	14	60	2.9
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	7.5	0.14	7.3	35	1.7
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	2.2	< 0.05	2	9.9	0.59
Benzo(ghi)perylene	mg/kg	0.05	NONE	7.9	0.2	8.2	40	1.7

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	208	3.44	192	532	37

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33077
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2675014	2675015	2675016	2675017	2675018
Sample Reference				BH110	BH110	BH112	BH112	BH114
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	2.60-2.90	0.20-0.60	1.50-2.00	0.80-1.40
Date Sampled				04/05/2023	04/05/2023	04/05/2023	04/05/2023	04/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	-	-	-	5.9
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	37	11	22	21	23
Barium (aqua regia extractable)	mg/kg	1	MCERTS	420	24	300	56	180
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.8	0.74	0.94	0.96	1.3
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	11	3.4	1.6	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	5.5	< 0.2	7.4	1.1	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2	< 1.2	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	-	-	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	36	21	42	18	28
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	-	-	-	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	270	22	360	120	99
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	-	-	-	46000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	230	17	170	50	82
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	940
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	-	-	-	3.7
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	60	23	58	28	50
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-	500
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	34
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	39	30	47	29	42
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	300	67	520	170	220
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-	8900
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-	3700
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-	1700
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-	310
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Toluene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Ethylbenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
p & m-xylene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
o-xylene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Petroleum Hydrocarbons								
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	-	-	-	< 50
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	-	-	-	19
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	-	-	250	-	69
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	-	-	-	< 0.1

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Lab Sample Number				2675014	2675015	2675016	2675017	2675018
Sample Reference				BH110	BH110	BH112	BH112	BH114
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	2.60-2.90	0.20-0.60	1.50-2.00	0.80-1.40
Date Sampled				04/05/2023	04/05/2023	04/05/2023	04/05/2023	04/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	-	-	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	-	-	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	-	-	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	NONE	-	-	< 1.0	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	NONE	-	-	2.8	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	NONE	-	-	8.3	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	NONE	-	-	65	-	17
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	-	-	77	-	19
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	-	-	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	-	-	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	-	-	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	NONE	-	-	2.7	-	2.1
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	NONE	-	-	8.2	-	4.7
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	NONE	-	-	61	-	14
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	NONE	-	-	84	-	29
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	-	-	160	-	50
TPH (C10 - C25) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	NONE	-	-	-	-	36

VOCs

Chloromethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Chloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Bromomethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1-Dichloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	< 5.0
Trichloromethane	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1,1-Trichloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dichloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1-Dichloropropene	µg/kg	5	NONE	-	-	-	-	< 5.0
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0
Benzene	µg/kg	5	NONE	-	-	-	-	< 5.0
Tetrachloromethane	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	< 5.0
Trichloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0
Dibromomethane##	µg/kg	5	NONE	-	-	-	-	< 5.0
Bromodichloromethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	NONE	-	-	-	-	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	NONE	-	-	-	-	< 5.0
Toluene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1,2-Trichloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
1,3-Dichloropropane	µg/kg	5	NONE	-	-	-	-	< 5.0
Dibromochloromethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dibromoethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Chlorobenzene	µg/kg	5	NONE	-	-	-	-	< 5.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Lab Sample Number				2675014	2675015	2675016	2675017	2675018
Sample Reference				BH110	BH110	BH112	BH112	BH114
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	2.60-2.90	0.20-0.60	1.50-2.00	0.80-1.40
Date Sampled				04/05/2023	04/05/2023	04/05/2023	04/05/2023	04/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,1,1,2-Tetrachloroethane##	µg/kg	5	NONE	-	-	-	-	< 5.0
Ethylbenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
p & m-Xylene	µg/kg	5	NONE	-	-	-	-	< 5.0
Styrene###	µg/kg	5	NONE	-	-	-	-	< 5.0
Tribromomethane	µg/kg	5	NONE	-	-	-	-	< 5.0
o-Xylene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Isopropylbenzene###	µg/kg	5	NONE	-	-	-	-	< 5.0
Bromobenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
n-Propylbenzene###	µg/kg	5	NONE	-	-	-	-	< 5.0
2-Chlorotoluene	µg/kg	5	NONE	-	-	-	-	< 5.0
4-Chlorotoluene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
tert-Butylbenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
sec-Butylbenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,3-Dichlorobenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
p-Isopropyltoluene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dichlorobenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,4-Dichlorobenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
Butylbenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2,3-Trichlorobenzene###	µg/kg	5	NONE	-	-	-	-	< 5.0

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	0.26	0.38	< 0.20	< 0.20	0.73

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Phenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	-	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	NONE	-	-	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	NONE	-	-	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Isophorone	mg/kg	0.2	NONE	-	-	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	-	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Naphthalene	mg/kg	0.05	NONE	-	-	-	-	0.43
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33077
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2675014	2675015	2675016	2675017	2675018
Sample Reference				BH110	BH110	BH112	BH112	BH114
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	2.60-2.90	0.20-0.60	1.50-2.00	0.80-1.40
Date Sampled				04/05/2023	04/05/2023	04/05/2023	04/05/2023	04/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	0.8
2-Chloronaphthalene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	-	0.06
Acenaphthene	mg/kg	0.05	NONE	-	-	-	-	0.38
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	NONE	-	-	-	-	0.3
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	NONE	-	-	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Fluorene	mg/kg	0.05	NONE	-	-	-	-	0.41
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Phenanthrene	mg/kg	0.05	NONE	-	-	-	-	4.1
Anthracene	mg/kg	0.05	NONE	-	-	-	-	0.89
Carbazole	mg/kg	0.3	NONE	-	-	-	-	0.3
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Fluoranthene	mg/kg	0.05	NONE	-	-	-	-	6
Pyrene	mg/kg	0.05	NONE	-	-	-	-	4.8
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	-	-	3.6
Chrysene	mg/kg	0.05	NONE	-	-	-	-	3.7
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	3.9
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	1.9
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	-	-	2.9
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	-	-	1.7
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	-	-	0.59
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	-	-	1.7

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	NONE	< 0.001	-	-	-	-
PCB Congener 52	mg/kg	0.001	NONE	< 0.001	-	-	-	-
PCB Congener 101	mg/kg	0.001	NONE	0.001	-	-	-	-
PCB Congener 118	mg/kg	0.001	NONE	0.001	-	-	-	-
PCB Congener 138	mg/kg	0.001	NONE	0.002	-	-	-	-
PCB Congener 153	mg/kg	0.001	NONE	0.002	-	-	-	-
PCB Congener 180	mg/kg	0.001	NONE	0.002	-	-	-	-

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	NONE	0.008	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33077
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2675019	2675020	2675021
Sample Reference				BH114	BH120	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				2.40-2.60	0.60-0.80	2.40-2.90
Date Sampled				04/05/2023	04/05/2023	04/05/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	22	29	25
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.4
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SCA	SCA	SCA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.7	7.6	8.4
Electrical Conductivity	µS/cm	10	ISO 17025	1700	-	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	-	-
Free Cyanide	mg/kg	1	MCERTS	< 1.0	-	-
Total Sulphate as SO4	mg/kg	50	MCERTS	21000	1500	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	1.7	0.12	0.36
Sulphide	mg/kg	1	NONE	21	22	36
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	39	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	2.8	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	-	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	0.066	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	-	1.3
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	6.6	7.7	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	2.1	0.39	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	0.16	0.06	< 0.05
Acenaphthene	mg/kg	0.05	NONE	5.3	0.45	< 0.05
Fluorene	mg/kg	0.05	NONE	6.9	0.34	< 0.05
Phenanthrene	mg/kg	0.05	NONE	67	4.8	0.36
Anthracene	mg/kg	0.05	NONE	16	1.2	0.07
Fluoranthene	mg/kg	0.05	NONE	80	8.1	0.55
Pyrene	mg/kg	0.05	NONE	64	6.7	0.45
Benzo(a)anthracene	mg/kg	0.05	NONE	39	4.9	0.29
Chrysene	mg/kg	0.05	NONE	37	5	0.29
Benzo(b)fluoranthene	mg/kg	0.05	NONE	37	6.5	0.29
Benzo(k)fluoranthene	mg/kg	0.05	NONE	18	2.5	0.12
Benzo(a)pyrene	mg/kg	0.05	NONE	28	4.6	0.21
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	15	2.8	0.14
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	4.9	0.99	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	15	2.9	0.13

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	435	52.2	2.9

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33077
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2675019	2675020	2675021
Sample Reference				BH114	BH120	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				2.40-2.60	0.60-0.80	2.40-2.90
Date Sampled				04/05/2023	04/05/2023	04/05/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Heavy Metals / Metalloids						
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	4.1	-	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	18	19	22
Barium (aqua regia extractable)	mg/kg	1	MCERTS	130	280	26
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.66	1.1	0.78
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	2.7	4.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.3	2.3	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	-	3.9	< 1.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	11	61	21
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	8.3	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	170	92	59
Iron (aqua regia extractable)	mg/kg	40	MCERTS	15000	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	91	140	27
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	270	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	2.2	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	37	21
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	500	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	7.4	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	17	97	31
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	170	350	110
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	24000	-	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	950	-	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	680	-	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	210	-	-
Monoaromatics & Oxygenates						
Benzene	µg/kg	5	NONE	< 5.0	< 5.0	-
Toluene	µg/kg	5	NONE	< 5.0	< 5.0	-
Ethylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	-
p & m-xylene	µg/kg	5	NONE	< 5.0	< 5.0	-
o-xylene	µg/kg	5	NONE	< 5.0	< 5.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	-
Petroleum Hydrocarbons						
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	280	-	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	210	-	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	560	110	-
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	< 0.1	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Lab Sample Number				2675019	2675020	2675021
Sample Reference				BH114	BH120	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				2.40-2.60	0.60-0.80	2.40-2.90
Date Sampled				04/05/2023	04/05/2023	04/05/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	NONE	2.7	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	NONE	11	2.4	-
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	NONE	21	< 8.0	-
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	NONE	140	27	-
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	170	33	-
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	NONE	2.2	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	NONE	16	< 2.0	-
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	NONE	120	13	-
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	NONE	190	49	-
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	320	63	-
TPH (C10 - C25) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	NONE	260	-	-

VOCs

Chloromethane	µg/kg	5	NONE	< 5.0	-	-
Chloroethane	µg/kg	5	NONE	< 5.0	-	-
Bromomethane	µg/kg	5	NONE	< 5.0	-	-
Vinyl Chloride	µg/kg	5	NONE	< 5.0	-	-
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	-	-
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	-	-
Cis-1,2-dichloroethene	µg/kg	5	NONE	< 5.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	-	-
1,1-Dichloroethane	µg/kg	5	NONE	< 5.0	-	-
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	-	-
Trichloromethane	µg/kg	5	NONE	< 5.0	-	-
1,1,1-Trichloroethane	µg/kg	5	NONE	< 5.0	-	-
1,2-Dichloroethane	µg/kg	5	NONE	< 5.0	-	-
1,1-Dichloropropene	µg/kg	5	NONE	< 5.0	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	< 5.0	-	-
Benzene	µg/kg	5	NONE	< 5.0	-	-
Tetrachloromethane	µg/kg	5	NONE	< 5.0	-	-
1,2-Dichloropropane	µg/kg	5	NONE	< 5.0	-	-
Trichloroethene	µg/kg	5	NONE	< 5.0	-	-
Dibromomethane##	µg/kg	5	NONE	< 5.0	-	-
Bromodichloromethane	µg/kg	5	NONE	< 5.0	-	-
Cis-1,3-dichloropropene	µg/kg	5	NONE	< 5.0	-	-
Trans-1,3-dichloropropene	µg/kg	5	NONE	< 5.0	-	-
Toluene	µg/kg	5	NONE	< 5.0	-	-
1,1,2-Trichloroethane	µg/kg	5	NONE	< 5.0	-	-
1,3-Dichloropropane	µg/kg	5	NONE	< 5.0	-	-
Dibromochloromethane	µg/kg	5	NONE	< 5.0	-	-
Tetrachloroethene	µg/kg	5	NONE	< 5.0	-	-
1,2-Dibromoethane	µg/kg	5	NONE	< 5.0	-	-
Chlorobenzene	µg/kg	5	NONE	< 5.0	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33077
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2675019	2675020	2675021
Sample Reference				BH114	BH120	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				2.40-2.60	0.60-0.80	2.40-2.90
Date Sampled				04/05/2023	04/05/2023	04/05/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
1,1,1,2-Tetrachloroethane##	µg/kg	5	NONE	< 5.0	-	-
Ethylbenzene	µg/kg	5	NONE	< 5.0	-	-
p & m-Xylene	µg/kg	5	NONE	< 5.0	-	-
Styrene###	µg/kg	5	NONE	< 5.0	-	-
Tribromomethane	µg/kg	5	NONE	< 5.0	-	-
o-Xylene	µg/kg	5	NONE	< 5.0	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	-	-
Isopropylbenzene###	µg/kg	5	NONE	< 5.0	-	-
Bromobenzene	µg/kg	5	NONE	< 5.0	-	-
n-Propylbenzene###	µg/kg	5	NONE	< 5.0	-	-
2-Chlorotoluene	µg/kg	5	NONE	< 5.0	-	-
4-Chlorotoluene	µg/kg	5	NONE	< 5.0	-	-
1,3,5-Trimethylbenzene	µg/kg	5	NONE	< 5.0	-	-
tert-Butylbenzene	µg/kg	5	NONE	< 5.0	-	-
1,2,4-Trimethylbenzene	µg/kg	5	NONE	< 5.0	-	-
sec-Butylbenzene	µg/kg	5	NONE	< 5.0	-	-
1,3-Dichlorobenzene	µg/kg	5	NONE	< 5.0	-	-
p-Isopropyltoluene	µg/kg	5	NONE	< 5.0	-	-
1,2-Dichlorobenzene	µg/kg	5	NONE	< 5.0	-	-
1,4-Dichlorobenzene	µg/kg	5	NONE	< 5.0	-	-
Butylbenzene	µg/kg	5	NONE	< 5.0	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	< 5.0	-	-
1,2,4-Trichlorobenzene	µg/kg	5	NONE	< 5.0	-	-
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	-	-
1,2,3-Trichlorobenzene###	µg/kg	5	NONE	< 5.0	-	-

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	0.22	0.48	0.29

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	-	-
Phenol	mg/kg	0.2	NONE	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	NONE	< 0.3	-	-
Hexachloroethane	mg/kg	0.05	NONE	< 0.05	-	-
Nitrobenzene	mg/kg	0.3	NONE	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-	-
Isophorone	mg/kg	0.2	NONE	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	< 0.3	-	-
Naphthalene	mg/kg	0.05	NONE	2.1	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	< 0.1	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33077
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2675019	2675020	2675021
Sample Reference				BH114	BH120	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				2.40-2.60	0.60-0.80	2.40-2.90
Date Sampled				04/05/2023	04/05/2023	04/05/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	4	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	NONE	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	-	-
Acenaphthylene	mg/kg	0.05	NONE	0.16	-	-
Acenaphthene	mg/kg	0.05	NONE	5.3	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	-	-
Dibenzofuran	mg/kg	0.2	NONE	2.6	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	NONE	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	-	-
Fluorene	mg/kg	0.05	NONE	6.9	-	-
Azobenzene	mg/kg	0.3	NONE	< 0.3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	< 0.2	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	< 0.3	-	-
Phenanthrene	mg/kg	0.05	NONE	67	-	-
Anthracene	mg/kg	0.05	NONE	16	-	-
Carbazole	mg/kg	0.3	NONE	10	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	-	-
Anthraquinone	mg/kg	0.3	NONE	3.4	-	-
Fluoranthene	mg/kg	0.05	NONE	80	-	-
Pyrene	mg/kg	0.05	NONE	64	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	39	-	-
Chrysene	mg/kg	0.05	NONE	37	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	37	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	18	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	28	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	15	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	4.9	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	15	-	-

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	NONE	-	< 0.001	-
PCB Congener 52	mg/kg	0.001	NONE	-	0.002	-
PCB Congener 101	mg/kg	0.001	NONE	-	0.003	-
PCB Congener 118	mg/kg	0.001	NONE	-	0.003	-
PCB Congener 138	mg/kg	0.001	NONE	-	0.006	-
PCB Congener 153	mg/kg	0.001	NONE	-	0.004	-
PCB Congener 180	mg/kg	0.001	NONE	-	0.003	-

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	NONE	-	0.021	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33077
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2675022
Sample Reference				BH110
Sample Number				None Supplied
Depth (m)				0.60-0.80
Date Sampled				04/05/2023
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status	
General Inorganics				
pH (automated)	pH Units	N/A	ISO 17025	7.1
Total Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO_4	mg/l	0.1	ISO 17025	5.9
Sulphide	µg/l	5	NONE	< 5.0
Total Organic Carbon (TOC)	mg/l	0.1	NONE	8.62
Total Phenols				
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2
Heavy Metals / Metalloids				
Arsenic (dissolved)	µg/l	1	ISO 17025	1.8
Barium (dissolved)	µg/l	0.05	ISO 17025	67
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	16
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4
Copper (dissolved)	µg/l	0.7	ISO 17025	13
Lead (dissolved)	µg/l	1	ISO 17025	2.2
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.8
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	2.8
Zinc (dissolved)	µg/l	0.4	ISO 17025	14

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-33077
Project / Site name: Phoenix Wharf Port Talbot

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2675014	BH110	None Supplied	0.60-0.80	Brown loam and clay with gravel and vegetation.
2675015	BH110	None Supplied	2.60-2.90	Grey clay and sand.
2675016	BH112	None Supplied	0.20-0.60	Brown loam and clay with gravel and vegetation.
2675017	BH112	None Supplied	1.50-2.00	Grey clay and sand with gravel.
2675018	BH114	None Supplied	0.80-1.40	Brown clay and loam with gravel and vegetation.
2675019	BH114	None Supplied	2.40-2.60	Grey clay and sand.
2675020	BH120	None Supplied	0.60-0.80	Brown loam and sand with gravel and vegetation.
2675021	BH120	None Supplied	2.40-2.90	Grey clay and sand.

Analytical Report Number : 23-33077
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
NRA Leachate Prep	10:1 extract with de-ionised water shaken for 24 hours then filtered.	In-house method based on National Rivers Authority	L020-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Complex Cyanide in soil	Determination of complex cyanide by calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
DRO C10-28 (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by electrometric measurement.	In-house method	L031-PL	D	ISO 17025
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE

Analytical Report Number : 23-33077
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	NONE
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon in leachate	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

Analytical Report Number : 23-33077
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	NONE
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
DRO (Soil)	Determination of extractable hydrocarbons in soil by GC-MS/FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	NONE
Alcohols in soil by HS-GC-MS	Determination of alcohols in soil by headspace GC-MS.	In house method	L054B-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE

Analytical Report Number : 23-33077
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

###Quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.
##Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

Sample Deviation Report

Analytical Report Number : 23-33077
Project / Site name: Phoenix Wharf Port Talbot

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH110	None Supplied	S	2675015	b	Alcohols in soil by HS-GC-MS	L054B-PL	b

Mitchell Tucker
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

t: 01749 677 760
f: 01749 679 345
e: mitchell.tucker@tecon.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-33780

Replaces Analytical Report Number: 23-33780, issue no. 1
Client references/information amended. Depth added to sample BH116 as per client request.
The report has been updated to the current Schedule of Accreditation issue No: 116 Issue date: 12 June 2023. Changes to the VOC report template- change of the name of compound or change of the order of compound for selected parameters.

Project / Site name:	Phoenix Wharf, Port Talbot	Samples received on:	16/05/2023
Your job number:	2111006 005	Samples instructed on/ Analysis started on:	16/05/2023
Your order number:		Analysis completed by:	05/06/2023
Report Issue Number:	2	Report issued on:	17/08/2023
Samples Analysed:	2 leachate samples - 6 soil samples - 2 water samples		

Signed: Izabela Wójcik

Izabela Wójcik
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679165	2679166	2679167	2679168	2679169
Sample Reference				BH108	BH108	BH108	BH111	BH111
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.40	1.50-1.80	3.20-3.40	0.60-0.80	2.60-2.80
Date Sampled				12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	26	26	15	19
Total mass of sample received	kg	0.001	NONE	1	1	1	1	0.4

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	Chrysotile- Loose Fibres	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KSZ	KSZ	KSZ	KSZ	KSZ

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.9	7.7	7.8	10.3	8.5
Electrical Conductivity	µS/cm	10	ISO 17025	-	260	-	400	-
Total Cyanide	mg/kg	1	MCERTS	1.6	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Free Cyanide	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Total Sulphate as SO4	mg/kg	50	MCERTS	1300	430	-	2100	650
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	0.11	0.21	0.16	-
Sulphide	mg/kg	1	MCERTS	19	33	37	40	17
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	26	-	37	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	< 0.5	-	< 0.5	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	-	-	0.015	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	0.061	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.7	-	2.5	1.5	0.8
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	6.1	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.87	14	0.45	0.43	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.15	< 0.05	< 0.05	0.2	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.63	19	0.67	1.8	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.56	19	0.72	2.1	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	6.1	250	7.6	26	0.32
Anthracene	mg/kg	0.05	MCERTS	1.5	73	2	7.1	0.07
Fluoranthene	mg/kg	0.05	MCERTS	8.9	320	10	28	0.37
Pyrene	mg/kg	0.05	MCERTS	7.6	300	9.1	24	0.31
Benzo(a)anthracene	mg/kg	0.05	MCERTS	4.5	180	4.7	15	0.18
Chrysene	mg/kg	0.05	MCERTS	4.9	180	4.8	14	0.19
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	5.9	220	5.7	13	0.22
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.9	69	1.7	6.4	0.09
Benzo(a)pyrene	mg/kg	0.05	MCERTS	4.4	200	4.7	11	0.17
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.9	110	2.7	5.6	0.11
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.93	30	0.84	1.8	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.6	130	3.4	6.1	0.13
Coronene	mg/kg	0.05	NONE	2.2	-	-	-	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	2110	59.2	163	-
Total WAC-17 PAHs	mg/kg	0.85	NONE	57.5	-	-	-	2.16

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679165	2679166	2679167	2679168	2679169
Sample Reference				BH108	BH108	BH108	BH111	BH111
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.40	1.50-1.80	3.20-3.40	0.60-0.80	2.60-2.80
Date Sampled				12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	3.9	-	20	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	60	52	41	27	16
Barium (aqua regia extractable)	mg/kg	1	MCERTS	180	250	80	410	38
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1	1.2	1.2	2	0.96
Boron (water soluble)	mg/kg	0.2	MCERTS	1	2.7	12	2.4	1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3	< 0.2	< 0.2	17	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	-	< 1.2	-	< 1.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	< 1.8	-	< 1.8	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	120	14	34	400	39
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	14	-	26	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	310	320	85	800	24
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	20000	-	150000	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	170	71	30	170	23
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	230	-	3800	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	3.9	-	78	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	33	35	44	69	24
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	1100	-	3900	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	3	-	78	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	160	28	48	410	43
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	1100	78	160	2000	200
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	6300	-	76000	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	1500	-	8500	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	1100	-	1800	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	490	-	2300	-
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	< 5.0
Petroleum Hydrocarbons								
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	980	-	96	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	350	-	< 10	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	MCERTS	86	1800	-	160	10
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679165	2679166	2679167	2679168	2679169
Sample Reference				BH108	BH108	BH108	BH111	BH111
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.40	1.50-1.80	3.20-3.40	0.60-0.80	2.60-2.80
Date Sampled				12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	2.1	5.2	-	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	40	-	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	13	250	-	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	19	290	-	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	2.3	-	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	3.5	24	-	5.7	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	17	380	-	60	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	40	880	-	110	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	61	1300	-	180	< 10
TPH (C10 - C25) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	MCERTS	-	720	-	86	-

VOCs

Chloromethane##	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Chloroethane	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
Bromomethane^	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
1,1-dichloroethene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
1,1-dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
2,2-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Chloroform	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,2-dichloroethane##	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Benzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	-
Carbontetrachloride	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
1,2-dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Trichloroethene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Dibromomethane##	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Trans-1,3-dichloropropene##	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Toluene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Chlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679165	2679166	2679167	2679168	2679169
Sample Reference				BH108	BH108	BH108	BH111	BH111
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.40	1.50-1.80	3.20-3.40	0.60-0.80	2.60-2.80
Date Sampled				12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,1,1,2-Tetrachloroethane##	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	-
p & m-xylene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	-
Styrene^	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
Bromoform	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
o-xylene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	-
Isopropylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Bromobenzene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
N-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Tert-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Sec-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,3-dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
P-Isopropyltoluene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,4-dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,2-dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Butylbenzene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,2,4-Trichlorobenzene##	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
1,2,3-Trichlorobenzene##	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20

SVOCs

Aniline	mg/kg	0.1	NONE	-	11	-	1.4	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	< 0.05	-	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	-	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Naphthalene	mg/kg	0.05	MCERTS	-	14	-	0.43	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679165	2679166	2679167	2679168	2679169
Sample Reference				BH108	BH108	BH108	BH111	BH111
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.40	1.50-1.80	3.20-3.40	0.60-0.80	2.60-2.80
Date Sampled				12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	7.7	-	0.5	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-	0.2	-
Acenaphthene	mg/kg	0.05	MCERTS	-	19	-	1.8	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	13	-	1.4	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	-
Fluorene	mg/kg	0.05	MCERTS	-	19	-	2.1	-
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	-	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Phenanthrene	mg/kg	0.05	MCERTS	-	250	-	26	-
Anthracene	mg/kg	0.05	MCERTS	-	73	-	7.1	-
Carbazole	mg/kg	0.3	MCERTS	-	37	-	4.7	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	-
Anthraquinone	mg/kg	0.3	NONE	-	18	-	1.7	-
Fluoranthene	mg/kg	0.05	MCERTS	-	320	-	28	-
Pyrene	mg/kg	0.05	MCERTS	-	300	-	24	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	-	< 0.3	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	180	-	15	-
Chrysene	mg/kg	0.05	MCERTS	-	180	-	14	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	220	-	13	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	69	-	6.4	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	200	-	11	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	110	-	5.6	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	30	-	1.8	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	130	-	6.1	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679172
Sample Reference				BH116
Sample Number				None Supplied
Depth (m)				0.50-0.90
Date Sampled				12/05/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	-
Moisture Content	%	0.01	NONE	-
Total mass of sample received	kg	0.001	NONE	-

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite- Loose Fibres
Asbestos in Soil	Type	N/A	ISO 17025	Detected
Asbestos Analyst ID	N/A	N/A	N/A	KSZ

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-
Electrical Conductivity	µS/cm	10	ISO 17025	-
Total Cyanide	mg/kg	1	MCERTS	-
Complex Cyanide	mg/kg	1	MCERTS	-
Free Cyanide	mg/kg	1	MCERTS	-
Total Sulphate as SO4	mg/kg	50	MCERTS	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-
Sulphide	mg/kg	1	MCERTS	-
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-
Acenaphthylene	mg/kg	0.05	MCERTS	-
Acenaphthene	mg/kg	0.05	MCERTS	-
Fluorene	mg/kg	0.05	MCERTS	-
Phenanthrene	mg/kg	0.05	MCERTS	-
Anthracene	mg/kg	0.05	MCERTS	-
Fluoranthene	mg/kg	0.05	MCERTS	-
Pyrene	mg/kg	0.05	MCERTS	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-
Chrysene	mg/kg	0.05	MCERTS	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-
Coronene	mg/kg	0.05	NONE	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-
Total WAC-17 PAHs	mg/kg	0.85	NONE	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679172
Sample Reference				BH116
Sample Number				None Supplied
Depth (m)				0.50-0.90
Date Sampled				12/05/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Heavy Metals / Metalloids				
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-
Barium (aqua regia extractable)	mg/kg	1	MCERTS	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-
Chromium (hexavalent)	mg/kg	1.2	NONE	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-
Monoaromatics & Oxygenates				
Benzene	µg/kg	5	MCERTS	-
Toluene	µg/kg	5	MCERTS	-
Ethylbenzene	µg/kg	5	MCERTS	-
p & m-xylene	µg/kg	5	MCERTS	-
o-xylene	µg/kg	5	MCERTS	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-
Petroleum Hydrocarbons				
Diesel Range Organics (C10 - C28) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	50	NONE	-
Mineral Oil (C10 - C40) $_{EH\_CU\_1D\_AL}$	mg/kg	10	NONE	-
TPH C10 - C40 $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	MCERTS	-
TPH2 (C6 - C10) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	NONE	-

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679172
Sample Reference				BH116
Sample Number				None Supplied
Depth (m)				0.50-0.90
Date Sampled				12/05/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	-
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	-
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	-
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	-
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	-
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	-
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	-
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	-
TPH (C10 - C25) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	MCERTS	-

VOCs

Chloromethane##	µg/kg	5	ISO 17025	-
Chloroethane	µg/kg	5	NONE	-
Bromomethane^	µg/kg	5	NONE	-
Vinyl Chloride	µg/kg	5	NONE	-
Trichlorofluoromethane	µg/kg	5	NONE	-
1,1-dichloroethene	µg/kg	5	NONE	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-
1,1-dichloroethane	µg/kg	5	ISO 17025	-
2,2-Dichloropropane	µg/kg	5	ISO 17025	-
Chloroform	µg/kg	5	NONE	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-
1,2-dichloroethane##	µg/kg	5	ISO 17025	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-
Benzene	µg/kg	5	MCERTS	-
Carbontetrachloride	µg/kg	5	NONE	-
1,2-dichloropropane	µg/kg	5	ISO 17025	-
Trichloroethene	µg/kg	5	ISO 17025	-
Dibromomethane##	µg/kg	5	ISO 17025	-
Bromodichloromethane	µg/kg	5	ISO 17025	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-
Trans-1,3-dichloropropene##	µg/kg	5	ISO 17025	-
Toluene	µg/kg	5	MCERTS	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-
Dibromochloromethane	µg/kg	5	ISO 17025	-
Tetrachloroethene	µg/kg	5	NONE	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-
Chlorobenzene	µg/kg	5	ISO 17025	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679172
Sample Reference				BH116
Sample Number				None Supplied
Depth (m)				0.50-0.90
Date Sampled				12/05/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
1,1,1,2-Tetrachloroethane##	µg/kg	5	ISO 17025	-
Ethylbenzene	µg/kg	5	MCERTS	-
p & m-xylene	µg/kg	5	MCERTS	-
Styrene^	µg/kg	5	NONE	-
Bromoform	µg/kg	5	NONE	-
o-xylene	µg/kg	5	MCERTS	-
Isopropylbenzene	µg/kg	5	ISO 17025	-
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	-
Bromobenzene	µg/kg	5	NONE	-
N-Propylbenzene	µg/kg	5	ISO 17025	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-
Tert-Butylbenzene	µg/kg	5	ISO 17025	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-
Sec-Butylbenzene	µg/kg	5	ISO 17025	-
1,3-dichlorobenzene	µg/kg	5	ISO 17025	-
P-Isopropyltoluene	µg/kg	5	ISO 17025	-
1,4-dichlorobenzene	µg/kg	5	ISO 17025	-
1,2-dichlorobenzene	µg/kg	5	ISO 17025	-
Butylbenzene	µg/kg	5	NONE	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-
1,2,4-Trichlorobenzene##	µg/kg	5	ISO 17025	-
Hexachlorobutadiene	µg/kg	5	NONE	-
1,2,3-Trichlorobenzene##	µg/kg	5	ISO 17025	-

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	-

SVOCs

Aniline	mg/kg	0.1	NONE	-
Phenol	mg/kg	0.2	ISO 17025	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-
2-Methylphenol	mg/kg	0.3	MCERTS	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-
Nitrobenzene	mg/kg	0.3	MCERTS	-
4-Methylphenol	mg/kg	0.2	NONE	-
Isophorone	mg/kg	0.2	MCERTS	-
2-Nitrophenol	mg/kg	0.3	NONE	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-
Naphthalene	mg/kg	0.05	MCERTS	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-
4-Chloroaniline	mg/kg	0.1	NONE	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679172
Sample Reference				BH116
Sample Number				None Supplied
Depth (m)				0.50-0.90
Date Sampled				12/05/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-
Acenaphthylene	mg/kg	0.05	MCERTS	-
Acenaphthene	mg/kg	0.05	MCERTS	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-
Dibenzofuran	mg/kg	0.2	MCERTS	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-
4-Nitroaniline	mg/kg	0.2	NONE	-
Fluorene	mg/kg	0.05	MCERTS	-
Azobenzene	mg/kg	0.3	NONE	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-
Phenanthrene	mg/kg	0.05	MCERTS	-
Anthracene	mg/kg	0.05	MCERTS	-
Carbazole	mg/kg	0.3	MCERTS	-
Dibutyl phthalate	mg/kg	0.2	NONE	-
Anthraquinone	mg/kg	0.3	NONE	-
Fluoranthene	mg/kg	0.05	MCERTS	-
Pyrene	mg/kg	0.05	MCERTS	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-
Chrysene	mg/kg	0.05	MCERTS	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679170	2679171
Sample Reference				U1	BH112
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				12/05/2023	12/05/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
General Inorganics					
pH (L099)	pH Units	N/A	ISO 17025	8.8	8.4
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	1400	5900
Total Cyanide	µg/l	10	ISO 17025	21	< 10
Complex Cyanide	µg/l	10	ISO 17025	21	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	241000	137000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	180	1800
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	25000	4400
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	11.9	9.34
Total Phenols					
Total Phenols (monohydric)	µg/l	10	ISO 17025	51	10
Speciated PAHs					
Naphthalene	µg/l	0.01	ISO 17025	539	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	14.4	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	16.1	< 0.01
Fluorene	µg/l	0.01	ISO 17025	27.7	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	47.3	< 0.01
Anthracene	µg/l	0.01	ISO 17025	10.2	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	41.2	0.39
Pyrene	µg/l	0.01	ISO 17025	30.2	0.62
Benzo(a)anthracene	µg/l	0.01	ISO 17025	16.2	0.17
Chrysene	µg/l	0.01	ISO 17025	14.5	0.21
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	20	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	8.2	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	14.9	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	10.4	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	0.94	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	12.3	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	824	1.39
Heavy Metals / Metalloids					
Boron (dissolved)	µg/l	10	ISO 17025	430	480
Calcium (dissolved)	mg/l	0.012	ISO 17025	75	140
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	U/S$
Iron (dissolved)	mg/l	0.004	ISO 17025	0.047	0.021
Magnesium (dissolved)	mg/l	0.005	ISO 17025	30	72
Phosphorus (dissolved)	µg/l	20	ISO 17025	683	335
Potassium (dissolved)	mg/l	0.025	ISO 17025	27	41
Sodium (dissolved)	mg/l	0.01	ISO 17025	210	1100

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679170	2679171
Sample Reference				U1	BH112
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				12/05/2023	12/05/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.4	2.1
Arsenic (dissolved)	µg/l	0.15	ISO 17025	54.8	9.95
Barium (dissolved)	µg/l	0.06	ISO 17025	260	94
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.03
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.2	4.4
Cobalt (dissolved)	µg/l	0.2	ISO 17025	0.5	1
Copper (dissolved)	µg/l	0.5	ISO 17025	1.3	2.2
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	220	880
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	6.7	17
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.6	1.8
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	7.5
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	5.8	18
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.2	3.9
Monoaromatics & Oxygenates#					
Benzene	µg/l	3	NONE	< 3.0	< 3.0
Toluene	µg/l	3	NONE	< 3.0	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0	< 3.0
p & m-xylene	µg/l	3	NONE	11.9	< 3.0
o-xylene	µg/l	3	NONE	10.8	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0	< 3.0
Petroleum Hydrocarbons					
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	300
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	460	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	460	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	300
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	300
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	170	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	140	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	100	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	50	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	460	< 10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679170	2679171
Sample Reference				U1	BH112
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				12/05/2023	12/05/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
VOCs#					
Chloromethane	µg/l	3	NONE	< 3.0	< 3.0
Chloroethane	µg/l	3	NONE	< 3.0	< 3.0
Bromomethane	µg/l	3	NONE	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	NONE	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	NONE	< 3.0	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	NONE	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	NONE	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0
Chloroform	µg/l	3	NONE	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	NONE	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	NONE	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	NONE	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	NONE	< 3.0	< 3.0
Benzene	µg/l	3	NONE	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	NONE	< 3.0	< 3.0
1,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0
Trichloroethene	µg/l	3	NONE	< 3.0	< 3.0
Dibromomethane	µg/l	3	NONE	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	NONE	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	NONE	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	NONE	< 3.0	< 3.0
Toluene	µg/l	3	NONE	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	NONE	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	NONE	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	NONE	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	NONE	< 3.0	< 3.0
Chlorobenzene	µg/l	3	NONE	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0	< 3.0
p & m-Xylene	µg/l	3	NONE	11.9	< 3.0
Styrene	µg/l	3	NONE	< 3.0	< 3.0
Bromoform	µg/l	3	NONE	< 3.0	< 3.0
o-Xylene	µg/l	3	NONE	10.8	< 3.0
Isopropylbenzene	µg/l	3	NONE	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0
Bromobenzene	µg/l	3	NONE	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	NONE	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	NONE	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	NONE	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	NONE	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	NONE	6.5	< 3.0
sec-Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	NONE	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679170	2679171
Sample Reference				U1	BH112
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				12/05/2023	12/05/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	NONE	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	NONE	< 3.0	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0

Alcohols by headspace GC-MS

Ethanol	mg/l	0.1	NONE	< 0.10	< 0.10

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	540	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	21	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	14	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	16	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	9.6	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	28	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	47	< 0.01
Anthracene	µg/l	0.01	ISO 17025	10	< 0.01
Carbazole	µg/l	0.05	NONE	21	< 0.05

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679170	2679171
Sample Reference				U1	BH112
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				12/05/2023	12/05/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	41	0.39
Pyrene	µg/l	0.01	ISO 17025	30	0.62
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	16	0.17
Chrysene	µg/l	0.01	ISO 17025	15	0.21
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	20	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	8.2	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	15	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	10	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	0.94	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	12	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2679173	2679174
Sample Reference				BH108	BH111
Sample Number				None Supplied	None Supplied
Depth (m)				1.50-1.80	0.60-0.80
Date Sampled				12/05/2023	12/05/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status		
General Inorganics					
pH (automated)	pH Units	N/A	ISO 17025	7.5	10.3
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10
Sulphate as SO_4	mg/l	0.1	ISO 17025	16.9	10.5
Sulphide	µg/l	5	NONE	< 5.0	< 5.0
Total Organic Carbon (TOC)	mg/l	0.1	NONE	5.47	5.32
Total Phenols					
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10
Speciated PAHs					
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	0.36	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	0.26	< 0.01
Pyrene	µg/l	0.01	ISO 17025	0.27	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.2	NONE	0.9	< 0.2
Heavy Metals / Metalloids					
Arsenic (dissolved)	µg/l	1	ISO 17025	15	5.8
Barium (dissolved)	µg/l	0.05	ISO 17025	27	14
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	100	18
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	0.14
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4	1.5
Copper (dissolved)	µg/l	0.7	ISO 17025	16	13
Lead (dissolved)	µg/l	1	ISO 17025	3.9	4
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.7	0.5
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	3.8	230
Zinc (dissolved)	µg/l	0.4	ISO 17025	6.5	13

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2679165	BH108	None Supplied	0.20-0.40	Brown clay and sand with gravel and vegetation.
2679166	BH108	None Supplied	1.50-1.80	Black sand with gravel.
2679167	BH108	None Supplied	3.20-3.40	Brown clay.
2679168	BH111	None Supplied	0.60-0.80	Brown sand with gravel and vegetation.
2679169	BH111	None Supplied	2.60-2.80	Grey clay.

Analytical Report Number : 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
NRA Leachate Prep	10:1 extract with de-ionised water shaken for 24 hours then filtered.	In-house method based on National Rivers Authority	L020-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Complex Cyanide in soil	Determination of complex cyanide by calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Complex cyanide in water	Determination of complex cyanide by calculation. Accredited matrices SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
DRO C10-28 (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method with silica gel split/clean up.	L076-PL	D	NONE

Analytical Report Number : 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Electrical conductivity of soil	Determination of electrical conductivity in soil by electrometric measurement.	In-house method	L031-PL	D	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Mineral Oil (Waters) C10 - C40	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270.	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS

Analytical Report Number : 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	NONE
TPH2 (Waters)	Determination of hydrocarbons C6-C10 by headspace GC-MS. Accredited Matrices SW, PW. GW.	In-house method based on USEPA8260	L088-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total organic carbon in leachate	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

Analytical Report Number : 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
DRO (Soil)	Determination of extractable hydrocarbons in soil by GC-MS/FID.	In-house method with silica gel split/clean up.	L076-PL	D	MCERTS
DRO (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Alcohols in soil by HS-GC-MS	Determination of alcohols in soil by headspace GC-MS.	In house method	L054B-PL	W	NONE
Alcohols in water by HS-GC-MS	Determination of alcohols in water by headspace GC-MS.	In house method	L054B-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS

Analytical Report Number : 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	ISO 17025
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Chloride in water	Determination of Chloride (diissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

^ - Data reported unaccredited due to quality control parameter failure associated with this result; The result should be considered as being deviating and may be compromised.

- Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

$U/S due to high variances between chromium (hexavalent) and chromium (dissolved) caused by method differences.

Sample Deviation Report

Analytical Report Number : 23-33780
Project / Site name: Phoenix Wharf, Port Talbot

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH108	None Supplied	S	2679165	b	Alcohols in soil by HS-GC-MS	L054B-PL	b
BH108	None Supplied	S	2679165	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
BH108	None Supplied	S	2679165	b	TPHCWG (Soil)	L088/76-PL	b
BH108	None Supplied	S	2679166	b	Alcohols in soil by HS-GC-MS	L054B-PL	b
BH108	None Supplied	S	2679166	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
BH108	None Supplied	S	2679166	b	TPH2 (Soil)	L088-PL	b
BH108	None Supplied	S	2679166	b	TPHCWG (Soil)	L088/76-PL	b
BH108	None Supplied	S	2679166	b	Volatile organic compounds in soil	L073B-PL	b
BH108	None Supplied	S	2679167	b	Alcohols in soil by HS-GC-MS	L054B-PL	b
BH111	None Supplied	S	2679168	b	Alcohols in soil by HS-GC-MS	L054B-PL	b
BH111	None Supplied	S	2679168	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
BH111	None Supplied	S	2679168	b	TPH2 (Soil)	L088-PL	b
BH111	None Supplied	S	2679168	b	TPHCWG (Soil)	L088/76-PL	b
BH111	None Supplied	S	2679168	b	Volatile organic compounds in soil	L073B-PL	b
BH111	None Supplied	S	2679169	b	Alcohols in soil by HS-GC-MS	L054B-PL	b
BH111	None Supplied	S	2679169	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
BH111	None Supplied	S	2679169	b	TPHCWG (Soil)	L088/76-PL	b
BH112	None Supplied	W	2679171	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH112	None Supplied	W	2679171	c	Ammonium as NH4 in water	L082-PL	c
BH112	None Supplied	W	2679171	c	Electrical conductivity at 20oC of water	L031-PL	c
BH112	None Supplied	W	2679171	c	pH at 20oC in water (automated)	L099-PL	c
U1	None Supplied	W	2679170	c	Ammoniacal Nitrogen as N in water	L082-PL	c
U1	None Supplied	W	2679170	c	Ammonium as NH4 in water	L082-PL	c
U1	None Supplied	W	2679170	c	Electrical conductivity at 20oC of water	L031-PL	c
U1	None Supplied	W	2679170	c	pH at 20oC in water (automated)	L099-PL	c

Mitchell Tucker
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

t: 01749 677 760
f: 01749 679 345
e: mitchell.tucker@tecon.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-34660

Project / Site name:	Phoenix Wharf, Port Talbot	Samples received on:	18/05/2023
Your job number:	2111006 005	Samples instructed on/ Analysis started on:	19/05/2023
Your order number:		Analysis completed by:	26/05/2023
Report Issue Number:	1	Report issued on:	02/06/2023
Samples Analysed:	5 soil samples		

Signed:

Anna Goc
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34660
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2684340	2684341	2684342	2684343	2684344
Sample Reference				BH101	BH101	BH104	BH105	BH106
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50-1.00	1.50-2.00	1.50-2.00	0.60-3.00	1.00-2.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	IZJ	IZJ	IZJ	IZJ	IZJ

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-34660
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Sample Deviation Report

Analytical Report Number : 23-34660
Project / Site name: Phoenix Wharf, Port Talbot

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	S	2684340	a	None Supplied	None Supplied	None Supplied
BH101	None Supplied	S	2684341	a	None Supplied	None Supplied	None Supplied
BH104	None Supplied	S	2684342	a	None Supplied	None Supplied	None Supplied
BH105	None Supplied	S	2684343	a	None Supplied	None Supplied	None Supplied
BH106	None Supplied	S	2684344	a	None Supplied	None Supplied	None Supplied

Mitchell Tucker
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

t: 01749 677 760
f: 01749 679 345
e: mitchell.tucker@tecon.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-34952

Project / Site name:	Phoenix Wharf Port Talbot	Samples received on:	22/05/2023
Your job number:	2111006 005	Samples instructed on/ Analysis started on:	22/05/2023
Your order number:		Analysis completed by:	07/06/2023
Report Issue Number:	1	Report issued on:	08/06/2023
Samples Analysed:	13 leachate samples - 45 soil samples		

Signed:

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686245	2686246	2686247	2686248
Sample Reference				TP101	TP101	TP102	TP102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40-0.60	1.80-2.20	0.40-0.60	1.60-2.00
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	21	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	16	17	20
Total mass of sample received	kg	0.001	NONE	0.3	0.4	0.4	0.4
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Amosite- Loose Fibrous Debris	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KSZ	KSZ	KSZ	KSZ

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.5	8.7	8.7	8.2
Electrical Conductivity	µS/cm	10	ISO 17025	-	-	-	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	-	-	-
Free Cyanide	mg/kg	1	MCERTS	-	-	-	-
Total Sulphate as SO4	mg/kg	50	MCERTS	-	-	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.056	0.11	0.0068	0.016
Sulphide	mg/kg	1	NONE	9.2	75	1.2	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	-	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	-	-	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2	1.7	0.2	0.4
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	0.86	1.6	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	0.55	0.87	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	NONE	0.16	0.33	< 0.05	< 0.05
Fluorene	mg/kg	0.05	NONE	0.33	0.81	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	NONE	2.8	4.7	0.11	< 0.05
Anthracene	mg/kg	0.05	NONE	1.2	2.4	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	NONE	6.4	9.5	0.12	< 0.05
Pyrene	mg/kg	0.05	NONE	4.4	6.7	0.09	< 0.05
Benzo(a)anthracene	mg/kg	0.05	NONE	4.8	6.8	< 0.05	< 0.05
Chrysene	mg/kg	0.05	NONE	4.9	6.9	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	NONE	6	8.2	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	NONE	1.8	2.4	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	NONE	3.3	4.8	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	2.2	3.1	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	0.81	1.2	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	2.2	3	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	42.6	63.2	< 0.80	< 0.80

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686245	2686246	2686247	2686248
Sample Reference				TP101	TP101	TP102	TP102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40-0.60	1.80-2.20	0.40-0.60	1.60-2.00
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Heavy Metals / Metalloids							
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	-	-	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	42	41	9.8	8.8
Barium (aqua regia extractable)	mg/kg	1	MCERTS	380	260	11	18
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.3	1.8	0.35	0.9
Boron (water soluble)	mg/kg	0.2	MCERTS	1.2	1.1	0.4	1.1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3.5	2.5	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	94	100	12	31
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	150	150	24	18
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	380	260	11	17
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	39	36	11	28
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	150	160	17	38
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	800	580	45	79
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	NONE	-	-	-	-
Toluene	µg/kg	5	NONE	-	-	-	-
Ethylbenzene	µg/kg	5	NONE	-	-	-	-
p & m-xylene	µg/kg	5	NONE	-	-	-	-
o-xylene	µg/kg	5	NONE	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686245	2686246	2686247	2686248
Sample Reference				TP101	TP101	TP102	TP102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40-0.60	1.80-2.20	0.40-0.60	1.60-2.00
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Petroleum Hydrocarbons							
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	-	-	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	-	-	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	-	-	-	-
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	-	-	-
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	NONE	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	NONE	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	NONE	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	NONE	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	NONE	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	NONE	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	NONE	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	NONE	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	-	-	-
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	-	-	-	-
VOCs							
Chloromethane	µg/kg	5	NONE	-	-	-	-
Chloroethane	µg/kg	5	NONE	-	-	-	-
Bromomethane	µg/kg	5	NONE	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	NONE	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-	-
1,1-Dichloroethane	µg/kg	5	NONE	-	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-
Trichloromethane	µg/kg	5	NONE	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	NONE	-	-	-	-
1,2-Dichloroethane	µg/kg	5	NONE	-	-	-	-
1,1-Dichloropropene	µg/kg	5	NONE	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	-	-	-
Benzene	µg/kg	5	NONE	-	-	-	-
Tetrachloromethane	µg/kg	5	NONE	-	-	-	-
1,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-
Trichloroethene	µg/kg	5	NONE	-	-	-	-
Dibromomethane	µg/kg	5	NONE	-	-	-	-
Bromodichloromethane	µg/kg	5	NONE	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	NONE	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	NONE	-	-	-	-
Toluene	µg/kg	5	NONE	-	-	-	-

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686245	2686246	2686247	2686248
Sample Reference				TP101	TP101	TP102	TP102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40-0.60	1.80-2.20	0.40-0.60	1.60-2.00
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
1,1,2-Trichloroethane	µg/kg	5	NONE	-	-	-	-
1,3-Dichloropropane	µg/kg	5	NONE	-	-	-	-
Dibromochloromethane	µg/kg	5	NONE	-	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-
1,2-Dibromoethane	µg/kg	5	NONE	-	-	-	-
Chlorobenzene	µg/kg	5	NONE	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-
Ethylbenzene	µg/kg	5	NONE	-	-	-	-
p & m-Xylene	µg/kg	5	NONE	-	-	-	-
Styrene	µg/kg	5	NONE	-	-	-	-
Tribromomethane	µg/kg	5	NONE	-	-	-	-
o-Xylene	µg/kg	5	NONE	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-
Isopropylbenzene	µg/kg	5	NONE	-	-	-	-
Bromobenzene	µg/kg	5	NONE	-	-	-	-
n-Propylbenzene	µg/kg	5	NONE	-	-	-	-
2-Chlorotoluene	µg/kg	5	NONE	-	-	-	-
4-Chlorotoluene	µg/kg	5	NONE	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-	-	-	-
tert-Butylbenzene	µg/kg	5	NONE	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-	-	-	-
sec-Butylbenzene	µg/kg	5	NONE	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	NONE	-	-	-	-
p-Isopropyltoluene	µg/kg	5	NONE	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	NONE	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	NONE	-	-	-	-
Butylbenzene	µg/kg	5	NONE	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	NONE	-	-	-	-

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	< 0.20	< 0.20	0.64	0.66

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-
Aniline+	mg/kg	2	NONE	-	-	-	-
Phenol	mg/kg	0.2	NONE	-	-	-	-
Phenol+	mg/kg	4	NONE	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	-	-	-
2-Chlorophenol+	mg/kg	2	NONE	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	-	-	-
Bis(2-chloroethyl)ether+	mg/kg	4	NONE	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-
1,3-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	-	-	-
1,2-Dichlorobenzene+	mg/kg	2	NONE	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-
1,4-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	-	-	-
Bis(2-chloroisopropyl)ether+	mg/kg	2	NONE	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	-	-	-
2-Methylphenol+	mg/kg	6	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686245	2686246	2686247	2686248
Sample Reference				TP101	TP101	TP102	TP102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40-0.60	1.80-2.20	0.40-0.60	1.60-2.00
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Hexachloroethane	mg/kg	0.05	NONE	-	-	-	-
Hexachloroethane+	mg/kg	1	NONE	-	-	-	-
Nitrobenzene	mg/kg	0.3	NONE	-	-	-	-
Nitrobenzene+	mg/kg	6	NONE	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-
4-Methylphenol+	mg/kg	4	NONE	-	-	-	-
Isophorone	mg/kg	0.2	NONE	-	-	-	-
Isophorone+	mg/kg	4	NONE	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-
2-Nitrophenol+	mg/kg	6	NONE	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-	-	-
2,4-Dimethylphenol+	mg/kg	6	NONE	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	-	-	-
Bis(2-chloroethoxy)methane+	mg/kg	6	NONE	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	-	-	-
1,2,4-Trichlorobenzene+	mg/kg	6	NONE	-	-	-	-
Naphthalene	mg/kg	0.05	NONE	-	-	-	-
Naphthalene+	mg/kg	1	NONE	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-	-	-
2,4-Dichlorophenol+	mg/kg	6	NONE	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-
4-Chloroaniline+	mg/kg	2	NONE	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-	-	-	-
Hexachlorobutadiene+	mg/kg	2	NONE	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-
4-Chloro-3-methylphenol+	mg/kg	2	NONE	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-
2,4,6-Trichlorophenol+	mg/kg	2	NONE	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-
2,4,5-Trichlorophenol+	mg/kg	4	NONE	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-
2-Methylnaphthalene+	mg/kg	2	NONE	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-	-	-	-
2-Chloronaphthalene+	mg/kg	2	NONE	-	-	-	-
Dimethylphthalate	mg/kg	0.1	NONE	-	-	-	-
Dimethylphthalate+	mg/kg	2	NONE	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-
2,6-Dinitrotoluene	mg/kg	2	NONE	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	-
Acenaphthylene+	mg/kg	1	NONE	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-	-	-
Acenaphthene+	mg/kg	1	NONE	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-
2,4-Dinitrotoluene+	mg/kg	4	NONE	-	-	-	-
Dibenzofuran	mg/kg	0.2	NONE	-	-	-	-
Dibenzofuran+	mg/kg	4	NONE	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	-	-	-
4-Chlorophenyl phenyl ether+	mg/kg	6	NONE	-	-	-	-
Diethyl phthalate	mg/kg	0.2	NONE	-	-	-	-
Diethyl phthalate+	mg/kg	4	NONE	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-
4-Nitroaniline+	mg/kg	4	NONE	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	-	-	-
Fluorene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686245	2686246	2686247	2686248
Sample Reference				TP101	TP101	TP102	TP102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40-0.60	1.80-2.20	0.40-0.60	1.60-2.00
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Azobenzene	mg/kg	0.3	NONE	-	-	-	-
Azobenzene+	mg/kg	6	NONE	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	-	-	-
Bromophenyl phenyl ether+	mg/kg	4	NONE	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	-	-	-	-
Hexachlorobenzene+	mg/kg	6	NONE	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-	-	-
Phenanthrene+	mg/kg	1	NONE	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	-	-	-
Anthracene+	mg/kg	1	NONE	-	-	-	-
Carbazole	mg/kg	0.3	NONE	-	-	-	-
Carbazole+	mg/kg	6	NONE	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-
Dibutyl phthalate+	mg/kg	4	NONE	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-
Anthraquinone+	mg/kg	6	NONE	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-	-	-
Fluoranthene+	mg/kg	1	NONE	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	-	-	-
Pyrene+	mg/kg	1	NONE	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-
Butyl benzyl phthalate+	mg/kg	6	NONE	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	-	-
Benzo(a)anthracene+	mg/kg	1	NONE	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	-	-	-
Chrysene+	mg/kg	1	NONE	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	-	-
Benzo(b)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	-	-
Benzo(k)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	-	-
Benzo(a)pyrene+	mg/kg	1	NONE	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	-	-
Indeno(1,2,3-cd)pyrene+	mg/kg	1	NONE	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	-	-
Dibenz(a,h)anthracene+	mg/kg	1	NONE	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	-	-
Benzo(ghi)perylene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686245	2686246	2686247	2686248
Sample Reference				TP101	TP101	TP102	TP102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40-0.60	1.80-2.20	0.40-0.60	1.60-2.00
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
PCBs by GC-MS							
PCB Congener 28	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 52	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 101	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 118	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 138	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 153	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 180	mg/kg	0.001	NONE	-	-	-	-
Total PCBs by GC-MS							
Total PCBs	mg/kg	0.007	NONE	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686249	2686250	2686251	2686252
Sample Reference				TP104	TP104	TP106	TP108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.60	1.80-2.20	0.40-0.60	0.40-0.60
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	22	23	23	22
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KSZ	KSZ	KSZ	KSZ

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.9	8.4	8.3	10
Electrical Conductivity	µS/cm	10	ISO 17025	-	-	130	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	-
Free Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	-
Total Sulphate as SO4	mg/kg	50	MCERTS	530	620	710	1600
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.039	0.25	0.03	0.16
Sulphide	mg/kg	1	NONE	2.3	67	< 1.0	130
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	17	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	-	< 0.5	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	-	0.022	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.7	0.9	2.2	3.7
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	0.52	< 0.05	0.42	1.5
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	0.2
Acenaphthene	mg/kg	0.05	NONE	2.6	< 0.05	< 0.05	1.7
Fluorene	mg/kg	0.05	NONE	2.8	< 0.05	0.2	1.7
Phenanthrene	mg/kg	0.05	NONE	32	0.16	1.4	20
Anthracene	mg/kg	0.05	NONE	8.1	< 0.05	0.23	4.8
Fluoranthene	mg/kg	0.05	NONE	34	0.18	1.3	28
Pyrene	mg/kg	0.05	NONE	29	0.17	1.1	25
Benzo(a)anthracene	mg/kg	0.05	NONE	16	< 0.05	0.66	15
Chrysene	mg/kg	0.05	NONE	14	< 0.05	0.79	14
Benzo(b)fluoranthene	mg/kg	0.05	NONE	16	0.11	0.86	19
Benzo(k)fluoranthene	mg/kg	0.05	NONE	5	< 0.05	0.21	6.3
Benzo(a)pyrene	mg/kg	0.05	NONE	13	0.06	0.45	14
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	6.1	< 0.05	0.31	8.1
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	1.1	< 0.05	0.09	1.8
Benzo(ghi)perylene	mg/kg	0.05	NONE	5.9	< 0.05	0.36	8.9

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	187	< 0.80	8.33	168

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686249	2686250	2686251	2686252
Sample Reference				TP104	TP104	TP106	TP108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.60	1.80-2.20	0.40-0.60	0.40-0.60
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Heavy Metals / Metalloids							
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	-	5.1	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	28	8.1	32	40
Barium (aqua regia extractable)	mg/kg	1	MCERTS	120	15	80	450
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.85	0.66	0.33	2.5
Boron (water soluble)	mg/kg	0.2	MCERTS	1.8	2.1	0.5	1.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.2	< 0.2	< 0.2	12
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2	-	< 1.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	< 1.8	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	23	6.6	42
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	-	3.9	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	91	17	150	710
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	-	16000	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	88	13	56	230
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	-	580	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	-	3.6	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	20	11	44
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	450	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	-	2.2	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	47	33	13	46
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	190	57	80	650
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	3400	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	710	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	550	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	250	-
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0###	< 5.0
Toluene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0###	< 5.0
Ethylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0###	< 5.0
p & m-xylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0###	< 5.0
o-xylene	µg/kg	5	NONE	< 5.0###	< 5.0###	< 5.0###	< 5.0###
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0###	< 5.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686249	2686250	2686251	2686252
Sample Reference				TP104	TP104	TP106	TP108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.60	1.80-2.20	0.40-0.60	0.40-0.60
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Petroleum Hydrocarbons							
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	-	< 50	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	-	75	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	180	< 10	75	200
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	-	< 0.1	-
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	NONE	< 1.0	< 1.0	1.2	1.3
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	NONE	< 2.0	< 2.0	5.2	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	NONE	< 8.0	< 8.0	18	8.5
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	NONE	< 8.0	< 8.0	42	49
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	67	61
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	NONE	1.3	< 1.0	< 1.0	5.7
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	NONE	6.5	< 2.0	< 2.0	9.6
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	NONE	74	< 10	< 10	38
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	NONE	94	< 10	< 10	89
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	180	< 10	< 10	140
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	-	-	38	-
VOCs							
Chloromethane	µg/kg	5	NONE	-	-	< 5.0###	-
Chloroethane	µg/kg	5	NONE	-	-	< 5.0###	-
Bromomethane	µg/kg	5	NONE	-	-	< 5.0###	-
Vinyl Chloride	µg/kg	5	NONE	-	-	< 5.0###	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	< 5.0###	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	< 5.0###	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	< 5.0###	-
Cis-1,2-dichloroethene	µg/kg	5	NONE	-	-	< 5.0###	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	< 5.0###	-
1,1-Dichloroethane	µg/kg	5	NONE	-	-	< 5.0###	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	< 5.0###	-
Trichloromethane	µg/kg	5	NONE	-	-	< 5.0###	-
1,1,1-Trichloroethane	µg/kg	5	NONE	-	-	< 5.0###	-
1,2-Dichloroethane	µg/kg	5	NONE	-	-	< 5.0###	-
1,1-Dichloropropene	µg/kg	5	NONE	-	-	< 5.0###	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	-	< 5.0###	-
Benzene	µg/kg	5	NONE	-	-	< 5.0###	-
Tetrachloromethane	µg/kg	5	NONE	-	-	< 5.0###	-
1,2-Dichloropropane	µg/kg	5	NONE	-	-	< 5.0###	-
Trichloroethene	µg/kg	5	NONE	-	-	< 5.0###	-
Dibromomethane	µg/kg	5	NONE	-	-	< 5.0###	-
Bromodichloromethane	µg/kg	5	NONE	-	-	< 5.0###	-
Cis-1,3-dichloropropene	µg/kg	5	NONE	-	-	< 5.0###	-
Trans-1,3-dichloropropene	µg/kg	5	NONE	-	-	< 5.0###	-
Toluene	µg/kg	5	NONE	-	-	< 5.0###	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686249	2686250	2686251	2686252
Sample Reference				TP104	TP104	TP106	TP108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.60	1.80-2.20	0.40-0.60	0.40-0.60
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
1,1,2-Trichloroethane	µg/kg	5	NONE	-	-	< 5.0###	-
1,3-Dichloropropane	µg/kg	5	NONE	-	-	< 5.0###	-
Dibromochloromethane	µg/kg	5	NONE	-	-	< 5.0###	-
Tetrachloroethene	µg/kg	5	NONE	-	-	< 5.0###	-
1,2-Dibromoethane	µg/kg	5	NONE	-	-	< 5.0###	-
Chlorobenzene	µg/kg	5	NONE	-	-	< 5.0###	-
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	-	-	< 5.0###	-
Ethylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
p & m-Xylene	µg/kg	5	NONE	-	-	< 5.0###	-
Styrene	µg/kg	5	NONE	-	-	< 5.0###	-
Tribromomethane	µg/kg	5	NONE	-	-	< 5.0###	-
o-Xylene	µg/kg	5	NONE	-	-	< 5.0###	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	< 5.0###	-
Isopropylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
Bromobenzene	µg/kg	5	NONE	-	-	< 5.0###	-
n-Propylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
2-Chlorotoluene	µg/kg	5	NONE	-	-	< 5.0###	-
4-Chlorotoluene	µg/kg	5	NONE	-	-	< 5.0###	-
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
tert-Butylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
sec-Butylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
1,3-Dichlorobenzene	µg/kg	5	NONE	-	-	< 5.0###	-
p-Isopropyltoluene	µg/kg	5	NONE	-	-	< 5.0###	-
1,2-Dichlorobenzene	µg/kg	5	NONE	-	-	< 5.0###	-
1,4-Dichlorobenzene	µg/kg	5	NONE	-	-	< 5.0###	-
Butylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-	-	< 5.0###	-
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-	-	< 5.0###	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	< 5.0###	-
1,2,3-Trichlorobenzene	µg/kg	5	NONE	-	-	< 5.0###	-

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	0.81	0.76	< 0.20	< 0.20

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	< 0.1	-
Aniline+	mg/kg	2	NONE	-	-	-	-
Phenol	mg/kg	0.2	NONE	-	-	< 0.2	-
Phenol+	mg/kg	4	NONE	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	-	< 0.1	-
2-Chlorophenol+	mg/kg	2	NONE	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	-	< 0.2	-
Bis(2-chloroethyl)ether+	mg/kg	4	NONE	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	< 0.2	-
1,3-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	-	< 0.1	-
1,2-Dichlorobenzene+	mg/kg	2	NONE	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	-	< 0.2	-
1,4-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	-	< 0.1	-
Bis(2-chloroisopropyl)ether+	mg/kg	2	NONE	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	-	< 0.3	-
2-Methylphenol+	mg/kg	6	NONE	-	-	-	-

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686249	2686250	2686251	2686252
Sample Reference				TP104	TP104	TP106	TP108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.60	1.80-2.20	0.40-0.60	0.40-0.60
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Hexachloroethane	mg/kg	0.05	NONE	-	-	< 0.05	-
Hexachloroethane+	mg/kg	1	NONE	-	-	-	-
Nitrobenzene	mg/kg	0.3	NONE	-	-	< 0.3	-
Nitrobenzene+	mg/kg	6	NONE	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2	-
4-Methylphenol+	mg/kg	4	NONE	-	-	-	-
Isophorone	mg/kg	0.2	NONE	-	-	< 0.2	-
Isophorone+	mg/kg	4	NONE	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	< 0.3	-
2-Nitrophenol+	mg/kg	6	NONE	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-	< 0.3	-
2,4-Dimethylphenol+	mg/kg	6	NONE	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	-	< 0.3	-
Bis(2-chloroethoxy)methane+	mg/kg	6	NONE	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	-	< 0.3	-
1,2,4-Trichlorobenzene+	mg/kg	6	NONE	-	-	-	-
Naphthalene	mg/kg	0.05	NONE	-	-	0.42	-
Naphthalene+	mg/kg	1	NONE	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-	< 0.3	-
2,4-Dichlorophenol+	mg/kg	6	NONE	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1	-
4-Chloroaniline+	mg/kg	2	NONE	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-	-	< 0.1	-
Hexachlorobutadiene+	mg/kg	2	NONE	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1	-
4-Chloro-3-methylphenol+	mg/kg	2	NONE	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	< 0.1	-
2,4,6-Trichlorophenol+	mg/kg	2	NONE	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	< 0.2	-
2,4,5-Trichlorophenol+	mg/kg	4	NONE	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	0.9	-
2-Methylnaphthalene+	mg/kg	2	NONE	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-	-	< 0.1	-
2-Chloronaphthalene+	mg/kg	2	NONE	-	-	-	-
Dimethylphthalate	mg/kg	0.1	NONE	-	-	< 0.1	-
Dimethylphthalate+	mg/kg	2	NONE	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	< 0.1	-
2,6-Dinitrotoluene	mg/kg	2	NONE	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-	< 0.05	-
Acenaphthylene+	mg/kg	1	NONE	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-	< 0.05	-
Acenaphthene+	mg/kg	1	NONE	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	< 0.2	-
2,4-Dinitrotoluene+	mg/kg	4	NONE	-	-	-	-
Dibenzofuran	mg/kg	0.2	NONE	-	-	< 0.2	-
Dibenzofuran+	mg/kg	4	NONE	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	-	< 0.3	-
4-Chlorophenyl phenyl ether+	mg/kg	6	NONE	-	-	-	-
Diethyl phthalate	mg/kg	0.2	NONE	-	-	< 0.2	-
Diethyl phthalate+	mg/kg	4	NONE	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	< 0.2	-
4-Nitroaniline+	mg/kg	4	NONE	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	-	0.2	-
Fluorene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686249	2686250	2686251	2686252
Sample Reference				TP104	TP104	TP106	TP108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.60	1.80-2.20	0.40-0.60	0.40-0.60
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Azobenzene	mg/kg	0.3	NONE	-	-	< 0.3	-
Azobenzene+	mg/kg	6	NONE	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	-	< 0.2	-
Bromophenyl phenyl ether+	mg/kg	4	NONE	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	-	-	< 0.3	-
Hexachlorobenzene+	mg/kg	6	NONE	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-	1.4	-
Phenanthrene+	mg/kg	1	NONE	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	-	0.23	-
Anthracene+	mg/kg	1	NONE	-	-	-	-
Carbazole	mg/kg	0.3	NONE	-	-	< 0.3	-
Carbazole+	mg/kg	6	NONE	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	< 0.2	-
Dibutyl phthalate+	mg/kg	4	NONE	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	< 0.3	-
Anthraquinone+	mg/kg	6	NONE	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-	1.3	-
Fluoranthene+	mg/kg	1	NONE	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	-	1.1	-
Pyrene+	mg/kg	1	NONE	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	< 0.3	-
Butyl benzyl phthalate+	mg/kg	6	NONE	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	0.66	-
Benzo(a)anthracene+	mg/kg	1	NONE	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	-	0.79	-
Chrysene+	mg/kg	1	NONE	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	0.86	-
Benzo(b)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	0.21	-
Benzo(k)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	0.45	-
Benzo(a)pyrene+	mg/kg	1	NONE	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	0.31	-
Indeno(1,2,3-cd)pyrene+	mg/kg	1	NONE	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	0.09	-
Dibenz(a,h)anthracene+	mg/kg	1	NONE	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	0.36	-
Benzo(ghi)perylene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686249	2686250	2686251	2686252
Sample Reference				TP104	TP104	TP106	TP108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.60	1.80-2.20	0.40-0.60	0.40-0.60
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
PCBs by GC-MS							
PCB Congener 28	mg/kg	0.001	NONE	-	-	< 0.001	-
PCB Congener 52	mg/kg	0.001	NONE	-	-	< 0.001	-
PCB Congener 101	mg/kg	0.001	NONE	-	-	0.001	-
PCB Congener 118	mg/kg	0.001	NONE	-	-	< 0.001	-
PCB Congener 138	mg/kg	0.001	NONE	-	-	0.001	-
PCB Congener 153	mg/kg	0.001	NONE	-	-	< 0.001	-
PCB Congener 180	mg/kg	0.001	NONE	-	-	< 0.001	-
Total PCBs by GC-MS							
Total PCBs	mg/kg	0.007	NONE	-	-	< 0.007	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686253	2686254	2686255	2686256
Sample Reference				TP108	TP109	TP109	TP113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50-1.60	0.20-0.40	2.40-2.60	0.80-1.00
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	27	21	29
Total mass of sample received	kg	0.001	NONE	0.4	0.3	0.3	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile - Loose Fibres	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KSZ	KSZ	SCA	SCA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.7	8.2	8.5	7.8
Electrical Conductivity	µS/cm	10	ISO 17025	-	260	210	280
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	4.1
Complex Cyanide	mg/kg	1	MCERTS	-	< 1.0	< 1.0	4.1
Free Cyanide	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	-	590	490	1700
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.027	0.12	0.086	0.097
Sulphide	mg/kg	1	NONE	16	24	33	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	36	42	18
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	< 0.5	3.9	< 0.5
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	0.037	0.012	0.0062
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.7	3.7	1.2	0.6
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	0.12	1.2	0.49	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	0.26	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	NONE	0.18	1.9	7.3	< 0.05
Fluorene	mg/kg	0.05	NONE	0.17	1.9	14	< 0.05
Phenanthrene	mg/kg	0.05	NONE	2.8	31	13	0.48
Anthracene	mg/kg	0.05	NONE	0.58	8.2	12	0.13
Fluoranthene	mg/kg	0.05	NONE	4.3	51	71	0.84
Pyrene	mg/kg	0.05	NONE	3.8	45	56	0.8
Benzo(a)anthracene	mg/kg	0.05	NONE	2.2	28	15	0.45
Chrysene	mg/kg	0.05	NONE	2.2	24	14	0.52
Benzo(b)fluoranthene	mg/kg	0.05	NONE	2.8	31	9.9	0.54
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.92	13	4.9	0.24
Benzo(a)pyrene	mg/kg	0.05	NONE	2.1	26	8.2	0.31
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	1.2	15	3.9	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	0.32	3.7	0.91	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	1.4	16	3.6	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	25	296	233	4.31

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686253	2686254	2686255	2686256
Sample Reference				TP108	TP109	TP109	TP113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50-1.60	0.20-0.40	2.40-2.60	0.80-1.00
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Heavy Metals / Metalloids							
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	8.3	4.8	70
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	28	13	15
Barium (aqua regia extractable)	mg/kg	1	MCERTS	42	270	69	190
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.42	1.3	0.47	0.39
Boron (water soluble)	mg/kg	0.2	MCERTS	1.2	1.3	1.8	1.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	2.2	0.6	14
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	12	38	14	69
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	13	5.5	6.5
Copper (aqua regia extractable)	mg/kg	1	MCERTS	56	370	390	9000
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	50000	20000	51000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	43	160	43	530
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	750	290	1100
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	17	1.9	1.6
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12	43	21	740
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	670	340	230
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	41	12	200
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	20	42	21	29
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	97	780	230	3400
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	40000	31000	9700
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	5400	3100	2800
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	1500	1100	260
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	660	400	410
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Toluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Ethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
p & m-xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
o-xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686253	2686254	2686255	2686256
Sample Reference				TP108	TP109	TP109	TP113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50-1.60	0.20-0.40	2.40-2.60	0.80-1.00
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Petroleum Hydrocarbons							
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	320	710	77
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	99	94	110
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	-	490	790	110
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	NONE	-	2.5	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	NONE	-	4.6	17	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	NONE	-	14	33	28
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	NONE	-	61	36	79
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	82	87	110
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	NONE	-	1.9	2	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	NONE	-	9.1	100	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	NONE	-	110	380	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	NONE	-	230	190	< 10
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	360	680	< 10
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	-	240	650	57
VOCs							
Chloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Chloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Bromomethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Cis-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1-Dichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Trichloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1,1-Trichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2-Dichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1-Dichloropropene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Benzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Tetrachloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Trichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Dibromomethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Bromodichloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Cis-1,3-dichloropropene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Trans-1,3-dichloropropene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Toluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686253	2686254	2686255	2686256
Sample Reference				TP108	TP109	TP109	TP113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50-1.60	0.20-0.40	2.40-2.60	0.80-1.00
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
1,1,2-Trichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,3-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Dibromochloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2-Dibromoethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Chlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Ethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
p & m-Xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Styrene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Tribromomethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
o-Xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Isopropylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Bromobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
n-Propylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
2-Chlorotoluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
4-Chlorotoluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
tert-Butylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
sec-Butylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,3-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
p-Isopropyltoluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,4-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Butylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2,3-Trichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	< 0.20	< 0.20	< 0.20	< 0.20

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
Aniline+	mg/kg	2	NONE	-	-	-	-
Phenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
Phenol+	mg/kg	4	NONE	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
2-Chlorophenol+	mg/kg	2	NONE	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
Bis(2-chloroethyl)ether+	mg/kg	4	NONE	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
1,2-Dichlorobenzene+	mg/kg	2	NONE	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
1,4-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether+	mg/kg	2	NONE	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
2-Methylphenol+	mg/kg	6	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686253	2686254	2686255	2686256
Sample Reference				TP108	TP109	TP109	TP113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50-1.60	0.20-0.40	2.40-2.60	0.80-1.00
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Hexachloroethane	mg/kg	0.05	NONE	-	< 0.05	< 0.05	< 0.05
Hexachloroethane+	mg/kg	1	NONE	-	-	-	-
Nitrobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
Nitrobenzene+	mg/kg	6	NONE	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
4-Methylphenol+	mg/kg	4	NONE	-	-	-	-
Isophorone	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
Isophorone+	mg/kg	4	NONE	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
2-Nitrophenol+	mg/kg	6	NONE	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol+	mg/kg	6	NONE	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane+	mg/kg	6	NONE	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene+	mg/kg	6	NONE	-	-	-	-
Naphthalene	mg/kg	0.05	NONE	-	1.2	0.49	< 0.05
Naphthalene+	mg/kg	1	NONE	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
2,4-Dichlorophenol+	mg/kg	6	NONE	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
4-Chloroaniline+	mg/kg	2	NONE	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene+	mg/kg	2	NONE	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol+	mg/kg	2	NONE	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol+	mg/kg	2	NONE	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
2,4,5-Trichlorophenol+	mg/kg	4	NONE	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	1.1	< 0.1	< 0.1
2-Methylnaphthalene+	mg/kg	2	NONE	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene+	mg/kg	2	NONE	-	-	-	-
Dimethylphthalate	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
Dimethylphthalate+	mg/kg	2	NONE	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	2	NONE	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	0.26	< 0.05	< 0.05
Acenaphthylene+	mg/kg	1	NONE	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	1.9	7.3	< 0.05
Acenaphthene+	mg/kg	1	NONE	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
2,4-Dinitrotoluene+	mg/kg	4	NONE	-	-	-	-
Dibenzofuran	mg/kg	0.2	NONE	-	1.4	3.7	< 0.2
Dibenzofuran+	mg/kg	4	NONE	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
4-Chlorophenyl phenyl ether+	mg/kg	6	NONE	-	-	-	-
Diethyl phthalate	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
Diethyl phthalate+	mg/kg	4	NONE	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
4-Nitroaniline+	mg/kg	4	NONE	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	1.9	14	< 0.05
Fluorene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686253	2686254	2686255	2686256
Sample Reference				TP108	TP109	TP109	TP113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50-1.60	0.20-0.40	2.40-2.60	0.80-1.00
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	0.3
Azobenzene+	mg/kg	6	NONE	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
Bromophenyl phenyl ether+	mg/kg	4	NONE	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
Hexachlorobenzene+	mg/kg	6	NONE	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	31	13	0.48
Phenanthrene+	mg/kg	1	NONE	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	8.2	12	0.13
Anthracene+	mg/kg	1	NONE	-	-	-	-
Carbazole	mg/kg	0.3	NONE	-	4.3	2	< 0.3
Carbazole+	mg/kg	6	NONE	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
Dibutyl phthalate+	mg/kg	4	NONE	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	2.8	3.1	< 0.3
Anthraquinone+	mg/kg	6	NONE	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	51	71	0.84
Fluoranthene+	mg/kg	1	NONE	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	45	56	0.8
Pyrene+	mg/kg	1	NONE	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
Butyl benzyl phthalate+	mg/kg	6	NONE	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	28	15	0.45
Benzo(a)anthracene+	mg/kg	1	NONE	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	24	14	0.52
Chrysene+	mg/kg	1	NONE	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	31	9.9	0.54
Benzo(b)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	13	4.9	0.24
Benzo(k)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	26	8.2	0.31
Benzo(a)pyrene+	mg/kg	1	NONE	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	15	3.9	< 0.05
Indeno(1,2,3-cd)pyrene+	mg/kg	1	NONE	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	3.7	0.91	< 0.05
Dibenz(a,h)anthracene+	mg/kg	1	NONE	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	16	3.6	< 0.05
Benzo(ghi)perylene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686253	2686254	2686255	2686256
Sample Reference				TP108	TP109	TP109	TP113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50-1.60	0.20-0.40	2.40-2.60	0.80-1.00
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
PCBs by GC-MS							
PCB Congener 28	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 52	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 101	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 118	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 138	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 153	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 180	mg/kg	0.001	NONE	-	-	-	-
Total PCBs by GC-MS							
Total PCBs	mg/kg	0.007	NONE	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686257	2686258	2686259	2686260
Sample Reference				TP113	TP116	TP116	TP115
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80-2.00	0.40-0.60	1.80-2.40	0.30-0.50
Date Sampled				15/05/2023	15/05/2023	15/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	34	14	24	10
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	Chrysotile, Amosite- Loose Fibres
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Detected
Asbestos Analyst ID	N/A	N/A	N/A	SCA	SCA	SCA	WEM

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4	8.2	7.9	9.6
Electrical Conductivity	µS/cm	10	ISO 17025	330	-	-	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	-	-	-
Free Cyanide	mg/kg	1	MCERTS	< 1.0	-	-	-
Total Sulphate as SO4	mg/kg	50	MCERTS	650	-	-	1500
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.051	0.36	0.24	0.062
Sulphide	mg/kg	1	NONE	< 1.0	1.2	47	75
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	16	-	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	1.3	-	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.0026	-	-	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.3	0.3	1.2	2.3
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	< 0.05	0.11	< 0.05	0.77
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	0.29
Acenaphthene	mg/kg	0.05	NONE	< 0.05	0.52	0.12	0.74
Fluorene	mg/kg	0.05	NONE	< 0.05	0.54	0.12	0.76
Phenanthrene	mg/kg	0.05	NONE	0.13	6.4	1.9	9.5
Anthracene	mg/kg	0.05	NONE	< 0.05	1.3	0.44	2.7
Fluoranthene	mg/kg	0.05	NONE	0.15	6.9	3.2	17
Pyrene	mg/kg	0.05	NONE	0.13	5.7	2.7	14
Benzo(a)anthracene	mg/kg	0.05	NONE	0.08	2.9	1.6	9.2
Chrysene	mg/kg	0.05	NONE	0.07	2.8	1.4	8.2
Benzo(b)fluoranthene	mg/kg	0.05	NONE	0.1	3.1	1.6	11
Benzo(k)fluoranthene	mg/kg	0.05	NONE	< 0.05	0.93	0.67	2.8
Benzo(a)pyrene	mg/kg	0.05	NONE	0.06	2.2	1.4	7.8
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	< 0.05	1.2	0.75	4.3
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	0.32	0.21	1.3
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05	1.4	0.83	4.5

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	< 0.80	36.2	17	94.4

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686257	2686258	2686259	2686260
Sample Reference				TP113	TP116	TP116	TP115
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80-2.00	0.40-0.60	1.80-2.40	0.30-0.50
Date Sampled				15/05/2023	15/05/2023	15/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Heavy Metals / Metalloids							
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	69	-	-	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	11	11	30
Barium (aqua regia extractable)	mg/kg	1	MCERTS	150	14	20	320
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.19	0.33	0.6	1.4
Boron (water soluble)	mg/kg	0.2	MCERTS	7.9	0.7	0.9	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	5.6	0.4	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	-	< 1.2	< 1.2	< 1.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	53	13	19	99
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	3.5	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	16000	99	10	100
Iron (aqua regia extractable)	mg/kg	40	MCERTS	4900	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	210	12	14	130
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	1400	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.59	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	300	15	16	26
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	480	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	340	-	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	18	17	27	120
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	5100	63	52	290
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	4500	-	-	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	4400	-	-	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	170	-	-	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	970	-	-	-
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	NONE	< 5.0###	-	-	< 5.0
Toluene	µg/kg	5	NONE	< 5.0###	-	-	< 5.0
Ethylbenzene	µg/kg	5	NONE	< 5.0###	-	-	< 5.0
p & m-xylene	µg/kg	5	NONE	< 5.0###	-	-	< 5.0
o-xylene	µg/kg	5	NONE	< 5.0###	-	-	< 5.0###
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0###	-	-	< 5.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686257	2686258	2686259	2686260
Sample Reference				TP113	TP116	TP116	TP115
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80-2.00	0.40-0.60	1.80-2.40	0.30-0.50
Date Sampled				15/05/2023	15/05/2023	15/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Petroleum Hydrocarbons							
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	< 50	-	-	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	< 10	-	-	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	< 10	-	-	120
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	< 0.1	-	-	-
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	< 0.001	-	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	< 0.001	-	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	< 0.001	-	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	NONE	< 1.0	-	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	NONE	< 2.0	-	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	NONE	< 8.0	-	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	NONE	< 8.0	-	-	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	-	-	< 10
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	-	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	-	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	-	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	NONE	< 1.0	-	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	NONE	< 2.0	-	-	3.3
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	NONE	< 10	-	-	35
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	NONE	< 10	-	-	70
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	-	-	110
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	< 10	-	-	-
VOCs							
Chloromethane	µg/kg	5	NONE	< 5.0###	-	-	-
Chloroethane	µg/kg	5	NONE	< 5.0###	-	-	-
Bromomethane	µg/kg	5	NONE	< 5.0###	-	-	-
Vinyl Chloride	µg/kg	5	NONE	< 5.0###	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0###	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0###	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0###	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	NONE	< 5.0###	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0###	-	-	-
1,1-Dichloroethane	µg/kg	5	NONE	< 5.0###	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0###	-	-	-
Trichloromethane	µg/kg	5	NONE	< 5.0###	-	-	-
1,1,1-Trichloroethane	µg/kg	5	NONE	< 5.0###	-	-	-
1,2-Dichloroethane	µg/kg	5	NONE	< 5.0###	-	-	-
1,1-Dichloropropene	µg/kg	5	NONE	< 5.0###	-	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	< 5.0###	-	-	-
Benzene	µg/kg	5	NONE	< 5.0###	-	-	-
Tetrachloromethane	µg/kg	5	NONE	< 5.0###	-	-	-
1,2-Dichloropropane	µg/kg	5	NONE	< 5.0###	-	-	-
Trichloroethene	µg/kg	5	NONE	< 5.0###	-	-	-
Dibromomethane	µg/kg	5	NONE	< 5.0###	-	-	-
Bromodichloromethane	µg/kg	5	NONE	< 5.0###	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	NONE	< 5.0###	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	NONE	< 5.0###	-	-	-
Toluene	µg/kg	5	NONE	< 5.0###	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686257	2686258	2686259	2686260
Sample Reference				TP113	TP116	TP116	TP115
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80-2.00	0.40-0.60	1.80-2.40	0.30-0.50
Date Sampled				15/05/2023	15/05/2023	15/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
1,1,2-Trichloroethane	µg/kg	5	NONE	< 5.0###	-	-	-
1,3-Dichloropropane	µg/kg	5	NONE	< 5.0###	-	-	-
Dibromochloromethane	µg/kg	5	NONE	< 5.0###	-	-	-
Tetrachloroethene	µg/kg	5	NONE	< 5.0###	-	-	-
1,2-Dibromoethane	µg/kg	5	NONE	< 5.0###	-	-	-
Chlorobenzene	µg/kg	5	NONE	< 5.0###	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0###	-	-	-
Ethylbenzene	µg/kg	5	NONE	< 5.0###	-	-	-
p & m-Xylene	µg/kg	5	NONE	< 5.0###	-	-	-
Styrene	µg/kg	5	NONE	< 5.0###	-	-	-
Tribromomethane	µg/kg	5	NONE	< 5.0###	-	-	-
o-Xylene	µg/kg	5	NONE	< 5.0###	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0###	-	-	-
Isopropylbenzene	µg/kg	5	NONE	< 5.0###	-	-	-
Bromobenzene	µg/kg	5	NONE	< 5.0###	-	-	-
n-Propylbenzene	µg/kg	5	NONE	< 5.0###	-	-	-
2-Chlorotoluene	µg/kg	5	NONE	< 5.0###	-	-	-
4-Chlorotoluene	µg/kg	5	NONE	< 5.0###	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	NONE	< 5.0###	-	-	-
tert-Butylbenzene	µg/kg	5	NONE	< 5.0###	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	NONE	< 5.0###	-	-	-
sec-Butylbenzene	µg/kg	5	NONE	< 5.0###	-	-	-
1,3-Dichlorobenzene	µg/kg	5	NONE	< 5.0###	-	-	-
p-Isopropyltoluene	µg/kg	5	NONE	< 5.0###	-	-	-
1,2-Dichlorobenzene	µg/kg	5	NONE	< 5.0###	-	-	-
1,4-Dichlorobenzene	µg/kg	5	NONE	< 5.0###	-	-	-
Butylbenzene	µg/kg	5	NONE	< 5.0###	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	< 5.0###	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	NONE	< 5.0###	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0###	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	NONE	< 5.0###	-	-	-

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	< 0.20	< 0.20	0.84	< 0.20

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	-	-	-
Aniline+	mg/kg	2	NONE	-	-	-	-
Phenol	mg/kg	0.2	NONE	< 0.2	-	-	-
Phenol+	mg/kg	4	NONE	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1	-	-	-
2-Chlorophenol+	mg/kg	2	NONE	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	< 0.2	-	-	-
Bis(2-chloroethyl)ether+	mg/kg	4	NONE	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	-	-	-
1,3-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	< 0.1	-	-	-
1,2-Dichlorobenzene+	mg/kg	2	NONE	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	-	-	-
1,4-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	< 0.1	-	-	-
Bis(2-chloroisopropyl)ether+	mg/kg	2	NONE	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	< 0.3	-	-	-
2-Methylphenol+	mg/kg	6	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686257	2686258	2686259	2686260
Sample Reference				TP113	TP116	TP116	TP115
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80-2.00	0.40-0.60	1.80-2.40	0.30-0.50
Date Sampled				15/05/2023	15/05/2023	15/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Hexachloroethane	mg/kg	0.05	NONE	< 0.05	-	-	-
Hexachloroethane+	mg/kg	1	NONE	-	-	-	-
Nitrobenzene	mg/kg	0.3	NONE	< 0.3	-	-	-
Nitrobenzene+	mg/kg	6	NONE	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-	-	-
4-Methylphenol+	mg/kg	4	NONE	-	-	-	-
Isophorone	mg/kg	0.2	NONE	< 0.2	-	-	-
Isophorone+	mg/kg	4	NONE	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	-	-	-
2-Nitrophenol+	mg/kg	6	NONE	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3	-	-	-
2,4-Dimethylphenol+	mg/kg	6	NONE	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	< 0.3	-	-	-
Bis(2-chloroethoxy)methane+	mg/kg	6	NONE	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	< 0.3	-	-	-
1,2,4-Trichlorobenzene+	mg/kg	6	NONE	-	-	-	-
Naphthalene	mg/kg	0.05	NONE	< 0.05	-	-	-
Naphthalene+	mg/kg	1	NONE	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3	-	-	-
2,4-Dichlorophenol+	mg/kg	6	NONE	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-	-	-
4-Chloroaniline+	mg/kg	2	NONE	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	< 0.1	-	-	-
Hexachlorobutadiene+	mg/kg	2	NONE	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	-	-	-
4-Chloro-3-methylphenol+	mg/kg	2	NONE	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	-	-	-
2,4,6-Trichlorophenol+	mg/kg	2	NONE	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	-	-	-
2,4,5-Trichlorophenol+	mg/kg	4	NONE	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	-	-	-
2-Methylnaphthalene+	mg/kg	2	NONE	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	< 0.1	-	-	-
2-Chloronaphthalene+	mg/kg	2	NONE	-	-	-	-
Dimethylphthalate	mg/kg	0.1	NONE	< 0.1	-	-	-
Dimethylphthalate+	mg/kg	2	NONE	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	-	-	-
2,6-Dinitrotoluene	mg/kg	2	NONE	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	-	-	-
Acenaphthylene+	mg/kg	1	NONE	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	< 0.05	-	-	-
Acenaphthene+	mg/kg	1	NONE	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	-	-	-
2,4-Dinitrotoluene+	mg/kg	4	NONE	-	-	-	-
Dibenzofuran	mg/kg	0.2	NONE	< 0.2	-	-	-
Dibenzofuran+	mg/kg	4	NONE	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	< 0.3	-	-	-
4-Chlorophenyl phenyl ether+	mg/kg	6	NONE	-	-	-	-
Diethyl phthalate	mg/kg	0.2	NONE	< 0.2	-	-	-
Diethyl phthalate+	mg/kg	4	NONE	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	-	-	-
4-Nitroaniline+	mg/kg	4	NONE	-	-	-	-
Fluorene	mg/kg	0.05	NONE	< 0.05	-	-	-
Fluorene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686257	2686258	2686259	2686260
Sample Reference				TP113	TP116	TP116	TP115
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80-2.00	0.40-0.60	1.80-2.40	0.30-0.50
Date Sampled				15/05/2023	15/05/2023	15/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Azobenzene	mg/kg	0.3	NONE	< 0.3	-	-	-
Azobenzene+	mg/kg	6	NONE	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	< 0.2	-	-	-
Bromophenyl phenyl ether+	mg/kg	4	NONE	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	< 0.3	-	-	-
Hexachlorobenzene+	mg/kg	6	NONE	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	0.13	-	-	-
Phenanthrene+	mg/kg	1	NONE	-	-	-	-
Anthracene	mg/kg	0.05	NONE	< 0.05	-	-	-
Anthracene+	mg/kg	1	NONE	-	-	-	-
Carbazole	mg/kg	0.3	NONE	< 0.3	-	-	-
Carbazole+	mg/kg	6	NONE	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	-	-	-
Dibutyl phthalate+	mg/kg	4	NONE	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	< 0.3	-	-	-
Anthraquinone+	mg/kg	6	NONE	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	0.15	-	-	-
Fluoranthene+	mg/kg	1	NONE	-	-	-	-
Pyrene	mg/kg	0.05	NONE	0.13	-	-	-
Pyrene+	mg/kg	1	NONE	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	-	-	-
Butyl benzyl phthalate+	mg/kg	6	NONE	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	0.08	-	-	-
Benzo(a)anthracene+	mg/kg	1	NONE	-	-	-	-
Chrysene	mg/kg	0.05	NONE	0.07	-	-	-
Chrysene+	mg/kg	1	NONE	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	0.1	-	-	-
Benzo(b)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	< 0.05	-	-	-
Benzo(k)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	0.06	-	-	-
Benzo(a)pyrene+	mg/kg	1	NONE	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	< 0.05	-	-	-
Indeno(1,2,3-cd)pyrene+	mg/kg	1	NONE	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	-	-	-
Dibenz(a,h)anthracene+	mg/kg	1	NONE	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05	-	-	-
Benzo(ghi)perylene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686257	2686258	2686259	2686260
Sample Reference				TP113	TP116	TP116	TP115
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80-2.00	0.40-0.60	1.80-2.40	0.30-0.50
Date Sampled				15/05/2023	15/05/2023	15/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
PCBs by GC-MS							
PCB Congener 28	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 52	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 101	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 118	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 138	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 153	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 180	mg/kg	0.001	NONE	-	-	-	-
Total PCBs by GC-MS							
Total PCBs	mg/kg	0.007	NONE	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686261	2686262	2686263	2686264
Sample Reference				TP115	TP120	TP120	TP119
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.40-1.60	0.40-0.60	1.80-2.00	0.60-0.80
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	24	24	23	25
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	WEM	WEM	WEM	WEM

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.6	8.2	8.4	7.9
Electrical Conductivity	µS/cm	10	ISO 17025	-	300	230	120
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	-	960	400	420
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.061	0.11	0.1	0.031
Sulphide	mg/kg	1	NONE	10	19	27	3.7
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	38	31	15
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	< 0.5	6.6	< 0.5
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	-	0.0079	0.061
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	0.11	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	-	0.8	6.1
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	8.3	11	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	17	140~	0.12	3.2
Acenaphthylene	mg/kg	0.05	NONE	2	< 1.0~	0.24	< 0.05
Acenaphthene	mg/kg	0.05	NONE	50	160~	0.31	16
Fluorene	mg/kg	0.05	NONE	45	170~	0.36	17
Phenanthrene	mg/kg	0.05	NONE	740	1500~ $	4.2	310
Anthracene	mg/kg	0.05	NONE	220	460~	0.94	73
Fluoranthene	mg/kg	0.05	NONE	980	1500~ $	6.5	450
Pyrene	mg/kg	0.05	NONE	800	1400~ $	5.8	380
Benzo(a)anthracene	mg/kg	0.05	NONE	510	860~	3.8	240
Chrysene	mg/kg	0.05	NONE	480	830~	3.3	230
Benzo(b)fluoranthene	mg/kg	0.05	NONE	500	820~	4.8	250
Benzo(k)fluoranthene	mg/kg	0.05	NONE	220	420~	1.1	100
Benzo(a)pyrene	mg/kg	0.05	NONE	450	770~	3.3	200
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	240	410~	1.8	97
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	60	120~	0.49	34
Benzo(ghi)perylene	mg/kg	0.05	NONE	240	440~	2	120

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	5550	10000~	39.1	2510

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686261	2686262	2686263	2686264
Sample Reference				TP115	TP120	TP120	TP119
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.40-1.60	0.40-0.60	1.80-2.00	0.60-0.80
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Heavy Metals / Metalloids							
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	5.1	1.5	5.8
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	30	38	12	110
Barium (aqua regia extractable)	mg/kg	1	MCERTS	190	470	21	210
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.57	1.2	0.47	0.95
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	0.8	1.5	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	2.7	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	19	14	21
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	16	6.1	12
Copper (aqua regia extractable)	mg/kg	1	MCERTS	120	330	21	790
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	42000	19000	40000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	40	330	19	150
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	600	210	470
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	3.5	0.5	3.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	38	13	27
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	1300	330	1100
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	12	2	8
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	23	44	24	47
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	81	3600	50	320
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	25000	29000	4300
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	2600	3900	1100
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	1300	1500	740
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	870	560	280
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Toluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Ethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
p & m-xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
o-xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686261	2686262	2686263	2686264
Sample Reference				TP115	TP120	TP120	TP119
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.40-1.60	0.40-0.60	1.80-2.00	0.60-0.80
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Petroleum Hydrocarbons							
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	4800	< 50	1400
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	270	< 10	100
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	-	7800	64	2200
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	NONE	-	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	NONE	-	4.7	< 2.0	7.4
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	NONE	-	25	< 8.0	9.8
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	NONE	-	200	< 8.0	77
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	230	< 10	94
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	NONE	-	22	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	NONE	-	230	< 2.0	22
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	NONE	-	2600	15	640
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	NONE	-	4200	37	1300
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	7100	54	2000
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	-	4400	27	1100
VOCs							
Chloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Chloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Bromomethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Cis-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1-Dichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Trichloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1,1-Trichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2-Dichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1-Dichloropropene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Benzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Tetrachloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Trichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Dibromomethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Bromodichloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Cis-1,3-dichloropropene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Trans-1,3-dichloropropene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Toluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686261	2686262	2686263	2686264
Sample Reference				TP115	TP120	TP120	TP119
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.40-1.60	0.40-0.60	1.80-2.00	0.60-0.80
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
1,1,2-Trichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,3-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Dibromochloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2-Dibromoethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Chlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Ethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
p & m-Xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Styrene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Tribromomethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
o-Xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Isopropylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Bromobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
n-Propylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
2-Chlorotoluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
4-Chlorotoluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
tert-Butylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
sec-Butylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,3-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
p-Isopropyltoluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,4-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Butylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2,3-Trichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	< 0.20	< 0.20	< 0.20	< 0.20

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	< 0.1	26
Aniline+	mg/kg	2	NONE	-	22	-	-
Phenol	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2
Phenol+	mg/kg	4	NONE	-	5.6	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1
2-Chlorophenol+	mg/kg	2	NONE	-	< 2.0	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2
Bis(2-chloroethyl)ether+	mg/kg	4	NONE	-	< 4.0	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2
1,3-Dichlorobenzene+	mg/kg	4	NONE	-	< 4.0	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1
1,2-Dichlorobenzene+	mg/kg	2	NONE	-	< 2.0	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2
1,4-Dichlorobenzene+	mg/kg	4	NONE	-	< 4.0	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether+	mg/kg	2	NONE	-	< 2.0	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	-	< 0.3	< 0.3
2-Methylphenol+	mg/kg	6	NONE	-	< 6.0	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686261	2686262	2686263	2686264
Sample Reference				TP115	TP120	TP120	TP119
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.40-1.60	0.40-0.60	1.80-2.00	0.60-0.80
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Hexachloroethane	mg/kg	0.05	NONE	-	-	< 0.05	< 0.05
Hexachloroethane+	mg/kg	1	NONE	-	< 1.0	-	-
Nitrobenzene	mg/kg	0.3	NONE	-	-	< 0.3	< 0.3
Nitrobenzene+	mg/kg	6	NONE	-	< 6.0	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2
4-Methylphenol+	mg/kg	4	NONE	-	9.6	-	-
Isophorone	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2
Isophorone+	mg/kg	4	NONE	-	< 4.0	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	< 0.3	< 0.3
2-Nitrophenol+	mg/kg	6	NONE	-	< 6.0	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-	< 0.3	< 0.3
2,4-Dimethylphenol+	mg/kg	6	NONE	-	7.7	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	-	< 0.3	< 0.3
Bis(2-chloroethoxy)methane+	mg/kg	6	NONE	-	< 6.0	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	-	< 0.3	< 0.3
1,2,4-Trichlorobenzene+	mg/kg	6	NONE	-	< 6.0	-	-
Naphthalene	mg/kg	0.05	NONE	-	-	0.12	3.2
Naphthalene+	mg/kg	1	NONE	-	140	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-	< 0.3	< 0.3
2,4-Dichlorophenol+	mg/kg	6	NONE	-	< 6.0	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1
4-Chloroaniline+	mg/kg	2	NONE	-	< 2.0	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1
Hexachlorobutadiene+	mg/kg	2	NONE	-	< 2.0	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1
4-Chloro-3-methylphenol+	mg/kg	2	NONE	-	< 2.0	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1
2,4,6-Trichlorophenol+	mg/kg	2	NONE	-	< 2.0	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2
2,4,5-Trichlorophenol+	mg/kg	4	NONE	-	< 4.0	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	< 0.1	3.9
2-Methylnaphthalene+	mg/kg	2	NONE	-	77	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1
2-Chloronaphthalene+	mg/kg	2	NONE	-	< 2.0	-	-
Dimethylphthalate	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1
Dimethylphthalate+	mg/kg	2	NONE	-	< 2.0	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	2	NONE	-	< 2.0	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-	0.24	< 0.05
Acenaphthylene+	mg/kg	1	NONE	-	< 1.0	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-	0.31	16
Acenaphthene+	mg/kg	1	NONE	-	160	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2
2,4-Dinitrotoluene+	mg/kg	4	NONE	-	< 4.0	-	-
Dibenzofuran	mg/kg	0.2	NONE	-	-	< 0.2	9.2
Dibenzofuran+	mg/kg	4	NONE	-	120	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	-	< 0.3	< 0.3
4-Chlorophenyl phenyl ether+	mg/kg	6	NONE	-	< 6.0	-	-
Diethyl phthalate	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2
Diethyl phthalate+	mg/kg	4	NONE	-	< 4.0	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2
4-Nitroaniline+	mg/kg	4	NONE	-	< 4.0	-	-
Fluorene	mg/kg	0.05	NONE	-	-	0.36	17
Fluorene+	mg/kg	1	NONE	-	170	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686261	2686262	2686263	2686264
Sample Reference				TP115	TP120	TP120	TP119
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.40-1.60	0.40-0.60	1.80-2.00	0.60-0.80
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Azobenzene	mg/kg	0.3	NONE	-	-	0.3	6.5
Azobenzene+	mg/kg	6	NONE	-	8.5	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2
Bromophenyl phenyl ether+	mg/kg	4	NONE	-	< 4.0	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	-	-	< 0.3	< 0.3
Hexachlorobenzene+	mg/kg	6	NONE	-	< 6.0	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-	4.2	310
Phenanthrene+	mg/kg	1	NONE	-	1500$	-	-
Anthracene	mg/kg	0.05	NONE	-	-	0.94	73
Anthracene+	mg/kg	1	NONE	-	460	-	-
Carbazole	mg/kg	0.3	NONE	-	-	0.6	50
Carbazole+	mg/kg	6	NONE	-	260	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2
Dibutyl phthalate+	mg/kg	4	NONE	-	< 4.0	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	0.3	31
Anthraquinone+	mg/kg	6	NONE	-	120	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-	6.5	450
Fluoranthene+	mg/kg	1	NONE	-	1500$	-	-
Pyrene	mg/kg	0.05	NONE	-	-	5.8	380
Pyrene+	mg/kg	1	NONE	-	1400$	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	< 0.3	< 0.3
Butyl benzyl phthalate+	mg/kg	6	NONE	-	< 6.0	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	3.8	240
Benzo(a)anthracene+	mg/kg	1	NONE	-	860	-	-
Chrysene	mg/kg	0.05	NONE	-	-	3.3	230
Chrysene+	mg/kg	1	NONE	-	830	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	4.8	250
Benzo(b)fluoranthene+	mg/kg	1	NONE	-	820	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	1.1	100
Benzo(k)fluoranthene+	mg/kg	1	NONE	-	420	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	3.3	200
Benzo(a)pyrene+	mg/kg	1	NONE	-	770	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	1.8	97
Indeno(1,2,3-cd)pyrene+	mg/kg	1	NONE	-	410	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	0.49	34
Dibenz(a,h)anthracene+	mg/kg	1	NONE	-	120	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	2	120
Benzo(ghi)perylene+	mg/kg	1	NONE	-	440	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686261	2686262	2686263	2686264
Sample Reference				TP115	TP120	TP120	TP119
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.40-1.60	0.40-0.60	1.80-2.00	0.60-0.80
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
PCBs by GC-MS							
PCB Congener 28	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 52	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 101	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 118	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 138	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 153	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 180	mg/kg	0.001	NONE	-	-	-	-
Total PCBs by GC-MS							
Total PCBs	mg/kg	0.007	NONE	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686265	2686266	2686267	2686268
Sample Reference				TP119	TP121	TP121	TP125
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80-2.20	0.60-0.80	1.40-1.60	0.80-1.00
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	22	21	25	14
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MWI	MWI	MWI	MWI

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8	7.6	8	7.5
Electrical Conductivity	µS/cm	10	ISO 17025	-	320	370	560
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	-	1800	560	2400
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.16	0.12	0.12	0.32
Sulphide	mg/kg	1	NONE	11	17	14	1.9
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	52	57	16
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	< 0.5	< 0.5	< 0.5
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	0.016	0.027	0.039
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.5	1.6	2.7	3.9
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	0.62	2	1.8	0.43
Acenaphthylene	mg/kg	0.05	NONE	0.2	0.11	0.17	0.11
Acenaphthene	mg/kg	0.05	NONE	0.8	1.4	2.8	0.49
Fluorene	mg/kg	0.05	NONE	1	1.4	2.5	0.5
Phenanthrene	mg/kg	0.05	NONE	12	15	30	4.7
Anthracene	mg/kg	0.05	NONE	2.8	3.9	7.2	0.84
Fluoranthene	mg/kg	0.05	NONE	17	18	37	5.4
Pyrene	mg/kg	0.05	NONE	15	17	33	4.7
Benzo(a)anthracene	mg/kg	0.05	NONE	9.1	9.9	20	2.8
Chrysene	mg/kg	0.05	NONE	8.6	8.1	17	2.7
Benzo(b)fluoranthene	mg/kg	0.05	NONE	11	11	23	3.4
Benzo(k)fluoranthene	mg/kg	0.05	NONE	2.5	3.2	6.9	1
Benzo(a)pyrene	mg/kg	0.05	NONE	7.7	8.5	18	2.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	3.9	4.6	9	1.4
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	1.2	1.2	2.4	0.38
Benzo(ghi)perylene	mg/kg	0.05	NONE	4	4.8	9.4	1.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	97.5	111	220	32.4

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686265	2686266	2686267	2686268
Sample Reference				TP119	TP121	TP121	TP125
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80-2.20	0.60-0.80	1.40-1.60	0.80-1.00
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Heavy Metals / Metalloids							
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	6.1	2.7	6.6
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21	160	55	27
Barium (aqua regia extractable)	mg/kg	1	MCERTS	1100	250	220	290
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.1	0.79	0.74	1.4
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	2.3	1.5	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	41	67	13	44
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	27	11	20
Copper (aqua regia extractable)	mg/kg	1	MCERTS	89	140	79	120
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	180000	35000	72000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	96	67	59	180
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	1400	390	1100
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	9.8	3.9	5.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	40	66	26	64
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	5400	1200	1500
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	4.1	4.5	38
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	15	170	26	42
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	150	150	120	230
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	12000	15000	10000
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	2200	2300	4900
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	1700	1000	1800
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	410	570	450
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Toluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Ethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
p & m-xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
o-xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686265	2686266	2686267	2686268
Sample Reference				TP119	TP121	TP121	TP125
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80-2.20	0.60-0.80	1.40-1.60	0.80-1.00
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Petroleum Hydrocarbons							
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	320	630	76
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	190	170	91
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	-	510	910	160
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	NONE	-	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	NONE	-	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	NONE	-	19	23	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	NONE	-	140	120	66
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	160	140	66
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	NONE	-	6.6	1.1	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	NONE	-	21	18	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	NONE	-	110	260	23
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	NONE	-	160	410	44
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	290	690	67
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	-	240	480	42
VOCs							
Chloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Chloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Bromomethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Cis-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1-Dichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Trichloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1,1-Trichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2-Dichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1-Dichloropropene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Benzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Tetrachloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Trichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Dibromomethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Bromodichloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Cis-1,3-dichloropropene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Trans-1,3-dichloropropene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Toluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686265	2686266	2686267	2686268
Sample Reference				TP119	TP121	TP121	TP125
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80-2.20	0.60-0.80	1.40-1.60	0.80-1.00
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
1,1,2-Trichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,3-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Dibromochloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2-Dibromoethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Chlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Ethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
p & m-Xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Styrene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Tribromomethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
o-Xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Isopropylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Bromobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
n-Propylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
2-Chlorotoluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
4-Chlorotoluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
tert-Butylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
sec-Butylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,3-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
p-Isopropyltoluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,4-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Butylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
1,2,3-Trichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	< 0.20	0.54	< 0.20	< 0.20

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
Aniline+	mg/kg	2	NONE	-	-	-	-
Phenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
Phenol+	mg/kg	4	NONE	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
2-Chlorophenol+	mg/kg	2	NONE	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
Bis(2-chloroethyl)ether+	mg/kg	4	NONE	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
1,2-Dichlorobenzene+	mg/kg	2	NONE	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
1,4-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether+	mg/kg	2	NONE	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
2-Methylphenol+	mg/kg	6	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686265	2686266	2686267	2686268
Sample Reference				TP119	TP121	TP121	TP125
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80-2.20	0.60-0.80	1.40-1.60	0.80-1.00
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Hexachloroethane	mg/kg	0.05	NONE	-	< 0.05	< 0.05	< 0.05
Hexachloroethane+	mg/kg	1	NONE	-	-	-	-
Nitrobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
Nitrobenzene+	mg/kg	6	NONE	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
4-Methylphenol+	mg/kg	4	NONE	-	-	-	-
Isophorone	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
Isophorone+	mg/kg	4	NONE	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
2-Nitrophenol+	mg/kg	6	NONE	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol+	mg/kg	6	NONE	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane+	mg/kg	6	NONE	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene+	mg/kg	6	NONE	-	-	-	-
Naphthalene	mg/kg	0.05	NONE	-	2	1.8	0.43
Naphthalene+	mg/kg	1	NONE	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
2,4-Dichlorophenol+	mg/kg	6	NONE	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
4-Chloroaniline+	mg/kg	2	NONE	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene+	mg/kg	2	NONE	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol+	mg/kg	2	NONE	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol+	mg/kg	2	NONE	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
2,4,5-Trichlorophenol+	mg/kg	4	NONE	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	1.5	1.2	0.9
2-Methylnaphthalene+	mg/kg	2	NONE	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene+	mg/kg	2	NONE	-	-	-	-
Dimethylphthalate	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
Dimethylphthalate+	mg/kg	2	NONE	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	2	NONE	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	0.11	0.17	0.11
Acenaphthylene+	mg/kg	1	NONE	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	1.4	2.8	0.49
Acenaphthene+	mg/kg	1	NONE	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
2,4-Dinitrotoluene+	mg/kg	4	NONE	-	-	-	-
Dibenzofuran	mg/kg	0.2	NONE	-	1	1.7	0.3
Dibenzofuran+	mg/kg	4	NONE	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
4-Chlorophenyl phenyl ether+	mg/kg	6	NONE	-	-	-	-
Diethyl phthalate	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
Diethyl phthalate+	mg/kg	4	NONE	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
4-Nitroaniline+	mg/kg	4	NONE	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	1.4	2.5	0.5
Fluorene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686265	2686266	2686267	2686268
Sample Reference				TP119	TP121	TP121	TP125
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80-2.20	0.60-0.80	1.40-1.60	0.80-1.00
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
Azobenzene+	mg/kg	6	NONE	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
Bromophenyl phenyl ether+	mg/kg	4	NONE	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
Hexachlorobenzene+	mg/kg	6	NONE	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	15	30	4.7
Phenanthrene+	mg/kg	1	NONE	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	3.9	7.2	0.84
Anthracene+	mg/kg	1	NONE	-	-	-	-
Carbazole	mg/kg	0.3	NONE	-	1.9	3.6	0.5
Carbazole+	mg/kg	6	NONE	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2
Dibutyl phthalate+	mg/kg	4	NONE	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	0.9	1.7	0.3
Anthraquinone+	mg/kg	6	NONE	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	18	37	5.4
Fluoranthene+	mg/kg	1	NONE	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	17	33	4.7
Pyrene+	mg/kg	1	NONE	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3
Butyl benzyl phthalate+	mg/kg	6	NONE	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	9.9	20	2.8
Benzo(a)anthracene+	mg/kg	1	NONE	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	8.1	17	2.7
Chrysene+	mg/kg	1	NONE	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	11	23	3.4
Benzo(b)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	3.2	6.9	1
Benzo(k)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	8.5	18	2.2
Benzo(a)pyrene+	mg/kg	1	NONE	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	4.6	9	1.4
Indeno(1,2,3-cd)pyrene+	mg/kg	1	NONE	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	1.2	2.4	0.38
Dibenz(a,h)anthracene+	mg/kg	1	NONE	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	4.8	9.4	1.4
Benzo(ghi)perylene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686265	2686266	2686267	2686268
Sample Reference				TP119	TP121	TP121	TP125
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.80-2.20	0.60-0.80	1.40-1.60	0.80-1.00
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
PCBs by GC-MS							
PCB Congener 28	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 52	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 101	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 118	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 138	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 153	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 180	mg/kg	0.001	NONE	-	-	-	-
Total PCBs by GC-MS							
Total PCBs	mg/kg	0.007	NONE	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686269	2686270	2686271	2686272
Sample Reference				TP126	TP127	TP127	TP128
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70-1.00	0.40-0.60	1.40-1.80	0.40-0.60
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	10	20	18	20
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.6
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MWI	MWI	MWI	MWI

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.3	8.1	8.5	7.6
Electrical Conductivity	µS/cm	10	ISO 17025	2600	230	-	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-
Total Sulphate as SO4	mg/kg	50	MCERTS	110000	1500	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	2	0.12	0.033	0.062
Sulphide	mg/kg	1	NONE	16	6.6	4.5	1.7
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	13	13	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	< 0.5	< 0.5	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.023	0.041	-	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.3	4.1	0.3	3.8
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	0.52	2.6	< 0.05	0.38
Acenaphthylene	mg/kg	0.05	NONE	0.11	0.65	< 0.05	0.11
Acenaphthene	mg/kg	0.05	NONE	0.83	5	< 0.05	0.28
Fluorene	mg/kg	0.05	NONE	0.86	5.2	< 0.05	0.3
Phenanthrene	mg/kg	0.05	NONE	14	52	0.32	2.8
Anthracene	mg/kg	0.05	NONE	3.2	14	0.08	0.62
Fluoranthene	mg/kg	0.05	NONE	22	56	0.4	4.1
Pyrene	mg/kg	0.05	NONE	19	46	0.37	3.5
Benzo(a)anthracene	mg/kg	0.05	NONE	12	29	0.19	2.6
Chrysene	mg/kg	0.05	NONE	11	23	0.17	2.5
Benzo(b)fluoranthene	mg/kg	0.05	NONE	13	30	0.23	3.5
Benzo(k)fluoranthene	mg/kg	0.05	NONE	5.3	9	0.06	1.1
Benzo(a)pyrene	mg/kg	0.05	NONE	10	22	0.16	2.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	6	12	0.09	1.4
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	1.6	3.2	< 0.05	0.44
Benzo(ghi)perylene	mg/kg	0.05	NONE	5.9	12	0.11	1.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	125	320	2.18	27.2

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686269	2686270	2686271	2686272
Sample Reference				TP126	TP127	TP127	TP128
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70-1.00	0.40-0.60	1.40-1.80	0.40-0.60
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Heavy Metals / Metalloids							
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	7.2	43	-	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	22	33	9	37
Barium (aqua regia extractable)	mg/kg	1	MCERTS	73	810	17	340
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.51	1.3	0.3	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	1	1.1	0.5	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.9	24	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	-	-	< 1.2	< 1.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	200	130	9.8	25
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	7.4	24	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	150	1500	17	99
Iron (aqua regia extractable)	mg/kg	40	MCERTS	50000	120000	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	230	370	13	110
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	4100	2000	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	2.4	14	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	200	10	39
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	4800	1600	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	9.7	110	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	220	110	17	39
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	250	1400	37	200
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	110000	16000	-	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	6200	3200	-	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	870	980	-	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	470	1100	-	-
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Toluene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Ethylbenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
p & m-xylene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
o-xylene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686269	2686270	2686271	2686272
Sample Reference				TP126	TP127	TP127	TP128
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70-1.00	0.40-0.60	1.40-1.80	0.40-0.60
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Petroleum Hydrocarbons							
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	1000	400	-	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	1700	930	-	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	2400	2000	-	-
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	NONE	4.7	< 1.0	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	NONE	13	11	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	NONE	66	89	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	NONE	1300	610	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	1400	710	-	-
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	NONE	< 1.0	1.1	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	NONE	12	22	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	NONE	150	290	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	NONE	500	620	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	660	930	-	-
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	550	770	-	-
VOCs							
Chloromethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Chloroethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Bromomethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Vinyl Chloride	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Cis-1,2-dichloroethene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,1-Dichloroethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Trichloromethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,1,1-Trichloroethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,2-Dichloroethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,1-Dichloropropene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Benzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Tetrachloromethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,2-Dichloropropane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Trichloroethene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Dibromomethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Bromodichloromethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Cis-1,3-dichloropropene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Trans-1,3-dichloropropene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Toluene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686269	2686270	2686271	2686272
Sample Reference				TP126	TP127	TP127	TP128
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70-1.00	0.40-0.60	1.40-1.80	0.40-0.60
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
1,1,2-Trichloroethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,3-Dichloropropane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Dibromochloromethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Tetrachloroethene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,2-Dibromoethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Chlorobenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Ethylbenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
p & m-Xylene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Styrene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Tribromomethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
o-Xylene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Isopropylbenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Bromobenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
n-Propylbenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
2-Chlorotoluene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
4-Chlorotoluene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,3,5-Trimethylbenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
tert-Butylbenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,2,4-Trimethylbenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
sec-Butylbenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,3-Dichlorobenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
p-Isopropyltoluene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,2-Dichlorobenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,4-Dichlorobenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Butylbenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,2,4-Trichlorobenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-
1,2,3-Trichlorobenzene	µg/kg	5	NONE	< 5.0###	< 5.0###	-	-

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	< 0.20	< 0.20	< 0.20	0.91

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
Aniline+	mg/kg	2	NONE	-	-	-	-
Phenol	mg/kg	0.2	NONE	< 0.2	< 0.2	-	-
Phenol+	mg/kg	4	NONE	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
2-Chlorophenol+	mg/kg	2	NONE	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	< 0.2	< 0.2	-	-
Bis(2-chloroethyl)ether+	mg/kg	4	NONE	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	-	-
1,3-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
1,2-Dichlorobenzene+	mg/kg	2	NONE	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	-	-
1,4-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
Bis(2-chloroisopropyl)ether+	mg/kg	2	NONE	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	< 0.3	< 0.3	-	-
2-Methylphenol+	mg/kg	6	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686269	2686270	2686271	2686272
Sample Reference				TP126	TP127	TP127	TP128
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70-1.00	0.40-0.60	1.40-1.80	0.40-0.60
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Hexachloroethane	mg/kg	0.05	NONE	< 0.05	< 0.05	-	-
Hexachloroethane+	mg/kg	1	NONE	-	-	-	-
Nitrobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	-	-
Nitrobenzene+	mg/kg	6	NONE	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	-	-
4-Methylphenol+	mg/kg	4	NONE	-	-	-	-
Isophorone	mg/kg	0.2	NONE	< 0.2	< 0.2	-	-
Isophorone+	mg/kg	4	NONE	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	-	-
2-Nitrophenol+	mg/kg	6	NONE	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3	< 0.3	-	-
2,4-Dimethylphenol+	mg/kg	6	NONE	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	< 0.3	< 0.3	-	-
Bis(2-chloroethoxy)methane+	mg/kg	6	NONE	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	-	-
1,2,4-Trichlorobenzene+	mg/kg	6	NONE	-	-	-	-
Naphthalene	mg/kg	0.05	NONE	0.52	2.6	-	-
Naphthalene+	mg/kg	1	NONE	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	-	-
2,4-Dichlorophenol+	mg/kg	6	NONE	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
4-Chloroaniline+	mg/kg	2	NONE	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
Hexachlorobutadiene+	mg/kg	2	NONE	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
4-Chloro-3-methylphenol+	mg/kg	2	NONE	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
2,4,6-Trichlorophenol+	mg/kg	2	NONE	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	-	-
2,4,5-Trichlorophenol+	mg/kg	4	NONE	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	0.6	2.3	-	-
2-Methylnaphthalene+	mg/kg	2	NONE	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
2-Chloronaphthalene+	mg/kg	2	NONE	-	-	-	-
Dimethylphthalate	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
Dimethylphthalate+	mg/kg	2	NONE	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	2	NONE	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	0.11	0.65	-	-
Acenaphthylene+	mg/kg	1	NONE	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	0.83	5	-	-
Acenaphthene+	mg/kg	1	NONE	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2	-	-
2,4-Dinitrotoluene+	mg/kg	4	NONE	-	-	-	-
Dibenzofuran	mg/kg	0.2	NONE	0.6	3.5	-	-
Dibenzofuran+	mg/kg	4	NONE	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	< 0.3	< 0.3	-	-
4-Chlorophenyl phenyl ether+	mg/kg	6	NONE	-	-	-	-
Diethyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	-	-
Diethyl phthalate+	mg/kg	4	NONE	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2	-	-
4-Nitroaniline+	mg/kg	4	NONE	-	-	-	-
Fluorene	mg/kg	0.05	NONE	0.86	5.2	-	-
Fluorene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686269	2686270	2686271	2686272
Sample Reference				TP126	TP127	TP127	TP128
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70-1.00	0.40-0.60	1.40-1.80	0.40-0.60
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	-	-
Azobenzene+	mg/kg	6	NONE	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	< 0.2	< 0.2	-	-
Bromophenyl phenyl ether+	mg/kg	4	NONE	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	-	-
Hexachlorobenzene+	mg/kg	6	NONE	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	14	52	-	-
Phenanthrene+	mg/kg	1	NONE	-	-	-	-
Anthracene	mg/kg	0.05	NONE	3.2	14	-	-
Anthracene+	mg/kg	1	NONE	-	-	-	-
Carbazole	mg/kg	0.3	NONE	1.6	7.2	-	-
Carbazole+	mg/kg	6	NONE	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	-	-
Dibutyl phthalate+	mg/kg	4	NONE	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	1.2	3.6	-	-
Anthraquinone+	mg/kg	6	NONE	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	22	56	-	-
Fluoranthene+	mg/kg	1	NONE	-	-	-	-
Pyrene	mg/kg	0.05	NONE	19	46	-	-
Pyrene+	mg/kg	1	NONE	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3	-	-
Butyl benzyl phthalate+	mg/kg	6	NONE	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	12	29	-	-
Benzo(a)anthracene+	mg/kg	1	NONE	-	-	-	-
Chrysene	mg/kg	0.05	NONE	11	23	-	-
Chrysene+	mg/kg	1	NONE	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	13	30	-	-
Benzo(b)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	5.3	9	-	-
Benzo(k)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	10	22	-	-
Benzo(a)pyrene+	mg/kg	1	NONE	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	6	12	-	-
Indeno(1,2,3-cd)pyrene+	mg/kg	1	NONE	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	1.6	3.2	-	-
Dibenz(a,h)anthracene+	mg/kg	1	NONE	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	5.9	12	-	-
Benzo(ghi)perylene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686269	2686270	2686271	2686272
Sample Reference				TP126	TP127	TP127	TP128
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70-1.00	0.40-0.60	1.40-1.80	0.40-0.60
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
PCBs by GC-MS							
PCB Congener 28	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-
PCB Congener 52	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-
PCB Congener 101	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-
PCB Congener 118	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-
PCB Congener 138	mg/kg	0.001	NONE	0.002	0.004	-	-
PCB Congener 153	mg/kg	0.001	NONE	0.002	0.003	-	-
PCB Congener 180	mg/kg	0.001	NONE	0.004	0.003	-	-
Total PCBs by GC-MS							
Total PCBs	mg/kg	0.007	NONE	0.008	0.01	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686273	2686274	2686275	2686276
Sample Reference				TP128	TP112	TP117	TP117
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70-1.90	0.90-1.20	1.30-1.50	1.80-2.00
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	21	9	22	21
Total mass of sample received	kg	0.001	NONE	0.6	0.3	0.3	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	Chrysotile- Loose Fibres
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Detected
Asbestos Analyst ID	N/A	N/A	N/A	MWI	MWI	MWI	MWI

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8	8.4	7.9	8.4
Electrical Conductivity	µS/cm	10	ISO 17025	-	490	-	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	< 1.0	-	-
Free Cyanide	mg/kg	1	MCERTS	-	< 1.0	-	-
Total Sulphate as SO4	mg/kg	50	MCERTS	-	640	3100	660
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.088	0.35	1.2	0.27
Sulphide	mg/kg	1	NONE	6.4	< 1.0	22	24
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	6.9	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	3.3	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	0.018	-	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.3	1.8	4.6	1.8
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	< 0.05	3.1	1.4	0.38
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05	0.19	0.09
Acenaphthene	mg/kg	0.05	NONE	0.1	5.7	3.8	1.4
Fluorene	mg/kg	0.05	NONE	0.12	6.5	4.9	1.6
Phenanthrene	mg/kg	0.05	NONE	0.99	53	55	20
Anthracene	mg/kg	0.05	NONE	0.23	14	14	5
Fluoranthene	mg/kg	0.05	NONE	1.3	54	70	26
Pyrene	mg/kg	0.05	NONE	1.1	44	58	22
Benzo(a)anthracene	mg/kg	0.05	NONE	0.69	28	39	13
Chrysene	mg/kg	0.05	NONE	0.65	23	36	12
Benzo(b)fluoranthene	mg/kg	0.05	NONE	0.83	28	45	15
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.17	7.4	12	3.4
Benzo(a)pyrene	mg/kg	0.05	NONE	0.53	20	33	11
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	0.3	9.3	15	5.2
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	0.09	3	4.6	1.5
Benzo(ghi)perylene	mg/kg	0.05	NONE	0.33	8.9	15	5.2

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	7.37	307	407	143

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686273	2686274	2686275	2686276
Sample Reference				TP128	TP112	TP117	TP117
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70-1.90	0.90-1.20	1.30-1.50	1.80-2.00
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Heavy Metals / Metalloids							
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	2.2	-	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	22	30	17
Barium (aqua regia extractable)	mg/kg	1	MCERTS	44	83	440	99
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.67	1.2	1.1	0.56
Boron (water soluble)	mg/kg	0.2	MCERTS	1.1	1.2	1.3	2.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.4	1.6	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	-	< 1.2	< 1.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	< 1.8	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	8.4	70	16
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	13	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	35	66	180	71
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	15000	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	23	33	200	62
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	240	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	1.5	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	27	44	20
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	480	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	1.8	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	26	19	95	27
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	71	54	200	95
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	8400	-	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	2200	-	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	2000	-	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	510	-	-
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	NONE	-	< 5.0###	< 5.0	< 5.0
Toluene	µg/kg	5	NONE	-	< 5.0###	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0	< 5.0
p & m-xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0	< 5.0
o-xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	< 5.0###
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0###	< 5.0	< 5.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686273	2686274	2686275	2686276
Sample Reference				TP128	TP112	TP117	TP117
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70-1.90	0.90-1.20	1.30-1.50	1.80-2.00
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Petroleum Hydrocarbons							
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	220	-	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	< 10	-	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	-	290	1100	1100
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	< 0.1	-	-
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	NONE	-	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	NONE	-	< 2.0	7.6	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	NONE	-	< 8.0	20	11
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	NONE	-	< 8.0	210	140
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	< 10	230	150
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	NONE	-	2	1.5	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	NONE	-	15	14	22
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	NONE	-	120	180	320
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	NONE	-	140	490	530
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	280	690	870
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	-	190	-	-
VOCs							
Chloromethane	µg/kg	5	NONE	-	< 5.0###	-	-
Chloroethane	µg/kg	5	NONE	-	< 5.0###	-	-
Bromomethane	µg/kg	5	NONE	-	< 5.0###	-	-
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0###	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0###	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0###	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0###	-	-
Cis-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0###	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0###	-	-
1,1-Dichloroethane	µg/kg	5	NONE	-	< 5.0###	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	-	-
Trichloromethane	µg/kg	5	NONE	-	< 5.0###	-	-
1,1,1-Trichloroethane	µg/kg	5	NONE	-	< 5.0###	-	-
1,2-Dichloroethane	µg/kg	5	NONE	-	< 5.0###	-	-
1,1-Dichloropropene	µg/kg	5	NONE	-	< 5.0###	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0###	-	-
Benzene	µg/kg	5	NONE	-	< 5.0###	-	-
Tetrachloromethane	µg/kg	5	NONE	-	< 5.0###	-	-
1,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	-	-
Trichloroethene	µg/kg	5	NONE	-	< 5.0###	-	-
Dibromomethane	µg/kg	5	NONE	-	< 5.0###	-	-
Bromodichloromethane	µg/kg	5	NONE	-	< 5.0###	-	-
Cis-1,3-dichloropropene	µg/kg	5	NONE	-	< 5.0###	-	-
Trans-1,3-dichloropropene	µg/kg	5	NONE	-	< 5.0###	-	-
Toluene	µg/kg	5	NONE	-	< 5.0###	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686273	2686274	2686275	2686276
Sample Reference				TP128	TP112	TP117	TP117
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70-1.90	0.90-1.20	1.30-1.50	1.80-2.00
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
1,1,2-Trichloroethane	µg/kg	5	NONE	-	< 5.0###	-	-
1,3-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	-	-
Dibromochloromethane	µg/kg	5	NONE	-	< 5.0###	-	-
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0###	-	-
1,2-Dibromoethane	µg/kg	5	NONE	-	< 5.0###	-	-
Chlorobenzene	µg/kg	5	NONE	-	< 5.0###	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0###	-	-
Ethylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
p & m-Xylene	µg/kg	5	NONE	-	< 5.0###	-	-
Styrene	µg/kg	5	NONE	-	< 5.0###	-	-
Tribromomethane	µg/kg	5	NONE	-	< 5.0###	-	-
o-Xylene	µg/kg	5	NONE	-	< 5.0###	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0###	-	-
Isopropylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
Bromobenzene	µg/kg	5	NONE	-	< 5.0###	-	-
n-Propylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
2-Chlorotoluene	µg/kg	5	NONE	-	< 5.0###	-	-
4-Chlorotoluene	µg/kg	5	NONE	-	< 5.0###	-	-
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
tert-Butylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
sec-Butylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
1,3-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	-	-
p-Isopropyltoluene	µg/kg	5	NONE	-	< 5.0###	-	-
1,2-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	-	-
1,4-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	-	-
Butylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-	< 5.0###	-	-
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-	< 5.0###	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0###	-	-
1,2,3-Trichlorobenzene	µg/kg	5	NONE	-	< 5.0###	-	-

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	< 0.20	< 0.20	< 0.20	< 0.20

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	-	-
Aniline+	mg/kg	2	NONE	-	-	-	-
Phenol	mg/kg	0.2	NONE	-	< 0.2	-	-
Phenol+	mg/kg	4	NONE	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	-
2-Chlorophenol+	mg/kg	2	NONE	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	< 0.2	-	-
Bis(2-chloroethyl)ether+	mg/kg	4	NONE	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	-	-
1,3-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	< 0.1	-	-
1,2-Dichlorobenzene+	mg/kg	2	NONE	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	-	-
1,4-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	< 0.1	-	-
Bis(2-chloroisopropyl)ether+	mg/kg	2	NONE	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	< 0.3	-	-
2-Methylphenol+	mg/kg	6	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686273	2686274	2686275	2686276
Sample Reference				TP128	TP112	TP117	TP117
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70-1.90	0.90-1.20	1.30-1.50	1.80-2.00
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Hexachloroethane	mg/kg	0.05	NONE	-	< 0.05	-	-
Hexachloroethane+	mg/kg	1	NONE	-	-	-	-
Nitrobenzene	mg/kg	0.3	NONE	-	< 0.3	-	-
Nitrobenzene+	mg/kg	6	NONE	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	-
4-Methylphenol+	mg/kg	4	NONE	-	-	-	-
Isophorone	mg/kg	0.2	NONE	-	< 0.2	-	-
Isophorone+	mg/kg	4	NONE	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	-	-
2-Nitrophenol+	mg/kg	6	NONE	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	< 0.3	-	-
2,4-Dimethylphenol+	mg/kg	6	NONE	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	< 0.3	-	-
Bis(2-chloroethoxy)methane+	mg/kg	6	NONE	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	< 0.3	-	-
1,2,4-Trichlorobenzene+	mg/kg	6	NONE	-	-	-	-
Naphthalene	mg/kg	0.05	NONE	-	3.1	-	-
Naphthalene+	mg/kg	1	NONE	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	< 0.3	-	-
2,4-Dichlorophenol+	mg/kg	6	NONE	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	-
4-Chloroaniline+	mg/kg	2	NONE	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-	< 0.1	-	-
Hexachlorobutadiene+	mg/kg	2	NONE	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	-
4-Chloro-3-methylphenol+	mg/kg	2	NONE	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	-
2,4,6-Trichlorophenol+	mg/kg	2	NONE	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	-	-
2,4,5-Trichlorophenol+	mg/kg	4	NONE	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	2.3	-	-
2-Methylnaphthalene+	mg/kg	2	NONE	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-	< 0.1	-	-
2-Chloronaphthalene+	mg/kg	2	NONE	-	-	-	-
Dimethylphthalate	mg/kg	0.1	NONE	-	< 0.1	-	-
Dimethylphthalate+	mg/kg	2	NONE	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	2	NONE	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	< 0.05	-	-
Acenaphthylene+	mg/kg	1	NONE	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	5.7	-	-
Acenaphthene+	mg/kg	1	NONE	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	-	-
2,4-Dinitrotoluene+	mg/kg	4	NONE	-	-	-	-
Dibenzofuran	mg/kg	0.2	NONE	-	3.3	-	-
Dibenzofuran+	mg/kg	4	NONE	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	< 0.3	-	-
4-Chlorophenyl phenyl ether+	mg/kg	6	NONE	-	-	-	-
Diethyl phthalate	mg/kg	0.2	NONE	-	< 0.2	-	-
Diethyl phthalate+	mg/kg	4	NONE	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	-	-
4-Nitroaniline+	mg/kg	4	NONE	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	6.5	-	-
Fluorene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686273	2686274	2686275	2686276
Sample Reference				TP128	TP112	TP117	TP117
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70-1.90	0.90-1.20	1.30-1.50	1.80-2.00
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	-	-
Azobenzene+	mg/kg	6	NONE	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	< 0.2	-	-
Bromophenyl phenyl ether+	mg/kg	4	NONE	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	-	< 0.3	-	-
Hexachlorobenzene+	mg/kg	6	NONE	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	53	-	-
Phenanthrene+	mg/kg	1	NONE	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	14	-	-
Anthracene+	mg/kg	1	NONE	-	-	-	-
Carbazole	mg/kg	0.3	NONE	-	9.7	-	-
Carbazole+	mg/kg	6	NONE	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	1.6	-	-
Dibutyl phthalate+	mg/kg	4	NONE	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	2.3	-	-
Anthraquinone+	mg/kg	6	NONE	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	54	-	-
Fluoranthene+	mg/kg	1	NONE	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	44	-	-
Pyrene+	mg/kg	1	NONE	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	-	-
Butyl benzyl phthalate+	mg/kg	6	NONE	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	28	-	-
Benzo(a)anthracene+	mg/kg	1	NONE	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	23	-	-
Chrysene+	mg/kg	1	NONE	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	28	-	-
Benzo(b)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	7.4	-	-
Benzo(k)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	20	-	-
Benzo(a)pyrene+	mg/kg	1	NONE	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	9.3	-	-
Indeno(1,2,3-cd)pyrene+	mg/kg	1	NONE	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	3	-	-
Dibenz(a,h)anthracene+	mg/kg	1	NONE	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	8.9	-	-
Benzo(ghi)perylene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686273	2686274	2686275	2686276
Sample Reference				TP128	TP112	TP117	TP117
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70-1.90	0.90-1.20	1.30-1.50	1.80-2.00
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
PCBs by GC-MS							
PCB Congener 28	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001
Total PCBs by GC-MS							
Total PCBs	mg/kg	0.007	NONE	-	< 0.007	< 0.007	< 0.007

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686277	2686278	2686279	2686280
Sample Reference				TP105	TP105	TP114	TP110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.40	1.60-1.80	0.40-0.60	0.40-0.60
Date Sampled				17/05/2023	17/05/2023	17/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	20	24	20
Total mass of sample received	kg	0.001	NONE	0.4	0.3	0.3	0.4
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile- Loose Fibres	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MWI	MWI	MWI	MWI

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.9	8.4	8.1	8
Electrical Conductivity	µS/cm	10	ISO 17025	-	510	120	-
Total Cyanide	mg/kg	1	MCERTS	1.9	3.1	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	3.1	< 1.0	-
Free Cyanide	mg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Total Sulphate as SO4	mg/kg	50	MCERTS	-	2100	620	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.33	0.47	0.024	0.1
Sulphide	mg/kg	1	NONE	15	110	< 1.0	1.2
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	170	13	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	5	< 0.5	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	0.033	0.051	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.3	3.3	5.1	2.8
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	0.65	1.3	0.3	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	0.6	0.22	0.12	< 0.05
Acenaphthene	mg/kg	0.05	NONE	0.6	0.64	0.13	< 0.05
Fluorene	mg/kg	0.05	NONE	0.68	0.79	0.14	< 0.05
Phenanthrene	mg/kg	0.05	NONE	6.5	6.8	1.4	1.1
Anthracene	mg/kg	0.05	NONE	1.8	1.6	0.22	0.32
Fluoranthene	mg/kg	0.05	NONE	12	11	1.7	1.7
Pyrene	mg/kg	0.05	NONE	10	8.8	1.5	1.6
Benzo(a)anthracene	mg/kg	0.05	NONE	7.9	6.1	1.4	0.8
Chrysene	mg/kg	0.05	NONE	6.7	5.4	1.3	1.1
Benzo(b)fluoranthene	mg/kg	0.05	NONE	8.9	7.6	2.2	0.84
Benzo(k)fluoranthene	mg/kg	0.05	NONE	2.8	2.1	0.64	0.32
Benzo(a)pyrene	mg/kg	0.05	NONE	6	5.2	1.3	0.49
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	3.2	3.1	1	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	1.1	0.93	0.33	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	3.2	3.1	1	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	72.8	64.1	14.6	8.25

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686277	2686278	2686279	2686280
Sample Reference				TP105	TP105	TP114	TP110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.40	1.60-1.80	0.40-0.60	0.40-0.60
Date Sampled				17/05/2023	17/05/2023	17/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Heavy Metals / Metalloids							
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	26	7.5	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	53	66	59	22
Barium (aqua regia extractable)	mg/kg	1	MCERTS	270	240	330	120
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.2	1.2	1.5	0.84
Boron (water soluble)	mg/kg	0.2	MCERTS	2.8	5.2	1	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	9.1	13	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	-	-	< 1.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	< 1.8	< 1.8	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	210	140	21	16
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	18	21	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	270	1400	130	88
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	140000	61000	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	790	710	120	40
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	2800	540	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	7.5	7.1	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	63	130	45	25
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	2000	1100	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	76	32	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	210	160	43	37
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	1900	2400	350	110
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	40000	18000	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	5100	2400	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	1600	690	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	540	560	-
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Toluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Ethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
p & m-xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
o-xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686277	2686278	2686279	2686280
Sample Reference				TP105	TP105	TP114	TP110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.40	1.60-1.80	0.40-0.60	0.40-0.60
Date Sampled				17/05/2023	17/05/2023	17/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Petroleum Hydrocarbons							
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	660	< 50	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	720	< 10	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	-	1100	77	-
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	NONE	-	< 1.0	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	NONE	-	15	< 2.0	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	NONE	-	140	< 8.0	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	NONE	-	470	< 8.0	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	630	< 10	-
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	NONE	-	< 1.0	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	NONE	-	5.9	< 2.0	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	NONE	-	76	17	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	NONE	-	210	49	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	290	66	-
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	-	480	29	-
VOCs							
Chloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Chloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Bromomethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Cis-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,1-Dichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Trichloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,1,1-Trichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,2-Dichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,1-Dichloropropene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Benzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Tetrachloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Trichloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Dibromomethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Bromodichloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Cis-1,3-dichloropropene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Trans-1,3-dichloropropene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Toluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686277	2686278	2686279	2686280
Sample Reference				TP105	TP105	TP114	TP110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.40	1.60-1.80	0.40-0.60	0.40-0.60
Date Sampled				17/05/2023	17/05/2023	17/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
1,1,2-Trichloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,3-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Dibromochloromethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,2-Dibromoethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Chlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Ethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
p & m-Xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Styrene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Tribromomethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
o-Xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Isopropylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Bromobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
n-Propylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
2-Chlorotoluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
4-Chlorotoluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
tert-Butylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
sec-Butylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,3-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
p-Isopropyltoluene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,2-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,4-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Butylbenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
1,2,3-Trichlorobenzene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	0.59	0.52	< 0.20	< 0.20

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
Aniline+	mg/kg	2	NONE	-	-	-	-
Phenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
Phenol+	mg/kg	4	NONE	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
2-Chlorophenol+	mg/kg	2	NONE	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
Bis(2-chloroethyl)ether+	mg/kg	4	NONE	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
1,3-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
1,2-Dichlorobenzene+	mg/kg	2	NONE	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
1,4-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
Bis(2-chloroisopropyl)ether+	mg/kg	2	NONE	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-
2-Methylphenol+	mg/kg	6	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686277	2686278	2686279	2686280
Sample Reference				TP105	TP105	TP114	TP110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.40	1.60-1.80	0.40-0.60	0.40-0.60
Date Sampled				17/05/2023	17/05/2023	17/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Hexachloroethane	mg/kg	0.05	NONE	-	< 0.05	< 0.05	-
Hexachloroethane+	mg/kg	1	NONE	-	-	-	-
Nitrobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-
Nitrobenzene+	mg/kg	6	NONE	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
4-Methylphenol+	mg/kg	4	NONE	-	-	-	-
Isophorone	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
Isophorone+	mg/kg	4	NONE	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-
2-Nitrophenol+	mg/kg	6	NONE	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-
2,4-Dimethylphenol+	mg/kg	6	NONE	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-
Bis(2-chloroethoxy)methane+	mg/kg	6	NONE	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-
1,2,4-Trichlorobenzene+	mg/kg	6	NONE	-	-	-	-
Naphthalene	mg/kg	0.05	NONE	-	1.3	0.3	-
Naphthalene+	mg/kg	1	NONE	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-
2,4-Dichlorophenol+	mg/kg	6	NONE	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
4-Chloroaniline+	mg/kg	2	NONE	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
Hexachlorobutadiene+	mg/kg	2	NONE	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
4-Chloro-3-methylphenol+	mg/kg	2	NONE	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
2,4,6-Trichlorophenol+	mg/kg	2	NONE	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
2,4,5-Trichlorophenol+	mg/kg	4	NONE	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	0.8	0.7	-
2-Methylnaphthalene+	mg/kg	2	NONE	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
2-Chloronaphthalene+	mg/kg	2	NONE	-	-	-	-
Dimethylphthalate	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
Dimethylphthalate+	mg/kg	2	NONE	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
2,6-Dinitrotoluene	mg/kg	2	NONE	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	0.22	0.12	-
Acenaphthylene+	mg/kg	1	NONE	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	0.64	0.13	-
Acenaphthene+	mg/kg	1	NONE	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
2,4-Dinitrotoluene+	mg/kg	4	NONE	-	-	-	-
Dibenzofuran	mg/kg	0.2	NONE	-	0.6	< 0.2	-
Dibenzofuran+	mg/kg	4	NONE	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-
4-Chlorophenyl phenyl ether+	mg/kg	6	NONE	-	-	-	-
Diethyl phthalate	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
Diethyl phthalate+	mg/kg	4	NONE	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
4-Nitroaniline+	mg/kg	4	NONE	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	0.79	0.14	-
Fluorene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686277	2686278	2686279	2686280
Sample Reference				TP105	TP105	TP114	TP110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.40	1.60-1.80	0.40-0.60	0.40-0.60
Date Sampled				17/05/2023	17/05/2023	17/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-
Azobenzene+	mg/kg	6	NONE	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
Bromophenyl phenyl ether+	mg/kg	4	NONE	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-
Hexachlorobenzene+	mg/kg	6	NONE	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	6.8	1.4	-
Phenanthrene+	mg/kg	1	NONE	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	1.6	0.22	-
Anthracene+	mg/kg	1	NONE	-	-	-	-
Carbazole	mg/kg	0.3	NONE	-	0.9	< 0.3	-
Carbazole+	mg/kg	6	NONE	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
Dibutyl phthalate+	mg/kg	4	NONE	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	0.4	< 0.3	-
Anthraquinone+	mg/kg	6	NONE	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	11	1.7	-
Fluoranthene+	mg/kg	1	NONE	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	8.8	1.5	-
Pyrene+	mg/kg	1	NONE	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-
Butyl benzyl phthalate+	mg/kg	6	NONE	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	6.1	1.4	-
Benzo(a)anthracene+	mg/kg	1	NONE	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	5.4	1.3	-
Chrysene+	mg/kg	1	NONE	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	7.6	2.2	-
Benzo(b)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	2.1	0.64	-
Benzo(k)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	5.2	1.3	-
Benzo(a)pyrene+	mg/kg	1	NONE	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	3.1	1	-
Indeno(1,2,3-cd)pyrene+	mg/kg	1	NONE	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	0.93	0.33	-
Dibenz(a,h)anthracene+	mg/kg	1	NONE	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	3.1	1	-
Benzo(ghi)perylene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686277	2686278	2686279	2686280
Sample Reference				TP105	TP105	TP114	TP110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.40	1.60-1.80	0.40-0.60	0.40-0.60
Date Sampled				17/05/2023	17/05/2023	17/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
PCBs by GC-MS							
PCB Congener 28	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 52	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 101	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 118	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 138	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 153	mg/kg	0.001	NONE	-	-	-	-
PCB Congener 180	mg/kg	0.001	NONE	-	-	-	-
Total PCBs by GC-MS							
Total PCBs	mg/kg	0.007	NONE	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686281	2686282	2686283	2686284
Sample Reference				TP110	TP129	TP111	TP111
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.00-2.20	0.80-1.00	0.40-0.60	1.60-1.80
Date Sampled				17/05/2023	17/05/2023	17/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	11	7.2	8.7
Total mass of sample received	kg	0.001	NONE	0.4	0.3	0.3	0.4
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile- Asbestos Cement	Chrysotile- Loose Fibrous Debris	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MWI	MWI	MWI	MWI

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9	9.3	9.1	9
Electrical Conductivity	µS/cm	10	ISO 17025	-	-	200	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	-
Free Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	-
Total Sulphate as SO4	mg/kg	50	MCERTS	-	4600	800	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.016	1.8	0.12	0.035
Sulphide	mg/kg	1	NONE	< 1.0	15	5.3	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	18	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	-	< 0.5	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	-	0.021	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.2	1.9	2.1	0.2
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	< 0.05	< 0.05	0.55	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05	0.07	< 0.05
Acenaphthene	mg/kg	0.05	NONE	< 0.05	0.2	0.84	< 0.05
Fluorene	mg/kg	0.05	NONE	< 0.05	0.17	0.79	< 0.05
Phenanthrene	mg/kg	0.05	NONE	< 0.05	2.3	10	< 0.05
Anthracene	mg/kg	0.05	NONE	< 0.05	0.6	2.4	< 0.05
Fluoranthene	mg/kg	0.05	NONE	< 0.05	3.2	13	< 0.05
Pyrene	mg/kg	0.05	NONE	< 0.05	3.3	12	< 0.05
Benzo(a)anthracene	mg/kg	0.05	NONE	< 0.05	1.4	6.7	< 0.05
Chrysene	mg/kg	0.05	NONE	< 0.05	1.7	6	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	NONE	< 0.05	1.4	7.5	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	NONE	< 0.05	0.7	2.8	< 0.05
Benzo(a)pyrene	mg/kg	0.05	NONE	< 0.05	0.95	5.9	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	< 0.05	0.55	3.3	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	< 0.05	0.9	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05	0.6	3.4	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	< 0.80	17.1	76.5	< 0.80

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686281	2686282	2686283	2686284
Sample Reference				TP110	TP129	TP111	TP111
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.00-2.20	0.80-1.00	0.40-0.60	1.60-1.80
Date Sampled				17/05/2023	17/05/2023	17/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Heavy Metals / Metalloids							
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	-	3.9	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	22	23	7.8
Barium (aqua regia extractable)	mg/kg	1	MCERTS	12	170	120	4.5
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.16	0.92	0.7	0.13
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	1.2	0.6	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	12	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2	-	< 1.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	< 1.8	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	4.6	130	40	4.2
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	-	8.3	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	7.3	66	96	8.9
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	-	36000	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	18	190	53	5.2
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	-	920	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	-	3.1	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	4.9	33	30	3.9
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	660	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	-	7.6	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	14	90	44	8.8
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	20	630	130	18
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	34000	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	3300	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	640	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	390	-
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	NONE	-	< 5.0	< 5.0###	-
Toluene	µg/kg	5	NONE	-	< 5.0	< 5.0###	-
Ethylbenzene	µg/kg	5	NONE	-	< 5.0	< 5.0###	-
p & m-xylene	µg/kg	5	NONE	-	< 5.0	< 5.0###	-
o-xylene	µg/kg	5	NONE	-	< 5.0###	< 5.0###	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	< 5.0###	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686281	2686282	2686283	2686284
Sample Reference				TP110	TP129	TP111	TP111
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.00-2.20	0.80-1.00	0.40-0.60	1.60-1.80
Date Sampled				17/05/2023	17/05/2023	17/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Petroleum Hydrocarbons							
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	-	120	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	-	47	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	-	21	200	-
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	-	< 0.1	-
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	NONE	-	< 1.0	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	NONE	-	< 2.0	< 2.0	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	NONE	-	< 8.0	< 8.0	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	NONE	-	< 8.0	37	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	< 10	41	-
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	NONE	-	< 1.0	1.1	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	NONE	-	< 2.0	5.5	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	NONE	-	< 10	44	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	NONE	-	12	90	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	21	140	-
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	-	-	90	-
VOCs							
Chloromethane	µg/kg	5	NONE	-	-	< 5.0###	-
Chloroethane	µg/kg	5	NONE	-	-	< 5.0###	-
Bromomethane	µg/kg	5	NONE	-	-	< 5.0###	-
Vinyl Chloride	µg/kg	5	NONE	-	-	< 5.0###	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	< 5.0###	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	< 5.0###	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	< 5.0###	-
Cis-1,2-dichloroethene	µg/kg	5	NONE	-	-	< 5.0###	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	< 5.0###	-
1,1-Dichloroethane	µg/kg	5	NONE	-	-	< 5.0###	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	< 5.0###	-
Trichloromethane	µg/kg	5	NONE	-	-	< 5.0###	-
1,1,1-Trichloroethane	µg/kg	5	NONE	-	-	< 5.0###	-
1,2-Dichloroethane	µg/kg	5	NONE	-	-	< 5.0###	-
1,1-Dichloropropene	µg/kg	5	NONE	-	-	< 5.0###	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	-	< 5.0###	-
Benzene	µg/kg	5	NONE	-	-	< 5.0###	-
Tetrachloromethane	µg/kg	5	NONE	-	-	< 5.0###	-
1,2-Dichloropropane	µg/kg	5	NONE	-	-	< 5.0###	-
Trichloroethene	µg/kg	5	NONE	-	-	< 5.0###	-
Dibromomethane	µg/kg	5	NONE	-	-	< 5.0###	-
Bromodichloromethane	µg/kg	5	NONE	-	-	< 5.0###	-
Cis-1,3-dichloropropene	µg/kg	5	NONE	-	-	< 5.0###	-
Trans-1,3-dichloropropene	µg/kg	5	NONE	-	-	< 5.0###	-
Toluene	µg/kg	5	NONE	-	-	< 5.0###	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686281	2686282	2686283	2686284
Sample Reference				TP110	TP129	TP111	TP111
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.00-2.20	0.80-1.00	0.40-0.60	1.60-1.80
Date Sampled				17/05/2023	17/05/2023	17/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
1,1,2-Trichloroethane	µg/kg	5	NONE	-	-	< 5.0###	-
1,3-Dichloropropane	µg/kg	5	NONE	-	-	< 5.0###	-
Dibromochloromethane	µg/kg	5	NONE	-	-	< 5.0###	-
Tetrachloroethene	µg/kg	5	NONE	-	-	< 5.0###	-
1,2-Dibromoethane	µg/kg	5	NONE	-	-	< 5.0###	-
Chlorobenzene	µg/kg	5	NONE	-	-	< 5.0###	-
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	-	-	< 5.0###	-
Ethylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
p & m-Xylene	µg/kg	5	NONE	-	-	< 5.0###	-
Styrene	µg/kg	5	NONE	-	-	< 5.0###	-
Tribromomethane	µg/kg	5	NONE	-	-	< 5.0###	-
o-Xylene	µg/kg	5	NONE	-	-	< 5.0###	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	< 5.0###	-
Isopropylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
Bromobenzene	µg/kg	5	NONE	-	-	< 5.0###	-
n-Propylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
2-Chlorotoluene	µg/kg	5	NONE	-	-	< 5.0###	-
4-Chlorotoluene	µg/kg	5	NONE	-	-	< 5.0###	-
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
tert-Butylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
sec-Butylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
1,3-Dichlorobenzene	µg/kg	5	NONE	-	-	< 5.0###	-
p-Isopropyltoluene	µg/kg	5	NONE	-	-	< 5.0###	-
1,2-Dichlorobenzene	µg/kg	5	NONE	-	-	< 5.0###	-
1,4-Dichlorobenzene	µg/kg	5	NONE	-	-	< 5.0###	-
Butylbenzene	µg/kg	5	NONE	-	-	< 5.0###	-
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-	-	< 5.0###	-
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-	-	< 5.0###	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	< 5.0###	-
1,2,3-Trichlorobenzene	µg/kg	5	NONE	-	-	< 5.0###	-

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	< 0.20	< 0.20	0.94	< 0.20

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	< 0.1	-
Aniline+	mg/kg	2	NONE	-	-	-	-
Phenol	mg/kg	0.2	NONE	-	-	< 0.2	-
Phenol+	mg/kg	4	NONE	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	-	< 0.1	-
2-Chlorophenol+	mg/kg	2	NONE	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	-	< 0.2	-
Bis(2-chloroethyl)ether+	mg/kg	4	NONE	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	< 0.2	-
1,3-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	-	< 0.1	-
1,2-Dichlorobenzene+	mg/kg	2	NONE	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	-	< 0.2	-
1,4-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	-	< 0.1	-
Bis(2-chloroisopropyl)ether+	mg/kg	2	NONE	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	-	< 0.3	-
2-Methylphenol+	mg/kg	6	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686281	2686282	2686283	2686284
Sample Reference				TP110	TP129	TP111	TP111
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.00-2.20	0.80-1.00	0.40-0.60	1.60-1.80
Date Sampled				17/05/2023	17/05/2023	17/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Hexachloroethane	mg/kg	0.05	NONE	-	-	< 0.05	-
Hexachloroethane+	mg/kg	1	NONE	-	-	-	-
Nitrobenzene	mg/kg	0.3	NONE	-	-	< 0.3	-
Nitrobenzene+	mg/kg	6	NONE	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2	-
4-Methylphenol+	mg/kg	4	NONE	-	-	-	-
Isophorone	mg/kg	0.2	NONE	-	-	< 0.2	-
Isophorone+	mg/kg	4	NONE	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	< 0.3	-
2-Nitrophenol+	mg/kg	6	NONE	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-	< 0.3	-
2,4-Dimethylphenol+	mg/kg	6	NONE	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	-	< 0.3	-
Bis(2-chloroethoxy)methane+	mg/kg	6	NONE	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	-	< 0.3	-
1,2,4-Trichlorobenzene+	mg/kg	6	NONE	-	-	-	-
Naphthalene	mg/kg	0.05	NONE	-	-	0.55	-
Naphthalene+	mg/kg	1	NONE	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-	< 0.3	-
2,4-Dichlorophenol+	mg/kg	6	NONE	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1	-
4-Chloroaniline+	mg/kg	2	NONE	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-	-	< 0.1	-
Hexachlorobutadiene+	mg/kg	2	NONE	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1	-
4-Chloro-3-methylphenol+	mg/kg	2	NONE	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	< 0.1	-
2,4,6-Trichlorophenol+	mg/kg	2	NONE	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	< 0.2	-
2,4,5-Trichlorophenol+	mg/kg	4	NONE	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	0.5	-
2-Methylnaphthalene+	mg/kg	2	NONE	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-	-	< 0.1	-
2-Chloronaphthalene+	mg/kg	2	NONE	-	-	-	-
Dimethylphthalate	mg/kg	0.1	NONE	-	-	< 0.1	-
Dimethylphthalate+	mg/kg	2	NONE	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	< 0.1	-
2,6-Dinitrotoluene	mg/kg	2	NONE	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-	0.07	-
Acenaphthylene+	mg/kg	1	NONE	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-	0.84	-
Acenaphthene+	mg/kg	1	NONE	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	< 0.2	-
2,4-Dinitrotoluene+	mg/kg	4	NONE	-	-	-	-
Dibenzofuran	mg/kg	0.2	NONE	-	-	0.6	-
Dibenzofuran+	mg/kg	4	NONE	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	-	< 0.3	-
4-Chlorophenyl phenyl ether+	mg/kg	6	NONE	-	-	-	-
Diethyl phthalate	mg/kg	0.2	NONE	-	-	< 0.2	-
Diethyl phthalate+	mg/kg	4	NONE	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	< 0.2	-
4-Nitroaniline+	mg/kg	4	NONE	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	-	0.79	-
Fluorene+	mg/kg	1	NONE	-	-	-	-

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686281	2686282	2686283	2686284
Sample Reference				TP110	TP129	TP111	TP111
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.00-2.20	0.80-1.00	0.40-0.60	1.60-1.80
Date Sampled				17/05/2023	17/05/2023	17/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Azobenzene	mg/kg	0.3	NONE	-	-	< 0.3	-
Azobenzene+	mg/kg	6	NONE	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	-	< 0.2	-
Bromophenyl phenyl ether+	mg/kg	4	NONE	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	-	-	< 0.3	-
Hexachlorobenzene+	mg/kg	6	NONE	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-	10	-
Phenanthrene+	mg/kg	1	NONE	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	-	2.4	-
Anthracene+	mg/kg	1	NONE	-	-	-	-
Carbazole	mg/kg	0.3	NONE	-	-	1.3	-
Carbazole+	mg/kg	6	NONE	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	< 0.2	-
Dibutyl phthalate+	mg/kg	4	NONE	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	0.6	-
Anthraquinone+	mg/kg	6	NONE	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-	13	-
Fluoranthene+	mg/kg	1	NONE	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	-	12	-
Pyrene+	mg/kg	1	NONE	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	< 0.3	-
Butyl benzyl phthalate+	mg/kg	6	NONE	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	6.7	-
Benzo(a)anthracene+	mg/kg	1	NONE	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	-	6	-
Chrysene+	mg/kg	1	NONE	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	7.5	-
Benzo(b)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	2.8	-
Benzo(k)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	5.9	-
Benzo(a)pyrene+	mg/kg	1	NONE	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	3.3	-
Indeno(1,2,3-cd)pyrene+	mg/kg	1	NONE	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	0.9	-
Dibenz(a,h)anthracene+	mg/kg	1	NONE	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	3.4	-
Benzo(ghi)perylene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686281	2686282	2686283	2686284
Sample Reference				TP110	TP129	TP111	TP111
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.00-2.20	0.80-1.00	0.40-0.60	1.60-1.80
Date Sampled				17/05/2023	17/05/2023	17/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
PCBs by GC-MS							
PCB Congener 28	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
PCB Congener 52	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
PCB Congener 101	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
PCB Congener 118	mg/kg	0.001	NONE	-	0.002	< 0.001	-
PCB Congener 138	mg/kg	0.001	NONE	-	0.004	< 0.001	-
PCB Congener 153	mg/kg	0.001	NONE	-	0.002	< 0.001	-
PCB Congener 180	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-
Total PCBs by GC-MS							
Total PCBs	mg/kg	0.007	NONE	-	< 0.007	< 0.007	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686285	2686286	2686287	2686288
Sample Reference				TP130	BH107	BH107	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	0.40-0.60	1.80-2.00	0.00-0.35
Date Sampled				17/05/2023	18/05/2023	18/05/2023	18/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	-
Moisture Content	%	0.01	NONE	9.5	7.5	16	-
Total mass of sample received	kg	0.001	NONE	0.3	0.4	0.4	-
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite- Loose Fibres	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MJN	MJN	MJN	MJN

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.4	7.8	8.8	-
Electrical Conductivity	µS/cm	10	ISO 17025	-	320	-	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-
Complex Cyanide	mg/kg	1	MCERTS	-	< 1.0	-	-
Free Cyanide	mg/kg	1	MCERTS	-	< 1.0	-	-
Total Sulphate as SO4	mg/kg	50	MCERTS	-	880	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.043	0.15	0.028	-
Sulphide	mg/kg	1	NONE	110	6	7.3	-
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	38	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	< 0.5	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	0.061	-	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.8	6.1	0.6	-
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	0.61	5	< 0.05	-
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	-
Acenaphthene	mg/kg	0.05	NONE	1.2	33	2.4	-
Fluorene	mg/kg	0.05	NONE	1.1	37	2.3	-
Phenanthrene	mg/kg	0.05	NONE	14	400	23	-
Anthracene	mg/kg	0.05	NONE	3.1	110	7	-
Fluoranthene	mg/kg	0.05	NONE	16	380	23	-
Pyrene	mg/kg	0.05	NONE	13	330	19	-
Benzo(a)anthracene	mg/kg	0.05	NONE	6.5	170	8.5	-
Chrysene	mg/kg	0.05	NONE	6	160	9.4	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	5.6	150	7.4	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	5.3	61	3.2	-
Benzo(a)pyrene	mg/kg	0.05	NONE	3.7	130	5.8	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	2.2	59	3.3	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	0.61	19	0.94	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	2.8	67	3.5	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	80.6	2110	119	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686285	2686286	2686287	2686288
Sample Reference				TP130	BH107	BH107	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	0.40-0.60	1.80-2.00	0.00-0.35
Date Sampled				17/05/2023	18/05/2023	18/05/2023	18/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Heavy Metals / Metalloids							
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	14	-	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	19	34	11	-
Barium (aqua regia extractable)	mg/kg	1	MCERTS	380	280	40	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.4	0.58	0.2	-
Boron (water soluble)	mg/kg	0.2	MCERTS	2.1	1.1	0.5	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.8	4.1	1.4	-
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	-	< 1.2	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	< 1.8	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	730	21	8	-
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	12	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	240	390	80	-
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	73000	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	450	150	18	-
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	480	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	-
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	6.7	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	51	42	8.5	-
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	700	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	15	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	480	29	13	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	770	220	52	-
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	11000	-	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	2100	-	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	880	-	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	340	-	-
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	NONE	-	< 5.0###	-	-
Toluene	µg/kg	5	NONE	-	< 5.0###	-	-
Ethylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
p & m-xylene	µg/kg	5	NONE	-	< 5.0###	-	-
o-xylene	µg/kg	5	NONE	-	< 5.0###	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0###	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686285	2686286	2686287	2686288
Sample Reference				TP130	BH107	BH107	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	0.40-0.60	1.80-2.00	0.00-0.35
Date Sampled				17/05/2023	18/05/2023	18/05/2023	18/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Petroleum Hydrocarbons							
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	1600	-	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	75	-	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	-	2100	-	-
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	< 0.1	-	-
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	NONE	-	< 1.0	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	NONE	-	< 2.0	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	NONE	-	< 8.0	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	NONE	-	42	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	47	-	-
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	NONE	-	10	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	NONE	-	86	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	NONE	-	820	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	NONE	-	1000	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	2000	-	-
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	-	1300	-	-
VOCs							
Chloromethane	µg/kg	5	NONE	-	< 5.0###	-	-
Chloroethane	µg/kg	5	NONE	-	< 5.0###	-	-
Bromomethane	µg/kg	5	NONE	-	< 5.0###	-	-
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0###	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0###	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0###	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0###	-	-
Cis-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0###	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0###	-	-
1,1-Dichloroethane	µg/kg	5	NONE	-	< 5.0###	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	-	-
Trichloromethane	µg/kg	5	NONE	-	< 5.0###	-	-
1,1,1-Trichloroethane	µg/kg	5	NONE	-	< 5.0###	-	-
1,2-Dichloroethane	µg/kg	5	NONE	-	< 5.0###	-	-
1,1-Dichloropropene	µg/kg	5	NONE	-	< 5.0###	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0###	-	-
Benzene	µg/kg	5	NONE	-	< 5.0###	-	-
Tetrachloromethane	µg/kg	5	NONE	-	< 5.0###	-	-
1,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	-	-
Trichloroethene	µg/kg	5	NONE	-	< 5.0###	-	-
Dibromomethane	µg/kg	5	NONE	-	< 5.0###	-	-
Bromodichloromethane	µg/kg	5	NONE	-	< 5.0###	-	-
Cis-1,3-dichloropropene	µg/kg	5	NONE	-	< 5.0###	-	-
Trans-1,3-dichloropropene	µg/kg	5	NONE	-	< 5.0###	-	-
Toluene	µg/kg	5	NONE	-	< 5.0###	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686285	2686286	2686287	2686288
Sample Reference				TP130	BH107	BH107	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	0.40-0.60	1.80-2.00	0.00-0.35
Date Sampled				17/05/2023	18/05/2023	18/05/2023	18/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
1,1,2-Trichloroethane	µg/kg	5	NONE	-	< 5.0###	-	-
1,3-Dichloropropane	µg/kg	5	NONE	-	< 5.0###	-	-
Dibromochloromethane	µg/kg	5	NONE	-	< 5.0###	-	-
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0###	-	-
1,2-Dibromoethane	µg/kg	5	NONE	-	< 5.0###	-	-
Chlorobenzene	µg/kg	5	NONE	-	< 5.0###	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0###	-	-
Ethylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
p & m-Xylene	µg/kg	5	NONE	-	< 5.0###	-	-
Styrene	µg/kg	5	NONE	-	< 5.0###	-	-
Tribromomethane	µg/kg	5	NONE	-	< 5.0###	-	-
o-Xylene	µg/kg	5	NONE	-	< 5.0###	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0###	-	-
Isopropylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
Bromobenzene	µg/kg	5	NONE	-	< 5.0###	-	-
n-Propylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
2-Chlorotoluene	µg/kg	5	NONE	-	< 5.0###	-	-
4-Chlorotoluene	µg/kg	5	NONE	-	< 5.0###	-	-
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
tert-Butylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
sec-Butylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
1,3-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	-	-
p-Isopropyltoluene	µg/kg	5	NONE	-	< 5.0###	-	-
1,2-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	-	-
1,4-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0###	-	-
Butylbenzene	µg/kg	5	NONE	-	< 5.0###	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-	< 5.0###	-	-
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-	< 5.0###	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0###	-	-
1,2,3-Trichlorobenzene	µg/kg	5	NONE	-	< 5.0###	-	-

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	< 0.20	2.8	< 0.20	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	28	-	-
Aniline+	mg/kg	2	NONE	-	-	-	-
Phenol	mg/kg	0.2	NONE	-	< 0.2	-	-
Phenol+	mg/kg	4	NONE	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	-
2-Chlorophenol+	mg/kg	2	NONE	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	< 0.2	-	-
Bis(2-chloroethyl)ether+	mg/kg	4	NONE	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	-	-
1,3-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	< 0.1	-	-
1,2-Dichlorobenzene+	mg/kg	2	NONE	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	-	-
1,4-Dichlorobenzene+	mg/kg	4	NONE	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	< 0.1	-	-
Bis(2-chloroisopropyl)ether+	mg/kg	2	NONE	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	< 0.3	-	-
2-Methylphenol+	mg/kg	6	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686285	2686286	2686287	2686288
Sample Reference				TP130	BH107	BH107	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	0.40-0.60	1.80-2.00	0.00-0.35
Date Sampled				17/05/2023	18/05/2023	18/05/2023	18/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Hexachloroethane	mg/kg	0.05	NONE	-	< 0.05	-	-
Hexachloroethane+	mg/kg	1	NONE	-	-	-	-
Nitrobenzene	mg/kg	0.3	NONE	-	< 0.3	-	-
Nitrobenzene+	mg/kg	6	NONE	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	-
4-Methylphenol+	mg/kg	4	NONE	-	-	-	-
Isophorone	mg/kg	0.2	NONE	-	< 0.2	-	-
Isophorone+	mg/kg	4	NONE	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	-	-
2-Nitrophenol+	mg/kg	6	NONE	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	< 0.3	-	-
2,4-Dimethylphenol+	mg/kg	6	NONE	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	< 0.3	-	-
Bis(2-chloroethoxy)methane+	mg/kg	6	NONE	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	< 0.3	-	-
1,2,4-Trichlorobenzene+	mg/kg	6	NONE	-	-	-	-
Naphthalene	mg/kg	0.05	NONE	-	5	-	-
Naphthalene+	mg/kg	1	NONE	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	< 0.3	-	-
2,4-Dichlorophenol+	mg/kg	6	NONE	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	-
4-Chloroaniline+	mg/kg	2	NONE	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-	< 0.1	-	-
Hexachlorobutadiene+	mg/kg	2	NONE	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	-
4-Chloro-3-methylphenol+	mg/kg	2	NONE	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	-
2,4,6-Trichlorophenol+	mg/kg	2	NONE	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	-	-
2,4,5-Trichlorophenol+	mg/kg	4	NONE	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	7.1	-	-
2-Methylnaphthalene+	mg/kg	2	NONE	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-	< 0.1	-	-
2-Chloronaphthalene+	mg/kg	2	NONE	-	-	-	-
Dimethylphthalate	mg/kg	0.1	NONE	-	< 0.1	-	-
Dimethylphthalate+	mg/kg	2	NONE	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	2	NONE	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	< 0.05	-	-
Acenaphthylene+	mg/kg	1	NONE	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	33	-	-
Acenaphthene+	mg/kg	1	NONE	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	-	-
2,4-Dinitrotoluene+	mg/kg	4	NONE	-	-	-	-
Dibenzofuran	mg/kg	0.2	NONE	-	24	-	-
Dibenzofuran+	mg/kg	4	NONE	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	< 0.3	-	-
4-Chlorophenyl phenyl ether+	mg/kg	6	NONE	-	-	-	-
Diethyl phthalate	mg/kg	0.2	NONE	-	< 0.2	-	-
Diethyl phthalate+	mg/kg	4	NONE	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	-	-
4-Nitroaniline+	mg/kg	4	NONE	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	37	-	-
Fluorene+	mg/kg	1	NONE	-	-	-	-

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686285	2686286	2686287	2686288
Sample Reference				TP130	BH107	BH107	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	0.40-0.60	1.80-2.00	0.00-0.35
Date Sampled				17/05/2023	18/05/2023	18/05/2023	18/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Azobenzene	mg/kg	0.3	NONE	-	6	-	-
Azobenzene+	mg/kg	6	NONE	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	< 0.2	-	-
Bromophenyl phenyl ether+	mg/kg	4	NONE	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	-	< 0.3	-	-
Hexachlorobenzene+	mg/kg	6	NONE	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	400	-	-
Phenanthrene+	mg/kg	1	NONE	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	110	-	-
Anthracene+	mg/kg	1	NONE	-	-	-	-
Carbazole	mg/kg	0.3	NONE	-	65	-	-
Carbazole+	mg/kg	6	NONE	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	-	-
Dibutyl phthalate+	mg/kg	4	NONE	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	22	-	-
Anthraquinone+	mg/kg	6	NONE	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	380	-	-
Fluoranthene+	mg/kg	1	NONE	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	330	-	-
Pyrene+	mg/kg	1	NONE	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	-	-
Butyl benzyl phthalate+	mg/kg	6	NONE	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	170	-	-
Benzo(a)anthracene+	mg/kg	1	NONE	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	160	-	-
Chrysene+	mg/kg	1	NONE	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	150	-	-
Benzo(b)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	61	-	-
Benzo(k)fluoranthene+	mg/kg	1	NONE	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	130	-	-
Benzo(a)pyrene+	mg/kg	1	NONE	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	59	-	-
Indeno(1,2,3-cd)pyrene+	mg/kg	1	NONE	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	19	-	-
Dibenz(a,h)anthracene+	mg/kg	1	NONE	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	67	-	-
Benzo(ghi)perylene+	mg/kg	1	NONE	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686285	2686286	2686287	2686288
Sample Reference				TP130	BH107	BH107	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	0.40-0.60	1.80-2.00	0.00-0.35
Date Sampled				17/05/2023	18/05/2023	18/05/2023	18/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
PCBs by GC-MS							
PCB Congener 28	mg/kg	0.001	NONE	< 0.001	-	-	-
PCB Congener 52	mg/kg	0.001	NONE	< 0.001	-	-	-
PCB Congener 101	mg/kg	0.001	NONE	< 0.001	-	-	-
PCB Congener 118	mg/kg	0.001	NONE	< 0.001	-	-	-
PCB Congener 138	mg/kg	0.001	NONE	0.002	-	-	-
PCB Congener 153	mg/kg	0.001	NONE	0.002	-	-	-
PCB Congener 180	mg/kg	0.001	NONE	0.002	-	-	-
Total PCBs by GC-MS							
Total PCBs	mg/kg	0.007	NONE	< 0.007	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686289
Sample Reference				BH104
Sample Number				None Supplied
Depth (m)				0.35-1.00
Date Sampled				18/05/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	-
Moisture Content	%	0.01	NONE	-
Total mass of sample received	kg	0.001	NONE	-

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MJN

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-
Electrical Conductivity	µS/cm	10	ISO 17025	-
Total Cyanide	mg/kg	1	MCERTS	-
Complex Cyanide	mg/kg	1	MCERTS	-
Free Cyanide	mg/kg	1	MCERTS	-
Total Sulphate as SO4	mg/kg	50	MCERTS	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-
Sulphide	mg/kg	1	NONE	-
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	-
Acenaphthylene	mg/kg	0.05	NONE	-
Acenaphthene	mg/kg	0.05	NONE	-
Fluorene	mg/kg	0.05	NONE	-
Phenanthrene	mg/kg	0.05	NONE	-
Anthracene	mg/kg	0.05	NONE	-
Fluoranthene	mg/kg	0.05	NONE	-
Pyrene	mg/kg	0.05	NONE	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-
Chrysene	mg/kg	0.05	NONE	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686289
Sample Reference				BH104
Sample Number				None Supplied
Depth (m)				0.35-1.00
Date Sampled				18/05/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Heavy Metals / Metalloids				
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-
Barium (aqua regia extractable)	mg/kg	1	MCERTS	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-
Chromium (hexavalent)	mg/kg	1.2	NONE	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-
Monoaromatics & Oxygenates				
Benzene	µg/kg	5	NONE	-
Toluene	µg/kg	5	NONE	-
Ethylbenzene	µg/kg	5	NONE	-
p & m-xylene	µg/kg	5	NONE	-
o-xylene	µg/kg	5	NONE	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686289
Sample Reference				BH104
Sample Number				None Supplied
Depth (m)				0.35-1.00
Date Sampled				18/05/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Petroleum Hydrocarbons				
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	NONE	-
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	NONE	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	NONE	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	NONE	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	NONE	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	NONE	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	NONE	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	NONE	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	NONE	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	-
VOCs				
Chloromethane	µg/kg	5	NONE	-
Chloroethane	µg/kg	5	NONE	-
Bromomethane	µg/kg	5	NONE	-
Vinyl Chloride	µg/kg	5	NONE	-
Trichlorofluoromethane	µg/kg	5	NONE	-
1,1-Dichloroethene	µg/kg	5	NONE	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-
Cis-1,2-dichloroethene	µg/kg	5	NONE	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-
1,1-Dichloroethane	µg/kg	5	NONE	-
2,2-Dichloropropane	µg/kg	5	NONE	-
Trichloromethane	µg/kg	5	NONE	-
1,1,1-Trichloroethane	µg/kg	5	NONE	-
1,2-Dichloroethane	µg/kg	5	NONE	-
1,1-Dichloropropene	µg/kg	5	NONE	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-
Benzene	µg/kg	5	NONE	-
Tetrachloromethane	µg/kg	5	NONE	-
1,2-Dichloropropane	µg/kg	5	NONE	-
Trichloroethene	µg/kg	5	NONE	-
Dibromomethane	µg/kg	5	NONE	-
Bromodichloromethane	µg/kg	5	NONE	-
Cis-1,3-dichloropropene	µg/kg	5	NONE	-
Trans-1,3-dichloropropene	µg/kg	5	NONE	-
Toluene	µg/kg	5	NONE	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686289
Sample Reference				BH104
Sample Number				None Supplied
Depth (m)				0.35-1.00
Date Sampled				18/05/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
1,1,2-Trichloroethane	µg/kg	5	NONE	-
1,3-Dichloropropane	µg/kg	5	NONE	-
Dibromochloromethane	µg/kg	5	NONE	-
Tetrachloroethene	µg/kg	5	NONE	-
1,2-Dibromoethane	µg/kg	5	NONE	-
Chlorobenzene	µg/kg	5	NONE	-
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	-
Ethylbenzene	µg/kg	5	NONE	-
p & m-Xylene	µg/kg	5	NONE	-
Styrene	µg/kg	5	NONE	-
Tribromomethane	µg/kg	5	NONE	-
o-Xylene	µg/kg	5	NONE	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-
Isopropylbenzene	µg/kg	5	NONE	-
Bromobenzene	µg/kg	5	NONE	-
n-Propylbenzene	µg/kg	5	NONE	-
2-Chlorotoluene	µg/kg	5	NONE	-
4-Chlorotoluene	µg/kg	5	NONE	-
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-
tert-Butylbenzene	µg/kg	5	NONE	-
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-
sec-Butylbenzene	µg/kg	5	NONE	-
1,3-Dichlorobenzene	µg/kg	5	NONE	-
p-Isopropyltoluene	µg/kg	5	NONE	-
1,2-Dichlorobenzene	µg/kg	5	NONE	-
1,4-Dichlorobenzene	µg/kg	5	NONE	-
Butylbenzene	µg/kg	5	NONE	-
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-
Hexachlorobutadiene	µg/kg	5	NONE	-
1,2,3-Trichlorobenzene	µg/kg	5	NONE	-

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	-

SVOCs

Aniline	mg/kg	0.1	NONE	-
Aniline+	mg/kg	2	NONE	-
Phenol	mg/kg	0.2	NONE	-
Phenol+	mg/kg	4	NONE	-
2-Chlorophenol	mg/kg	0.1	NONE	-
2-Chlorophenol+	mg/kg	2	NONE	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-
Bis(2-chloroethyl)ether+	mg/kg	4	NONE	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-
1,3-Dichlorobenzene+	mg/kg	4	NONE	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-
1,2-Dichlorobenzene+	mg/kg	2	NONE	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-
1,4-Dichlorobenzene+	mg/kg	4	NONE	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-
Bis(2-chloroisopropyl)ether+	mg/kg	2	NONE	-
2-Methylphenol	mg/kg	0.3	NONE	-
2-Methylphenol+	mg/kg	6	NONE	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686289
Sample Reference				BH104
Sample Number				None Supplied
Depth (m)				0.35-1.00
Date Sampled				18/05/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Hexachloroethane	mg/kg	0.05	NONE	-
Hexachloroethane+	mg/kg	1	NONE	-
Nitrobenzene	mg/kg	0.3	NONE	-
Nitrobenzene+	mg/kg	6	NONE	-
4-Methylphenol	mg/kg	0.2	NONE	-
4-Methylphenol+	mg/kg	4	NONE	-
Isophorone	mg/kg	0.2	NONE	-
Isophorone+	mg/kg	4	NONE	-
2-Nitrophenol	mg/kg	0.3	NONE	-
2-Nitrophenol+	mg/kg	6	NONE	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-
2,4-Dimethylphenol+	mg/kg	6	NONE	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-
Bis(2-chloroethoxy)methane+	mg/kg	6	NONE	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-
1,2,4-Trichlorobenzene+	mg/kg	6	NONE	-
Naphthalene	mg/kg	0.05	NONE	-
Naphthalene+	mg/kg	1	NONE	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-
2,4-Dichlorophenol+	mg/kg	6	NONE	-
4-Chloroaniline	mg/kg	0.1	NONE	-
4-Chloroaniline+	mg/kg	2	NONE	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-
Hexachlorobutadiene+	mg/kg	2	NONE	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-
4-Chloro-3-methylphenol+	mg/kg	2	NONE	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-
2,4,6-Trichlorophenol+	mg/kg	2	NONE	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-
2,4,5-Trichlorophenol+	mg/kg	4	NONE	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-
2-Methylnaphthalene+	mg/kg	2	NONE	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-
2-Chloronaphthalene+	mg/kg	2	NONE	-
Dimethylphthalate	mg/kg	0.1	NONE	-
Dimethylphthalate+	mg/kg	2	NONE	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-
2,6-Dinitrotoluene	mg/kg	2	NONE	-
Acenaphthylene	mg/kg	0.05	NONE	-
Acenaphthylene+	mg/kg	1	NONE	-
Acenaphthene	mg/kg	0.05	NONE	-
Acenaphthene+	mg/kg	1	NONE	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-
2,4-Dinitrotoluene+	mg/kg	4	NONE	-
Dibenzofuran	mg/kg	0.2	NONE	-
Dibenzofuran+	mg/kg	4	NONE	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-
4-Chlorophenyl phenyl ether+	mg/kg	6	NONE	-
Diethyl phthalate	mg/kg	0.2	NONE	-
Diethyl phthalate+	mg/kg	4	NONE	-
4-Nitroaniline	mg/kg	0.2	NONE	-
4-Nitroaniline+	mg/kg	4	NONE	-
Fluorene	mg/kg	0.05	NONE	-
Fluorene+	mg/kg	1	NONE	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686289
Sample Reference				BH104
Sample Number				None Supplied
Depth (m)				0.35-1.00
Date Sampled				18/05/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Azobenzene	mg/kg	0.3	NONE	-
Azobenzene+	mg/kg	6	NONE	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-
Bromophenyl phenyl ether+	mg/kg	4	NONE	-
Hexachlorobenzene	mg/kg	0.3	NONE	-
Hexachlorobenzene+	mg/kg	6	NONE	-
Phenanthrene	mg/kg	0.05	NONE	-
Phenanthrene+	mg/kg	1	NONE	-
Anthracene	mg/kg	0.05	NONE	-
Anthracene+	mg/kg	1	NONE	-
Carbazole	mg/kg	0.3	NONE	-
Carbazole+	mg/kg	6	NONE	-
Dibutyl phthalate	mg/kg	0.2	NONE	-
Dibutyl phthalate+	mg/kg	4	NONE	-
Anthraquinone	mg/kg	0.3	NONE	-
Anthraquinone+	mg/kg	6	NONE	-
Fluoranthene	mg/kg	0.05	NONE	-
Fluoranthene+	mg/kg	1	NONE	-
Pyrene	mg/kg	0.05	NONE	-
Pyrene+	mg/kg	1	NONE	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-
Butyl benzyl phthalate+	mg/kg	6	NONE	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-
Benzo(a)anthracene+	mg/kg	1	NONE	-
Chrysene	mg/kg	0.05	NONE	-
Chrysene+	mg/kg	1	NONE	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-
Benzo(b)fluoranthene+	mg/kg	1	NONE	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-
Benzo(k)fluoranthene+	mg/kg	1	NONE	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-
Benzo(a)pyrene+	mg/kg	1	NONE	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-
Indeno(1,2,3-cd)pyrene+	mg/kg	1	NONE	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-
Dibenz(a,h)anthracene+	mg/kg	1	NONE	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-
Benzo(ghi)perylene+	mg/kg	1	NONE	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686289
Sample Reference				BH104
Sample Number				None Supplied
Depth (m)				0.35-1.00
Date Sampled				18/05/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
PCBs by GC-MS				
PCB Congener 28	mg/kg	0.001	NONE	-
PCB Congener 52	mg/kg	0.001	NONE	-
PCB Congener 101	mg/kg	0.001	NONE	-
PCB Congener 118	mg/kg	0.001	NONE	-
PCB Congener 138	mg/kg	0.001	NONE	-
PCB Congener 153	mg/kg	0.001	NONE	-
PCB Congener 180	mg/kg	0.001	NONE	-
Total PCBs by GC-MS				
Total PCBs	mg/kg	0.007	NONE	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686290	2686291	2686292	2686293
Sample Reference				TP101	TP101	TP102	TP108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40-0.60	1.80-2.20	0.40-0.60	1.50-1.60
Date Sampled				15/05/2023	15/05/2023	15/05/2023	15/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status				
General Inorganics							
pH (automated)	pH Units	N/A	ISO 17025	7.9	7.8	7.7	7.6
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO_4	mg/l	0.1	ISO 17025	5.3	9.8	1.1	1.7
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Total Organic Carbon (TOC)	mg/l	0.1	NONE	7.42	10.4	13.1	11.7
Total Phenols							
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Speciated PAHs							
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH							
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2
Heavy Metals / Metalloids							
Arsenic (dissolved)	µg/l	1	ISO 17025	4.8	12	1.3	2.5
Barium (dissolved)	µg/l	0.05	ISO 17025	21	29	3.4	5.8
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	27	68	< 10	19
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.8	1.8	1.1	0.9
Copper (dissolved)	µg/l	0.7	ISO 17025	12	21	13	15
Lead (dissolved)	µg/l	1	ISO 17025	5.3	11	< 1.0	< 1.0
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.1	1.5	1.1	0.4
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	7.8
Vanadium (dissolved)	µg/l	1.7	ISO 17025	14	84	4.6	15
Zinc (dissolved)	µg/l	0.4	ISO 17025	20	27	6.4	4.9

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686294	2686295	2686296	2686297
Sample Reference				TP109	TP116	TP120	TP119
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.40-2.60	0.40-0.60	1.80-2.00	0.60-0.80
Date Sampled				15/05/2023	15/05/2023	16/05/2023	16/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status				
General Inorganics							
pH (automated)	pH Units	N/A	ISO 17025	7.7	7.5	7.5	7.1
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO_4	mg/l	0.1	ISO 17025	10.8	4.5	4.2	2.4
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Total Organic Carbon (TOC)	mg/l	0.1	NONE	10.5	11.2	10.3	5.79
Total Phenols							
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Speciated PAHs							
Naphthalene	µg/l	0.01	ISO 17025	0.37	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	0.44	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	45	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	20	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	0.39	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	0.96	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	0.9	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	0.52	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH							
Total EPA-16 PAHs	µg/l	0.2	NONE	68	< 0.2	< 0.2	< 0.2
Heavy Metals / Metalloids							
Arsenic (dissolved)	µg/l	1	ISO 17025	3	< 1.0	4.3	8.3
Barium (dissolved)	µg/l	0.05	ISO 17025	6.7	5.9	4.9	7.1
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	41	12	34	11
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.9	2.2	1.7	1.1
Copper (dissolved)	µg/l	0.7	ISO 17025	13	15	15	19
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	3.3	< 1.0	1.7
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	0.8	1.8	0.9	1.4
Selenium (dissolved)	µg/l	4	ISO 17025	7	< 4.0	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	2.3	2.6	8.5	3
Zinc (dissolved)	µg/l	0.4	ISO 17025	7.8	8.5	8.3	12

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686298	2686299	2686300	2686301
Sample Reference				TP121	TP128	TP128	TP110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	0.40-0.60	1.70-1.90	0.40-0.60
Date Sampled				16/05/2023	16/05/2023	16/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status				
General Inorganics							
pH (automated)	pH Units	N/A	ISO 17025	7.3	7.2	7.6	7.4
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO_4	mg/l	0.1	ISO 17025	6.8	10.1	5.9	7.7
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Total Organic Carbon (TOC)	mg/l	0.1	NONE	6.97	10.3	14.1	5.88
Total Phenols							
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Speciated PAHs							
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH							
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2
Heavy Metals / Metalloids							
Arsenic (dissolved)	µg/l	1	ISO 17025	4.8	< 1.0	4.3	4.7
Barium (dissolved)	µg/l	0.05	ISO 17025	9.5	25	8.2	15
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	56	34	140	13
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.8	1.4	2.5	1.2
Copper (dissolved)	µg/l	0.7	ISO 17025	14	15	21	15
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	4.2	< 1.0
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	2	1.1	2.3	1.5
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	4.1	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	5.2	3	8.1	7.2
Zinc (dissolved)	µg/l	0.4	ISO 17025	8	7.8	7.6	9.3

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2686302
Sample Reference				BH107
Sample Number				None Supplied
Depth (m)				1.80-2.00
Date Sampled				18/05/2023
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status	
General Inorganics				
pH (automated)	pH Units	N/A	ISO 17025	7.7
Total Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO_4	mg/l	0.1	ISO 17025	4.6
Sulphide	µg/l	5	NONE	< 5.0
Total Organic Carbon (TOC)	mg/l	0.1	NONE	6.19
Total Phenols				
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	0.73
Fluorene	µg/l	0.01	ISO 17025	0.35
Phenanthrene	µg/l	0.01	ISO 17025	1.1
Anthracene	µg/l	0.01	ISO 17025	0.17
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.2	NONE	2.4
Heavy Metals / Metalloids				
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0
Barium (dissolved)	µg/l	0.05	ISO 17025	33
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	12
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	1
Copper (dissolved)	µg/l	0.7	ISO 17025	17
Lead (dissolved)	µg/l	1	ISO 17025	2.4
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	2.6
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	2.3
Zinc (dissolved)	µg/l	0.4	ISO 17025	25

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-34952
Project / Site name: Phoenix Wharf Port Talbot

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2686245	TP101	None Supplied	0.40-0.60	Brown sand with gravel.
2686246	TP101	None Supplied	1.80-2.20	Brown sand with gravel and stones.
2686247	TP102	None Supplied	0.40-0.60	Brown sand with gravel.
2686248	TP102	None Supplied	1.60-2.00	Brown clay with vegetation.
2686249	TP104	None Supplied	0.20-0.60	Brown loam and clay with gravel and vegetation.
2686250	TP104	None Supplied	1.80-2.20	Brown sandy clay.
2686251	TP106	None Supplied	0.40-0.60	Black clay and sand with vegetation.
2686252	TP108	None Supplied	0.40-0.60	Brown loam and clay with gravel and vegetation.
2686253	TP108	None Supplied	1.50-1.60	Brown sand.
2686254	TP109	None Supplied	0.20-0.40	Brown loam and clay with gravel and vegetation.
2686255	TP109	None Supplied	2.40-2.60	Brown clay and sand with gravel and vegetation.
2686256	TP113	None Supplied	0.80-1.00	Brown loam and sand with gravel.
2686257	TP113	None Supplied	1.80-2.00	Grey clay and sand with gravel.
2686258	TP116	None Supplied	0.40-0.60	Brown sand.
2686259	TP116	None Supplied	1.80-2.40	Brown clay.
2686260	TP115	None Supplied	0.30-0.50	Brown sand with gravel and vegetation.
2686261	TP115	None Supplied	1.40-1.60	Black clay and sand with gravel.
2686262	TP120	None Supplied	0.40-0.60	Black sandy clay with gravel.
2686263	TP120	None Supplied	1.80-2.00	Brown clay and sand.
2686264	TP119	None Supplied	0.60-0.80	Brown sand with gravel and vegetation.
2686265	TP119	None Supplied	1.80-2.20	Brown sand with gravel.
2686266	TP121	None Supplied	0.60-0.80	Brown silt with gravel.^ ^
2686267	TP121	None Supplied	1.40-1.60	Brown sand with gravel.
2686268	TP125	None Supplied	0.80-1.00	Brown sandy clay with gravel and vegetation.
2686269	TP126	None Supplied	0.70-1.00	Brown sand with gravel.
2686270	TP127	None Supplied	0.40-0.60	Brown sand with gravel.
2686271	TP127	None Supplied	1.40-1.80	Brown sand.
2686272	TP128	None Supplied	0.40-0.60	Brown sandy clay with gravel and vegetation.
2686273	TP128	None Supplied	1.70-1.90	Brown clay and sand with gravel.
2686274	TP112	None Supplied	0.90-1.20	Brown sand with gravel.
2686275	TP117	None Supplied	1.30-1.50	Brown sandy clay with gravel.
2686276	TP117	None Supplied	1.80-2.00	Brown clay and sand with gravel.
2686277	TP105	None Supplied	0.20-0.40	Brown sandy clay with gravel and vegetation.
2686278	TP105	None Supplied	1.60-1.80	Brown sand with gravel and vegetation.
2686279	TP114	None Supplied	0.40-0.60	Brown sand with gravel and vegetation.
2686280	TP110	None Supplied	0.40-0.60	Brown sand with gravel and vegetation.
2686281	TP110	None Supplied	2.00-2.20	Brown sand with gravel.
2686282	TP129	None Supplied	0.80-1.00	Brown sand with gravel and vegetation.
2686283	TP111	None Supplied	0.40-0.60	Brown clay and sand.
2686284	TP111	None Supplied	1.60-1.80	Brown sand with gravel.
2686285	TP130	None Supplied	0.60-0.80	Brown sand with gravel and vegetation.
2686286	BH107	None Supplied	0.40-0.60	Brown sandy loam with gravel and coal.
2686287	BH107	None Supplied	1.80-2.00	Brown sand.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
NRA Leachate Prep	10:1 extract with de-ionised water shaken for 24 hours then filtered.	In-house method based on National Rivers Authority	L020-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Complex Cyanide in soil	Determination of complex cyanide by calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
DRO C10-28 (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by electrometric measurement.	In-house method	L031-PL	D	ISO 17025
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	NONE
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon in leachate	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	NONE

Analytical Report Number : 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	NONE
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
DRO (Soil)	Determination of extractable hydrocarbons in soil by GC-MS/FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	NONE
Alcohols in soil by HS-GC-MS	Determination of alcohols in soil by headspace GC-MS.	In house method	L054B-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-34952
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

^^Unaccredited sample matrix.
$ - Result over calibration range, concentration determined by extrapolated calibration. The result should be interpreted with caution.
- Quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.
+ - Method detection limit raised due to the sample being diluted due to matrix interference. The result should be considered as being deviating and may be compromised.A79
~ - Method detection limit raised due to the sample being diluted due to matrix interference. The result should be considered as being deviating and may be compromised. LOD raised to 1 mg/kg.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Mitchell Tucker
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

t: 01749 677 760
f: 01749 679 345
e: mitchell.tucker@tecon.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-36227

Project / Site name:	Phoenix Wharf, Port Talbot	Samples received on:	30/05/2023
Your job number:	2111006.005	Samples instructed on/ Analysis started on:	30/05/2023
Your order number:		Analysis completed by:	13/06/2023
Report Issue Number:	1	Report issued on:	13/06/2023
Samples Analysed:	8 leachate samples - 33 soil samples		

Signed:

Dominika Warjan
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693799	2693800	2693801	2693802	2693803
Sample Reference				BH109	BH109	TP103A	TP103A	TP124
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	1.80-2.00	0.60-0.80	1.80-2.00	0.30-0.50
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	21	17	11	15	17
Total mass of sample received	kg	0.001	NONE	0.4	0.4	0.3	0.3	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	JBH	JBH	JBH	JBH	JBH

General Inorganics

pH - Manual	pH Units	N/A	MCERTS	-	-	-	-	-
pH - Automated	pH Units	N/A	MCERTS	7.2	8	7.9	7.8	7.9
Electrical Conductivity	µS/cm	10	ISO 17025	-	-	-	-	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	-	-	-	-
Free Cyanide	mg/kg	1	MCERTS	-	-	-	-	-
Total Sulphate as SO4	mg/kg	50	MCERTS	-	-	1600	1200	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.02	0.0026	-	-	0.039
Sulphide	mg/kg	1	MCERTS	2.2	< 1.0	3.9	9.5	42
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	-	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	-	-	-	-
Organic Matter	%	0.1	MCERTS	-	-	-	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	3.6	0.1	2.6	2.5	2.4
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.21	< 0.05	0.51	0.65	0.56
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.05	< 0.05	0.09
Acenaphthene	mg/kg	0.05	MCERTS	0.27	< 0.05	0.18	1.2	0.8
Fluorene	mg/kg	0.05	MCERTS	0.26	< 0.05	0.19	0.88	0.74
Phenanthrene	mg/kg	0.05	MCERTS	3.8	< 0.05	2.1	8.3	10
Anthracene	mg/kg	0.05	MCERTS	0.73	< 0.05	0.38	1.6	2.4
Fluoranthene	mg/kg	0.05	MCERTS	4.7	< 0.05	2.4	7.8	14
Pyrene	mg/kg	0.05	MCERTS	4.1	< 0.05	2.1	6.7	12
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.1	< 0.05	1.2	3.4	7
Chrysene	mg/kg	0.05	MCERTS	2.1	< 0.05	1.4	3	6
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2.4	< 0.05	1.3	3.2	7.6
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.74	< 0.05	0.62	1.1	2.6
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.7	< 0.05	0.82	2.3	5.7
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.93	< 0.05	0.52	1.3	3.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.28	< 0.05	0.19	0.44	0.88
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1	< 0.05	0.48	1.4	3.8
Coronene	mg/kg	0.05	NONE	-	-	< 0.05	< 0.05	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	25.4	< 0.80	-	-	78.2
Total WAC-17 PAHs	mg/kg	0.85	NONE	-	-	14.4	43.2	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693799	2693800	2693801	2693802	2693803
Sample Reference				BH109	BH109	TP103A	TP103A	TP124
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	1.80-2.00	0.60-0.80	1.80-2.00	0.30-0.50
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	-	-	-	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	29	9.5	53	33	38
Barium (aqua regia extractable)	mg/kg	1	MCERTS	190	4.9	100	77	230
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.66	0.15	0.75	0.52	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	< 0.2	0.2	0.9	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.4	< 0.2	< 0.2	< 0.2	2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2	< 1.2	1.6
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	3.9	15	12	480
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	-	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	120	8.4	260	120	680
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	-	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	100	4.5	84	49	550
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	-	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	4.5	27	20	280
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	45	9.5	26	20	43
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	190	20	150	100	860
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-	-
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0	-
Toluene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0	-
p & m-xylene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0	-
o-xylene	µg/kg	5	MCERTS	-	-	< 5.0	< 5.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	< 5.0	< 5.0	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693799	2693800	2693801	2693802	2693803
Sample Reference				BH109	BH109	TP103A	TP103A	TP124
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	1.80-2.00	0.60-0.80	1.80-2.00	0.30-0.50
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	-	-	-	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	-	-	-	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	-	29	81	-
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-	< 2.0	2.8	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	< 8.0	< 8.0	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	< 8.0	24	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	-	< 10	32	-
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-	< 1.0	1.2	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-	3.3	5.3	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	< 10	19	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	14	19	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	-	26	44	-
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693799	2693800	2693801	2693802	2693803
Sample Reference				BH109	BH109	TP103A	TP103A	TP124
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	1.80-2.00	0.60-0.80	1.80-2.00	0.30-0.50
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-	-	-
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
2,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Trichloromethane	µg/kg	5	NONE	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	5	NONE	-	-	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	5	MCERTS	-	-	-	-	-
Styrene	µg/kg	5	ISO 17025	-	-	-	-	-
Tribromomethane	µg/kg	5	NONE	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Bromobenzene	µg/kg	5	NONE	-	-	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693799	2693800	2693801	2693802	2693803
Sample Reference				BH109	BH109	TP103A	TP103A	TP124
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	1.80-2.00	0.60-0.80	1.80-2.00	0.30-0.50
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Butylbenzene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693799	2693800	2693801	2693802	2693803
Sample Reference				BH109	BH109	TP103A	TP103A	TP124
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	1.80-2.00	0.60-0.80	1.80-2.00	0.30-0.50
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-	-	-

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693799	2693800	2693801	2693802	2693803
Sample Reference				BH109	BH109	TP103A	TP103A	TP124
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	1.80-2.00	0.60-0.80	1.80-2.00	0.30-0.50
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-	-

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	-	-

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	MCERTS	-	-	-	-	-

PFAS Suite 3

PFBS C4 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PHPS C5 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFHxS C6 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFHpS C7 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFOS C8 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFNS C9 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFDS C10 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFUdS C11 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFDoS C12 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFBA C4 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFPeA C5 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFHxA C6 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFHpA C7 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFOA C8 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFNA C9 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFDA C10 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFUdA C11 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFDoA C12 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693804	2693805	2693806	2693807	2693808
Sample Reference				DS108	DS108	DS109	DS109	DS110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.30	1.80-2.00	0.20-0.40	1.40-1.60	0.20-0.60
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	38	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	24	8.7	17	9.9
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3	0.6
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile- Loose Fibres	-	Amosite- Loose Fibrous Debris	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	JBH	JBH	JBH	JBH	JBH

General Inorganics

pH - Manual	pH Units	N/A	MCERTS	-	-	-	-	-
pH - Automated	pH Units	N/A	MCERTS	7.8	7.6	8.7	8.3	7.5
Electrical Conductivity	µS/cm	10	ISO 17025	-	180	120	-	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Free Cyanide	mg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Total Sulphate as SO4	mg/kg	50	MCERTS	-	1200	2700	-	4300
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.008	0.22	0.063	0.0065	-
Sulphide	mg/kg	1	MCERTS	9.1	8.2	1.6	< 1.0	11
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	26	29	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	< 0.5	< 0.5	-	-
Organic Matter	%	0.1	MCERTS	-	-	-	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	0.007	0.013	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.6	0.7	1.3	0.2	2.7
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	1.1	< 0.05	0.31	< 0.05	0.85
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	7.5	< 0.05	0.08	< 0.05	0.12
Fluorene	mg/kg	0.05	MCERTS	6.2	< 0.05	0.09	< 0.05	0.18
Phenanthrene	mg/kg	0.05	MCERTS	80	< 0.05	0.78	< 0.05	1.3
Anthracene	mg/kg	0.05	MCERTS	19	< 0.05	0.15	< 0.05	0.28
Fluoranthene	mg/kg	0.05	MCERTS	82	< 0.05	0.95	< 0.05	1.4
Pyrene	mg/kg	0.05	MCERTS	68	< 0.05	0.83	< 0.05	1.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	35	< 0.05	0.57	< 0.05	0.84
Chrysene	mg/kg	0.05	MCERTS	31	< 0.05	0.61	< 0.05	1
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	28	< 0.05	0.78	< 0.05	1.2
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	13	< 0.05	0.32	< 0.05	0.29
Benzo(a)pyrene	mg/kg	0.05	MCERTS	23	< 0.05	0.5	< 0.05	0.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	11	< 0.05	0.37	< 0.05	0.42
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	2.8	< 0.05	0.13	< 0.05	0.15
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	13	< 0.05	0.33	< 0.05	0.38
Coronene	mg/kg	0.05	NONE	-	-	-	-	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	421	< 0.80	6.8	< 0.80	-
Total WAC-17 PAHs	mg/kg	0.85	NONE	-	-	-	-	10.2

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693804	2693805	2693806	2693807	2693808
Sample Reference				DS108	DS108	DS109	DS109	DS110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.30	1.80-2.00	0.20-0.40	1.40-1.60	0.20-0.60
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	1.9	5.4	-	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	22	11	32	9.5	98
Barium (aqua regia extractable)	mg/kg	1	MCERTS	51	14	120	5.2	120
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.61	0.66	0.94	0.15	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	0.4	0.3	< 0.2	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	-	-	< 1.2	< 1.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	< 1.8	< 1.8	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	20	27	3.7	31
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	7.5	12	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	120	15	90	8.3	120
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	23000	69000	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	43	12	100	5.9	70
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	310	1700	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	0.5
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	0.48	2.5	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	23	20	50	4.5	31
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	380	850	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	1.9	5.2	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	31	27	50	9.2	42
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	99	62	260	26	110
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	46000	14000	-	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	7300	2900	-	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	1800	1400	-	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	390	430	-	-
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	< 5.0
Toluene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	< 5.0
p & m-xylene	µg/kg	5	MCERTS	-	< 5.0##	< 5.0	-	< 5.0
o-xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	< 5.0	-	< 5.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693804	2693805	2693806	2693807	2693808
Sample Reference				DS108	DS108	DS109	DS109	DS110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.30	1.80-2.00	0.20-0.40	1.40-1.60	0.20-0.60
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	< 50	< 50	-	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	< 10	< 10	-	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	< 10	< 10	-	14
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-	-
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	< 1.0	< 1.0	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	< 2.0	< 2.0	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	< 8.0	< 8.0	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	< 8.0	< 8.0	-	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	< 10	< 10	-	< 10
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	< 1.0	< 1.0	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	< 2.0	< 2.0	-	2.6
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	< 10	< 10	-	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	< 10	< 10	-	< 10
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	< 10	< 10	-	14
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	< 10	< 10	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693804	2693805	2693806	2693807	2693808
Sample Reference				DS108	DS108	DS109	DS109	DS110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.30	1.80-2.00	0.20-0.40	1.40-1.60	0.20-0.60
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Chloroethane	µg/kg	5	NONE	-	< 5.0	< 5.0	-	-
Bromomethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	< 5.0	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0	< 5.0	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0	< 5.0	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0	< 5.0	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	< 5.0	-	-
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
2,2-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0#	-	-
Trichloromethane	µg/kg	5	NONE	-	< 5.0	< 5.0##	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0##	< 5.0	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0##	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0	< 5.0	-	-
Benzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	-
Tetrachloromethane	µg/kg	5	NONE	-	< 5.0	< 5.0	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0##	< 5.0	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Toluene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0##	< 5.0	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	-
p & m-Xylene	µg/kg	5	MCERTS	-	< 5.0##	< 5.0	-	-
Styrene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0#	-	-
Tribromomethane	µg/kg	5	NONE	-	< 5.0	< 5.0	-	-
o-Xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Isopropylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Bromobenzene	µg/kg	5	NONE	-	< 5.0	< 5.0	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0##	< 5.0##	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0##	< 5.0	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0##	< 5.0	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0##	< 5.0	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	< 5.0##	< 5.0	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693804	2693805	2693806	2693807	2693808
Sample Reference				DS108	DS108	DS109	DS109	DS110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.30	1.80-2.00	0.20-0.40	1.40-1.60	0.20-0.60
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Butylbenzene	µg/kg	5	NONE	-	< 5.0	< 5.0	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0	< 5.0	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	< 5.0	-	-
Alcohols by headspace GC-MS								
Ethanol	mg/kg	0.2	NONE	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693804	2693805	2693806	2693807	2693808
Sample Reference				DS108	DS108	DS109	DS109	DS110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.30	1.80-2.00	0.20-0.40	1.40-1.60	0.20-0.60
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	< 0.05	< 0.05	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	0.31	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	0.3	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	0.08	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-	-
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	0.09	-	-
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	< 0.05	0.78	-	-
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	0.15	-	-
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-	-
Anthraquinone	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	< 0.05	0.95	-	-
Pyrene	mg/kg	0.05	MCERTS	-	< 0.05	0.83	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	0.57	-	-
Chrysene	mg/kg	0.05	MCERTS	-	< 0.05	0.61	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	< 0.05	0.78	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	< 0.05	0.32	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693804	2693805	2693806	2693807	2693808
Sample Reference				DS108	DS108	DS109	DS109	DS110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.30	1.80-2.00	0.20-0.40	1.40-1.60	0.20-0.60
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	< 0.05	0.5	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	< 0.05	0.37	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	0.13	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	< 0.05	0.33	-	-
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	-	-
Total PCBs by GC-MS								
Total PCBs	mg/kg	0.007	MCERTS	-	-	-	-	-
PFAS Suite 3								
PFBS C4 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PHPS C5 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFHxS C6 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFHpS C7 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFOS C8 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFNS C9 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFDS C10 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFUdS C11 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFDoS C12 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFBA C4 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFPeA C5 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFHxA C6 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFHpA C7 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFOA C8 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFNA C9 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFDA C10 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFUdA C11 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
PFDoA C12 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693809	2693810	2693811	2693812	2693813
Sample Reference				DS110	DS112	DS112	DS112	DS112
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.60-2.00	0.20-0.60	1.40-1.70	3.50-3.70	5.80-6.00
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	9.5	8.4	9.4	17	25
Total mass of sample received	kg	0.001	NONE	0.4	0.6	0.6	0.3	0.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile- Loose Fibres	Chrysotile- Loose Fibres	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MJN	MJN	MJN	MJN	MJN

General Inorganics

pH - Manual	pH Units	N/A	MCERTS	-	-	-	-	-
pH - Automated	pH Units	N/A	MCERTS	8.6	8.1	8.9	8.5	8.4
Electrical Conductivity	µS/cm	10	ISO 17025	-	-	350	630	840
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	-	1300	1700	1000	870
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.11	-	0.19	0.24	0.15
Sulphide	mg/kg	1	MCERTS	140	6.2	37	100	28
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	31	290	970
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	-	< 0.5	40	37
Organic Matter	%	0.1	MCERTS	-	-	-	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	-	0.016	0.021	0.01
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.4	2.4	1.6	2.1	1
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	2	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.8	0.81	0.57	8.4	0.41
Acenaphthylene	mg/kg	0.05	MCERTS	0.1	< 0.05	< 0.05	1.2	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.07	0.12	< 0.05	1.1	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.4	0.28	0.23	3.5	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	1.5	1.8	1.1	18	0.11
Anthracene	mg/kg	0.05	MCERTS	0.21	0.41	0.26	3.6	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.97	1.6	1.3	16	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.69	1.3	0.96	12	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.53	1.1	0.84	5	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.66	1.1	0.81	4.4	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.61	1.3	0.98	4.2	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.16	0.32	0.29	2	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.31	0.65	0.6	3.4	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.22	0.44	0.38	2	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.11	0.21	0.16	0.61	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.24	0.4	0.33	2.1	< 0.05
Coronene	mg/kg	0.05	NONE	-	< 0.05	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	7.6	-	8.76	86.6	< 0.80
Total WAC-17 PAHs	mg/kg	0.85	NONE	-	11.8	-	-	-

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693809	2693810	2693811	2693812	2693813
Sample Reference				DS110	DS112	DS112	DS112	DS112
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.60-2.00	0.20-0.60	1.40-1.70	3.50-3.70	5.80-6.00
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	-	4.5	20	2.4
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	26	61	25	32	17
Barium (aqua regia extractable)	mg/kg	1	MCERTS	150	180	170	190	26
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.6	1.2	1.3	0.8	0.94
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	1.7	2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	11	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	29	49	96	28	28
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	-	11	7.7	10
Copper (aqua regia extractable)	mg/kg	1	MCERTS	290	140	78	570	12
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	-	40000	32000	30000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	60	100	86	92	17
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	-	2800	1000	480
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.6	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	-	1.9	1.9	0.87
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	29	42	28	27	26
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	860	490	430
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	-	9.1	15	1.9
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	50	68	140	46	41
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	150	180	210	240	73
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	43000	30000	41000
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	5400	4700	9600
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	1400	1600	3600
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	280	670	1800
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0^	43	< 5.0
Toluene	µg/kg	5	MCERTS	-	< 5.0	< 5.0^	160	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0^	140	< 5.0
p & m-xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0^	1100	< 5.0
o-xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0^	610	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	< 5.0^	< 5.0	< 5.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693809	2693810	2693811	2693812	2693813
Sample Reference				DS110	DS112	DS112	DS112	DS112
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.60-2.00	0.20-0.60	1.40-1.70	3.50-3.70	5.80-6.00
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	-	< 50	320	< 50
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	-	< 10	61	< 10
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	16	< 10	390	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	< 2.0	< 2.0	11	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	< 8.0	< 8.0	16	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	< 8.0	< 8.0	28	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	< 10	< 10	56	< 10
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	0.14	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	1	< 1.0	9	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	3.9	< 2.0	48	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	< 10	< 10	120	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	< 10	< 10	140	< 10
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	16	< 10	320	< 10
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	-	< 10	270	< 10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693809	2693810	2693811	2693812	2693813
Sample Reference				DS110	DS112	DS112	DS112	DS112
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.60-2.00	0.20-0.60	1.40-1.70	3.50-3.70	5.80-6.00
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	-	-	< 5.0^	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	-	< 5.0^	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	-	< 5.0^	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	-	< 5.0^	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	< 5.0^	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	< 5.0^	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0#	< 5.0#
Trichloromethane	µg/kg	5	NONE	-	-	< 5.0^	< 5.0##	< 5.0##
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0##	< 5.0##
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	-	< 5.0^	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	-	-	< 5.0^	43	< 5.0
Tetrachloromethane	µg/kg	5	NONE	-	-	< 5.0^	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	-	-	< 5.0^	160	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	-	< 5.0^	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	-	< 5.0^	140	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	-	-	< 5.0^	1100	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0#	< 5.0#
Tribromomethane	µg/kg	5	NONE	-	-	< 5.0^	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	-	-	< 5.0^	610	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	30	< 5.0
Bromobenzene	µg/kg	5	NONE	-	-	< 5.0^	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0##	< 5.0##
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	350	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	850	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	< 5.0^	27	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693809	2693810	2693811	2693812	2693813
Sample Reference				DS110	DS112	DS112	DS112	DS112
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.60-2.00	0.20-0.60	1.40-1.70	3.50-3.70	5.80-6.00
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Butylbenzene	µg/kg	5	NONE	-	-	< 5.0^	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	-	< 5.0^	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	< 5.0	< 5.0
Alcohols by headspace GC-MS								
Ethanol	mg/kg	0.2	NONE	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693809	2693810	2693811	2693812	2693813
Sample Reference				DS110	DS112	DS112	DS112	DS112
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.60-2.00	0.20-0.60	1.40-1.70	3.50-3.70	5.80-6.00
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	-	< 0.2	0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	-	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	4.7	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	-	0.57	8.4	0.41
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	1	21	0.2
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	< 0.1	0.2	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.2	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.1	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	< 0.2	17	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	-	< 0.2	1.2	< 0.2
Fluorene	mg/kg	0.05	MCERTS	-	-	0.23	3.5	< 0.05
Azobenzene	mg/kg	0.3	NONE	-	-	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	-	-	1.1	18	0.11
Anthracene	mg/kg	0.05	MCERTS	-	-	0.26	3.6	< 0.05
Carbazole	mg/kg	0.3	MCERTS	-	-	< 0.3	15	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	-	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	-	-	1.3	16	< 0.05
Pyrene	mg/kg	0.05	MCERTS	-	-	0.96	12	< 0.05
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	0.84	5	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	-	0.81	4.4	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	0.98	4.2	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	0.29	2	< 0.05

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693809	2693810	2693811	2693812	2693813
Sample Reference				DS110	DS112	DS112	DS112	DS112
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.60-2.00	0.20-0.60	1.40-1.70	3.50-3.70	5.80-6.00
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	0.6	3.4	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	0.38	2	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	0.16	0.61	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	0.33	2.1	< 0.05

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	-	-

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	MCERTS	-	-	-	-	-

PFAS Suite 3

PFBS C4 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PHPS C5 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFHxS C6 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFHpS C7 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFOS C8 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFNS C9 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFDS C10 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFUdS C11 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFDoS C12 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFBA C4 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFPeA C5 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFHxA C6 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFHpA C7 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFOA C8 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFNA C9 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFDA C10 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFUdA C11 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFDoA C12 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693814	2693815	2693816	2693817	2693818
Sample Reference				DS111	DS102B	DS106	DS106	DS106
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30-0.70	0.70-1.00	0.20-0.60	1.40-1.80	3.30-3.80
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	64	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	5.1	20	20	18	15
Total mass of sample received	kg	0.001	NONE	0.9	0.6	0.9	0.3	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile, Amosite-Loose Fibres	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MJN	MJN	MJN	MJN	MJN

General Inorganics

pH - Manual	pH Units	N/A	MCERTS	-	-	-	-	-
pH - Automated	pH Units	N/A	MCERTS	8.1	7.7	7.4	7.7	7.6
Electrical Conductivity	µS/cm	10	ISO 17025	-	-	-	-	280
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	-	-	-	< 1.0
Free Cyanide	mg/kg	1	MCERTS	-	-	-	-	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	-	2800	-	1300	470
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.082	-	0.025	-	0.12
Sulphide	mg/kg	1	MCERTS	7.5	< 1.0	< 1.0	71	11
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	-	-	28
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	-	-	-	3
Organic Matter	%	0.1	MCERTS	-	-	15	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	-	-	-	0.024
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.4	2.6	-	5.5	2.4
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	8.8	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.76	1.1	1.2	1.8	1.7
Acenaphthylene	mg/kg	0.05	MCERTS	0.08	< 0.05	0.15	0.09	0.09
Acenaphthene	mg/kg	0.05	MCERTS	0.1	0.08	0.62	3.1	0.14
Fluorene	mg/kg	0.05	MCERTS	0.23	0.17	0.52	3.2	0.25
Phenanthrene	mg/kg	0.05	MCERTS	1.8	1.2	6.5	40	1.3
Anthracene	mg/kg	0.05	MCERTS	0.35	0.12	1.2	9.9	0.24
Fluoranthene	mg/kg	0.05	MCERTS	2.2	0.8	8.3	56	1.2
Pyrene	mg/kg	0.05	MCERTS	1.8	0.64	6.7	48	1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.4	0.4	4.3	29	0.67
Chrysene	mg/kg	0.05	MCERTS	1.6	0.66	5	27	0.64
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.5	0.52	5.7	31	0.81
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.76	0.2	2.5	11	0.25
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.86	0.22	3.9	25	0.57
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.81	0.23	2.6	13	0.33
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.28	< 0.05	0.79	3.5	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.8	0.22	2.7	13	0.32
Coronene	mg/kg	0.05	NONE	-	< 0.05	-	5.4	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	15.2	-	52.8	-	9.5
Total WAC-17 PAHs	mg/kg	0.85	NONE	-	6.5	-	320	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693814	2693815	2693816	2693817	2693818
Sample Reference				DS111	DS102B	DS106	DS106	DS106
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30-0.70	0.70-1.00	0.20-0.60	1.40-1.80	3.30-3.80
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	-	-	-	3.6
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	36	42	51	36	14
Barium (aqua regia extractable)	mg/kg	1	MCERTS	190	120	580	300	65
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.67	0.48	1.6	0.86	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	0.2	0.4	1.3	1	4.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	2.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	1.3	< 1.2	< 1.2	< 1.2	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	-	-	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	88	5.5	25	13	12
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	-	-	-	11
Copper (aqua regia extractable)	mg/kg	1	MCERTS	180	100	140	520	74
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	-	-	-	14000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	130	74	180	340	38
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	430
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	0.7	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	-	-	-	1.1
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	90	13	66	37	30
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-	250
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	2.5
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	2.4
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	86	25	38	25	18
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	270	75	270	640	71
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-	11000
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-	4000
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-	1600
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-	-	270
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0^
Toluene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0^
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0^
p & m-xylene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0^
o-xylene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0^
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0^

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693814	2693815	2693816	2693817	2693818
Sample Reference				DS111	DS102B	DS106	DS106	DS106
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30-0.70	0.70-1.00	0.20-0.60	1.40-1.80	3.30-3.80
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	-	-	-	< 50
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	-	-	-	< 10
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	100	-	590	33
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	-	-	-	< 0.1
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	1.8	-	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	11	-	4.7	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	20	-	21	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	24	-	100	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	56	-	130	< 10
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	3.4	-	2.4	2.1
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	9.3	-	13	5.1
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	14	-	130	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	14	-	240	17
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	41	-	380	33
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	-	-	-	20

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693814	2693815	2693816	2693817	2693818
Sample Reference				DS111	DS102B	DS106	DS106	DS106
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30-0.70	0.70-1.00	0.20-0.60	1.40-1.80	3.30-3.80
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Chloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0^
Bromomethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	< 5.0^
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-	< 5.0^
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0^
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-	< 5.0^
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-	-	< 5.0^
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
2,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Trichloromethane	µg/kg	5	NONE	-	-	-	-	< 5.0^
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0^
Benzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0^
Tetrachloromethane	µg/kg	5	NONE	-	-	-	-	< 5.0^
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Toluene	µg/kg	5	MCERTS	-	-	-	-	< 5.0^
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0^
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Ethylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0^
p & m-Xylene	µg/kg	5	MCERTS	-	-	-	-	< 5.0^
Styrene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Tribromomethane	µg/kg	5	NONE	-	-	-	-	< 5.0^
o-Xylene	µg/kg	5	MCERTS	-	-	-	-	< 5.0^
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Bromobenzene	µg/kg	5	NONE	-	-	-	-	< 5.0^
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693814	2693815	2693816	2693817	2693818
Sample Reference				DS111	DS102B	DS106	DS106	DS106
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30-0.70	0.70-1.00	0.20-0.60	1.40-1.80	3.30-3.80
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Butylbenzene	µg/kg	5	NONE	-	-	-	-	< 5.0^
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-	< 5.0^
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0^

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693814	2693815	2693816	2693817	2693818
Sample Reference				DS111	DS102B	DS106	DS106	DS106
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30-0.70	0.70-1.00	0.20-0.60	1.40-1.80	3.30-3.80
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-	1.7
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	0.7
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-	0.09
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-	0.14
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-	0.25
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-	1.3
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-	0.24
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	1.2
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-	1
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	0.67
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-	0.64
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-	-	0.81
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-	-	0.25

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693814	2693815	2693816	2693817	2693818
Sample Reference				DS111	DS102B	DS106	DS106	DS106
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30-0.70	0.70-1.00	0.20-0.60	1.40-1.80	3.30-3.80
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	0.57
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	0.33
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-	0.32
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	< 0.001	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	< 0.001	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	< 0.001	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	< 0.001	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	< 0.001	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	< 0.001	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	< 0.001	-	-
Total PCBs by GC-MS								
Total PCBs	mg/kg	0.007	MCERTS	-	-	< 0.007	-	-
PFAS Suite 3								
PFBS C4 Sulphonate	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
PHPS C5 Sulphonate	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
PFHxS C6 Sulphonate	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
PFHpS C7 Sulphonate	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
PFOS C8 Sulphonate	µg/kg	0.1	NONE	< 0.1	0.2	0.3	-	-
PFNS C9 Sulphonate	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
PFDS C10 Sulphonate	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
PFUdS C11 Sulphonate	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
PFDoS C12 Sulphonate	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
PFBA C4 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
PFPeA C5 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
PFHxA C6 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
PFHpA C7 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
PFOA C8 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	< 0.1	0.1	-	-
PFNA C9 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
PFDA C10 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
PFUdA C11 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
PFDoA C12 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693819	2693820	2693821	2693822	2693823
Sample Reference				DS104	DS104	DS104	DS105	DS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.60	2.40-2.80	4.70-5.00	0.30-0.70	1.40-1.70
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	11	9.3	26	11	10
Total mass of sample received	kg	0.001	NONE	0.6	0.3	0.3	0.4	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite- Loose Fibres	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected	-	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MLO	MLO	MLO	N/A	MLO

General Inorganics

pH - Manual	pH Units	N/A	MCERTS	-	-	7.7	-	-
pH - Automated	pH Units	N/A	MCERTS	7.8	8	-	-	8.5
Electrical Conductivity	µS/cm	10	ISO 17025	-	-	260	-	-
Total Cyanide	mg/kg	1	MCERTS	11	< 1.0	< 1.0	-	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	-	-
Free Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	-	-
Total Sulphate as SO4	mg/kg	50	MCERTS	-	310	260	-	340
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.086	-	0.043	-	-
Sulphide	mg/kg	1	MCERTS	11	4	10	-	4
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	130	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	-	14	-	-
Organic Matter	%	0.1	MCERTS	-	-	-	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	-	0.052	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.7	1.4	5.2	-	0.9
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.54	0.69	1.8	-	0.16
Acenaphthylene	mg/kg	0.05	MCERTS	0.21	< 0.05	0.08	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.41	< 0.05	0.83	-	0.33
Fluorene	mg/kg	0.05	MCERTS	0.4	0.22	1.5	-	0.32
Phenanthrene	mg/kg	0.05	MCERTS	5.8	1.1	7	-	5.9
Anthracene	mg/kg	0.05	MCERTS	1.8	< 0.05	1.4	-	1.2
Fluoranthene	mg/kg	0.05	MCERTS	9.7	0.3	5.6	-	8.7
Pyrene	mg/kg	0.05	MCERTS	8.5	0.28	5.1	-	7.6
Benzo(a)anthracene	mg/kg	0.05	MCERTS	5.2	0.15	2.9	-	3.9
Chrysene	mg/kg	0.05	MCERTS	5.4	0.38	3.2	-	3.9
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	6.5	0.24	3.2	-	4
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	2.2	0.08	1.2	-	1.8
Benzo(a)pyrene	mg/kg	0.05	MCERTS	4.9	0.12	2.7	-	3.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.8	0.1	1.5	-	1.8
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.74	< 0.05	0.53	-	0.48
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3	0.13	1.4	-	1.8
Coronene	mg/kg	0.05	NONE	-	< 0.05	-	-	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	57.9	-	40	-	-
Total WAC-17 PAHs	mg/kg	0.85	NONE	-	3.78	-	-	45.2

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693819	2693820	2693821	2693822	2693823
Sample Reference				DS104	DS104	DS104	DS105	DS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.60	2.40-2.80	4.70-5.00	0.30-0.70	1.40-1.70
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	-	1.9	-	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	62	15	10	-	18
Barium (aqua regia extractable)	mg/kg	1	MCERTS	450	80	56	-	41
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.1	1.2	0.47	-	0.41
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	1.2	0.6	-	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	4.9	< 0.2	< 0.2	-	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2	-	-	< 1.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	< 1.8	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	77	4.3	4.6	-	26
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	-	6.3	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	1100	62	40	-	44
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	-	3500	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	530	27	24	-	22
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	-	93	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.9	< 0.3	< 0.3	-	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	-	1.5	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	360	29	13	-	20
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	290	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	2.4	2	-	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	-	1.5	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	98	8.3	7.6	-	37
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	1000	44	25	-	54
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	2600	-	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	740	-	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	580	-	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	370	-	-
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0^	-	< 5.0
Toluene	µg/kg	5	MCERTS	-	< 5.0	< 5.0^	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0^	-	< 5.0
p & m-xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0^	-	< 5.0
o-xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0^	-	< 5.0##
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	< 5.0^	-	< 5.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693819	2693820	2693821	2693822	2693823
Sample Reference				DS104	DS104	DS104	DS105	DS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.60	2.40-2.80	4.70-5.00	0.30-0.70	1.40-1.70
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	-	56	-	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	-	< 10	-	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	< 10	78	-	99
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	-	< 0.1	-	-
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	< 1.0	< 1.0	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	< 2.0	< 2.0	-	4.2
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	< 8.0	< 8.0	-	9.4
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	< 8.0	< 8.0	-	36
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	< 10	< 10	-	50
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	< 1.0	1.1	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	< 2.0	8	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	< 10	23	-	16
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	< 10	39	-	27
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	< 10	71	-	44
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	-	45	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693819	2693820	2693821	2693822	2693823
Sample Reference				DS104	DS104	DS104	DS105	DS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.60	2.40-2.80	4.70-5.00	0.30-0.70	1.40-1.70
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Chloroethane	µg/kg	5	NONE	-	-	< 5.0^	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	< 5.0^	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	< 5.0^	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	< 5.0^	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	< 5.0^	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	< 5.0^	-	-
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
2,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Trichloromethane	µg/kg	5	NONE	-	-	< 5.0^	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	-	< 5.0^	-	-
Benzene	µg/kg	5	MCERTS	-	-	< 5.0^	-	-
Tetrachloromethane	µg/kg	5	NONE	-	-	< 5.0^	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Toluene	µg/kg	5	MCERTS	-	-	< 5.0^	-	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	< 5.0^	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	-	< 5.0^	-	-
p & m-Xylene	µg/kg	5	MCERTS	-	-	< 5.0^	-	-
Styrene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Tribromomethane	µg/kg	5	NONE	-	-	< 5.0^	-	-
o-Xylene	µg/kg	5	MCERTS	-	-	< 5.0^	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Bromobenzene	µg/kg	5	NONE	-	-	< 5.0^	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693819	2693820	2693821	2693822	2693823
Sample Reference				DS104	DS104	DS104	DS105	DS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.60	2.40-2.80	4.70-5.00	0.30-0.70	1.40-1.70
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Butylbenzene	µg/kg	5	NONE	-	-	< 5.0^	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	< 5.0^	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0^	-	-

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693819	2693820	2693821	2693822	2693823
Sample Reference				DS104	DS104	DS104	DS105	DS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.60	2.40-2.80	4.70-5.00	0.30-0.70	1.40-1.70
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	< 0.1	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	< 0.05	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	1.8	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	< 0.1	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	< 0.2	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	2.6	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	< 0.1	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	0.08	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	0.83	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	< 0.2	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	0.4	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	< 0.2	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	1.5	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	< 0.3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	7	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	1.4	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	0.9	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	< 0.2	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	< 0.3	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	5.6	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	5.1	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	< 0.3	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	2.9	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	3.2	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	3.2	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	1.2	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693819	2693820	2693821	2693822	2693823
Sample Reference				DS104	DS104	DS104	DS105	DS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.60	2.40-2.80	4.70-5.00	0.30-0.70	1.40-1.70
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	2.7	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	1.5	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	0.53	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	1.4	-	-
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	0.009	-	-	< 0.001	-
PCB Congener 52	mg/kg	0.001	MCERTS	0.007	-	-	< 0.001	-
PCB Congener 101	mg/kg	0.001	MCERTS	0.026	-	-	0.001	-
PCB Congener 118	mg/kg	0.001	MCERTS	0.017	-	-	0.001	-
PCB Congener 138	mg/kg	0.001	MCERTS	0.041	-	-	0.002	-
PCB Congener 153	mg/kg	0.001	MCERTS	0.031	-	-	0.002	-
PCB Congener 180	mg/kg	0.001	MCERTS	0.011	-	-	0.001	-
Total PCBs by GC-MS								
Total PCBs	mg/kg	0.007	MCERTS	0.14	-	-	0.008	-
PFAS Suite 3								
PFBS C4 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PHPS C5 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PFHxS C6 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PFHpS C7 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PFOS C8 Sulphonate	µg/kg	0.1	NONE	0.2	-	-	-	-
PFNS C9 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PFDS C10 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PFUdS C11 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PFDoS C12 Sulphonate	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PFBA C4 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PFPeA C5 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PFHxA C6 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PFHpA C7 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PFOA C8 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PFNA C9 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PFDA C10 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PFUdA C11 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	-
PFDoA C12 Carboxylic acid	µg/kg	0.1	NONE	< 0.1	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Lab Sample Number				2693824	2693825	2693826	2693827	2693828
Sample Reference				DS107	DS107	DS113	DS113	DS101
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.50	1.50-1.80	0.10-0.50	1.40-1.70	0.40-0.80
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	20	18	20	18	9.4
Total mass of sample received	kg	0.001	NONE	0.4	0.3	0.3	0.3	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile- Loose Fibrous Debris	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	Not-detected	Detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	N/A	MLO	MLO	MLO	MLO

General Inorganics

pH - Manual	pH Units	N/A	MCERTS	-	-	-	-	-
pH - Automated	pH Units	N/A	MCERTS	-	7	7.8	7.1	7.2
Electrical Conductivity	µS/cm	10	ISO 17025	-	63	-	94	51
Total Cyanide	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	-	140	1000	180	150
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	0.0033	-	0.008	0.0019
Sulphide	mg/kg	1	MCERTS	-	< 1.0	6.9	4.5	2.3
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	5.5	-	13	< 1.0
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	< 0.5	-	11	< 0.5
Organic Matter	%	0.1	MCERTS	-	-	-	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	< 0.0010	-	0.0019	0.0016
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	< 0.1	4.8	0.2	0.2
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	2	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	0.1	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	0.06	1.6	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	1.6	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	0.68	22	< 0.05	0.11
Anthracene	mg/kg	0.05	MCERTS	-	0.13	4.7	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	0.78	27	< 0.05	0.11
Pyrene	mg/kg	0.05	MCERTS	-	0.7	22	< 0.05	0.09
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	0.31	13	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	0.34	13	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	0.34	14	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	0.23	5	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	0.29	9.8	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.14	5.8	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	1.3	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	< 0.05	6.5	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	-	-	< 0.05	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	4	-	< 0.80	< 0.80
Total WAC-17 PAHs	mg/kg	0.85	NONE	-	-	148	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693824	2693825	2693826	2693827	2693828
Sample Reference				DS107	DS107	DS113	DS113	DS101
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.50	1.50-1.80	0.10-0.50	1.40-1.70	0.40-0.80
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	10	42	8.3	5
Barium (aqua regia extractable)	mg/kg	1	MCERTS	-	9.7	570	7.7	19
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	0.16	0.89	0.2	0.1
Boron (water soluble)	mg/kg	0.2	MCERTS	-	< 0.2	0.6	0.3	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	< 0.2	140	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	-	-	< 1.2	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	< 1.8	-	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	4.8	150	6.5	3.5
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	2.5	-	2.7	1.3
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	14	3700	11	37
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	8900	-	9400	3500
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	5	510	12	4.5
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	120	-	160	47
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	< 0.25	-	0.26	< 0.25
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	4.8	300	6.4	3.8
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	200	-	230	130
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	1	-	2.3	1.3
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	11	48	13	4.8
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	19	1600	22	9.7
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	24000	-	19000	31000
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	1300	-	1800	650
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	260	-	460	290
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	210	-	200	170
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	-	< 5.0	< 5.0##	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	< 5.0	< 5.0	< 5.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693824	2693825	2693826	2693827	2693828
Sample Reference				DS107	DS107	DS113	DS113	DS101
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.50	1.50-1.80	0.10-0.50	1.40-1.70	0.40-0.80
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	< 50	-	< 50	< 50
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	< 10	-	< 10	< 10
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	21	830	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	< 1.0	2.3	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	< 2.0	9.4	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	< 8.0	98	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	< 8.0	330	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	< 10	440	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	< 2.0	9.4	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	< 10	66	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	11	240	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	19	320	< 10	< 10
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	11	-	< 10	< 10

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693824	2693825	2693826	2693827	2693828
Sample Reference				DS107	DS107	DS113	DS113	DS101
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.50	1.50-1.80	0.10-0.50	1.40-1.70	0.40-0.80
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0#	-	< 5.0#	< 5.0#
Trichloromethane	µg/kg	5	NONE	-	< 5.0##	-	< 5.0##	< 5.0##
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0##	-	< 5.0##	< 5.0##
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Tetrachloromethane	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	< 5.0#	-	< 5.0#	< 5.0#
Tribromomethane	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	-	< 5.0	-	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0##	-	< 5.0##	< 5.0##
4-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693824	2693825	2693826	2693827	2693828
Sample Reference				DS107	DS107	DS113	DS113	DS101
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.50	1.50-1.80	0.10-0.50	1.40-1.70	0.40-0.80
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Butylbenzene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	< 5.0

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693824	2693825	2693826	2693827	2693828
Sample Reference				DS107	DS107	DS113	DS113	DS101
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.50	1.50-1.80	0.10-0.50	1.40-1.70	0.40-0.80
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	-	< 0.05	-	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	-	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	0.06	-	< 0.05	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	< 0.2
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05	< 0.05
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	-	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	-	0.68	-	< 0.05	0.11
Anthracene	mg/kg	0.05	MCERTS	-	0.13	-	< 0.05	< 0.05
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	< 0.3	-	< 0.3	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	-	0.78	-	< 0.05	0.11
Pyrene	mg/kg	0.05	MCERTS	-	0.7	-	< 0.05	0.09
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	-	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	0.31	-	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	0.34	-	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	0.34	-	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	0.23	-	< 0.05	< 0.05

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693824	2693825	2693826	2693827	2693828
Sample Reference				DS107	DS107	DS113	DS113	DS101
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.50	1.50-1.80	0.10-0.50	1.40-1.70	0.40-0.80
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	0.29	-	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.14	-	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05	< 0.05
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
Total PCBs by GC-MS								
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	-	-	-	-
PFAS Suite 3								
PFBS C4 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PHPS C5 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFHxS C6 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFHpS C7 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFOS C8 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFNS C9 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFDS C10 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFUdS C11 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFDoS C12 Sulphonate	µg/kg	0.1	NONE	-	-	-	-	-
PFBA C4 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFPeA C5 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFHxA C6 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFHpA C7 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFOA C8 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFNA C9 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFDA C10 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFUdA C11 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-
PFDoA C12 Carboxylic acid	µg/kg	0.1	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693829	2693830	2693831
Sample Reference				DS101	DS103	DS103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.40-1.80	0.30-0.80	1.40-1.60
Date Sampled				24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	19	19
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MLO	MLO	MLO

General Inorganics

pH - Manual	pH Units	N/A	MCERTS	-	-	-
pH - Automated	pH Units	N/A	MCERTS	8.1	9.5	8.2
Electrical Conductivity	µS/cm	10	ISO 17025	-	-	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	-	-	-
Free Cyanide	mg/kg	1	MCERTS	-	-	-
Total Sulphate as SO4	mg/kg	50	MCERTS	-	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.037	0.44	0.037
Sulphide	mg/kg	1	MCERTS	10	14	12
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	-	-
Organic Matter	%	0.1	MCERTS	-	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.5	1.3	0.7
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.93	0.19	0.06
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.11	0.19	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.18	0.16	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	1.2	2.6	0.45
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.52	0.07
Fluoranthene	mg/kg	0.05	MCERTS	0.18	3.6	0.51
Pyrene	mg/kg	0.05	MCERTS	0.17	3	0.43
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.1	1.6	0.23
Chrysene	mg/kg	0.05	MCERTS	0.42	1.7	0.25
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.19	1.9	0.28
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.05	0.77	0.07
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.07	1.4	0.19
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.85	0.12
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.22	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.08	0.88	0.12
Coronene	mg/kg	0.05	NONE	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	3.72	19.5	2.78
Total WAC-17 PAHs	mg/kg	0.85	NONE	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693829	2693830	2693831
Sample Reference				DS101	DS103	DS103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.40-1.80	0.30-0.80	1.40-1.60
Date Sampled				24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Heavy Metals / Metalloids						
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	-	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	75	20	73
Barium (aqua regia extractable)	mg/kg	1	MCERTS	150	80	36
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1	0.48	0.41
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	2.2	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	4.8	120	11
Cobalt (aqua regia extractable)	mg/kg	0.15	MCERTS	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	84	170	2200
Iron (aqua regia extractable)	mg/kg	40	MCERTS	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	42	64	28
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	30	28
Phosphorus (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	13	260	20
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	68	270	91
Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-
Potassium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-
Sodium (aqua regia extractable)	mg/kg	20	ISO 17025	-	-	-
Monoaromatics & Oxygenates						
Benzene	µg/kg	5	MCERTS	-	-	-
Toluene	µg/kg	5	MCERTS	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	-	-
p & m-xylene	µg/kg	5	MCERTS	-	-	-
o-xylene	µg/kg	5	MCERTS	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693829	2693830	2693831
Sample Reference				DS101	DS103	DS103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.40-1.80	0.30-0.80	1.40-1.60
Date Sampled				24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Petroleum Hydrocarbons						
Diesel Range Organics (C10 - C28) EH_CU_1D_TOTAL	mg/kg	50	NONE	-	-	-
Mineral Oil (C10 - C40) EH_CU_1D_AL	mg/kg	10	NONE	-	-	-
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	-	-
TPH2 (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	-	-
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	-	-
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	-	-
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693829	2693830	2693831
Sample Reference				DS101	DS103	DS103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.40-1.80	0.30-0.80	1.40-1.60
Date Sampled				24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
VOCs						
Chloromethane	µg/kg	5	ISO 17025	-	-	-
Chloroethane	µg/kg	5	NONE	-	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-
2,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-
Trichloromethane	µg/kg	5	NONE	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	-	-
Benzene	µg/kg	5	MCERTS	-	-	-
Tetrachloromethane	µg/kg	5	NONE	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-
Toluene	µg/kg	5	MCERTS	-	-	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	-	-
p & m-Xylene	µg/kg	5	MCERTS	-	-	-
Styrene	µg/kg	5	ISO 17025	-	-	-
Tribromomethane	µg/kg	5	NONE	-	-	-
o-Xylene	µg/kg	5	MCERTS	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-
Bromobenzene	µg/kg	5	NONE	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693829	2693830	2693831
Sample Reference				DS101	DS103	DS103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.40-1.80	0.30-0.80	1.40-1.60
Date Sampled				24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Butylbenzene	µg/kg	5	NONE	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-

Alcohols by headspace GC-MS

Ethanol	mg/kg	0.2	NONE	< 0.20	< 0.20	< 0.20

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693829	2693830	2693831
Sample Reference				DS101	DS103	DS103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.40-1.80	0.30-0.80	1.40-1.60
Date Sampled				24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
SVOCs						
Aniline	mg/kg	0.1	NONE	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693829	2693830	2693831
Sample Reference				DS101	DS103	DS103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.40-1.80	0.30-0.80	1.40-1.60
Date Sampled				24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	MCERTS	-	-	-

PFAS Suite 3

PFBS C4 Sulphonate	µg/kg	0.1	NONE	-	-	-
PHPS C5 Sulphonate	µg/kg	0.1	NONE	-	-	-
PFHxS C6 Sulphonate	µg/kg	0.1	NONE	-	-	-
PFHpS C7 Sulphonate	µg/kg	0.1	NONE	-	-	-
PFOS C8 Sulphonate	µg/kg	0.1	NONE	-	-	-
PFNS C9 Sulphonate	µg/kg	0.1	NONE	-	-	-
PFDS C10 Sulphonate	µg/kg	0.1	NONE	-	-	-
PFUdS C11 Sulphonate	µg/kg	0.1	NONE	-	-	-
PFDoS C12 Sulphonate	µg/kg	0.1	NONE	-	-	-
PFBA C4 Carboxylic acid	µg/kg	0.1	NONE	-	-	-
PFPeA C5 Carboxylic acid	µg/kg	0.1	NONE	-	-	-
PFHxA C6 Carboxylic acid	µg/kg	0.1	NONE	-	-	-
PFHpA C7 Carboxylic acid	µg/kg	0.1	NONE	-	-	-
PFOA C8 Carboxylic acid	µg/kg	0.1	NONE	-	-	-
PFNA C9 Carboxylic acid	µg/kg	0.1	NONE	-	-	-
PFDA C10 Carboxylic acid	µg/kg	0.1	NONE	-	-	-
PFUdA C11 Carboxylic acid	µg/kg	0.1	NONE	-	-	-
PFDoA C12 Carboxylic acid	µg/kg	0.1	NONE	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693832	2693833	2693834	2693835	2693836
Sample Reference				BH109	TP124	DS111	DS106	DS104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60-0.80	0.30-0.50	0.30-0.70	3.30-3.80	4.70-5.00
Date Sampled				24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (automated)	pH Units	N/A	ISO 17025	7.6	7.7	7.7	7.4	7.6
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO_4	mg/l	0.1	ISO 17025	2.6	3.7	2.6	12.7	5.2
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Organic Carbon (TOC)	mg/l	0.1	NONE	10.6	5.75	6.25	3.48	5.35
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1	ISO 17025	1.9	< 1.0	3.8	1.7	< 1.0
Barium (dissolved)	µg/l	0.05	ISO 17025	36	40	16	8.3	18
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	12	45	< 10	78	33
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.7	3.8	2.5	0.7	0.4
Copper (dissolved)	µg/l	0.7	ISO 17025	30	43	21	47	16
Lead (dissolved)	µg/l	1	ISO 17025	6.2	19	12	2	< 1.0
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	3	6	0.6	2	2.9
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7	< 1.7	14	2.8	< 1.7
Zinc (dissolved)	µg/l	0.4	ISO 17025	24	22	22	27	7.2

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2693837	2693838	2693839
Sample Reference				DS113	DS101	DS103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.40-1.70	1.40-1.80	1.40-1.60
Date Sampled				24/05/2023	24/05/2023	24/05/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status			
General Inorganics						
pH (automated)	pH Units	N/A	ISO 17025	7.8	7.4	7.6
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Sulphate as SO_4	mg/l	0.1	ISO 17025	1	3.7	4.6
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Total Organic Carbon (TOC)	mg/l	0.1	NONE	6.07	4.32	10
Total Phenols						
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10
Speciated PAHs						
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Total PAH						
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	3.7	8.8	77
Barium (dissolved)	µg/l	0.05	ISO 17025	6.1	9.4	12
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	20	27	27
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.4	< 0.4	1.8
Copper (dissolved)	µg/l	0.7	ISO 17025	53	16	28
Lead (dissolved)	µg/l	1	ISO 17025	2	< 1.0	2.1
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	0.6	0.4	3.7
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	3.2	< 1.7	3.6
Zinc (dissolved)	µg/l	0.4	ISO 17025	18	8.6	25

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2693799	BH109	None Supplied	0.60-0.80	Brown loam and sand with gravel and vegetation.
2693800	BH109	None Supplied	1.80-2.00	Brown sand with gravel.
2693801	TP103A	None Supplied	0.60-0.80	Brown sand with gravel.
2693802	TP103A	None Supplied	1.80-2.00	Brown sand with gravel.
2693803	TP124	None Supplied	0.30-0.50	Brown loam and sand with gravel and vegetation.
2693804	DS108	None Supplied	0.10-0.30	Brown loam and sand with gravel and vegetation.
2693805	DS108	None Supplied	1.80-2.00	Brown clay and sand with gravel.
2693806	DS109	None Supplied	0.20-0.40	Brown sand with gravel and stones.
2693807	DS109	None Supplied	1.40-1.60	Brown sand.
2693808	DS110	None Supplied	0.20-0.60	Brown loam and sand with gravel and vegetation.
2693809	DS110	None Supplied	1.60-2.00	Brown sand with gravel.
2693810	DS112	None Supplied	0.20-0.60	Brown loam and sand with gravel and vegetation.
2693811	DS112	None Supplied	1.40-1.70	Brown loam and sand with gravel.
2693812	DS112	None Supplied	3.50-3.70	Brown clay and sand with gravel.
2693813	DS112	None Supplied	5.80-6.00	Brown sandy clay.
2693814	DS111	None Supplied	0.30-0.70	Brown loam and sand with gravel and stones.
2693815	DS102B	None Supplied	0.70-1.00	Brown clay and sand with gravel and vegetation.
2693816	DS106	None Supplied	0.20-0.60	Brown loam and clay with gravel and vegetation.
2693817	DS106	None Supplied	1.40-1.80	Brown loam and sand with gravel.
2693818	DS106	None Supplied	3.30-3.80	Brown sand with gravel.
2693819	DS104	None Supplied	0.20-0.60	Brown loam and sand with gravel.
2693820	DS104	None Supplied	2.40-2.80	Brown sand with gravel.
2693821	DS104	None Supplied	4.70-5.00	Brown sand with gravel.
2693822	DS105	None Supplied	0.30-0.70	Brown loam and sand with gravel and vegetation.
2693823	DS105	None Supplied	1.40-1.70	Brown sand with gravel.
2693824	DS107	None Supplied	0.20-0.50	Brown clay and sand with gravel.
2693825	DS107	None Supplied	1.50-1.80	Brown sand.
2693826	DS113	None Supplied	0.10-0.50	Brown sand with gravel.
2693827	DS113	None Supplied	1.40-1.70	Brown sand.
2693828	DS101	None Supplied	0.40-0.80	Brown sand with gravel.
2693829	DS101	None Supplied	1.40-1.80	Brown sand with gravel.
2693830	DS103	None Supplied	0.30-0.80	Brown loam and sand with gravel and vegetation.
2693831	DS103	None Supplied	1.40-1.60	Brown clay and sand with gravel.

Analytical Report Number : 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
NRA Leachate Prep	10:1 extract with de-ionised water shaken for 24 hours then filtered.	In-house method based on National Rivers Authority	L020-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Complex Cyanide in soil	Determination of complex cyanide by calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
DRO C10-28 (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Electrical conductivity of soil	Determination of electrical conductivity in soil by electrometric measurement.	In-house method	L031-PL	D	ISO 17025
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025

Analytical Report Number : 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270.	L064-PL	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	NONE
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025

Analytical Report Number : 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon in leachate	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
DRO (Soil)	Determination of extractable hydrocarbons in soil by GC-MS/FID.	In-house method with silica gel split/clean up.	L076-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Alcohols in soil by HS-GC-MS	Determination of alcohols in soil by headspace GC-MS.	In house method	L054B-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
EF - PFAS in soil by LC-MS/MS	PFAS suite 3 by LC-MS/MS	In-house method	UK	W	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE

Analytical Report Number : 23-36227
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

#Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and therefore may be compromised.
##Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.
^ Data reported unaccredited due to quality control parameter failure associated with this result; The result should be considered as being deviating and may be compromised.

Sample Deviation Report

Analytical Report Number : 23-36227

Project / Site name: Phoenix Wharf, Port Talbot

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
DS102B	None Supplied	S	2693815	b	Alcohols in soil by HS-GC-MS	L054B-PL	b
DS102B	None Supplied	S	2693815	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
DS102B	None Supplied	S	2693815	b	TPHCWG (Soil)	L088/76-PL	b
DS104	None Supplied	S	2693819	b	Alcohols in soil by HS-GC-MS	L054B-PL	b
DS104	None Supplied	S	2693820	b	Alcohols in soil by HS-GC-MS	L054B-PL	b
DS104	None Supplied	S	2693820	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
DS104	None Supplied	S	2693820	b	TPHCWG (Soil)	L088/76-PL	b
DS106	None Supplied	S	2693816	b	Alcohols in soil by HS-GC-MS	L054B-PL	b

Mitchell Tucker
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

t: 01749 677 760
f: 01749 679 345
e: mitchell.tucker@tecon.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-39646

Project / Site name:	Phoenix Wharf, Port Talbot (Project Dragon)	Samples received on:	16/06/2023
Your job number:	2111006.005	Samples instructed on/ Analysis started on:	16/06/2023
Your order number:		Analysis completed by:	29/06/2023
Report Issue Number:	1	Report issued on:	29/06/2023
Samples Analysed:	18 water samples		

Signed:

Dominika Warjan
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716053	2716054	2716055	2716056	2716057
Sample Reference				BH01	BH03A	BH04	BH103	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7.5	6.9	7.5	7.4	7.5
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	3100	5200	3300	5600	6300
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	193000	317000	186000	106000	64900
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	830	1700*	840	1900*	1900*
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	3600	2200	1900	3700	4200
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	3.56	3.28	4	4.46	1.03
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716053	2716054	2716055	2716056	2716057
Sample Reference				BH01	BH03A	BH04	BH103	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	550	680	900	1200	620
Calcium (dissolved)	mg/l	0.012	ISO 17025	92	46	17	34	280
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.03	0.01	0.012	0.07	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	96	93	52	88	130
Phosphorus (dissolved)	µg/l	20	ISO 17025	743	631	836	830	645
Potassium (dissolved)	mg/l	0.025	ISO 17025	44	38	42	69	70
Selenium (dissolved)	µg/l	4	ISO 17025	-	< 4.0	-	< 4.0	< 4.0
Sodium (dissolved)	mg/l	0.01	ISO 17025	580	930*	550*	1400	1100*
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.8	0.5	0.8	0.7	1.2
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.77	0.41	4.88	4.51	0.61
Barium (dissolved)	µg/l	0.06	ISO 17025	77	26	29	89	930
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.08	0.28	0.09	0.03	0.03
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.2	< 0.2	0.3	< 0.2	0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	3.1	2.9	0.7	1.3	1.1
Copper (dissolved)	µg/l	0.5	ISO 17025	3.7	2.4	4	4.1	1.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	1800	3100	930	1300	350
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	1.6	0.67	4.2	3.4	9.3
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.9	2.6	1.7	1.8	3.8
Selenium (dissolved)	µg/l	0.6	ISO 17025	3.7	-	3.6	-	-
Tin (dissolved)	µg/l	0.2	ISO 17025	1.3	0.9	0.42	0.43	0.38
Vanadium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	1.3	0.7	< 0.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.6	3.6	6.6	8.3	2.2
Monoaromatics & Oxygenates								
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716053	2716054	2716055	2716056	2716057
Sample Reference				BH01	BH03A	BH04	BH103	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716053	2716054	2716055	2716056	2716057
Sample Reference				BH01	BH03A	BH04	BH103	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Tribromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716053	2716054	2716055	2716056	2716057
Sample Reference				BH01	BH03A	BH04	BH103	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716053	2716054	2716055	2716056	2716057
Sample Reference				BH01	BH03A	BH04	BH103	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716053	2716054	2716055	2716056	2716057
Sample Reference				BH01	BH03A	BH04	BH103	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716058	2716059	2716060	2716061	2716062
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7.3	7.3	7.6	7.7	7.2
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	6200	7300	5500	8600	6100
Total Cyanide	µg/l	10	ISO 17025	< 10	10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	134000	189000	208000	102000	146000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	1700*	2100*	2000*	2700*	1700*
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	5000	5700	4800	7500	3100
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	3.42	2.98	3.49	3.56	2.91
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716058	2716059	2716060	2716061	2716062
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	1000	520	770	1400	750
Calcium (dissolved)	mg/l	0.012	ISO 17025	38	120	87	82	57
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.057	0.013	0.013	0.023	0.024
Magnesium (dissolved)	mg/l	0.005	ISO 17025	95	190	100	200	120
Phosphorus (dissolved)	µg/l	20	ISO 17025	617	771	659	1000	706
Potassium (dissolved)	mg/l	0.025	ISO 17025	60	66	48	110	50
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Sodium (dissolved)	mg/l	0.01	ISO 17025	1400*	1600*	1200*	1600*	1400*
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.7	0.8	0.7	0.8	0.7
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.72	1.51	0.45	3.47	0.31
Barium (dissolved)	µg/l	0.06	ISO 17025	72	110	63	130	68
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.15	0.03	0.06	0.07	0.04
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.2	0.4	< 0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	1.6	2.3	4.4	2.8	8.2
Copper (dissolved)	µg/l	0.5	ISO 17025	4.7	4	4.2	3	2.3
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	3700	4300	4400	3000	7900
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	2	2.4	3.2	3.9	1.6
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.5	2.3	2.5	1.9	2.3
Selenium (dissolved)	µg/l	0.6	ISO 17025	-	-	-	-	-
Tin (dissolved)	µg/l	0.2	ISO 17025	0.33	0.35	0.22	0.35	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.5	< 0.2	0.6	< 0.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	7.8	13	17	14	14
Monoaromatics & Oxygenates								
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716058	2716059	2716060	2716061	2716062
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716058	2716059	2716060	2716061	2716062
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Trichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Trans-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Tetrachloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
p & m-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Tribromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
o-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716058	2716059	2716060	2716061	2716062
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0^	< 3.0^	< 3.0^

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716058	2716059	2716060	2716061	2716062
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716058	2716059	2716060	2716061	2716062
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716063	2716064	2716065	2716066	2716067
Sample Reference				BH111	BH112	BH113	BH115	BH116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7.6	7.5	7.7	7.5	7.4
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	3200	2600	10000	5100	2500
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	135000	9900	391000	75400	221000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	910	560	2400*	1400*	540
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	5000	2700	3600	16000	2300
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	3.26	8.55	1.97	11.7	2.52
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	0.24	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	0.25	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	0.17	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	2.15	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	0.54	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	3.6	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	3.3	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	1.69	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	1.66	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	2.33	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.67	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	1.97	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	1.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	0.29	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	1.25	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	21.1	< 0.16	< 0.16	< 0.16

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716063	2716064	2716065	2716066	2716067
Sample Reference				BH111	BH112	BH113	BH115	BH116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	700	390	380	1200	380
Calcium (dissolved)	mg/l	0.012	ISO 17025	30	120	290	71	170
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.14	0.14	0.048	0.036	0.005
Magnesium (dissolved)	mg/l	0.005	ISO 17025	77	47	270	120	81
Phosphorus (dissolved)	µg/l	20	ISO 17025	601	732	620	906	721
Potassium (dissolved)	mg/l	0.025	ISO 17025	59	24	63	64	33
Selenium (dissolved)	µg/l	4	ISO 17025	-	-	< 4.0	< 4.0	-
Sodium (dissolved)	mg/l	0.01	ISO 17025	800	440	1800*	950*	360
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.7	1.9	1	0.7	1.1
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.97	3.58	1.44	10.5	13.3
Barium (dissolved)	µg/l	0.06	ISO 17025	56	130	100	46	74
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.04	< 0.02	0.04	0.05	0.1
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.2	< 0.2	0.4	0.3
Cobalt (dissolved)	µg/l	0.2	ISO 17025	2.2	2	2.4	2.2	4.4
Copper (dissolved)	µg/l	0.5	ISO 17025	2.1	1	0.7	6.4	36
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.3	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	2100	3400	1400	800	1000
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	2.9	10	3.3	1.1	8.7
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.7	4.6	4.2	3.5	9.2
Selenium (dissolved)	µg/l	0.6	ISO 17025	3.5	2.6	-	-	2.5
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	0.23	0.57	0.5	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.3	2.2	0.4	1.2	0.3
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.5	4.2	11	21	4.8
Monoaromatics & Oxygenates								
Benzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Toluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Ethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
p & m-xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
o-xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716063	2716064	2716065	2716066	2716067
Sample Reference				BH111	BH112	BH113	BH115	BH116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	140	< 10	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	180	< 10	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	25	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	40	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	110	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	180	< 10	< 10	< 10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716063	2716064	2716065	2716066	2716067
Sample Reference				BH111	BH112	BH113	BH115	BH116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Chloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Bromomethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Vinyl Chloride	µg/l	3	NONE	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Trichlorofluoromethane	µg/l	3	NONE	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Trichloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Trans-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Benzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Tetrachloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Trichloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Dibromomethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Toluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Chlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Ethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
p & m-Xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Styrene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Tribromomethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
o-Xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Bromobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716063	2716064	2716065	2716066	2716067
Sample Reference				BH111	BH112	BH113	BH115	BH116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Butylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716063	2716064	2716065	2716066	2716067
Sample Reference				BH111	BH112	BH113	BH115	BH116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	0.24	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	0.25	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	0.17	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	2.2	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	0.54	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	0.33	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	3.6	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	3.3	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	1.7	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	1.7	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	2.3	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.67	< 0.01	< 0.01	< 0.01

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716063	2716064	2716065	2716066	2716067
Sample Reference				BH111	BH112	BH113	BH115	BH116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	2	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	1	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	0.29	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	1.3	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716068	2716069	2716070
Sample Reference				BH117	BH119	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
General Inorganics						
pH (L005B)	pH Units	N/A	ISO 17025	7.4	7.5	7.2
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	7400	1800	4900
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	128000	336000	246000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	2100*	260	1400*
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	3300	950	4000
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	0.33	2.93	3.91
Total Phenols						
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10
Speciated PAHs						
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Total PAH						
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716068	2716069	2716070
Sample Reference				BH117	BH119	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
Heavy Metals / Metalloids						
Boron (dissolved)	µg/l	10	ISO 17025	310	230	650
Calcium (dissolved)	mg/l	0.012	ISO 17025	260	250	91
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.11	0.039	0.008
Magnesium (dissolved)	mg/l	0.005	ISO 17025	160	59	100
Phosphorus (dissolved)	µg/l	20	ISO 17025	569	723	717
Potassium (dissolved)	mg/l	0.025	ISO 17025	63	15	38
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	-	< 4.0
Sodium (dissolved)	mg/l	0.01	ISO 17025	1300	120	980*
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.8	0.8	0.7
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.75	3.36	1.5
Barium (dissolved)	µg/l	0.06	ISO 17025	370	72	60
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.02	0.05
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.3	< 0.2	< 0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	0.6	0.6	6
Copper (dissolved)	µg/l	0.5	ISO 17025	0.9	3.3	2.5
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	430	850	4700
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	0.63	4.4	1.8
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.3	3	3.6
Selenium (dissolved)	µg/l	0.6	ISO 17025	-	< 0.6	-
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	0.28	0.33
Vanadium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.3	< 0.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.1	6.2	16
Monoaromatics & Oxygenates						
Benzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Toluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Ethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
p & m-xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
o-xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716068	2716069	2716070
Sample Reference				BH117	BH119	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
Petroleum Hydrocarbons						
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716068	2716069	2716070
Sample Reference				BH117	BH119	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
VOCs						
Chloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Chloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Bromomethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Vinyl Chloride	µg/l	3	NONE	< 3.0^	< 3.0^	< 3.0^
Trichlorofluoromethane	µg/l	3	NONE	< 3.0^	< 3.0^	< 3.0^
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Trichloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Trans-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Benzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Tetrachloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Trichloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Dibromomethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Toluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Chlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Ethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
p & m-Xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Styrene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Tribromomethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
o-Xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Bromobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716068	2716069	2716070
Sample Reference				BH117	BH119	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
Butylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716068	2716069	2716070
Sample Reference				BH117	BH119	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
SVOCs						
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Lab Sample Number				2716068	2716069	2716070
Sample Reference				BH117	BH119	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				13/06/2023	13/06/2023	13/06/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by calculation. Accredited matrices SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Mineral Oil (Waters) C10 - C40	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPH2 (Waters)	Determination of hydrocarbons C6-C10 by headspace GC-MS. Accredited Matrices SW, PW. GW.	In-house method based on USEPA8260	L088-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025

Analytical Report Number : 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
DRO (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	ISO 17025
Chloride in water	Determination of Chloride (diissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Analytical Report Number : 23-39646
Project / Site name: Phoenix Wharf, Port Talbot (Project Dragon)

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

*Result was reported from high dilution and should be interpreted with care
##Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.
^ Data reported unaccredited due to quality control parameter failure associated with this result; The result should be considered as being deviating and may be compromised.

Mitchell Tucker
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

t: 01749 677 760
f: 01749 679 345
e: mitchell.tucker@tecon.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-41879

Replaces Analytical Report Number: 23-41879, issue no. 1
Additional analysis undertaken.
Sulphate added to all samples as per client's request.

Project / Site name:	Phoenix Wharf, Port Talbot	Samples received on:	28/06/2023
Your job number:	2111006.005	Samples instructed on/ Analysis started on:	29/06/2023
Your order number:		Analysis completed by:	28/07/2023
Report Issue Number:	2	Report issued on:	09/08/2023
Samples Analysed:	6 water samples		



Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-41879
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2729531	2729532	2729533	2729534	2729535
Sample Reference				WS06	WS07	WS10	WS11	BH02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				26/06/2023	26/06/2023	26/06/2023	26/06/2023	26/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.4	7.3	7.3	7.2	7.3
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	860	770	790	880	6300
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	16700	75100	67400	86400	347000
Sulphate as SO4	mg/l	0.045	ISO 17025	16.7	75.1	67.4	86.4	347
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	120	74	35	21	3300$$
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	1300	1400	2700	2100	7400
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	3.84	3.63	2.89	3.51	6.3
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	1.31	0.41	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	0.35	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	2.01	0.56	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	1.85	0.51	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	1.11	0.25	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	1.18	0.27	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	1.3	0.34	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	0.56	0.1	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	1.05	0.23	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	0.59	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	0.73	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	12	2.67	< 0.16	< 0.16	< 0.16
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	340	230	190	150	830
Calcium (dissolved)	mg/l	0.012	ISO 17025	77	75	160	180	120
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.08	0.018	0.1	0.1	0.053
Magnesium (dissolved)	mg/l	0.005	ISO 17025	37	24	22	20	220
Phosphorus (dissolved)	µg/l	20	ISO 17025	267	285	327	250	1440
Potassium (dissolved)	mg/l	0.025	ISO 17025	9.9	11	10	9	75
Selenium (dissolved)	µg/l	4	ISO 17025	-	-	-	-	< 4.0
Sodium (dissolved)	mg/l	0.01	ISO 17025	74	55	20	12	1100
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.9	1.5	14	0.6	0.5
Arsenic (dissolved)	µg/l	0.15	ISO 17025	11.1	11.6	28.8	1.84	162
Barium (dissolved)	µg/l	0.06	ISO 17025	280	240	300	56	110
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.09	0.03	0.36	0.13	0.04

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-41879
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2729531	2729532	2729533	2729534	2729535
Sample Reference				WS06	WS07	WS10	WS11	BH02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				26/06/2023	26/06/2023	26/06/2023	26/06/2023	26/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	0.7
Cobalt (dissolved)	µg/l	0.2	ISO 17025	7	7.4	0.9	1.2	0.4
Copper (dissolved)	µg/l	0.5	ISO 17025	6.3	3.9	4.9	4.5	0.9
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	1200	860	2900	770	1700
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	13	13	5.7	1.4	0.29
Nickel (dissolved)	µg/l	0.5	ISO 17025	8	7.3	8	3.1	3.8
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	1.1	0.9	1.1	-
Tin (dissolved)	µg/l	0.2	ISO 17025	0.36	< 0.20	< 0.20	< 0.20	0.76
Vanadium (dissolved)	µg/l	0.2	ISO 17025	5.1	1.4	0.5	0.6	2.9
Zinc (dissolved)	µg/l	0.5	ISO 17025	62	85	8.1	3.5	4.6
Monoaromatics & Oxygenates								
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroethane##	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromomethane##	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-41879
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2729531	2729532	2729533	2729534	2729535
Sample Reference				WS06	WS07	WS10	WS11	BH02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				26/06/2023	26/06/2023	26/06/2023	26/06/2023	26/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Butylbenzene##	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene##	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,3-Trichlorobenzene##	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-41879
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2729531	2729532	2729533	2729534	2729535
Sample Reference				WS06	WS07	WS10	WS11	BH02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				26/06/2023	26/06/2023	26/06/2023	26/06/2023	26/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	1.3	0.41	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	0.35	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	2	0.56	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	1.9	0.51	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	1.1	0.25	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	1.2	0.27	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	1.3	0.34	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	0.56	0.1	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	1.1	0.23	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	0.59	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	0.73	< 0.01	< 0.01	< 0.01	< 0.01

3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-41879
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2729531	2729532	2729533	2729534	2729535
Sample Reference				WS06	WS07	WS10	WS11	BH02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				26/06/2023	26/06/2023	26/06/2023	26/06/2023	26/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-41879
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2729536
Sample Reference				DS101
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				26/06/2023
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	
General Inorganics				
pH (L099)	pH Units	N/A	ISO 17025	7.2
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	1300
Total Cyanide	µg/l	10	ISO 17025	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO4	µg/l	45	ISO 17025	162000
Sulphate as SO4	mg/l	0.045	ISO 17025	162
Sulphide	µg/l	5	NONE	< 5.0
Chloride	mg/l	0.15	ISO 17025	83
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	250
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	4.71
Total Phenols				
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16
Heavy Metals / Metalloids				
Boron (dissolved)	µg/l	10	ISO 17025	250
Calcium (dissolved)	mg/l	0.012	ISO 17025	150
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.26
Magnesium (dissolved)	mg/l	0.005	ISO 17025	31
Phosphorus (dissolved)	µg/l	20	ISO 17025	304
Potassium (dissolved)	mg/l	0.025	ISO 17025	28
Selenium (dissolved)	µg/l	4	ISO 17025	-
Sodium (dissolved)	mg/l	0.01	ISO 17025	46
Antimony (dissolved)	µg/l	0.4	ISO 17025	1
Arsenic (dissolved)	µg/l	0.15	ISO 17025	37.5
Barium (dissolved)	µg/l	0.06	ISO 17025	250
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-41879
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2729536
Sample Reference				DS101
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				26/06/2023
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	11
Copper (dissolved)	µg/l	0.5	ISO 17025	1.8
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	1900
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	17
Nickel (dissolved)	µg/l	0.5	ISO 17025	7.6
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.8
Tin (dissolved)	µg/l	0.2	ISO 17025	0.35
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.3
Zinc (dissolved)	µg/l	0.5	ISO 17025	4
Monoaromatics & Oxygenates				
Benzene	µg/l	3	ISO 17025	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0
Petroleum Hydrocarbons				
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10
VOCs				
Chloromethane	µg/l	3	ISO 17025	< 3.0
Chloroethane##	µg/l	3	ISO 17025	< 3.0
Bromomethane##	µg/l	3	ISO 17025	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-41879
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2729536
Sample Reference				DS101
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				26/06/2023
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0
Chloroform	µg/l	3	ISO 17025	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0
p & m-Xylene	µg/l	3	ISO 17025	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0
o-Xylene	µg/l	3	ISO 17025	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0
Butylbenzene##	µg/l	3	ISO 17025	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0
Hexachlorobutadiene##	µg/l	3	ISO 17025	< 3.0
1,2,3-Trichlorobenzene##	µg/l	3	ISO 17025	< 3.0

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-41879
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2729536
Sample Reference				DS101
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				26/06/2023
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01

3&4-Methylphenol	µg/l	0.1	NONE	< 0.10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-41879
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2729536
Sample Reference				DS101
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				26/06/2023
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-41879
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by calculation. Accredited matrices SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Mineral Oil (Waters) C10 - C40	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPH2 (Waters)	Determination of hydrocarbons C6-C10 by headspace GC-MS. Accredited Matrices SW, PW. GW.	In-house method based on USEPA8260	L088-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-41879
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
DRO (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	ISO 17025
Chloride in water	Determination of Chloride (diissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

$$ - Result was reported from high dilution. The result should be interpreted with caution
- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to

Analytical Report Number : 23-41879
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

Analytical Report Number : 23-41879
Project / Site name: Phoenix Wharf, Port Talbot

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH02	None Supplied	W	2729535	b	BTEX and MTBE in water (Monoaromatics)	L073B-PL	b
BH02	None Supplied	W	2729535	b	TPH2 (Waters)	L088-PL	b
BH02	None Supplied	W	2729535	b	Volatile organic compounds in water	L073B-PL	b

Mitchell Tucker
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

t: 01749 677 760
f: 01749 679 345
e: mitchell.tucker@tecon.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-42229

Project / Site name:	Phoenix Wharf, Port Talbot	Samples received on:	30/06/2023
Your job number:	2111006.005	Samples instructed on/ Analysis started on:	30/06/2023
Your order number:		Analysis completed by:	07/07/2023
Report Issue Number:	1	Report issued on:	13/07/2023
Samples Analysed:	10 water samples		

Signed:

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2731761	2731762	2731763	2731764	2731765
Sample Reference				DS103	DS104	DS105	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				28/06/2023	28/06/2023	28/06/2023	28/06/2023	28/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.8	7.8	7.9	7.6	7.3
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	1400	1100	860	910	1000
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	295000	112000	242000	47500	48500
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	150	90	34	67	99
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	7800	1600	84	370	270
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	10.2	4.46	5.12	3.2	4.98
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2731761	2731762	2731763	2731764	2731765
Sample Reference				DS103	DS104	DS105	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				28/06/2023	28/06/2023	28/06/2023	28/06/2023	28/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	290	400	240	190	120
Calcium (dissolved)	mg/l	0.012	ISO 17025	190	170	120	180	190
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.054	0.006	0.021	< 0.004	0.006
Magnesium (dissolved)	mg/l	0.005	ISO 17025	21	50	37	41	14
Phosphorus (dissolved)	µg/l	20	ISO 17025	450	339	314	313	278
Potassium (dissolved)	mg/l	0.025	ISO 17025	21	30	15	7.7	6.1
Sodium (dissolved)	mg/l	0.01	ISO 17025	180	120	24	49	92
Antimony (dissolved)	µg/l	0.4	ISO 17025	1	0.5	0.9	< 0.4	0.9
Arsenic (dissolved)	µg/l	0.15	ISO 17025	723	3.52	13	0.94	1.93
Barium (dissolved)	µg/l	0.06	ISO 17025	31	73	62	13	100
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.04	< 0.02	< 0.02	0.06
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.3	< 0.2	< 0.2	< 0.2	0.3
Cobalt (dissolved)	µg/l	0.2	ISO 17025	0.9	5.8	0.7	0.8	5.2
Copper (dissolved)	µg/l	0.5	ISO 17025	1.8	12	2.6	0.6	7.1
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	1600	390	910	1100	1700
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	9.1	4.8	21	1.8	5.4
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.3	6.4	4.4	0.7	6.4
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.7	1.2	0.9	2	0.7
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	8	0.2	3.5	< 0.2	< 0.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.2	5	1.7	1.5	6.3
Monoaromatics & Oxygenates^								
Benzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Analytical Report Number: 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2731761	2731762	2731763	2731764	2731765
Sample Reference				DS103	DS104	DS105	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				28/06/2023	28/06/2023	28/06/2023	28/06/2023	28/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH2 (C6 - C10)# HS_1D_TOTAL	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6# HS_1D_AL	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8# HS_1D_AL	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10# HS_1D_AL	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7# HS_1D_AR	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8# HS_1D_AR	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10# HS_1D_AR	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2731761	2731762	2731763	2731764	2731765
Sample Reference				DS103	DS104	DS105	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				28/06/2023	28/06/2023	28/06/2023	28/06/2023	28/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
VOCs ^								
Chloromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromomethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroform	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-Xylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromoform	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-Xylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Analytical Report Number: 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2731761	2731762	2731763	2731764	2731765
Sample Reference				DS103	DS104	DS105	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				28/06/2023	28/06/2023	28/06/2023	28/06/2023	28/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
1,2-Dibromo-3-chloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2731761	2731762	2731763	2731764	2731765
Sample Reference				DS103	DS104	DS105	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				28/06/2023	28/06/2023	28/06/2023	28/06/2023	28/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Analytical Report Number: 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2731761	2731762	2731763	2731764	2731765
Sample Reference				DS103	DS104	DS105	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				28/06/2023	28/06/2023	28/06/2023	28/06/2023	28/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
PFAS Suite 3								
PFBS C4 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PHPS C5 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFHxS C6 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFHpS C7 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFOS C8 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFNS C9 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFDS C10 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFUdS C11 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFDoS C12 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFBA C4 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFPeA C5 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFHxA C6 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFHpA C7 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFOA C8 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFNA C9 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFDA C10 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFUdA C11 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
PFDoA C12 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2731766	2731767	2731768	2731769	2731770
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				28/06/2023	28/06/2023	28/06/2023	28/06/2023	28/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	6.9	7.2	7.7	7.5	7.3
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	1400	990	1200	1700	1500
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	328000	63600	222000	470000	4730
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	30	47	47	200	210
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	62	65	1300	11000	2200
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	4.72	5.34	2.7	8.61	6.42
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	49	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	17.2	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.42	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.63	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.79	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	1.18	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.27	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.75	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.51	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	21.7	< 0.16

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2731766	2731767	2731768	2731769	2731770
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				28/06/2023	28/06/2023	28/06/2023	28/06/2023	28/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	170	82	180	500	260
Calcium (dissolved)	mg/l	0.012	ISO 17025	340	180	250	140	170
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.025	< 0.004	0.064	0.027	0.01
Magnesium (dissolved)	mg/l	0.005	ISO 17025	23	24	48	66	34
Phosphorus (dissolved)	µg/l	20	ISO 17025	408	282	245	296	280
Potassium (dissolved)	mg/l	0.025	ISO 17025	8.7	3.8	13	33	11
Sodium (dissolved)	mg/l	0.01	ISO 17025	20	37	39	180	160
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.8	< 0.4	< 0.4	1.5	0.6
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.85	0.74	4.07	12.9	2.8
Barium (dissolved)	µg/l	0.06	ISO 17025	26	15	8.8	92	61
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.35	0.02	< 0.02	< 0.02	0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	10	1.6	< 0.2	0.6	8.8
Copper (dissolved)	µg/l	0.5	ISO 17025	4	1.6	1.1	1.9	1.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	980	4600	220	700	3200
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	2.5	2.6	4.1	21	7.6
Nickel (dissolved)	µg/l	0.5	ISO 17025	11	1.9	< 0.5	4.2	4.9
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	< 0.6	0.8	0.9	1.5
Tin (dissolved)	µg/l	0.2	ISO 17025	0.22	< 0.20	< 0.20	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	2.8	< 0.2	< 0.2	2.5	0.4
Zinc (dissolved)	µg/l	0.5	ISO 17025	16	2.2	< 0.5	4.6	0.9
Monoaromatics & Oxygenates^								
Benzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Analytical Report Number: 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2731766	2731767	2731768	2731769	2731770
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				28/06/2023	28/06/2023	28/06/2023	28/06/2023	28/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	300	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	< 10	340	< 10
TPH2 (C6 - C10)# HS_1D_TOTAL	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6# HS_1D_AL	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8# HS_1D_AL	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10# HS_1D_AL	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7# HS_1D_AR	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8# HS_1D_AR	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10# HS_1D_AR	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	43	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	140	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	120	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	40	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	340	< 10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2731766	2731767	2731768	2731769	2731770
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				28/06/2023	28/06/2023	28/06/2023	28/06/2023	28/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
VOCs ^								
Chloromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromomethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroform	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-Xylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromoform	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-Xylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Analytical Report Number: 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2731766	2731767	2731768	2731769	2731770
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				28/06/2023	28/06/2023	28/06/2023	28/06/2023	28/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
1,2-Dibromo-3-chloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2731766	2731767	2731768	2731769	2731770
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				28/06/2023	28/06/2023	28/06/2023	28/06/2023	28/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	84	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	17	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	1.2	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.42	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.63	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	0.5	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.79	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	1.2	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.27	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	4.2	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.75	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.51	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2731766	2731767	2731768	2731769	2731770
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				28/06/2023	28/06/2023	28/06/2023	28/06/2023	28/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
PFAS Suite 3								
PFBS C4 Sulphonate	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PHPS C5 Sulphonate	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFHxS C6 Sulphonate	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFHpS C7 Sulphonate	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFOS C8 Sulphonate	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFNS C9 Sulphonate	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFDS C10 Sulphonate	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFUdS C11 Sulphonate	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFDoS C12 Sulphonate	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFBA C4 Carboxylic acid	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFPeA C5 Carboxylic acid	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFHxA C6 Carboxylic acid	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFHpA C7 Carboxylic acid	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFOA C8 Carboxylic acid	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFNA C9 Carboxylic acid	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFDA C10 Carboxylic acid	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFUdA C11 Carboxylic acid	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-
PFDoA C12 Carboxylic acid	µg/l	0.05	NONE	< 0.05	-	-	< 0.05	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by calculation. Accredited matrices SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Mineral Oil (Waters) C10 - C40	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPH2 (Waters)	Determination of hydrocarbons C6-C10 by headspace GC-MS. Accredited Matrices SW, PW. GW.	In-house method based on USEPA8260	L088-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025

Analytical Report Number : 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
DRO (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
EF - PFAS suite 3 in water by LC-MS/MS	PFAS suite 3 by LC-MS/MS	In-house method	UK	W	NONE
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	ISO 17025

Analytical Report Number : 23-42229
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride in water	Determination of Chloride (diissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

^ - Data reported unaccredited due to quality control parameter failure associated with this result; The result should be considered as being deviating and may be compromised.
- Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

Mitchell Tucker
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

t: 01749 677 760
f: 01749 679 345
e: mitchell.tucker@tecon.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-45177

Project / Site name:	Phoenix Wharf, Port Talbot	Samples received on:	17/07/2023
Your job number:	2111006.005	Samples instructed on/ Analysis started on:	17/07/2023
Your order number:		Analysis completed by:	28/07/2023
Report Issue Number:	1	Report issued on:	28/07/2023
Samples Analysed:	14 water samples		

Signed: JSzwagrak

Joanna Szwagrzak
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749137	2749138	2749139	2749140	2749141
Sample Reference				DS101	DS103	DS104	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				0915	0940	1015	1035	1100
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.3	7.7	7.7	7.5	7.4
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	1100	1600	1400	960	5200
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	290000	227000	115000	57800	24500
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	110	270	99	62	1500$$
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	940	14000	2300	420	3900
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	5.28	11.8	4.63	4.3	11.9
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.8	0.73	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.23	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.44	0.19	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.71	2.69	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.2	0.72	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.75	2.66	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.66	2.27	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.32	1.27	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.65	1.48	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.5	1.69	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.17	0.63	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.33	1.3	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.17	0.72	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.23	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.23	0.87	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	6.93	17.7	< 0.16

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749137	2749138	2749139	2749140	2749141
Sample Reference				DS101	DS103	DS104	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				0915	0940	1015	1035	1100
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	300	340	480	190	920
Calcium (dissolved)	mg/l	0.012	ISO 17025	220	220	160	150	130
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.4	0.12	0.008	0.022	0.029
Magnesium (dissolved)	mg/l	0.005	ISO 17025	48	24	53	38	98
Phosphorus (dissolved)	µg/l	20	ISO 17025	91.9	557	39	258	281
Potassium (dissolved)	mg/l	0.025	ISO 17025	39	23	35	8.7	42
Selenium (dissolved)	µg/l	4	ISO 17025	-	-	-	-	< 4.0
Sodium (dissolved)	mg/l	0.01	ISO 17025	79	220	110	41	1100
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.1	0.8	1.8	1	1
Arsenic (dissolved)	µg/l	0.15	ISO 17025	59	818	7.56	6.74	19.3
Barium (dissolved)	µg/l	0.06	ISO 17025	120	23	120	72	62
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.2	< 0.2	< 0.2	0.3
Cobalt (dissolved)	µg/l	0.2	ISO 17025	1.6	0.9	5.6	2.3	2.4
Copper (dissolved)	µg/l	0.5	ISO 17025	1.6	0.8	1.8	1.7	1.2
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.5	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	1500	1700	410	960	1500
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	14	6.5	8.6	8	11
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.8	2.2	8.8	3.4	2.4
Selenium (dissolved)	µg/l	0.6	ISO 17025	2.1	2.3	1.8	< 0.6	-
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	0.51
Vanadium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	3.1	0.9	0.7	0.8
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.5	2.4	2.1	5.9	3.8
Monoaromatics & Oxygenates								
Benzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Toluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Ethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
p & m-xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
o-xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749137	2749138	2749139	2749140	2749141
Sample Reference				DS101	DS103	DS104	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				0915	0940	1015	1035	1100
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	79	86	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	79	86	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10##	< 10##	< 10##	< 10##	< 10##
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0^	< 1.0^	< 1.0^	< 1.0^	< 1.0^
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0^	< 1.0^	< 1.0^	< 1.0^	< 1.0^
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	28	25	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	35	40	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	15	20	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	78	85	< 10
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Chloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Bromomethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Vinyl Chloride	µg/l	3	NONE	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Trichlorofluoromethane	µg/l	3	NONE	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
2,2-Dichloropropane	µg/l	3	NONE	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Chloroform	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Benzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Trichloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Dibromomethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749137	2749138	2749139	2749140	2749141
Sample Reference				DS101	DS103	DS104	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				0915	0940	1015	1035	1100
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Toluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Chlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Ethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
p & m-Xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Styrene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Bromoform	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
o-Xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Bromobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Butylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749137	2749138	2749139	2749140	2749141
Sample Reference				DS101	DS103	DS104	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				0915	0940	1015	1035	1100
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.8	0.73	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	1	0.58	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.23	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	0.13	0.32	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749137	2749138	2749139	2749140	2749141
Sample Reference				DS101	DS103	DS104	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				0915	0940	1015	1035	1100
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.44	0.19	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.7	2.7	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.2	0.72	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	0.2	0.4	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	0.2	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.75	2.7	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.66	2.3	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.32	1.3	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.65	1.5	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.5	1.7	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.17	0.63	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.33	1.3	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.17	0.72	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.23	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.23	0.87	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749142	2749143	2749144	2749145	2749146
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				1125	1200	1245	1325	1425
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	6.8	7.1	7.6	7.3	7.2
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	1500	1000	1200	1600	1800
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	492000	59400	245000	424000	12900
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	28	49	46	190	300
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	120	65	1300	11000	4000
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	3.63	5.76	3.27	9.39	7.88
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	47	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	18.1	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.44	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.73	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	1.04	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	1.51	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.51	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	1.21	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.83	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.29	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.28	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.29	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.07	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.2	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	25.5	< 0.16

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749142	2749143	2749144	2749145	2749146
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				1125	1200	1245	1325	1425
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	250	91	240	610	470
Calcium (dissolved)	mg/l	0.012	ISO 17025	350	200	230	130	170
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	U/S**	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.018	0.006	0.008	0.41	7.5
Magnesium (dissolved)	mg/l	0.005	ISO 17025	46	32	48	71	47
Phosphorus (dissolved)	µg/l	20	ISO 17025	145	90.6	103	300	126
Potassium (dissolved)	mg/l	0.025	ISO 17025	18	3.9	15	43	20
Selenium (dissolved)	µg/l	4	ISO 17025	-	-	-	-	-
Sodium (dissolved)	mg/l	0.01	ISO 17025	25	39	40	250	250
Antimony (dissolved)	µg/l	0.4	ISO 17025	< 0.4	0.9	0.4	0.9	0.4
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.71	1.54	29.6	9.63	10.9
Barium (dissolved)	µg/l	0.06	ISO 17025	27	49	57	84	39
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.1	0.12	0.03	< 0.02	0.1
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	9.4	5	0.7	0.6	3.5
Copper (dissolved)	µg/l	0.5	ISO 17025	3.4	9.8	7	2.6	6.2
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	1500	5000	930	640	2900
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	1.9	8.8	21	18	5
Nickel (dissolved)	µg/l	0.5	ISO 17025	7.6	12	1.3	8.1	2.9
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	< 0.6	< 0.6	1.2	2.4
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.6	0.2	3.1	0.5
Zinc (dissolved)	µg/l	0.5	ISO 17025	10	17	2.1	3.1	1.2
Monoaromatics & Oxygenates								
Benzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749142	2749143	2749144	2749145	2749146
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				1125	1200	1245	1325	1425
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	700	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	< 10	700	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10##	< 10##	< 10##	< 10##	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0^	< 1.0^	< 1.0^	< 1.0^	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0^	< 1.0^	< 1.0^	< 1.0^	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	40	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	360	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	240	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	60	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	700	< 10
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0##
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
2,2-Dichloropropane	µg/l	3	NONE	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0#
Chloroform	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749142	2749143	2749144	2749145	2749146
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				1125	1200	1245	1325	1425
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Toluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
p & m-Xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
o-Xylene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0#
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749142	2749143	2749144	2749145	2749146
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				1125	1200	1245	1325	1425
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	0.92	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	89	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	18	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	1.6	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.44	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.73	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	0.83	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749142	2749143	2749144	2749145	2749146
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				1125	1200	1245	1325	1425
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	1	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	1.5	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.51	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	6.3	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	1.2	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.83	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.29	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.28	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.29	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.07	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.2	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749147	2749148	2749149	2749150
Sample Reference				WS06	WS07	WS10	WS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				0740	0800	0830	0900
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
General Inorganics							
pH (L099)	pH Units	N/A	ISO 17025	7.6	6.9	7.4	7.1
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	230	970	870	1100
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	33300	84300	61200	97900
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	19	74	37	21
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	300	1200	2900	2200
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	10.3	3.84	3.72	3.63
Total Phenols							
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Speciated PAHs							
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	0.28	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	0.31	1.24	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	0.36	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	0.4	1.93	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	0.33	1.74	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	0.16	0.89	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	0.19	0.92	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	0.24	1.2	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	0.07	0.49	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	0.15	1.02	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	0.53	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	0.16	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	0.66	< 0.01	< 0.01
Total PAH							
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	1.85	11.4	< 0.16	< 0.16

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749147	2749148	2749149	2749150
Sample Reference				WS06	WS07	WS10	WS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				0740	0800	0830	0900
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
Heavy Metals / Metalloids							
Boron (dissolved)	µg/l	10	ISO 17025	130	320	240	210
Calcium (dissolved)	mg/l	0.012	ISO 17025	52	120	190	240
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.017	0.01	0.87	0.021
Magnesium (dissolved)	mg/l	0.005	ISO 17025	11	35	24	28
Phosphorus (dissolved)	µg/l	20	ISO 17025	159	297	114	78.5
Potassium (dissolved)	mg/l	0.025	ISO 17025	5.5	13	13	12
Selenium (dissolved)	µg/l	4	ISO 17025	-	-	-	-
Sodium (dissolved)	mg/l	0.01	ISO 17025	20	77	24	17
Antimony (dissolved)	µg/l	0.4	ISO 17025	5	1	2.5	1
Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.17	9.44	9.46	4.53
Barium (dissolved)	µg/l	0.06	ISO 17025	46	130	300	38
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.11	< 0.02	0.11	0.04
Chromium (dissolved)	µg/l	0.2	ISO 17025	1	< 0.2	< 0.2	< 0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	< 0.2	2.8	0.3	0.5
Copper (dissolved)	µg/l	0.5	ISO 17025	64	2.1	9.2	1.6
Lead (dissolved)	µg/l	0.2	ISO 17025	0.5	< 0.2	0.6	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	2.6	1200	3800	610
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	32	10	3.2	1.2
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.6	3.7	5.8	1.7
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.1	< 0.6	< 0.6	< 0.6
Tin (dissolved)	µg/l	0.2	ISO 17025	0.43	< 0.20	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	3.9	1.2	0.3	0.9
Zinc (dissolved)	µg/l	0.5	ISO 17025	32	5.5	8.1	2.4
Monoaromatics & Oxygenates							
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749147	2749148	2749149	2749150
Sample Reference				WS06	WS07	WS10	WS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				0740	0800	0830	0900
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
Petroleum Hydrocarbons							
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	13	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	13	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
VOCs							
Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##	< 3.0##
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	NONE	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749147	2749148	2749149	2749150
Sample Reference				WS06	WS07	WS10	WS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				0740	0800	0830	0900
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
p & m-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
o-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749147	2749148	2749149	2749150
Sample Reference				WS06	WS07	WS10	WS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				0740	0800	0830	0900
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
SVOCs							
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	0.28	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2749147	2749148	2749149	2749150
Sample Reference				WS06	WS07	WS10	WS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Taken				0740	0800	0830	0900
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	0.31	1.2	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	0.36	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	0.4	1.9	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	0.33	1.7	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	0.16	0.89	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	0.19	0.92	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	0.24	1.2	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	0.07	0.49	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	0.15	1	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	0.53	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	0.16	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	0.66	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by calculation. Accredited matrices SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Mineral Oil (Waters) C10 - C40	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPH2 (Waters)	Determination of hydrocarbons C6-C10 by headspace GC-MS. Accredited Matrices SW, PW. GW.	In-house method based on USEPA8260	L088-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025

Analytical Report Number : 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
DRO (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025

Analytical Report Number : 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	ISO 17025
Chloride in water	Determination of Chloride (diissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

$$ - Result was reported from high dilution. The result should be interpreted with caution.
**U/S - Analysis could not be completed due to sample matrix.
- Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.
- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.
^ - Data reported unaccredited due to quality control parameter failure associated with this result; The result should be considered as being deviating and may be compromised.

Sample Deviation Report

Analytical Report Number : 23-45177
Project / Site name: Phoenix Wharf, Port Talbot

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
DS101	None Supplied	W	2749137	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS101	None Supplied	W	2749137	c	Ammonium as NH4 in water	L082-PL	c
DS101	None Supplied	W	2749137	c	Electrical conductivity at 20oC of water	L031-PL	c
DS101	None Supplied	W	2749137	c	pH at 20oC in water (automated)	L099-PL	c
DS103	None Supplied	W	2749138	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS103	None Supplied	W	2749138	c	Ammonium as NH4 in water	L082-PL	c
DS103	None Supplied	W	2749138	c	Electrical conductivity at 20oC of water	L031-PL	c
DS103	None Supplied	W	2749138	c	pH at 20oC in water (automated)	L099-PL	c
DS104	None Supplied	W	2749139	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS104	None Supplied	W	2749139	c	Ammonium as NH4 in water	L082-PL	c
DS104	None Supplied	W	2749139	c	Electrical conductivity at 20oC of water	L031-PL	c
DS104	None Supplied	W	2749139	c	pH at 20oC in water (automated)	L099-PL	c
DS106	None Supplied	W	2749140	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS106	None Supplied	W	2749140	c	Ammonium as NH4 in water	L082-PL	c
DS106	None Supplied	W	2749140	c	Electrical conductivity at 20oC of water	L031-PL	c
DS106	None Supplied	W	2749140	c	pH at 20oC in water (automated)	L099-PL	c
DS107	None Supplied	W	2749141	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS107	None Supplied	W	2749141	c	Ammonium as NH4 in water	L082-PL	c
DS107	None Supplied	W	2749141	c	Electrical conductivity at 20oC of water	L031-PL	c
DS107	None Supplied	W	2749141	c	pH at 20oC in water (automated)	L099-PL	c
DS108	None Supplied	W	2749142	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS108	None Supplied	W	2749142	c	Ammonium as NH4 in water	L082-PL	c
DS108	None Supplied	W	2749142	c	Electrical conductivity at 20oC of water	L031-PL	c
DS108	None Supplied	W	2749142	c	pH at 20oC in water (automated)	L099-PL	c
DS109	None Supplied	W	2749143	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS109	None Supplied	W	2749143	c	Ammonium as NH4 in water	L082-PL	c
DS109	None Supplied	W	2749143	c	Electrical conductivity at 20oC of water	L031-PL	c
DS109	None Supplied	W	2749143	c	pH at 20oC in water (automated)	L099-PL	c
DS110	None Supplied	W	2749144	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS110	None Supplied	W	2749144	c	Ammonium as NH4 in water	L082-PL	c
DS110	None Supplied	W	2749144	c	Electrical conductivity at 20oC of water	L031-PL	c
DS110	None Supplied	W	2749144	c	pH at 20oC in water (automated)	L099-PL	c
DS112	None Supplied	W	2749145	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS112	None Supplied	W	2749145	c	Ammonium as NH4 in water	L082-PL	c
DS112	None Supplied	W	2749145	c	Electrical conductivity at 20oC of water	L031-PL	c
DS112	None Supplied	W	2749145	c	pH at 20oC in water (automated)	L099-PL	c
DS113	None Supplied	W	2749146	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS113	None Supplied	W	2749146	c	Ammonium as NH4 in water	L082-PL	c
DS113	None Supplied	W	2749146	c	Electrical conductivity at 20oC of water	L031-PL	c
DS113	None Supplied	W	2749146	c	pH at 20oC in water (automated)	L099-PL	c
WS06	None Supplied	W	2749147	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS06	None Supplied	W	2749147	c	Ammonium as NH4 in water	L082-PL	c
WS06	None Supplied	W	2749147	c	Electrical conductivity at 20oC of water	L031-PL	c
WS06	None Supplied	W	2749147	c	pH at 20oC in water (automated)	L099-PL	c
WS07	None Supplied	W	2749148	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS07	None Supplied	W	2749148	c	Ammonium as NH4 in water	L082-PL	c
WS07	None Supplied	W	2749148	c	Electrical conductivity at 20oC of water	L031-PL	c
WS07	None Supplied	W	2749148	c	pH at 20oC in water (automated)	L099-PL	c
WS10	None Supplied	W	2749149	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS10	None Supplied	W	2749149	c	Ammonium as NH4 in water	L082-PL	c
WS10	None Supplied	W	2749149	c	Electrical conductivity at 20oC of water	L031-PL	c
WS10	None Supplied	W	2749149	c	pH at 20oC in water (automated)	L099-PL	c
WS11	None Supplied	W	2749150	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS11	None Supplied	W	2749150	c	Ammonium as NH4 in water	L082-PL	c
WS11	None Supplied	W	2749150	c	Electrical conductivity at 20oC of water	L031-PL	c
WS11	None Supplied	W	2749150	c	pH at 20oC in water (automated)	L099-PL	c

Reinier van der Kuip
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

t: 01749 677 760
f: 01749 679 345
e:

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-47293

Project / Site name:	Phoenix Wharf Port Talbot	Samples received on:	27/07/2023
Your job number:	2111006 005	Samples instructed on/ Analysis started on:	27/07/2023
Your order number:		Analysis completed by:	09/08/2023
Report Issue Number:	1	Report issued on:	09/08/2023
Samples Analysed:	33 water samples		

Signed:

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761424	2761425	2761426	2761427	2761428
Sample Reference				DS101	DS103	DS104	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/06/2023	25/06/2023	24/06/2023	25/06/2023	25/06/2023
Time Taken				0815	0910	1730	1750	1340
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.3	7.7	7.9	7.6	7.3
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	1400	2100	1300	920	4500
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	276000	123000	57800	37800	9920
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	130	310	95	68	1600$$
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	620	15000	1700	380	1900
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	5.31	11.8	4.36	3.03	16.8
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	290	320	450	190	870
Calcium (dissolved)	mg/l	0.012	ISO 17025	200	220	140	140	150
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.049	0.067	0.012	0.034	0.48
Magnesium (dissolved)	mg/l	0.005	ISO 17025	43	33	42	36	100
Phosphorus (dissolved)	µg/l	20	ISO 17025	87.6	557	54.1	51.5	67.7
Potassium (dissolved)	mg/l	0.025	ISO 17025	37	22	30	7.7	36
Selenium (dissolved)	µg/l	4	ISO 17025	-	-	-	-	22
Sodium (dissolved)	mg/l	0.01	ISO 17025	82	310	120	45	760

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761424	2761425	2761426	2761427	2761428
Sample Reference				DS101	DS103	DS104	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/06/2023	25/06/2023	24/06/2023	25/06/2023	25/06/2023
Time Taken				0815	0910	1730	1750	1340
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.1	0.8	0.9	1.1	1.5
Arsenic (dissolved)	µg/l	0.15	ISO 17025	10.6	1400	3.81	6	15
Barium (dissolved)	µg/l	0.06	ISO 17025	110	18	93	62	55
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	0.02	0.04	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.6	< 0.2	0.2	0.3
Cobalt (dissolved)	µg/l	0.2	ISO 17025	3.1	0.5	3.6	1.5	1
Copper (dissolved)	µg/l	0.5	ISO 17025	1.6	3	4.3	3	1.4
Lead (dissolved)	µg/l	0.2	ISO 17025	0.5	< 0.2	< 0.2	0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	1800	1400	350	1100	2200
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	13	2.8	6.1	7.9	8.2
Nickel (dissolved)	µg/l	0.5	ISO 17025	8.8	1.7	4.5	3	1.4
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	3.6	1.2	0.7	-
Tin (dissolved)	µg/l	0.2	ISO 17025	0.21	< 0.20	< 0.20	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.7	3.5	0.2	0.8	0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	9	5.5	3.9	8.3	1.8
Monoaromatics & Oxygenates								
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761424	2761425	2761426	2761427	2761428
Sample Reference				DS101	DS103	DS104	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/06/2023	25/06/2023	24/06/2023	25/06/2023	25/06/2023
Time Taken				0815	0910	1730	1750	1340
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##	< 3.0#	< 3.0#
Chloroethane	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##	< 3.0#	< 3.0#
Bromomethane	µg/l	3	ISO 17025	< 3.0##	< 3.0	< 3.0	< 3.0#	< 3.0#
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##	< 3.0#	< 3.0#
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##	< 3.0#	< 3.0#
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0##	< 3.0	< 3.0	< 3.0#	< 3.0#
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##	< 3.0#	< 3.0#
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Toluene	µg/l	3	ISO 17025	< 3.0##	< 3.0	< 3.0	< 3.0#	< 3.0#
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
p & m-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Styrene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
o-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0#	< 3.0#

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761424	2761425	2761426	2761427	2761428
Sample Reference				DS101	DS103	DS104	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/06/2023	25/06/2023	24/06/2023	25/06/2023	25/06/2023
Time Taken				0815	0910	1730	1750	1340
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0	< 3.0	< 3.0#	< 3.0#

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761424	2761425	2761426	2761427	2761428
Sample Reference				DS101	DS103	DS104	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/06/2023	25/06/2023	24/06/2023	25/06/2023	25/06/2023
Time Taken				0815	0910	1730	1750	1340
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761424	2761425	2761426	2761427	2761428
Sample Reference				DS101	DS103	DS104	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/06/2023	25/06/2023	24/06/2023	25/06/2023	25/06/2023
Time Taken				0815	0910	1730	1750	1340
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761424	2761425	2761426	2761427	2761428
Sample Reference				DS101	DS103	DS104	DS106	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/06/2023	25/06/2023	24/06/2023	25/06/2023	25/06/2023
Time Taken				0815	0910	1730	1750	1340
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
PFAS Suite 3								
PFBS C4 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PHPS C5 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFHxS C6 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFHpS C7 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFOS C8 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFNS C9 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFDS C10 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFUdS C11 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFDoS C12 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFBA C4 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFPeA C5 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFHxA C6 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFHpA C7 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFOA C8 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFNA C9 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFDA C10 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFUdA C11 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFDoA C12 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
Gases								
Methane	mg/L	0.1	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761429	2761430	2761431	2761432	2761433
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/06/2023	25/06/2023	25/06/2023	25/06/2023	25/06/2023
Time Taken				1000	1320	1200	1220	1240
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	6.9	7.1	7.6	7.6	7.2
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	1600	970	1100	2000	770
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	459000	48900	179000	309000	99000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	32	56	46	440	110
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	210	60	1500	22000	210
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	4.29	4.17	2.55	22	3.85
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	210	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.27	1.11	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.19	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.27	0.28	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.97	0.16	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.23	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.18	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.95	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.49	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.49	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.64	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.17	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.44	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.24	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.28	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	6.62	1.74	< 0.16
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	380	95	240	650	130
Calcium (dissolved)	mg/l	0.012	ISO 17025	380	160	190	110	120
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.014	0.12	0.087	0.03	0.009
Magnesium (dissolved)	mg/l	0.005	ISO 17025	50	29	39	51	16
Phosphorus (dissolved)	µg/l	20	ISO 17025	30.8	26.2	71.3	72.5	26.5
Potassium (dissolved)	mg/l	0.025	ISO 17025	19	3.9	14	33	7.1
Selenium (dissolved)	µg/l	4	ISO 17025	-	-	-	-	-
Sodium (dissolved)	mg/l	0.01	ISO 17025	33	37	30	390	71

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761429	2761430	2761431	2761432	2761433
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/06/2023	25/06/2023	25/06/2023	25/06/2023	25/06/2023
Time Taken				1000	1320	1200	1220	1240
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.9	1	2	2.8	6.1
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.37	6.54	89.2	13.3	2.29
Barium (dissolved)	µg/l	0.06	ISO 17025	31	44	60	160	85
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.22	< 0.02	0.2	0.09	6.3
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.2	0.4	< 0.2	0.7	1.3
Cobalt (dissolved)	µg/l	0.2	ISO 17025	12	5.4	5.4	1.6	2.2
Copper (dissolved)	µg/l	0.5	ISO 17025	3.1	5	6.4	4.8	3.9
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.2	0.2	0.7	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	2600	4600	1000	750	400
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.1	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	2	7.9	21	15	5.9
Nickel (dissolved)	µg/l	0.5	ISO 17025	8	4.8	5.4	6.3	10
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.7	< 0.6	< 0.6	3.3	2.7
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	0.21	< 0.20	0.28	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.7	< 0.2	1.9	6.8	1.1
Zinc (dissolved)	µg/l	0.5	ISO 17025	10	7.1	120	10	29

Monoaromatics & Oxygenates

Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	6.2	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Petroleum Hydrocarbons

Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	76	320	< 10

TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	76	320	< 10

TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	15	140	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	30	140	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	30	40	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	75	320	< 10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761429	2761430	2761431	2761432	2761433
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/06/2023	25/06/2023	25/06/2023	25/06/2023	25/06/2023
Time Taken				1000	1320	1200	1220	1240
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Chloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromomethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Vinyl Chloride	µg/l	3	NONE	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Trichlorofluoromethane	µg/l	3	NONE	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Chloroform	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Benzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	6.2#	< 3.0#
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Trichloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Dibromomethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Toluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Chlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Ethylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
p & m-Xylene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Styrene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromoform	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
o-Xylene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Butylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761429	2761430	2761431	2761432	2761433
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/06/2023	25/06/2023	25/06/2023	25/06/2023	25/06/2023
Time Taken				1000	1320	1200	1220	1240
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761429	2761430	2761431	2761432	2761433
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/06/2023	25/06/2023	25/06/2023	25/06/2023	25/06/2023
Time Taken				1000	1320	1200	1220	1240
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	1.1	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	0.3	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	1.5	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	87	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.27	1.1	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	0.34	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.19	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	0.15	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.27	0.28	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.97	0.16	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.23	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	3.6	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.2	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.95	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.49	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.49	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.64	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.17	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.44	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.24	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.28	< 0.01	< 0.01

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761429	2761430	2761431	2761432	2761433
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/06/2023	25/06/2023	25/06/2023	25/06/2023	25/06/2023
Time Taken				1000	1320	1200	1220	1240
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761429	2761430	2761431	2761432	2761433
Sample Reference				DS108	DS109	DS110	DS112	DS113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/06/2023	25/06/2023	25/06/2023	25/06/2023	25/06/2023
Time Taken				1000	1320	1200	1220	1240
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
PFAS Suite 3								
PFBS C4 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PHPS C5 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFHxS C6 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFHpS C7 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFOS C8 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFNS C9 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFDS C10 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFUdS C11 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFDoS C12 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFBA C4 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFPeA C5 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFHxA C6 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFHpA C7 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFOA C8 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFNA C9 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFDA C10 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFUdA C11 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFDoA C12 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
Gases								
Methane	mg/L	0.1	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761434	2761435	2761436	2761437	2761438
Sample Reference				WS06	WS07	WS10	WS11	BH01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/06/2023	25/06/2023	25/06/2023	25/06/2023	25/07/2023
Time Taken				1700	1100	0830	0850	1100
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	9	7.1	7.3	7.2	7.3
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	120	830	820	920	2100
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	13800	59700	66500	86400	147000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	6.8	88	39	22	690
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	70	1300	2900	2200	2800
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	7.57	3.62	2.94	3.87	3.34
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	92	300	230	200	400
Calcium (dissolved)	mg/l	0.012	ISO 17025	14	110	160	220	79
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.029	0.04	0.048	0.026	0.044
Magnesium (dissolved)	mg/l	0.005	ISO 17025	3.6	33	23	22	75
Phosphorus (dissolved)	µg/l	20	ISO 17025	50.2	23.7	87.9	35.3	51.7
Potassium (dissolved)	mg/l	0.025	ISO 17025	2.5	11	12	10	35
Selenium (dissolved)	µg/l	4	ISO 17025	-	-	-	-	-
Sodium (dissolved)	mg/l	0.01	ISO 17025	6.4	79	23	15	430

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761434	2761435	2761436	2761437	2761438
Sample Reference				WS06	WS07	WS10	WS11	BH01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/06/2023	25/06/2023	25/06/2023	25/06/2023	25/07/2023
Time Taken				1700	1100	0830	0850	1100
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Antimony (dissolved)	µg/l	0.4	ISO 17025	6.2	1	4.8	0.8	0.7
Arsenic (dissolved)	µg/l	0.15	ISO 17025	5.24	7.71	22.4	5.32	2.27
Barium (dissolved)	µg/l	0.06	ISO 17025	16	130	360	31	64
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03	< 0.02	0.02	0.05	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	1.5	< 0.2	< 0.2	< 0.2	< 0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	< 0.2	3.8	0.6	0.4	1.5
Copper (dissolved)	µg/l	0.5	ISO 17025	52	3.1	1.5	1.9	1.9
Lead (dissolved)	µg/l	0.2	ISO 17025	0.6	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	2.3	1600	4300	930	930
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	25	9.8	3.1	0.89	1.9
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.5	6	5.4	0.9	2.1
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.5	< 0.6	< 0.6	< 0.6	4
Tin (dissolved)	µg/l	0.2	ISO 17025	0.69	< 0.20	< 0.20	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	12	< 0.2	< 0.2	0.3	< 0.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	7.7	25	7.7	4.3	9.4
Monoaromatics & Oxygenates								
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761434	2761435	2761436	2761437	2761438
Sample Reference				WS06	WS07	WS10	WS11	BH01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/06/2023	25/06/2023	25/06/2023	25/06/2023	25/07/2023
Time Taken				1700	1100	0830	0850	1100
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Chloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromomethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Vinyl Chloride	µg/l	3	NONE	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Trichlorofluoromethane	µg/l	3	NONE	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Chloroform	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Benzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Trichloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Dibromomethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Toluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Chlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Ethylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
p & m-Xylene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Styrene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromoform	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
o-Xylene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Butylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761434	2761435	2761436	2761437	2761438
Sample Reference				WS06	WS07	WS10	WS11	BH01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/06/2023	25/06/2023	25/06/2023	25/06/2023	25/07/2023
Time Taken				1700	1100	0830	0850	1100
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761434	2761435	2761436	2761437	2761438
Sample Reference				WS06	WS07	WS10	WS11	BH01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/06/2023	25/06/2023	25/06/2023	25/06/2023	25/07/2023
Time Taken				1700	1100	0830	0850	1100
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761434	2761435	2761436	2761437	2761438
Sample Reference				WS06	WS07	WS10	WS11	BH01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/06/2023	25/06/2023	25/06/2023	25/06/2023	25/07/2023
Time Taken				1700	1100	0830	0850	1100
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761434	2761435	2761436	2761437	2761438
Sample Reference				WS06	WS07	WS10	WS11	BH01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/06/2023	25/06/2023	25/06/2023	25/06/2023	25/07/2023
Time Taken				1700	1100	0830	0850	1100
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
PFAS Suite 3								
PFBS C4 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PHPS C5 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFHxS C6 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFHpS C7 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFOS C8 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFNS C9 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFDS C10 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFUdS C11 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFDoS C12 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFBA C4 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFPeA C5 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFHxA C6 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFHpA C7 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFOA C8 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFNA C9 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFDA C10 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFUdA C11 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFDoA C12 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
Gases								
Methane	mg/L	0.1	NONE	-	< 0.1	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761439	2761440	2761441	2761442	2761443
Sample Reference				BH02	BH03A	BH04	BH103	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/07/2023	25/07/2023	24/07/2023	24/07/2023	24/07/2023
Time Taken				0920	1245	1350	1230	1445
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.1	7	7.6	7.5	7.5
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	2500	5300	2200	6800	7600
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	106000	257000	145000	82900	71900
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	1100$$	1700$$	500	2100$$	2100$$
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	1600	2500	1600	4300	3700
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	1.67	2.65	5.03	3.5	1.89
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	380	560	760	1100	530
Calcium (dissolved)	mg/l	0.012	ISO 17025	32	36	13	35	190
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.6	0.068	0.035	0.032	0.011
Magnesium (dissolved)	mg/l	0.005	ISO 17025	79	75	27	94	110
Phosphorus (dissolved)	µg/l	20	ISO 17025	38	31.5	157	202	28.7
Potassium (dissolved)	mg/l	0.025	ISO 17025	35	31	30	57	54
Selenium (dissolved)	µg/l	4	ISO 17025	-	-	-	-	-
Sodium (dissolved)	mg/l	0.01	ISO 17025	650	1300	580	1500	1500

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761439	2761440	2761441	2761442	2761443
Sample Reference				BH02	BH03A	BH04	BH103	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/07/2023	25/07/2023	24/07/2023	24/07/2023	24/07/2023
Time Taken				0920	1245	1350	1230	1445
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Antimony (dissolved)	µg/l	0.4	ISO 17025	1	0.7	1.2	0.8	1
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.63	0.98	6.84	3.11	3.1
Barium (dissolved)	µg/l	0.06	ISO 17025	85	34	29	120	760
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	1.2	0.27	0.02	0.05	0.18
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.2	< 0.2	< 0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	1.8	3.5	1	1	2.6
Copper (dissolved)	µg/l	0.5	ISO 17025	4.9	2.1	1.2	2.4	1.3
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	1600	3200	770	2300	1100
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	0.48	0.68	4.5	2.9	5.9
Nickel (dissolved)	µg/l	0.5	ISO 17025	3.3	3	2.6	1.3	6.7
Selenium (dissolved)	µg/l	0.6	ISO 17025	5.4	13	3.3	15	20
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.3	< 0.2	3.7	0.4	0.5
Zinc (dissolved)	µg/l	0.5	ISO 17025	7.4	9.3	9.6	5.1	5.3

Monoaromatics & Oxygenates

Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Petroleum Hydrocarbons

Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10

TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0##	< 1.0##
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761439	2761440	2761441	2761442	2761443
Sample Reference				BH02	BH03A	BH04	BH103	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/07/2023	25/07/2023	24/07/2023	24/07/2023	24/07/2023
Time Taken				0920	1245	1350	1230	1445
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Chloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromomethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Vinyl Chloride	µg/l	3	NONE	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Trichlorofluoromethane	µg/l	3	NONE	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Chloroform	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Benzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Trichloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Dibromomethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Toluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Chlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Ethylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
p & m-Xylene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Styrene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromoform	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
o-Xylene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Butylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761439	2761440	2761441	2761442	2761443
Sample Reference				BH02	BH03A	BH04	BH103	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/07/2023	25/07/2023	24/07/2023	24/07/2023	24/07/2023
Time Taken				0920	1245	1350	1230	1445
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761439	2761440	2761441	2761442	2761443
Sample Reference				BH02	BH03A	BH04	BH103	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/07/2023	25/07/2023	24/07/2023	24/07/2023	24/07/2023
Time Taken				0920	1245	1350	1230	1445
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761439	2761440	2761441	2761442	2761443
Sample Reference				BH02	BH03A	BH04	BH103	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/07/2023	25/07/2023	24/07/2023	24/07/2023	24/07/2023
Time Taken				0920	1245	1350	1230	1445
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761439	2761440	2761441	2761442	2761443
Sample Reference				BH02	BH03A	BH04	BH103	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/07/2023	25/07/2023	24/07/2023	24/07/2023	24/07/2023
Time Taken				0920	1245	1350	1230	1445
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
PFAS Suite 3								
PFBS C4 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PHPS C5 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFHxS C6 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFHpS C7 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFOS C8 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFNS C9 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFDS C10 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFUdS C11 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFDoS C12 Sulphonate	µg/l	0.05	NONE	-	-	-	-	-
PFBA C4 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFPeA C5 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFHxA C6 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFHpA C7 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFOA C8 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFNA C9 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFDA C10 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFUdA C11 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
PFDoA C12 Carboxylic acid	µg/l	0.05	NONE	-	-	-	-	-
Gases								
Methane	mg/L	0.1	NONE	< 0.1	< 0.1	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761444	2761445	2761446	2761447	2761448
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	24/07/2023	24/07/2023	24/07/2023	25/07/2023
Time Taken				1145	1003	1515	1120	1300
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.4	7.5	7.3	7.7	7.1
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	6200	6900	5300	8600	6000
Total Cyanide	µg/l	10	ISO 17025	< 10	12	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	12	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	134000	120000	199000	75400	103000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	1300$$	1800$$	1800$$	2100$$	1400$$
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	4600	5800	2600	7300	3000
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	2.98	3.57	2.15	3.76	2.77
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	850	490	690	1200	690
Calcium (dissolved)	mg/l	0.012	ISO 17025	31	79	48	58	32
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.011	0.018	0.008	0.1	0.049
Magnesium (dissolved)	mg/l	0.005	ISO 17025	80	150	72	140	77
Phosphorus (dissolved)	µg/l	20	ISO 17025	42.3	113	37.4	157	22.9
Potassium (dissolved)	mg/l	0.025	ISO 17025	49	50	38	75	38
Selenium (dissolved)	µg/l	4	ISO 17025	-	< 4.0	< 4.0	< 4.0	< 4.0
Sodium (dissolved)	mg/l	0.01	ISO 17025	1400	1400	1300	1900	1300

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761444	2761445	2761446	2761447	2761448
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	24/07/2023	24/07/2023	24/07/2023	25/07/2023
Time Taken				1145	1003	1515	1120	1300
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.6	0.9	1	0.8	0.4
Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.29	2.6	1.21	5.19	1.36
Barium (dissolved)	µg/l	0.06	ISO 17025	66	130	51	95	77
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.05	0.09	0.25	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	1.4	1.4	4.2	2.1	3.9
Copper (dissolved)	µg/l	0.5	ISO 17025	3.1	3.1	6.6	2.1	1.9
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	2900	3900	4500	1900	5500
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	1.8	2.4	1.1	4.9	1
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.2	1.6	2.3	1.8	2.2
Selenium (dissolved)	µg/l	0.6	ISO 17025	13	-	-	-	-
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.6	0.3	< 0.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	6	8.6	20	6	9.3
Monoaromatics & Oxygenates								
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0##	< 1.0##	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761444	2761445	2761446	2761447	2761448
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	24/07/2023	24/07/2023	24/07/2023	25/07/2023
Time Taken				1145	1003	1515	1120	1300
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0##	< 3.0##
Chloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0##	< 3.0##
Bromomethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0##	< 3.0##
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0##	< 3.0##
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Chloroform	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0##	< 3.0##
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
p & m-Xylene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromoform	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
o-Xylene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761444	2761445	2761446	2761447	2761448
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	24/07/2023	24/07/2023	24/07/2023	25/07/2023
Time Taken				1145	1003	1515	1120	1300
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0	< 3.0

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761444	2761445	2761446	2761447	2761448
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	24/07/2023	24/07/2023	24/07/2023	25/07/2023
Time Taken				1145	1003	1515	1120	1300
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761444	2761445	2761446	2761447	2761448
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	24/07/2023	24/07/2023	24/07/2023	25/07/2023
Time Taken				1145	1003	1515	1120	1300
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761444	2761445	2761446	2761447	2761448
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	24/07/2023	24/07/2023	24/07/2023	25/07/2023
Time Taken				1145	1003	1515	1120	1300
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
PFAS Suite 3								
PFBS C4 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PHPS C5 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFHxS C6 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFHpS C7 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFOS C8 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFNS C9 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFDS C10 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFUdS C11 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFDoS C12 Sulphonate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFBA C4 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFPeA C5 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFHxA C6 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFHpA C7 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFOA C8 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFNA C9 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFDA C10 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFUdA C11 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
PFDoA C12 Carboxylic acid	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	-	-
Gases								
Methane	mg/L	0.1	NONE	< 0.1	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761449	2761450	2761451	2761452	2761453
Sample Reference				BH111	BH112	BH113	BH115	BH116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	25/07/2023	25/07/2023	25/07/2023	24/07/2023
Time Taken				1630	1030	0800	1630	1300
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.4	7.4	7.3	7.5	7.2
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	2800	1900	9600	4300	3200
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	115000	192000	290000	54700	210000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	730	390	2900$$	1400$$	1300$$
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	5300	540	3000	12000	2100
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	18.6	7.75	1.62	8.01	9.42
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	0.65	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	0.46	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	0.39	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	3.2	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	1.3	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	6.22	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	5.7	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	2.98	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	3.29	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	4.16	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	1.33	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	3.96	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	2.04	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	0.64	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	2.53	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	38.9	< 0.16	< 0.16	< 0.16
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	630	370	290	970	400
Calcium (dissolved)	mg/l	0.012	ISO 17025	18	150	320	31	160
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.008	0.3	0.035	0.036	0.024
Magnesium (dissolved)	mg/l	0.005	ISO 17025	50	44	210	85	78
Phosphorus (dissolved)	µg/l	20	ISO 17025	65.3	39.5	23.3	151	44.3
Potassium (dissolved)	mg/l	0.025	ISO 17025	44	23	44	48	37
Selenium (dissolved)	µg/l	4	ISO 17025	-	-	< 4.0	< 4.0	< 4.0
Sodium (dissolved)	mg/l	0.01	ISO 17025	610	320	2000	1200	830

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761449	2761450	2761451	2761452	2761453
Sample Reference				BH111	BH112	BH113	BH115	BH116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	25/07/2023	25/07/2023	25/07/2023	24/07/2023
Time Taken				1630	1030	0800	1630	1300
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.9	1.4	0.9	0.7	1
Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.97	2.66	0.68	10.1	5.75
Barium (dissolved)	µg/l	0.06	ISO 17025	74	110	110	32	180
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.11	< 0.02	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.3	< 0.2	0.2	0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	2.2	7.7	2.5	1.6	2.5
Copper (dissolved)	µg/l	0.5	ISO 17025	0.9	6.7	1.9	2	0.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	1.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	1400	3500	2100	730	960
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	3.5	4.3	2.3	0.91	7.3
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.8	6.7	4.2	1.1	5.8
Selenium (dissolved)	µg/l	0.6	ISO 17025	4.3	3.1	-	-	-
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.3	1.5	0.2	0.9	0.3
Zinc (dissolved)	µg/l	0.5	ISO 17025	11	59	12	7.6	2.8
Monoaromatics & Oxygenates								
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	97	< 10	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	140	< 10	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	11	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	21	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	55	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	54	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	140	< 10	< 10	< 10

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761449	2761450	2761451	2761452	2761453
Sample Reference				BH111	BH112	BH113	BH115	BH116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	25/07/2023	25/07/2023	25/07/2023	24/07/2023
Time Taken				1630	1030	0800	1630	1300
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##	< 3.0##	< 3.0##
Chloroethane	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##	< 3.0##	< 3.0##
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##	< 3.0##	< 3.0##
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##	< 3.0##	< 3.0##
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##	< 3.0##	< 3.0##
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761449	2761450	2761451	2761452	2761453
Sample Reference				BH111	BH112	BH113	BH115	BH116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	25/07/2023	25/07/2023	25/07/2023	24/07/2023
Time Taken				1630	1030	0800	1630	1300
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761449	2761450	2761451	2761452	2761453
Sample Reference				BH111	BH112	BH113	BH115	BH116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	25/07/2023	25/07/2023	25/07/2023	24/07/2023
Time Taken				1630	1030	0800	1630	1300
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	0.65	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	0.46	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	0.54	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	0.39	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	3.2	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	1.3	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	0.58	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	6.2	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	5.7	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	3	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	3.3	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	4.2	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	1.3	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	4	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	2	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	0.64	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	2.5	< 0.01	< 0.01	< 0.01

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761449	2761450	2761451	2761452	2761453
Sample Reference				BH111	BH112	BH113	BH115	BH116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	25/07/2023	25/07/2023	25/07/2023	24/07/2023
Time Taken				1630	1030	0800	1630	1300
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761449	2761450	2761451	2761452	2761453
Sample Reference				BH111	BH112	BH113	BH115	BH116
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	25/07/2023	25/07/2023	25/07/2023	24/07/2023
Time Taken				1630	1030	0800	1630	1300
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
PFAS Suite 3								
PFBS C4 Sulphonate	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PHPS C5 Sulphonate	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFHxS C6 Sulphonate	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFHpS C7 Sulphonate	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFOS C8 Sulphonate	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFNS C9 Sulphonate	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFDS C10 Sulphonate	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFUdS C11 Sulphonate	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFDoS C12 Sulphonate	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFBA C4 Carboxylic acid	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFPeA C5 Carboxylic acid	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFHxA C6 Carboxylic acid	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFHpA C7 Carboxylic acid	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFOA C8 Carboxylic acid	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFNA C9 Carboxylic acid	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFDA C10 Carboxylic acid	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFUdA C11 Carboxylic acid	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
PFDoA C12 Carboxylic acid	µg/l	0.05	NONE	-	-	< 0.05	< 0.05	< 0.05
Gases								
Methane	mg/L	0.1	NONE	< 0.1	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761454	2761455	2761456
Sample Reference				BH117	BH119	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	25/07/2023	25/07/2023
Time Taken				1600	1000	1200
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
General Inorganics						
pH (L099)	pH Units	N/A	ISO 17025	7.4	7.5	7.1
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	5100	6100	4500
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	150000	77100	164000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	2200$$	1500$$	1400$$
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	3400	3200	3700
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	0.86	1.03	3.98
Total Phenols						
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10
Speciated PAHs						
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	1.51	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	0.55	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	2.55	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.41	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	0.47	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	0.48	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	0.71	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.39	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.16	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	0.37	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Total PAH						
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	7.6	< 0.16
Heavy Metals / Metalloids						
Boron (dissolved)	µg/l	10	ISO 17025	300	300	600
Calcium (dissolved)	mg/l	0.012	ISO 17025	290	330	55
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.037	0.012	0.11
Magnesium (dissolved)	mg/l	0.005	ISO 17025	130	200	82
Phosphorus (dissolved)	µg/l	20	ISO 17025	28.5	24.2	48
Potassium (dissolved)	mg/l	0.025	ISO 17025	49	54	32
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0
Sodium (dissolved)	mg/l	0.01	ISO 17025	1200	880	1100

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761454	2761455	2761456
Sample Reference				BH117	BH119	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	25/07/2023	25/07/2023
Time Taken				1600	1000	1200
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.7	1	< 0.4
Arsenic (dissolved)	µg/l	0.15	ISO 17025	8.64	1.13	2.4
Barium (dissolved)	µg/l	0.06	ISO 17025	410	510	56
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03	0.06	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.5	< 0.2	< 0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	1.5	2.9	4.7
Copper (dissolved)	µg/l	0.5	ISO 17025	1.9	1	25
Lead (dissolved)	µg/l	0.2	ISO 17025	0.3	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	560	290	5500
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	2.1	2.9	1.2
Nickel (dissolved)	µg/l	0.5	ISO 17025	6.5	4.5	3.8
Selenium (dissolved)	µg/l	0.6	ISO 17025	-	-	-
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.6	< 0.2	< 0.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	4	17	8.9

Monoaromatics & Oxygenates

Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0

Petroleum Hydrocarbons

Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	1280	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	490	< 10

TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	1500	< 10

TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10

TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	18	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	44	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	120	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	1100	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	1300	< 10

TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	23	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	60	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	80	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	46	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	210	< 10

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761454	2761455	2761456
Sample Reference				BH117	BH119	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	25/07/2023	25/07/2023
Time Taken				1600	1000	1200
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
VOCs						
Chloromethane	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##
Chloroethane	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
p & m-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
o-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761454	2761455	2761456
Sample Reference				BH117	BH119	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	25/07/2023	25/07/2023
Time Taken				1600	1000	1200
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761454	2761455	2761456
Sample Reference				BH117	BH119	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	25/07/2023	25/07/2023
Time Taken				1600	1000	1200
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
SVOCs						
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	0.69	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	1.4	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	1.5	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	3.2	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	0.95	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	0.55	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	2.6	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.41	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	0.47	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	0.48	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	0.71	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.39	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.16	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	0.37	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761454	2761455	2761456
Sample Reference				BH117	BH119	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	25/07/2023	25/07/2023
Time Taken				1600	1000	1200
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	0.69	< 0.10

Analytical Report Number: 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Lab Sample Number				2761454	2761455	2761456
Sample Reference				BH117	BH119	BH120
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				24/07/2023	25/07/2023	25/07/2023
Time Taken				1600	1000	1200
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
PFAS Suite 3						
PFBS C4 Sulphonate	µg/l	0.05	NONE	-	-	-
PHPS C5 Sulphonate	µg/l	0.05	NONE	-	-	-
PFHxS C6 Sulphonate	µg/l	0.05	NONE	-	-	-
PFHpS C7 Sulphonate	µg/l	0.05	NONE	-	-	-
PFOS C8 Sulphonate	µg/l	0.05	NONE	-	-	-
PFNS C9 Sulphonate	µg/l	0.05	NONE	-	-	-
PFDS C10 Sulphonate	µg/l	0.05	NONE	-	-	-
PFUdS C11 Sulphonate	µg/l	0.05	NONE	-	-	-
PFDoS C12 Sulphonate	µg/l	0.05	NONE	-	-	-
PFBA C4 Carboxylic acid	µg/l	0.05	NONE	-	-	-
PFPeA C5 Carboxylic acid	µg/l	0.05	NONE	-	-	-
PFHxA C6 Carboxylic acid	µg/l	0.05	NONE	-	-	-
PFHpA C7 Carboxylic acid	µg/l	0.05	NONE	-	-	-
PFOA C8 Carboxylic acid	µg/l	0.05	NONE	-	-	-
PFNA C9 Carboxylic acid	µg/l	0.05	NONE	-	-	-
PFDA C10 Carboxylic acid	µg/l	0.05	NONE	-	-	-
PFUdA C11 Carboxylic acid	µg/l	0.05	NONE	-	-	-
PFDoA C12 Carboxylic acid	µg/l	0.05	NONE	-	-	-
Gases						
Methane	mg/L	0.1	NONE	-	-	< 0.1

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by calculation. Accredited matrices SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Mineral Oil (Waters) C10 - C40	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPH2 (Waters)	Determination of hydrocarbons C6-C10 by headspace GC-MS. Accredited Matrices SW, PW. GW.	In-house method based on USEPA8260	L088-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025

Analytical Report Number : 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
DRO (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods	L110B	W	NONE
EF - PFAS suite 3 in water by LC-MS/MS	PFAS suite 3 by LC-MS/MS	In-house method	UK	W	NONE
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	ISO 17025

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-47293
Project / Site name: Phoenix Wharf Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride in water	Determination of Chloride (diissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

$$ - Result was reported from high dilution. The result should be interpreted with caution.
- Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.
- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-47293

Project / Site name: Phoenix Wharf Port Talbot

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
DS101	None Supplied	W	2761424	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
DS101	None Supplied	W	2761424	c	Hexavalent chromium in water	L080-PL	c
DS101	None Supplied	W	2761424	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS101	None Supplied	W	2761424	c	Ammonium as NH4 in water	L082-PL	c
DS101	None Supplied	W	2761424	c	Boron in water	L039-PL	c
DS101	None Supplied	W	2761424	c	Complex cyanide in water	L080-PL	c
DS101	None Supplied	W	2761424	c	DRO (Waters)	L070-PL	c
DS101	None Supplied	W	2761424	c	Electrical conductivity at 20oC of water	L031-PL	c
DS101	None Supplied	W	2761424	c	Free cyanide in water	L080-PL	c
DS101	None Supplied	W	2761424	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
DS101	None Supplied	W	2761424	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
DS101	None Supplied	W	2761424	c	Mineral Oil (Waters) C10 - C40	L070-PL	c
DS101	None Supplied	W	2761424	c	Monohydric phenols in water	L080-PL	c
DS101	None Supplied	W	2761424	c	Semi-volatile organic compounds in water	L102B-PL	c
DS101	None Supplied	W	2761424	c	Speciated EPA-16 PAHs in water	L102B-PL	c
DS101	None Supplied	W	2761424	c	Sulphate in water	L039-PL	c
DS101	None Supplied	W	2761424	c	Sulphide in water	L029-PL	c
DS101	None Supplied	W	2761424	c	TPH1 (Waters)	L070-PL	c
DS101	None Supplied	W	2761424	c	TPH2 (Waters)	L088-PL	c
DS101	None Supplied	W	2761424	c	TPHCWG (Waters)	L070-PL	c
DS101	None Supplied	W	2761424	c	Total cyanide in water	L080-PL	c
DS101	None Supplied	W	2761424	c	Total organic carbon in water	L037-PL	c
DS101	None Supplied	W	2761424	c	Volatile organic compounds in water	L073B-PL	c
DS101	None Supplied	W	2761424	c	pH at 20oC in water (automated)	L099-PL	c
DS103	None Supplied	W	2761425	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
DS103	None Supplied	W	2761425	c	Hexavalent chromium in water	L080-PL	c
DS103	None Supplied	W	2761425	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS103	None Supplied	W	2761425	c	Ammonium as NH4 in water	L082-PL	c
DS103	None Supplied	W	2761425	c	Boron in water	L039-PL	c
DS103	None Supplied	W	2761425	c	Complex cyanide in water	L080-PL	c
DS103	None Supplied	W	2761425	c	DRO (Waters)	L070-PL	c
DS103	None Supplied	W	2761425	c	Electrical conductivity at 20oC of water	L031-PL	c
DS103	None Supplied	W	2761425	c	Free cyanide in water	L080-PL	c
DS103	None Supplied	W	2761425	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
DS103	None Supplied	W	2761425	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
DS103	None Supplied	W	2761425	c	Mineral Oil (Waters) C10 - C40	L070-PL	c
DS103	None Supplied	W	2761425	c	Monohydric phenols in water	L080-PL	c
DS103	None Supplied	W	2761425	c	Semi-volatile organic compounds in water	L102B-PL	c
DS103	None Supplied	W	2761425	c	Speciated EPA-16 PAHs in water	L102B-PL	c
DS103	None Supplied	W	2761425	c	Sulphate in water	L039-PL	c
DS103	None Supplied	W	2761425	c	Sulphide in water	L029-PL	c
DS103	None Supplied	W	2761425	c	TPH1 (Waters)	L070-PL	c
DS103	None Supplied	W	2761425	c	TPH2 (Waters)	L088-PL	c
DS103	None Supplied	W	2761425	c	TPHCWG (Waters)	L070-PL	c
DS103	None Supplied	W	2761425	c	Total cyanide in water	L080-PL	c
DS103	None Supplied	W	2761425	c	Total organic carbon in water	L037-PL	c
DS103	None Supplied	W	2761425	c	Volatile organic compounds in water	L073B-PL	c
DS103	None Supplied	W	2761425	c	pH at 20oC in water (automated)	L099-PL	c
DS104	None Supplied	W	2761426	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
DS104	None Supplied	W	2761426	c	Hexavalent chromium in water	L080-PL	c
DS104	None Supplied	W	2761426	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS104	None Supplied	W	2761426	c	Ammonium as NH4 in water	L082-PL	c
DS104	None Supplied	W	2761426	c	Boron in water	L039-PL	c
DS104	None Supplied	W	2761426	c	Complex cyanide in water	L080-PL	c
DS104	None Supplied	W	2761426	c	DRO (Waters)	L070-PL	c
DS104	None Supplied	W	2761426	c	Electrical conductivity at 20oC of water	L031-PL	c
DS104	None Supplied	W	2761426	c	Free cyanide in water	L080-PL	c
DS104	None Supplied	W	2761426	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
DS104	None Supplied	W	2761426	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
DS104	None Supplied	W	2761426	c	Mineral Oil (Waters) C10 - C40	L070-PL	c
DS104	None Supplied	W	2761426	c	Monohydric phenols in water	L080-PL	c
DS104	None Supplied	W	2761426	c	Semi-volatile organic compounds in water	L102B-PL	c

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-47293
Project / Site name: Phoenix Wharf Port Talbot

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
DS104	None Supplied	W	2761426	c	Speciated EPA-16 PAHs in water	L102B-PL	c
DS104	None Supplied	W	2761426	c	Sulphate in water	L039-PL	c
DS104	None Supplied	W	2761426	c	Sulphide in water	L029-PL	c
DS104	None Supplied	W	2761426	c	TPH1 (Waters)	L070-PL	c
DS104	None Supplied	W	2761426	c	TPH2 (Waters)	L088-PL	c
DS104	None Supplied	W	2761426	c	TPHCWG (Waters)	L070-PL	c
DS104	None Supplied	W	2761426	c	Total cyanide in water	L080-PL	c
DS104	None Supplied	W	2761426	c	Total organic carbon in water	L037-PL	c
DS104	None Supplied	W	2761426	c	Volatile organic compounds in water	L073B-PL	c
DS104	None Supplied	W	2761426	c	pH at 20oC in water (automated)	L099-PL	c
DS106	None Supplied	W	2761427	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
DS106	None Supplied	W	2761427	c	Hexavalent chromium in water	L080-PL	c
DS106	None Supplied	W	2761427	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS106	None Supplied	W	2761427	c	Ammonium as NH4 in water	L082-PL	c
DS106	None Supplied	W	2761427	c	Boron in water	L039-PL	c
DS106	None Supplied	W	2761427	c	Complex cyanide in water	L080-PL	c
DS106	None Supplied	W	2761427	c	DRO (Waters)	L070-PL	c
DS106	None Supplied	W	2761427	c	Electrical conductivity at 20oC of water	L031-PL	c
DS106	None Supplied	W	2761427	c	Free cyanide in water	L080-PL	c
DS106	None Supplied	W	2761427	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
DS106	None Supplied	W	2761427	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
DS106	None Supplied	W	2761427	c	Mineral Oil (Waters) C10 - C40	L070-PL	c
DS106	None Supplied	W	2761427	c	Monohydric phenols in water	L080-PL	c
DS106	None Supplied	W	2761427	c	Semi-volatile organic compounds in water	L102B-PL	c
DS106	None Supplied	W	2761427	c	Speciated EPA-16 PAHs in water	L102B-PL	c
DS106	None Supplied	W	2761427	c	Sulphate in water	L039-PL	c
DS106	None Supplied	W	2761427	c	Sulphide in water	L029-PL	c
DS106	None Supplied	W	2761427	c	TPH1 (Waters)	L070-PL	c
DS106	None Supplied	W	2761427	c	TPH2 (Waters)	L088-PL	c
DS106	None Supplied	W	2761427	c	TPHCWG (Waters)	L070-PL	c
DS106	None Supplied	W	2761427	c	Total cyanide in water	L080-PL	c
DS106	None Supplied	W	2761427	c	Total organic carbon in water	L037-PL	c
DS106	None Supplied	W	2761427	c	Volatile organic compounds in water	L073B-PL	c
DS106	None Supplied	W	2761427	c	pH at 20oC in water (automated)	L099-PL	c
DS107	None Supplied	W	2761428	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
DS107	None Supplied	W	2761428	c	Hexavalent chromium in water	L080-PL	c
DS107	None Supplied	W	2761428	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS107	None Supplied	W	2761428	c	Ammonium as NH4 in water	L082-PL	c
DS107	None Supplied	W	2761428	c	Boron in water	L039-PL	c
DS107	None Supplied	W	2761428	c	Complex cyanide in water	L080-PL	c
DS107	None Supplied	W	2761428	c	DRO (Waters)	L070-PL	c
DS107	None Supplied	W	2761428	c	Electrical conductivity at 20oC of water	L031-PL	c
DS107	None Supplied	W	2761428	c	Free cyanide in water	L080-PL	c
DS107	None Supplied	W	2761428	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
DS107	None Supplied	W	2761428	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
DS107	None Supplied	W	2761428	c	Mineral Oil (Waters) C10 - C40	L070-PL	c
DS107	None Supplied	W	2761428	c	Monohydric phenols in water	L080-PL	c
DS107	None Supplied	W	2761428	c	Semi-volatile organic compounds in water	L102B-PL	c
DS107	None Supplied	W	2761428	c	Speciated EPA-16 PAHs in water	L102B-PL	c
DS107	None Supplied	W	2761428	c	Sulphate in water	L039-PL	c
DS107	None Supplied	W	2761428	c	Sulphide in water	L029-PL	c
DS107	None Supplied	W	2761428	c	TPH1 (Waters)	L070-PL	c
DS107	None Supplied	W	2761428	c	TPH2 (Waters)	L088-PL	c
DS107	None Supplied	W	2761428	c	TPHCWG (Waters)	L070-PL	c
DS107	None Supplied	W	2761428	c	Total cyanide in water	L080-PL	c
DS107	None Supplied	W	2761428	c	Total organic carbon in water	L037-PL	c
DS107	None Supplied	W	2761428	c	Volatile organic compounds in water	L073B-PL	c
DS107	None Supplied	W	2761428	c	pH at 20oC in water (automated)	L099-PL	c
DS108	None Supplied	W	2761429	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
DS108	None Supplied	W	2761429	c	Hexavalent chromium in water	L080-PL	c
DS108	None Supplied	W	2761429	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS108	None Supplied	W	2761429	c	Ammonium as NH4 in water	L082-PL	c

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-47293
Project / Site name: Phoenix Wharf Port Talbot

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
DS108	None Supplied	W	2761429	c	Boron in water	L039-PL	c
DS108	None Supplied	W	2761429	c	Complex cyanide in water	L080-PL	c
DS108	None Supplied	W	2761429	c	DRO (Waters)	L070-PL	c
DS108	None Supplied	W	2761429	c	Electrical conductivity at 20oC of water	L031-PL	c
DS108	None Supplied	W	2761429	c	Free cyanide in water	L080-PL	c
DS108	None Supplied	W	2761429	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
DS108	None Supplied	W	2761429	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
DS108	None Supplied	W	2761429	c	Mineral Oil (Waters) C10 - C40	L070-PL	c
DS108	None Supplied	W	2761429	c	Monohydric phenols in water	L080-PL	c
DS108	None Supplied	W	2761429	c	Semi-volatile organic compounds in water	L102B-PL	c
DS108	None Supplied	W	2761429	c	Speciated EPA-16 PAHs in water	L102B-PL	c
DS108	None Supplied	W	2761429	c	Sulphate in water	L039-PL	c
DS108	None Supplied	W	2761429	c	Sulphide in water	L029-PL	c
DS108	None Supplied	W	2761429	c	TPH1 (Waters)	L070-PL	c
DS108	None Supplied	W	2761429	c	TPH2 (Waters)	L088-PL	c
DS108	None Supplied	W	2761429	c	TPHCWG (Waters)	L070-PL	c
DS108	None Supplied	W	2761429	c	Total cyanide in water	L080-PL	c
DS108	None Supplied	W	2761429	c	Total organic carbon in water	L037-PL	c
DS108	None Supplied	W	2761429	c	Volatile organic compounds in water	L073B-PL	c
DS108	None Supplied	W	2761429	c	pH at 20oC in water (automated)	L099-PL	c
DS109	None Supplied	W	2761430	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
DS109	None Supplied	W	2761430	c	Hexavalent chromium in water	L080-PL	c
DS109	None Supplied	W	2761430	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS109	None Supplied	W	2761430	c	Ammonium as NH4 in water	L082-PL	c
DS109	None Supplied	W	2761430	c	Boron in water	L039-PL	c
DS109	None Supplied	W	2761430	c	Complex cyanide in water	L080-PL	c
DS109	None Supplied	W	2761430	c	DRO (Waters)	L070-PL	c
DS109	None Supplied	W	2761430	c	Electrical conductivity at 20oC of water	L031-PL	c
DS109	None Supplied	W	2761430	c	Free cyanide in water	L080-PL	c
DS109	None Supplied	W	2761430	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
DS109	None Supplied	W	2761430	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
DS109	None Supplied	W	2761430	c	Mineral Oil (Waters) C10 - C40	L070-PL	c
DS109	None Supplied	W	2761430	c	Monohydric phenols in water	L080-PL	c
DS109	None Supplied	W	2761430	c	Semi-volatile organic compounds in water	L102B-PL	c
DS109	None Supplied	W	2761430	c	Speciated EPA-16 PAHs in water	L102B-PL	c
DS109	None Supplied	W	2761430	c	Sulphate in water	L039-PL	c
DS109	None Supplied	W	2761430	c	Sulphide in water	L029-PL	c
DS109	None Supplied	W	2761430	c	TPH1 (Waters)	L070-PL	c
DS109	None Supplied	W	2761430	c	TPH2 (Waters)	L088-PL	c
DS109	None Supplied	W	2761430	c	TPHCWG (Waters)	L070-PL	c
DS109	None Supplied	W	2761430	c	Total cyanide in water	L080-PL	c
DS109	None Supplied	W	2761430	c	Total organic carbon in water	L037-PL	c
DS109	None Supplied	W	2761430	c	Volatile organic compounds in water	L073B-PL	c
DS109	None Supplied	W	2761430	c	pH at 20oC in water (automated)	L099-PL	c
DS110	None Supplied	W	2761431	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
DS110	None Supplied	W	2761431	c	Hexavalent chromium in water	L080-PL	c
DS110	None Supplied	W	2761431	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS110	None Supplied	W	2761431	c	Ammonium as NH4 in water	L082-PL	c
DS110	None Supplied	W	2761431	c	Boron in water	L039-PL	c
DS110	None Supplied	W	2761431	c	Complex cyanide in water	L080-PL	c
DS110	None Supplied	W	2761431	c	DRO (Waters)	L070-PL	c
DS110	None Supplied	W	2761431	c	Electrical conductivity at 20oC of water	L031-PL	c
DS110	None Supplied	W	2761431	c	Free cyanide in water	L080-PL	c
DS110	None Supplied	W	2761431	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
DS110	None Supplied	W	2761431	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
DS110	None Supplied	W	2761431	c	Mineral Oil (Waters) C10 - C40	L070-PL	c
DS110	None Supplied	W	2761431	c	Monohydric phenols in water	L080-PL	c
DS110	None Supplied	W	2761431	c	Semi-volatile organic compounds in water	L102B-PL	c
DS110	None Supplied	W	2761431	c	Speciated EPA-16 PAHs in water	L102B-PL	c
DS110	None Supplied	W	2761431	c	Sulphate in water	L039-PL	c
DS110	None Supplied	W	2761431	c	Sulphide in water	L029-PL	c
DS110	None Supplied	W	2761431	c	TPH1 (Waters)	L070-PL	c

Analytical Report Number : 23-47293

Project / Site name: Phoenix Wharf Port Talbot

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
DS110	None Supplied	W	2761431	c	TPH2 (Waters)	L088-PL	c
DS110	None Supplied	W	2761431	c	TPHCWG (Waters)	L070-PL	c
DS110	None Supplied	W	2761431	c	Total cyanide in water	L080-PL	c
DS110	None Supplied	W	2761431	c	Total organic carbon in water	L037-PL	c
DS110	None Supplied	W	2761431	c	Volatile organic compounds in water	L073B-PL	c
DS110	None Supplied	W	2761431	c	pH at 20oC in water (automated)	L099-PL	c
DS112	None Supplied	W	2761432	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
DS112	None Supplied	W	2761432	c	Hexavalent chromium in water	L080-PL	c
DS112	None Supplied	W	2761432	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS112	None Supplied	W	2761432	c	Ammonium as NH4 in water	L082-PL	c
DS112	None Supplied	W	2761432	c	Boron in water	L039-PL	c
DS112	None Supplied	W	2761432	c	Complex cyanide in water	L080-PL	c
DS112	None Supplied	W	2761432	c	DRO (Waters)	L070-PL	c
DS112	None Supplied	W	2761432	c	Electrical conductivity at 20oC of water	L031-PL	c
DS112	None Supplied	W	2761432	c	Free cyanide in water	L080-PL	c
DS112	None Supplied	W	2761432	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
DS112	None Supplied	W	2761432	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
DS112	None Supplied	W	2761432	c	Mineral Oil (Waters) C10 - C40	L070-PL	c
DS112	None Supplied	W	2761432	c	Monohydric phenols in water	L080-PL	c
DS112	None Supplied	W	2761432	c	Semi-volatile organic compounds in water	L102B-PL	c
DS112	None Supplied	W	2761432	c	Speciated EPA-16 PAHs in water	L102B-PL	c
DS112	None Supplied	W	2761432	c	Sulphate in water	L039-PL	c
DS112	None Supplied	W	2761432	c	Sulphide in water	L029-PL	c
DS112	None Supplied	W	2761432	c	TPH1 (Waters)	L070-PL	c
DS112	None Supplied	W	2761432	c	TPH2 (Waters)	L088-PL	c
DS112	None Supplied	W	2761432	c	TPHCWG (Waters)	L070-PL	c
DS112	None Supplied	W	2761432	c	Total cyanide in water	L080-PL	c
DS112	None Supplied	W	2761432	c	Total organic carbon in water	L037-PL	c
DS112	None Supplied	W	2761432	c	Volatile organic compounds in water	L073B-PL	c
DS112	None Supplied	W	2761432	c	pH at 20oC in water (automated)	L099-PL	c
DS113	None Supplied	W	2761433	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
DS113	None Supplied	W	2761433	c	Hexavalent chromium in water	L080-PL	c
DS113	None Supplied	W	2761433	c	Ammoniacal Nitrogen as N in water	L082-PL	c
DS113	None Supplied	W	2761433	c	Ammonium as NH4 in water	L082-PL	c
DS113	None Supplied	W	2761433	c	Boron in water	L039-PL	c
DS113	None Supplied	W	2761433	c	Complex cyanide in water	L080-PL	c
DS113	None Supplied	W	2761433	c	DRO (Waters)	L070-PL	c
DS113	None Supplied	W	2761433	c	Electrical conductivity at 20oC of water	L031-PL	c
DS113	None Supplied	W	2761433	c	Free cyanide in water	L080-PL	c
DS113	None Supplied	W	2761433	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
DS113	None Supplied	W	2761433	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
DS113	None Supplied	W	2761433	c	Mineral Oil (Waters) C10 - C40	L070-PL	c
DS113	None Supplied	W	2761433	c	Monohydric phenols in water	L080-PL	c
DS113	None Supplied	W	2761433	c	Semi-volatile organic compounds in water	L102B-PL	c
DS113	None Supplied	W	2761433	c	Speciated EPA-16 PAHs in water	L102B-PL	c
DS113	None Supplied	W	2761433	c	Sulphate in water	L039-PL	c
DS113	None Supplied	W	2761433	c	Sulphide in water	L029-PL	c
DS113	None Supplied	W	2761433	c	TPH1 (Waters)	L070-PL	c
DS113	None Supplied	W	2761433	c	TPH2 (Waters)	L088-PL	c
DS113	None Supplied	W	2761433	c	TPHCWG (Waters)	L070-PL	c
DS113	None Supplied	W	2761433	c	Total cyanide in water	L080-PL	c
DS113	None Supplied	W	2761433	c	Total organic carbon in water	L037-PL	c
DS113	None Supplied	W	2761433	c	Volatile organic compounds in water	L073B-PL	c
DS113	None Supplied	W	2761433	c	pH at 20oC in water (automated)	L099-PL	c
WS06	None Supplied	W	2761434	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
WS06	None Supplied	W	2761434	c	Hexavalent chromium in water	L080-PL	c
WS06	None Supplied	W	2761434	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS06	None Supplied	W	2761434	c	Ammonium as NH4 in water	L082-PL	c
WS06	None Supplied	W	2761434	c	Boron in water	L039-PL	c
WS06	None Supplied	W	2761434	c	Complex cyanide in water	L080-PL	c
WS06	None Supplied	W	2761434	c	DRO (Waters)	L070-PL	c
WS06	None Supplied	W	2761434	c	Electrical conductivity at 20oC of water	L031-PL	c

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-47293

Project / Site name: Phoenix Wharf Port Talbot

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS06	None Supplied	W	2761434	c	Free cyanide in water	L080-PL	c
WS06	None Supplied	W	2761434	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
WS06	None Supplied	W	2761434	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
WS06	None Supplied	W	2761434	c	Mineral Oil (Waters) C10 - C40	L070-PL	c
WS06	None Supplied	W	2761434	c	Monohydric phenols in water	L080-PL	c
WS06	None Supplied	W	2761434	c	Semi-volatile organic compounds in water	L102B-PL	c
WS06	None Supplied	W	2761434	c	Speciated EPA-16 PAHs in water	L102B-PL	c
WS06	None Supplied	W	2761434	c	Sulphate in water	L039-PL	c
WS06	None Supplied	W	2761434	c	Sulphide in water	L029-PL	c
WS06	None Supplied	W	2761434	c	TPH1 (Waters)	L070-PL	c
WS06	None Supplied	W	2761434	c	TPH2 (Waters)	L088-PL	c
WS06	None Supplied	W	2761434	c	TPHCWG (Waters)	L070-PL	c
WS06	None Supplied	W	2761434	c	Total cyanide in water	L080-PL	c
WS06	None Supplied	W	2761434	c	Total organic carbon in water	L037-PL	c
WS06	None Supplied	W	2761434	c	Volatile organic compounds in water	L073B-PL	c
WS06	None Supplied	W	2761434	c	pH at 20oC in water (automated)	L099-PL	c
WS07	None Supplied	W	2761435	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
WS07	None Supplied	W	2761435	c	Hexavalent chromium in water	L080-PL	c
WS07	None Supplied	W	2761435	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS07	None Supplied	W	2761435	c	Ammonium as NH4 in water	L082-PL	c
WS07	None Supplied	W	2761435	c	Boron in water	L039-PL	c
WS07	None Supplied	W	2761435	c	Complex cyanide in water	L080-PL	c
WS07	None Supplied	W	2761435	c	DRO (Waters)	L070-PL	c
WS07	None Supplied	W	2761435	c	Electrical conductivity at 20oC of water	L031-PL	c
WS07	None Supplied	W	2761435	c	Free cyanide in water	L080-PL	c
WS07	None Supplied	W	2761435	c	Gases C1-C4	L110B	c
WS07	None Supplied	W	2761435	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
WS07	None Supplied	W	2761435	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
WS07	None Supplied	W	2761435	c	Mineral Oil (Waters) C10 - C40	L070-PL	c
WS07	None Supplied	W	2761435	c	Monohydric phenols in water	L080-PL	c
WS07	None Supplied	W	2761435	c	Semi-volatile organic compounds in water	L102B-PL	c
WS07	None Supplied	W	2761435	c	Speciated EPA-16 PAHs in water	L102B-PL	c
WS07	None Supplied	W	2761435	c	Sulphate in water	L039-PL	c
WS07	None Supplied	W	2761435	c	Sulphide in water	L029-PL	c
WS07	None Supplied	W	2761435	c	TPH1 (Waters)	L070-PL	c
WS07	None Supplied	W	2761435	c	TPH2 (Waters)	L088-PL	c
WS07	None Supplied	W	2761435	c	TPHCWG (Waters)	L070-PL	c
WS07	None Supplied	W	2761435	c	Total cyanide in water	L080-PL	c
WS07	None Supplied	W	2761435	c	Total organic carbon in water	L037-PL	c
WS07	None Supplied	W	2761435	c	Volatile organic compounds in water	L073B-PL	c
WS07	None Supplied	W	2761435	c	pH at 20oC in water (automated)	L099-PL	c
WS10	None Supplied	W	2761436	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
WS10	None Supplied	W	2761436	c	Hexavalent chromium in water	L080-PL	c
WS10	None Supplied	W	2761436	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS10	None Supplied	W	2761436	c	Ammonium as NH4 in water	L082-PL	c
WS10	None Supplied	W	2761436	c	Boron in water	L039-PL	c
WS10	None Supplied	W	2761436	c	Complex cyanide in water	L080-PL	c
WS10	None Supplied	W	2761436	c	DRO (Waters)	L070-PL	c
WS10	None Supplied	W	2761436	c	Electrical conductivity at 20oC of water	L031-PL	c
WS10	None Supplied	W	2761436	c	Free cyanide in water	L080-PL	c
WS10	None Supplied	W	2761436	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
WS10	None Supplied	W	2761436	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
WS10	None Supplied	W	2761436	c	Mineral Oil (Waters) C10 - C40	L070-PL	c
WS10	None Supplied	W	2761436	c	Monohydric phenols in water	L080-PL	c
WS10	None Supplied	W	2761436	c	Semi-volatile organic compounds in water	L102B-PL	c
WS10	None Supplied	W	2761436	c	Speciated EPA-16 PAHs in water	L102B-PL	c
WS10	None Supplied	W	2761436	c	Sulphate in water	L039-PL	c
WS10	None Supplied	W	2761436	c	Sulphide in water	L029-PL	c
WS10	None Supplied	W	2761436	c	TPH1 (Waters)	L070-PL	c
WS10	None Supplied	W	2761436	c	TPH2 (Waters)	L088-PL	c
WS10	None Supplied	W	2761436	c	TPHCWG (Waters)	L070-PL	c
WS10	None Supplied	W	2761436	c	Total cyanide in water	L080-PL	c

Analytical Report Number : 23-47293

Project / Site name: Phoenix Wharf Port Talbot

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS10	None Supplied	W	2761436	c	Total organic carbon in water	L037-PL	c
WS10	None Supplied	W	2761436	c	Volatile organic compounds in water	L073B-PL	c
WS10	None Supplied	W	2761436	c	pH at 20oC in water (automated)	L099-PL	c
WS11	None Supplied	W	2761437	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
WS11	None Supplied	W	2761437	c	Hexavalent chromium in water	L080-PL	c
WS11	None Supplied	W	2761437	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS11	None Supplied	W	2761437	c	Ammonium as NH4 in water	L082-PL	c
WS11	None Supplied	W	2761437	c	Boron in water	L039-PL	c
WS11	None Supplied	W	2761437	c	Complex cyanide in water	L080-PL	c
WS11	None Supplied	W	2761437	c	DRO (Waters)	L070-PL	c
WS11	None Supplied	W	2761437	c	Electrical conductivity at 20oC of water	L031-PL	c
WS11	None Supplied	W	2761437	c	Free cyanide in water	L080-PL	c
WS11	None Supplied	W	2761437	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
WS11	None Supplied	W	2761437	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
WS11	None Supplied	W	2761437	c	Mineral Oil (Waters) C10 - C40	L070-PL	c
WS11	None Supplied	W	2761437	c	Monohydric phenols in water	L080-PL	c
WS11	None Supplied	W	2761437	c	Semi-volatile organic compounds in water	L102B-PL	c
WS11	None Supplied	W	2761437	c	Speciated EPA-16 PAHs in water	L102B-PL	c
WS11	None Supplied	W	2761437	c	Sulphate in water	L039-PL	c
WS11	None Supplied	W	2761437	c	Sulphide in water	L029-PL	c
WS11	None Supplied	W	2761437	c	TPH1 (Waters)	L070-PL	c
WS11	None Supplied	W	2761437	c	TPH2 (Waters)	L088-PL	c
WS11	None Supplied	W	2761437	c	TPHCWG (Waters)	L070-PL	c
WS11	None Supplied	W	2761437	c	Total cyanide in water	L080-PL	c
WS11	None Supplied	W	2761437	c	Total organic carbon in water	L037-PL	c
WS11	None Supplied	W	2761437	c	Volatile organic compounds in water	L073B-PL	c
WS11	None Supplied	W	2761437	c	pH at 20oC in water (automated)	L099-PL	c

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Amy Butler
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

t: 01749 677 760
f: 01749 679 345
e:

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-50072

Project / Site name:	Phoenix Wharf, Port Talbot	Samples received on:	10/08/2023
Your job number:	2111006.005	Samples instructed on/ Analysis started on:	10/08/2023
Your order number:		Analysis completed by:	18/08/2023
Report Issue Number:	1	Report issued on:	18/08/2023
Samples Analysed:	12 water samples		

Signed: JSzwagrak

Joanna Szwagrzak
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-50072
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2776387	2776388	2776389	2776390	2776391
Sample Reference				BH01	BH02	BH03A	BH04	BH103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Time Taken				1130	0830	1430	1620	1020
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.9	7.9	7.9	7.9	7.9
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	2600	2600	2500	2400	2400
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	136	130	131	128	139
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	610	600	610	600	590
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	4500	4400	4500	4500	4500
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	4.19	4.93	3.96	3.13	4.21
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16

Analytical Report Number: 23-50072
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2776387	2776388	2776389	2776390	2776391
Sample Reference				BH01	BH02	BH03A	BH04	BH103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Time Taken				1130	0830	1430	1620	1020
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	650	630	600	610	660
Calcium (dissolved)	mg/l	0.012	ISO 17025	16	15	16	16	16
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.024	0.057	< 0.004	0.017	0.01
Magnesium (dissolved)	mg/l	0.005	ISO 17025	53	52	53	51	54
Phosphorus (dissolved)	µg/l	20	ISO 17025	73.4	70.6	65.9	74.5	80.6
Potassium (dissolved)	mg/l	0.025	ISO 17025	43	42	45	45	44
Sodium (dissolved)	mg/l	0.01	ISO 17025	550	530	530	570	530
Antimony (dissolved)	µg/l	0.4	ISO 17025	< 0.4	0.4	< 0.4	< 0.4	< 0.4
Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.06	2.23	2.07	2.22	2.06
Barium (dissolved)	µg/l	0.06	ISO 17025	36	38	36	36	35
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.06	0.05	0.05	0.04	0.04
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.2	0.2	< 0.2	< 0.2	< 0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	1.7	1.8	1.7	1.9	1.8
Copper (dissolved)	µg/l	0.5	ISO 17025	2.9	2.5	2	1.7	3
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	640	600	610	640	630
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	7.2	3.6	3.1	4.3	4.3
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.7	1.9	1.8	2	1.9
Selenium (dissolved)	µg/l	0.6	ISO 17025	6.3	7	6.4	6.3	6.2
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.9	1.1	0.9	1.1	1
Zinc (dissolved)	µg/l	0.5	ISO 17025	9	7.9	6.9	7.4	7.1
Monoaromatics & Oxygenates								
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Lab Sample Number				2776387	2776388	2776389	2776390	2776391
Sample Reference				BH01	BH02	BH03A	BH04	BH103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Time Taken				1130	0830	1430	1620	1020
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0##	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic## >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane##	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane#	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0	< 3.0##	< 3.0##	< 3.0##	< 3.0##
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Lab Sample Number				2776387	2776388	2776389	2776390	2776391
Sample Reference				BH01	BH02	BH03A	BH04	BH103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Time Taken				1130	0830	1430	1620	1020
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0##	< 3.0##	< 3.0##	< 3.0##
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0##	< 3.0##	< 3.0##	< 3.0##
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0##	< 3.0##	< 3.0##	< 3.0##
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0^	< 3.0^	< 3.0^	< 3.0^
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Analytical Report Number: 23-50072
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2776387	2776388	2776389	2776390	2776391
Sample Reference				BH01	BH02	BH03A	BH04	BH103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Time Taken				1130	0830	1430	1620	1020
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-50072
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2776392	2776393	2776394	2776395	2776396
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Time Taken				1340	0845	1220	1545	1530
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	8.1	7.9	8.1	8.1	7.8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	2400	2400	2400	2400	2400
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	151	272	130	138	134
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	610	620	630	630	610
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	4500	4500	4600	4500	4600
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	4.09	4.94	3.28	4.8	3.71
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16

Analytical Report Number: 23-50072
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2776392	2776393	2776394	2776395	2776396
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Time Taken				1340	0845	1220	1545	1530
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	640	620	640	640	570
Calcium (dissolved)	mg/l	0.012	ISO 17025	16	16	16	16	16
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.019	0.034	0.014	0.022	0.021
Magnesium (dissolved)	mg/l	0.005	ISO 17025	52	54	51	55	53
Phosphorus (dissolved)	µg/l	20	ISO 17025	76.8	72.4	68.4	73.4	61.4
Potassium (dissolved)	mg/l	0.025	ISO 17025	43	42	45	43	45
Sodium (dissolved)	mg/l	0.01	ISO 17025	560	500	600	520	520
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.4	0.5	< 0.4	0.5	< 0.4
Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.09	2.37	2.1	2.34	2.34
Barium (dissolved)	µg/l	0.06	ISO 17025	34	40	36	37	37
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.02	0.04	0.04	0.04	0.03
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	3.5
Cobalt (dissolved)	µg/l	0.2	ISO 17025	1.9	2.2	1.7	1.9	1.9
Copper (dissolved)	µg/l	0.5	ISO 17025	1.3	1.8	3.2	1.6	2.9
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	600	540	600	590	600
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	2.9	3.3	3.3	2.8	3.5
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.1	2.8	1.8	1.9	2.2
Selenium (dissolved)	µg/l	0.6	ISO 17025	5.8	6.5	5.6	6.1	6
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	1.1	1.5	0.9	1	1
Zinc (dissolved)	µg/l	0.5	ISO 17025	5.9	7.7	6.1	6.6	7.1
Monoaromatics & Oxygenates								
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Lab Sample Number				2776392	2776393	2776394	2776395	2776396
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Time Taken				1340	0845	1220	1545	1530
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic## >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane##	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane#	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##	< 3.0##	< 3.0##
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Analytical Report Number: 23-50072
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2776392	2776393	2776394	2776395	2776396
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Time Taken				1340	0845	1220	1545	1530
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#	< 3.0#	< 3.0#	< 3.0#
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##	< 3.0##	< 3.0##
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##	< 3.0##	< 3.0##
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0##	< 3.0##	< 3.0##	< 3.0##	< 3.0##
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^	< 3.0^	< 3.0^	< 3.0^
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Analytical Report Number: 23-50072
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2776392	2776393	2776394	2776395	2776396
Sample Reference				BH105	BH106	BH107	BH108	BH110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Time Taken				1340	0845	1220	1545	1530
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-50072
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2776397	2776398
Sample Reference				BH111	BH112
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				07/08/2023	07/08/2023
Time Taken				1045	0940
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

pH (L099)	pH Units	N/A	ISO 17025	8.7	8.8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	2400	2400
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	129	132
Sulphide	µg/l	5	NONE	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	640	640
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	4600	4600
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	5.25	3.78

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16

Analytical Report Number: 23-50072
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2776397	2776398
Sample Reference				BH111	BH112
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				07/08/2023	07/08/2023
Time Taken				1045	0940
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
Heavy Metals / Metalloids					
Boron (dissolved)	µg/l	10	ISO 17025	650	580
Calcium (dissolved)	mg/l	0.012	ISO 17025	16	17
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.021	0.03
Magnesium (dissolved)	mg/l	0.005	ISO 17025	53	55
Phosphorus (dissolved)	µg/l	20	ISO 17025	73.6	69
Potassium (dissolved)	mg/l	0.025	ISO 17025	44	46
Sodium (dissolved)	mg/l	0.01	ISO 17025	550	530
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.6	0.6
Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.33	2.36
Barium (dissolved)	µg/l	0.06	ISO 17025	39	43
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03	0.04
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	2	2.2
Copper (dissolved)	µg/l	0.5	ISO 17025	2.2	4.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	540	570
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	3.4	3.1
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.8	2.8
Selenium (dissolved)	µg/l	0.6	ISO 17025	6.4	6.9
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	1.2	1.5
Zinc (dissolved)	µg/l	0.5	ISO 17025	7.7	8.5
Monoaromatics & Oxygenates					
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0

Analytical Report Number: 23-50072
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2776397	2776398
Sample Reference				BH111	BH112
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				07/08/2023	07/08/2023
Time Taken				1045	0940
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
Petroleum Hydrocarbons					
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic## >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10
VOCs					
Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane##	µg/l	3	ISO 17025	< 3.0	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
2,2-Dichloropropane#	µg/l	3	NONE	< 3.0	< 3.0
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0##	< 3.0##
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0

Analytical Report Number: 23-50072
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2776397	2776398
Sample Reference				BH111	BH112
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				07/08/2023	07/08/2023
Time Taken				1045	0940
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
p & m-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0
o-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0#
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0##	< 3.0##
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0##	< 3.0##
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0##	< 3.0##
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0^	< 3.0^
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05

Analytical Report Number: 23-50072
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2776397	2776398
Sample Reference				BH111	BH112
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				07/08/2023	07/08/2023
Time Taken				1045	0940
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01

3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-50072
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by calculation. Accredited matrices SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Mineral Oil (Waters) C10 - C40	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPH2 (Waters)	Determination of hydrocarbons C6-C10 by headspace GC-MS. Accredited Matrices SW, PW. GW.	In-house method based on USEPA8260	L088-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025

Analytical Report Number : 23-50072
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
DRO (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025

Analytical Report Number : 23-50072
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	ISO 17025
Chloride in water	Determination of Chloride (diissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

- Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

^ - Data reported unaccredited due to quality control parameter failure associated with this result; The result should be considered as being deviating and may be compromised.

Amy Butler
Tweedie Evans Consulting Ltd
The Old Chapel
35a Southover
Wells
Somerset
BA5 1UH

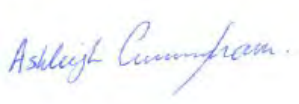
t: 01749 677 760
f: 01749 679 345
e:

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-50364

Project / Site name:	Phoenix Wharf, Port Talbot	Samples received on:	11/08/2023
Your job number:	2111006 005	Samples instructed on/ Analysis started on:	11/08/2023
Your order number:		Analysis completed by:	24/08/2023
Report Issue Number:	1	Report issued on:	24/08/2023
Samples Analysed:	7 water samples		

Signed: 

Ashleigh Cunningham
Customer Service Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Sample Deviation Report

Analytical Report Number: 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2777848	2777849	2777850	2777851	2777852
Sample Reference				BH104	BH113	BH115	BH116	BH117
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	08/08/2023	08/08/2023	07/08/2023	07/08/2023
Time Taken				1135	1430	1230	0930	1450
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	8	7.9	8	7.9	8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	8700	8800	8800	8800	8700
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	69400	73400	72500	59600	52300
Sulphate as SO4	mg/l	0.045	ISO 17025	69.4	73.4	72.5	59.6	52.3
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	2700$$	2800$$	2800$$	2700$$	2900$$
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	6800	6800	6700	6900	6800
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	3.57	3.73	3.33	3.43	3.44
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16

Sample Deviation Report

Analytical Report Number: 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2777848	2777849	2777850	2777851	2777852
Sample Reference				BH104	BH113	BH115	BH116	BH117
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	08/08/2023	08/08/2023	07/08/2023	07/08/2023
Time Taken				1135	1430	1230	0930	1450
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	1300	1200	1200	1200	1200
Calcium (dissolved)	mg/l	0.012	ISO 17025	52	53	54	48	52
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.02	0.014	0.011	0.012	0.043
Magnesium (dissolved)	mg/l	0.005	ISO 17025	130	130	140	120	130
Phosphorus (dissolved)	µg/l	20	ISO 17025	81.8	40.7	56.3	96.6	116
Potassium (dissolved)	mg/l	0.025	ISO 17025	80	81	82	72	76
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Sodium (dissolved)	mg/l	0.01	ISO 17025	1800	1800	1800	1600	1500
Antimony (dissolved)	µg/l	0.4	ISO 17025	< 0.4	0.4	1	< 0.4	0.4
Arsenic (dissolved)	µg/l	0.15	ISO 17025	3.1	2.13	2.44	3.99	3.68
Barium (dissolved)	µg/l	0.06	ISO 17025	76	78	75	81	81
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	3	3.7	3.9	2.4	1.8
Copper (dissolved)	µg/l	0.5	ISO 17025	1.2	0.7	3.2	1.9	1
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	2000	2100	2100	3100	2300
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	5.1	6.5	5.9	4.7	4.6
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.7	2.9	2.5	1.5	1.2
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.2	< 0.2	< 0.2	< 0.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.7	9.7	8.3	3.8	2.1
Monoaromatics & Oxygenates								
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Sample Deviation Report

Analytical Report Number: 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2777848	2777849	2777850	2777851	2777852
Sample Reference				BH104	BH113	BH115	BH116	BH117
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	08/08/2023	08/08/2023	07/08/2023	07/08/2023
Time Taken				1135	1430	1230	0930	1450
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6# HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10# HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

Analytical Report Number: 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2777848	2777849	2777850	2777851	2777852
Sample Reference				BH104	BH113	BH115	BH116	BH117
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	08/08/2023	08/08/2023	07/08/2023	07/08/2023
Time Taken				1135	1430	1230	0930	1450
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane##	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane#	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Analytical Report Number: 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2777848	2777849	2777850	2777851	2777852
Sample Reference				BH104	BH113	BH115	BH116	BH117
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	08/08/2023	08/08/2023	07/08/2023	07/08/2023
Time Taken				1135	1430	1230	0930	1450
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene#	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Analytical Report Number: 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2777848	2777849	2777850	2777851	2777852
Sample Reference				BH104	BH113	BH115	BH116	BH117
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	08/08/2023	08/08/2023	07/08/2023	07/08/2023
Time Taken				1135	1430	1230	0930	1450
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Sample Deviation Report

Analytical Report Number: 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2777848	2777849	2777850	2777851	2777852
Sample Reference				BH104	BH113	BH115	BH116	BH117
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/08/2023	08/08/2023	08/08/2023	07/08/2023	07/08/2023
Time Taken				1135	1430	1230	0930	1450
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Sample Deviation Report

Analytical Report Number: 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2777853	2777854
Sample Reference				BH119	BH120
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				08/08/2023	08/08/2023
Time Taken				1150	1330
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
General Inorganics					
pH (L099)	pH Units	N/A	ISO 17025	8	8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	8700	8700
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	64600	63700
Sulphate as SO4	mg/l	0.045	ISO 17025	64.6	63.7
Sulphide	µg/l	5	NONE	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	2900$$	2800$$
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	6700	6900
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	3.76	3.34
Total Phenols					
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10
Speciated PAHs					
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16

Analytical Report Number: 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2777853	2777854
Sample Reference				BH119	BH120
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				08/08/2023	08/08/2023
Time Taken				1150	1330
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
Heavy Metals / Metalloids					
Boron (dissolved)	µg/l	10	ISO 17025	1200	1200
Calcium (dissolved)	mg/l	0.012	ISO 17025	54	54
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.02	0.024
Magnesium (dissolved)	mg/l	0.005	ISO 17025	130	130
Phosphorus (dissolved)	µg/l	20	ISO 17025	104	124
Potassium (dissolved)	mg/l	0.025	ISO 17025	81	80
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0
Sodium (dissolved)	mg/l	0.01	ISO 17025	1700	1700
Antimony (dissolved)	µg/l	0.4	ISO 17025	< 0.4	< 0.4
Arsenic (dissolved)	µg/l	0.15	ISO 17025	4.11	3.96
Barium (dissolved)	µg/l	0.06	ISO 17025	82	83
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	2.1	1.9
Copper (dissolved)	µg/l	0.5	ISO 17025	1.7	0.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	2300	2200
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	4.4	4.4
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.1	1.1
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.3	1.7
Monoaromatics & Oxygenates					
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0

Analytical Report Number: 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2777853	2777854
Sample Reference				BH119	BH120
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				08/08/2023	08/08/2023
Time Taken				1150	1330
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
Petroleum Hydrocarbons					
Mineral Oil (C10 - C40) EH_1D_AL_MS	µg/l	10	NONE	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	ISO 17025	< 10	< 10
TPH2 (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6# HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10# HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10

Analytical Report Number: 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2777853	2777854
Sample Reference				BH119	BH120
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				08/08/2023	08/08/2023
Time Taken				1150	1330
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
VOCs					
Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane##	µg/l	3	ISO 17025	< 3.0	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
2,2-Dichloropropane#	µg/l	3	ISO 17025	< 3.0	< 3.0
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
p & m-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0
o-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0

Analytical Report Number: 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2777853	2777854
Sample Reference				BH119	BH120
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				08/08/2023	08/08/2023
Time Taken				1150	1330
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2,4-Trichlorobenzene#	µg/l	3	ISO 17025	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0

Analytical Report Number: 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2777853	2777854
Sample Reference				BH119	BH120
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				08/08/2023	08/08/2023
Time Taken				1150	1330
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
SVOCs					
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01

Analytical Report Number: 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Lab Sample Number				2777853	2777854
Sample Reference				BH119	BH120
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				08/08/2023	08/08/2023
Time Taken				1150	1330
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01

3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by calculation. Accredited matrices SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Mineral Oil (Waters) C10 - C40	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPH2 (Waters)	Determination of hydrocarbons C6-C10 by headspace GC-MS. Accredited Matrices SW, PW. GW.	In-house method based on USEPA8260	L088-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025

Analytical Report Number : 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
DRO (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	ISO 17025
Chloride in water	Determination of Chloride (diissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report

Analytical Report Number : 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

- Data reported *unaccredited* due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

Sample Deviation Report

Analytical Report Number : 23-50364
Project / Site name: Phoenix Wharf, Port Talbot

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH104	None Supplied	W	2777848	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH104	None Supplied	W	2777848	c	Ammonium as NH4 in water	L082-PL	c
BH104	None Supplied	W	2777848	c	Electrical conductivity at 20oC of water	L031-PL	c
BH104	None Supplied	W	2777848	c	pH at 20oC in water (automated)	L099-PL	c
BH116	None Supplied	W	2777851	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH116	None Supplied	W	2777851	c	Ammonium as NH4 in water	L082-PL	c
BH116	None Supplied	W	2777851	c	Electrical conductivity at 20oC of water	L031-PL	c
BH116	None Supplied	W	2777851	c	pH at 20oC in water (automated)	L099-PL	c
BH117	None Supplied	W	2777852	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH117	None Supplied	W	2777852	c	Ammonium as NH4 in water	L082-PL	c
BH117	None Supplied	W	2777852	c	Electrical conductivity at 20oC of water	L031-PL	c
BH117	None Supplied	W	2777852	c	pH at 20oC in water (automated)	L099-PL	c

Mitchell Tucker

From: Daniel Bullock <D.Bullock@i2analytical.com>
Sent: 10 May 2023 12:06
Subject: i2 Accreditation Update May 2023

Dear Customer,

Following on from a recent UKAS audit, some deviations to the Quality management system have been highlighted that have had an impact notably around customer communications. As such, we are writing to inform you that the following soil tests have been temporarily suspended from UKAS and MCERTS accreditation.

Organic soil testing (TPH (L076B), PAHs(L064B), PCBs(L027), SVOCs(L064B), VOCs (Including BTEX) (L073B), speciated Phenols (L030), Elemental Sulfur (L021B)) and testing of Sulphide in soils (L010B).

All other accredited tests remain unaffected.

The audit highlighted shortcomings within our system in dealing with an unprecedented volume of communications in regards to the recording, storage and management of customer communications.

The Laboratory is in the process of addressing these associated actions and have introduced an improved system to record these communications, questions and replies to ensure full traceability.

The suspension will last until the findings can be closed out. The date for submission of evidence to UKAS is 2nd June 2023 and the laboratory will be working hard to ensure evidence is received well before this deadline. A review of these findings will be completed in due course.

Please contact your key account representative to discuss where ISO/IEC 17025 or MCERTS methods are required for these parameters.

Mark Lynch
UK Operations Director - ma.lynch@i2analytical.com

Duncan Campbell
Commercial Director – d.campbell@i2analytical.com

Kind regards

Customer Services

Daniel Bullock

Customer Services Manager

i2 Analytical Ltd
7 Woodshots Meadow | Croxley Park | Watford | Herts | WD18 8YS | UK
☎ +44 (0)1923 225 404 | **F** +44 (0)1923 237 404 | **E** reception@i2analytical.com | **W** www.i2analytical.com

Registered number: 4750390. Registered office: 7 Woodshots Meadow, Croxley Park, Watford, Herts WD18 8YS



Important Information - For the latest updates regarding COVID-19 click here

AGS Association of Geotechnical & Geoenvironmental Specialists

The contents of this email and any attachments are intended solely for the use of the person or entity to which it is addressed and may be confidential, privileged or subject to copyright. If you received this in error, please contact the sender and delete this email and you are notified that disclosing, copying, distributing or taking any action in reliance on the contents of the email is prohibited. E-mail transmission cannot be guaranteed to be secured or error-free as information could be intercepted, corrupted, lost, destroyed, arrive late or incomplete, or contain viruses. i2 Analytical therefore is in no way liable for any errors or omissions in the contents of this message, which arise as a result of e-mail transmission. Although i2 Analytical takes reasonable precautions to ensure no viruses are present in this email, i2 Analytical cannot accept responsibility for any loss or damage arising from the use of this email or attachments. i2 Analytical reserves the right to monitor all emails communication through its networks.

Click here to view our Privacy Notice

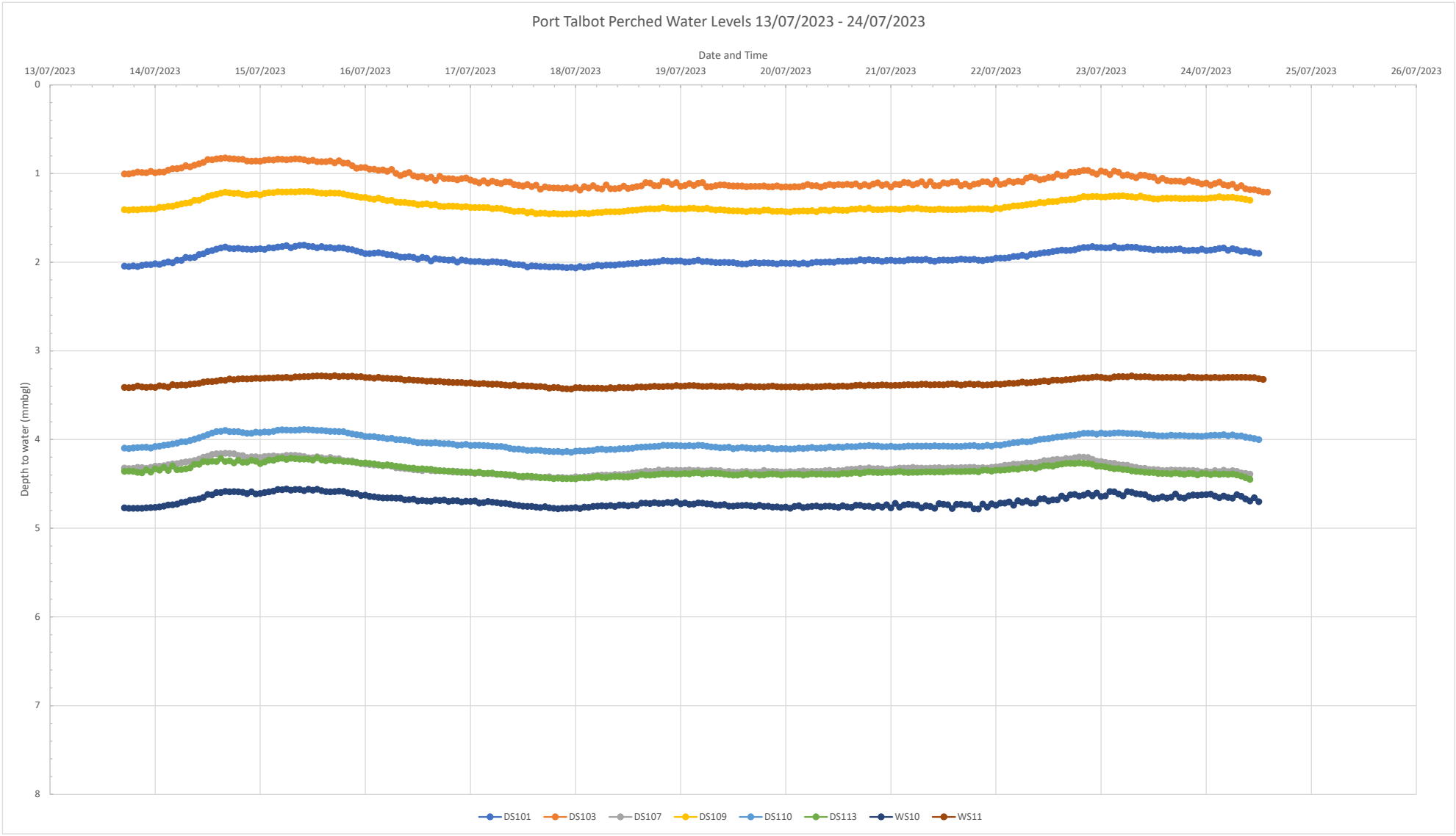
Appendix G

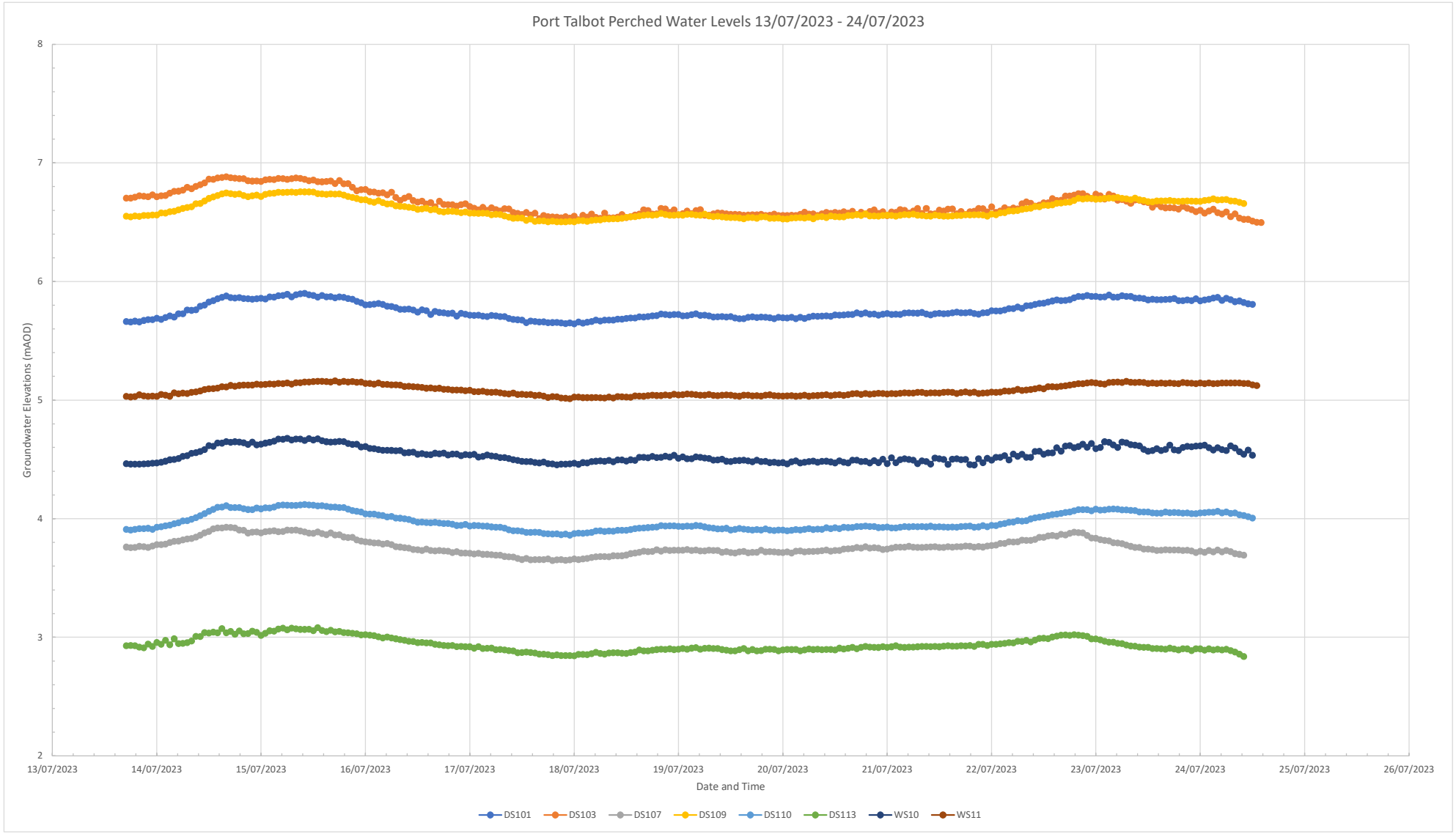
Groundwater Monitoring Results

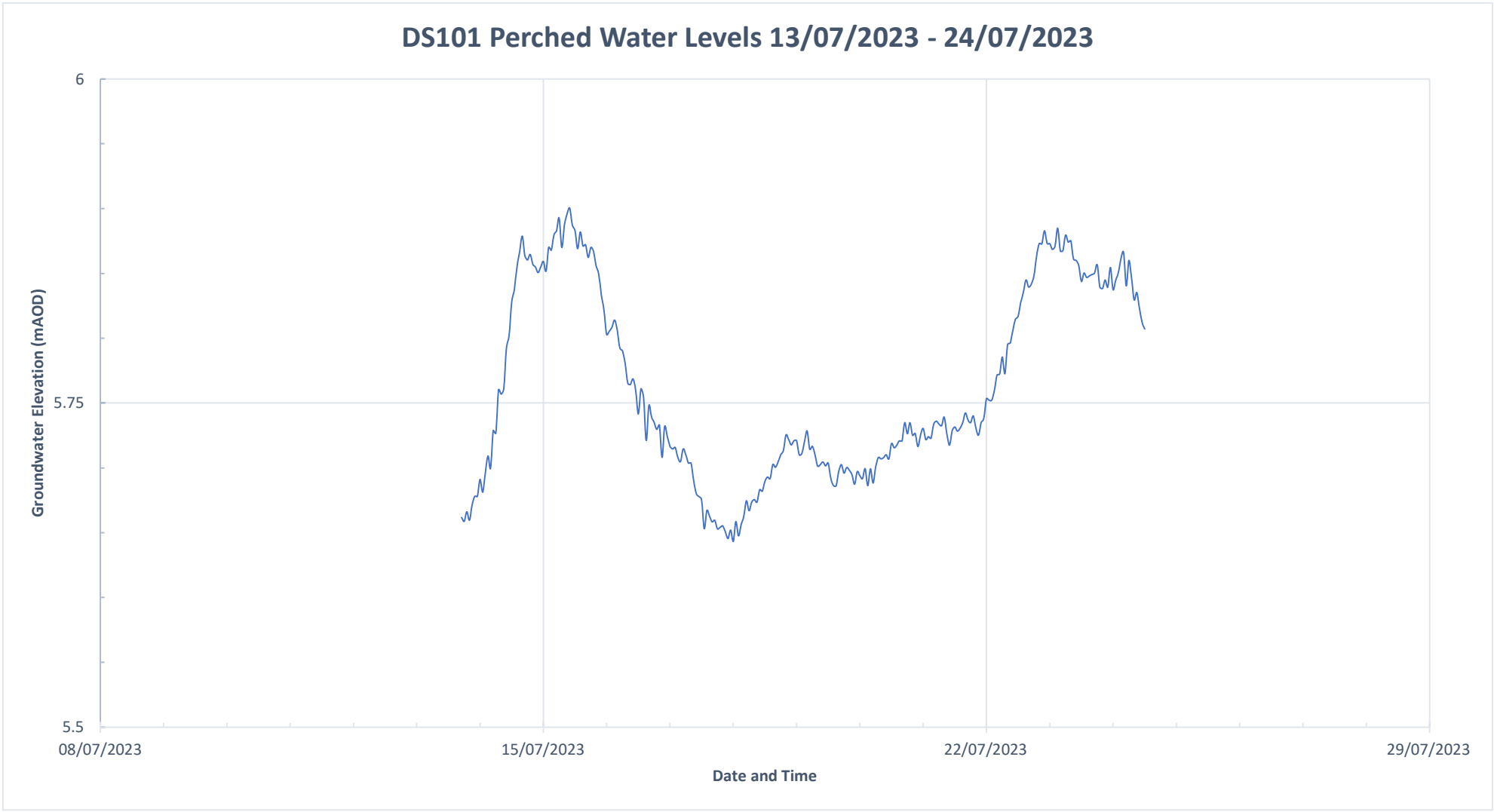
Groundwater Level Monitoring Results

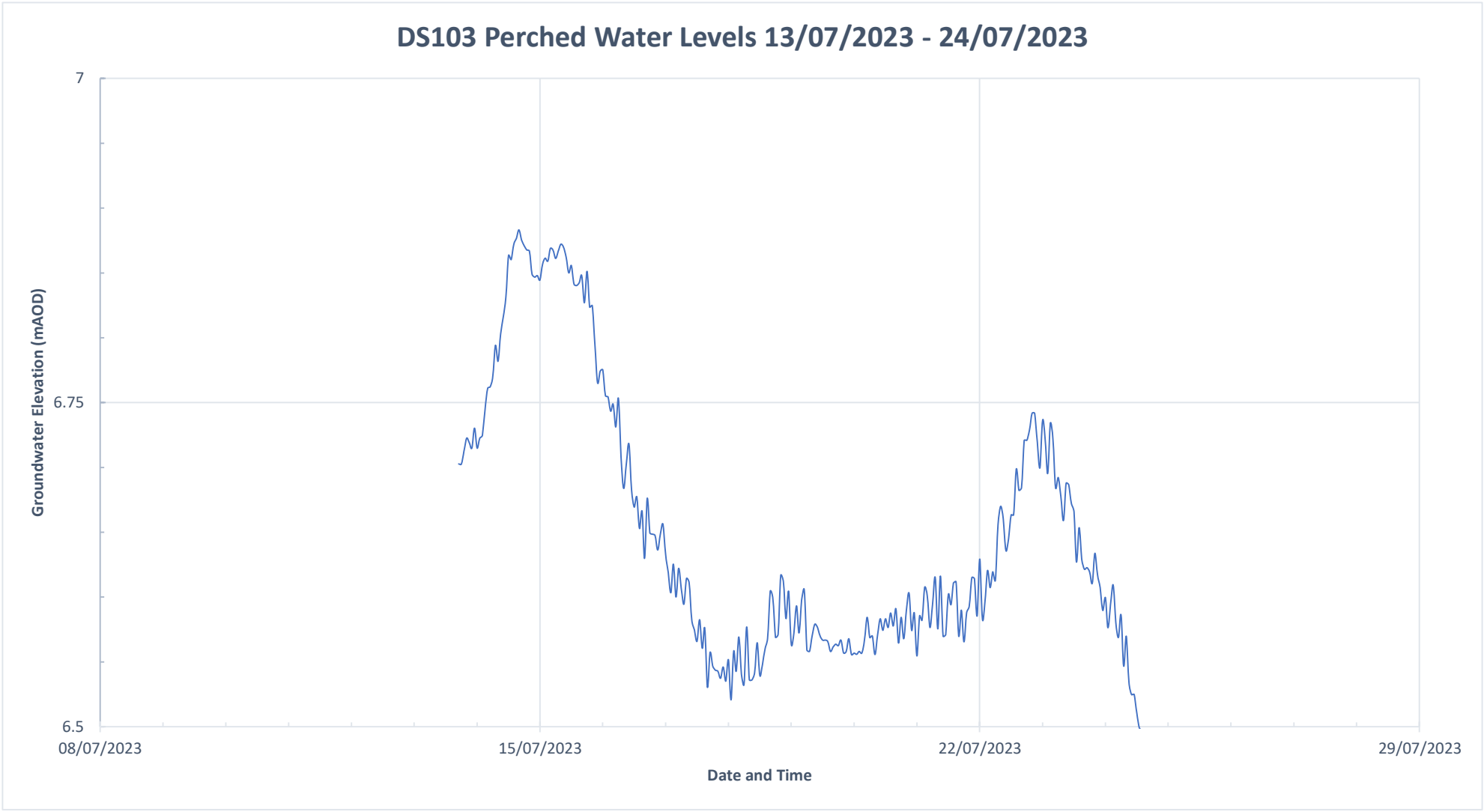
Location		Depth of Borehole (mbgl)	Standing Depths (mbgl)																		Additional Observation
			Date(s)																		
			22-Mar	29-Mar	05-Apr		12-Apr	19-Apr	26-Apr	03-May	10-May	17-May	24-May	31-May	13-Jun	26-Jun	10-Jul	24-Jul	07-Aug	17-Aug	
					07:55 (high tide)	12:50 (low tide)															
Previous Phase (003)	WS01	2.45	0.36	1.11	1.08	1.09	1.03	1.15	1.25	1.39	1.70	2.05	2.23	2.41	Dry	Dry	Dry	Dry	Dry	Dry	
	WS03	2.36	0.83	0.96	1.00	1.00	1.01	1.08	1.17	1.24	1.25	1.80	2.02	2.26	1.41	Dry	Dry	Dry	Dry	Dry	
	WS06	2.55	Flooded	Flooded	Flooded	Flooded	Flooded	Flooded	Flooded	Flooded	Flooded	0.26	0.29	0.43	0.50	0.81	0.91	0.85	0.89	0.82	
	WS07	3.19	Flooded	Flooded	Flooded	Flooded	Flooded	0.13	0.10	0.22	0.21	0.45	0.57	0.71	0.79	1.03	1.19	0.93	1.01	0.66	
	WS10	4.70	1.28	1.30	1.28	1.29	1.26	1.34	1.46	1.71	1.74	2.63	2.94	3.11	2.32	3.23	3.34	3.29	3.33	3.34	
	WS11	3.32	0.36	0.45	0.54	0.54	0.40	0.65	0.64	0.72	0.71	0.95	1.09	1.26	1.36	1.72	1.84	1.95	1.99	1.59	
	BH01	18.57	1.44	1.69	1.68	1.76	0.78	1.60	1.71	1.65	1.77	1.46	1.49	1.54	1.71	2.38	2.62	2.55	2.07	1.80	
	BH02	24.14	3.08	3.28	3.24	3.44	3.23	3.16	3.26	3.27	2.95	3.02	2.91	3.10	3.17	3.77	4.07	3.40	3.11	3.08	
	BH03A	19.87	2.48	2.68	2.67	2.90	2.65	2.75	2.74	2.59	2.60	2.50	2.43	2.57	2.71	3.26	3.59	2.94	2.52	2.64	
	BH04	19.25	4.59	4.80	4.71	4.77	4.76	4.70	4.76	5.20	5.36	5.36	4.33	4.47	4.67	5.21	5.49	4.87	4.50	4.58	
Current Phase (005)	BH103	21.16	-	-	-	-	-	-	3.31	3.39	2.96	2.96	3.00	3.17	3.29	3.96	4.22	3.38	3.17	3.22	
	BH104	59.72	-	-	-	-	-	-	-	3.79	3.55	3.48	3.47	3.63	3.72	4.36	4.51	3.83	3.68	3.69	
	BH105	22.40	-	-	3.30	3.39	3.29	3.28	3.58	3.24	2.93	2.93	2.95	3.13	3.08	3.86	4.14	3.28	2.96	3.40	
	BH106	19.70	-	1.93	1.83	1.89	1.92	1.85	1.86	1.77	1.69	1.69	1.57	1.68	1.82	2.50	2.75	2.30	1.78	1.80	
	BH107	21.23	-	-	-	-	-	-	-	-	-	-	3.13	3.31	3.6	4.04	4.42	3.64	3.57	3.40	
	BH108	21.30	-	-	-	-	-	-	-	-	-	1.92	1.88	2.07	2.2	2.84	3.07	2.93	2.18	2.11	
	BH110	19.00	-	-	-	-	-	-	-	-	2.32	2.50	2.47	2.62	2.72	3.30	3.55	2.95	2.72	2.60	
	BH111	18.00	-	-	-	-	-	-	-	-	-	3.15	1.75	1.88	1.9	2.67	2.89	2.30	1.91	1.90	
	BH112	7.35	-	-	-	-	-	-	-	-	-	0.54	0.66	0.73	0.86	1.11	1.26	0.99	0.91	0.80	*Borehole Dropped
	BH113	57.71	-	-	-	-	-	-	-	-	-	2.54	2.63	2.21	2.82	3.33	3.56	2.56	2.67	2.72	
	BH115	19.74	-	-	-	-	-	-	-	1.93	2.05	2.08	1.75	1.86	2.03	2.69	2.9	2.25	2.00	2.02	
	BH116	31.85	-	-	-	-	-	-	-	-	4.95	4.17	3.99	3.81	3.88	4.4	4.55	4.85	3.78	3.66	
	BH117	54.34	-	-	-	-	-	-	-	-	-	3.3	3.31	3.46	3.55	4.13	4.31	3.74	3.57	3.48	
	BH119	57.7	-	-	-	-	-	-	-	-	-	2.8	2.69	2.83	3.00	2.57	3.8	3.18	2.96	2.88	
	BH120	20.10	-	-	-	-	-	-	-	-	2.93	2.8	2.75	2.52	2.97	3.62	2.81	3.22	2.88	2.9	
	DS101	2.17	-	-	-	-	-	-	-	-	-	-	-	1.26	1.34	1.64	1.89	1.9	1.91	1.8	
	DS102	0.92	-	-	-	-	-	-	-	-	-	-	-	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
	DS103	4.36	-	-	-	-	-	-	-	-	-	-	-	0.75	0.95	1.41	1.59	1.21	1.45	0.67	
	DS104	4.19	-	-	-	-	-	-	-	-	-	-	-	1.28	1.42	1.83	2	1.88	2.05	1.58	
	DS105	2.74	-	-	-	-	-	-	-	-	-	-	-	2.07	2.19	2.56	Dry	Dry	Dry	2.44	
	DS106	3.61	-	-	-	-	-	-	-	-	-	-	-	1.81	1.91	2.31	2.5	2.54	2.44	2.16	
	DS107	4.39	-	-	-	-	-	-	-	-	-	-	-	0.87	0.94	1.04	1.21	1.01	0.87	1	
	DS108	3.51	-	-	-	-	-	-	-	-	-	-	-	1.36	1.57	2.28	2.2	2.31	2.21	1.72	
	DS109	1.32	-	-	-	-	-	-	-	-	-	-	-	0.7	0.78	1.00	1.05	0.93	0.87	0.77	
	DS110	4.00	-	-	-	-	-	-	-	-	-	-	-	1.9	1.5	1.74	2.83	1.86	1.97	1.65	
	DS111	1.64	-	-	-	-	-	-	-	-	-	-	-	1.49	1.53	Dry	Dry	Dry	Dry	1.6	
	DS112	4.49	-	-	-	-	-	-	-	-	-	-	-	2.23	2.32	3.2	2.61	2.69	2.70	2.23	*No freeproduct recorded (17/08)
	DS113	4.45	-	-	-	-	-	-	-	-	-	-	-	0.74	0.83	1.16	1.34	1.13	1.15	0.71	

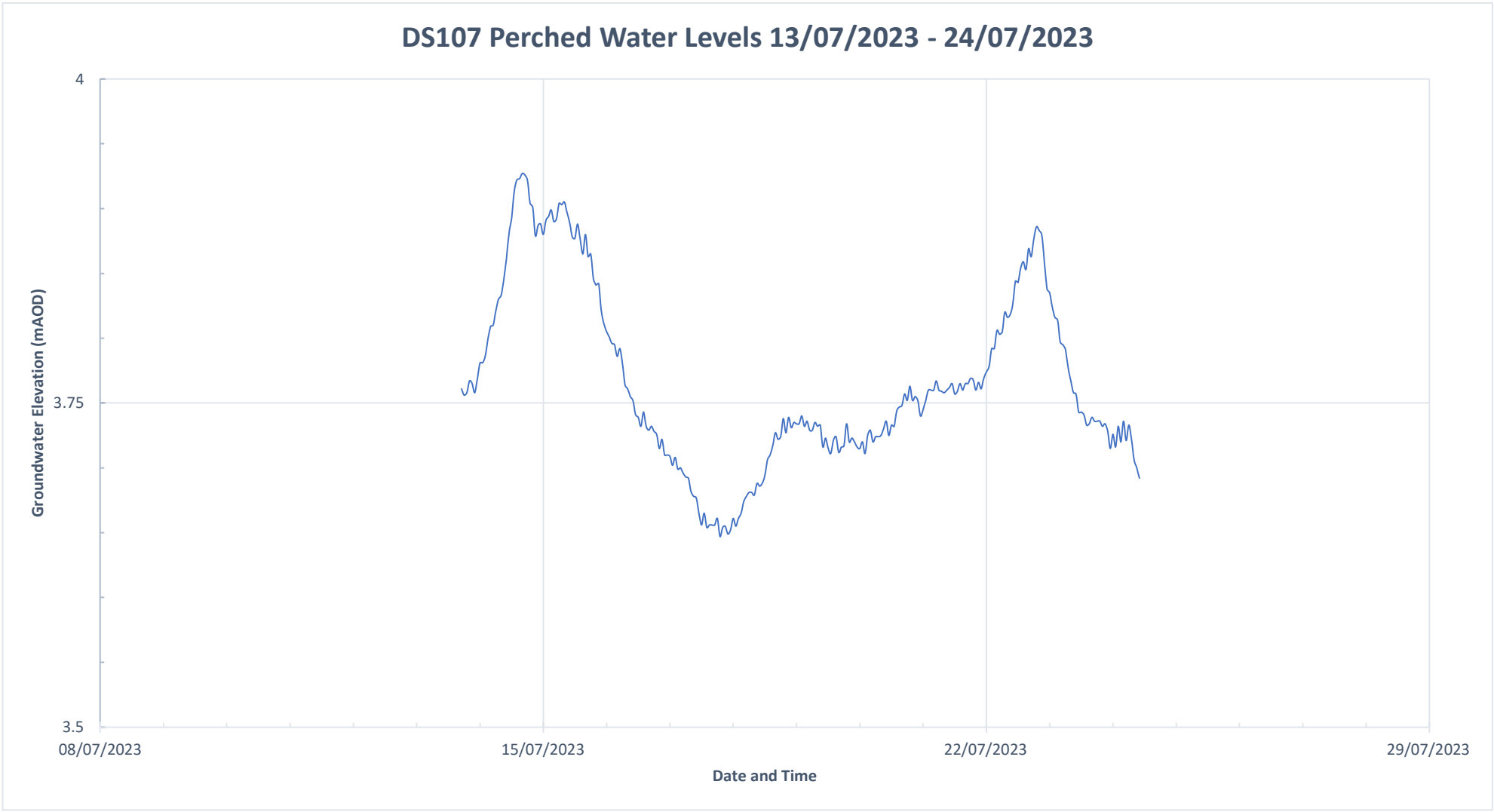
	Approx Ground Level (mAOD)	Base of Borehole (mAOD)	Groundwater Elevation (mAOD)																	Additional Observation
			Date(s)																	
			22-Mar	29-Mar	05-Apr		12-Apr	19-Apr	26-Apr	03-May	10-May	17-May	24-May	31-May	13-Jun	26-Jun	10-Jul	24-Jul	07-Aug	17-Aug	
					07:55 (high tide)	12:50 (low tide)															
WS01	9.16	6.71	8.80	8.05	8.08	8.07	8.13	8.01	7.91	7.77	7.46	7.11	6.93	6.75	Dry to 6.71						
WS03	8.98	6.62	8.15	8.02	7.98	7.98	7.97	7.90	7.81	7.74	7.73	7.18	6.96	6.72	7.57	Dry to 6.62					
WS06	7.26	4.71	Flooded	Flooded	Flooded	Flooded	Flooded	Flooded	Flooded	Flooded	Flooded	7.00	6.97	6.83	6.76	6.45	6.35	6.41	6.37	6.44	
WS07	7.05	3.86	Flooded	Flooded	Flooded	Flooded	Flooded	6.92	6.95	6.83	6.84	6.60	6.48	6.34	6.26	6.02	5.86	6.12	6.04	6.39	
WS10	9.24	4.54	7.96	7.94	7.96	7.95	7.98	7.90	7.78	7.53	7.50	6.61	6.30	6.13	6.92	6.01	5.90	5.95	5.91	5.90	
WS11	8.44	5.12	8.09	7.99	7.90	7.90	8.04	7.79	7.80	7.72	7.73	7.49	7.35	7.18	7.08	6.72	6.60	6.49	6.45	6.85	
BH01	7.22	-11.35	5.78	5.53	5.54	5.46	6.44	5.62	5.51	5.57	5.45	5.76	5.73	5.68	5.51	4.84	4.60	4.67	5.15	5.42	
BH02	8.21	-15.93	5.13	4.93	4.97	4.77	4.98	5.05	4.95	4.94	5.26	5.19	5.30	5.11	5.04	4.44	4.14	4.81	5.10	5.13	
BH03A	7.87	-12.00	5.39	5.19	5.20	4.97	5.22	5.12	5.13	5.28	5.27	5.37	5.44	5.30	5.16	4.61	4.28	4.93	5.35	5.23	
BH04	9.70	-9.55	5.11	4.90	4.99	4.93	4.94	5.00	4.94	4.50	4.34	4.34	5.37	5.23	5.03	4.49	4.21	4.83	5.20	5.12	
BH103	8.43	-12.73	-	-	-	-	-	-	5.12	5.04	5.47	5.47	5.43	5.26	5.14	4.47	4.21	5.05	5.26	5.21	
BH105	8.44	-13.97	-	-	5.14	5.05	5.15	5.16	4.86	5.20	5.51	5.51	5.49	5.31	5.36	4.58	4.30	4.61	4.76	4.75	
BH106	7.13	-12.57	-	5.20	5.30	5.24	5.21	5.28	5.27	5.36	5.44	5.44	5.56	5.45	5.31	4.63	4.38	3.85	4.17	3.73	
BH107	8.61	-12.62	-	-	-	-	-	-	-	-	-	-	5.48	5.30	5.01	4.57	4.19	6.31	6.83	6.81	
BH108	7.30	-14.00	-	-	-	-	-	-	-	-	-	5.38	5.42	5.23	5.10	4.46	4.23	3.66	3.73	3.90	
BH110	7.91	-11.09	-	-	-	-	-	-	-	-	5.59	5.41	5.44	5.29	5.19	4.61	4.36	4.98	5.73	5.80	
BH111	7.45	-10.55	-	-	-	-	-	-	-	-	-	4.30	5.70	5.57	5.55	4.78	4.56	4.50	4.73	4.85	
BH112	7.15	-0.20	-	-	-	-	-	-	-	-	-	6.61	6.49	6.42	6.29	6.04	5.89	4.85	5.24	5.25	
BH115	7.48	-12.26	-	-	-	-	-	-	-	5.55	5.43	5.40	5.73	5.62	5.45	4.79	4.58	6.49	6.57	6.68	
BH120	8.38	-11.72	-	-	-	-	-	-	-	-	5.45	5.58	5.63	5.86	5.41	4.76	5.57	5.82	5.71	5.66	
BH104	8.73	-50.99	-	-	-	-	-	-	-	4.94	5.18	5.25	5.26	5.10	5.01	4.37	4.22	6.48	6.73	6.71	
BH113	8.08	-49.63	-	-	-	-	-	-	-	-	-	5.54	5.45	5.87	5.26	4.75	4.52	3.23	4.30	4.42	
BH116	8.72	-23.13	-	-	-	-	-	-	-	-	3.77	4.55	4.73	4.91	4.84	4.32	4.17	4.98	5.15	5.24	
BH117	8.35	-45.99	-	-	-	-	-	-	-	-	-	5.05	5.04	4.89	4.80	4.22	4.04	5.17	5.39	5.47	
BH119	8.25	-49.45	-	-	-	-	-	-	-	-	-	5.45	5.56	5.42	5.25	5.68	4.45	5.03	5.37	5.35	
DS101	8.27	6.10	-	-	-	-	-	-	-	-	-	-		7.01	6.93	6.63	6.38	6.37	6.36	6.47	
DS102	8.25	7.33	-	-	-	-	-	-	-	-	-	-		Dry to 7.33							
DS103	7.71	3.35	-	-	-	-	-	-	-	-	-	-		6.96	6.76	6.30	6.12	6.50	6.26	7.04	
DS104	7.51	3.32	-	-	-	-	-	-	-	-	-	-		6.23	6.09	5.68	5.51	5.63	5.46	5.93	
DS105	8.28	5.54	-	-	-	-	-	-	-	-	-	-		6.21	6.09	5.72	Dry to 5.54				
DS106	8.07	4.46	-	-	-	-	-	-	-	-	-	-		6.26	6.16	5.76	5.57	5.53	5.63	5.91	
DS107	8.08	3.69	-	-	-	-	-	-	-	-	-	-		7.21	7.14	7.04	6.87	7.07	7.21	7.08	
DS108	8.81	5.30	-	-	-	-	-	-	-	-	-	-		7.45	7.24	6.53	6.61	6.50	6.60	7.09	
DS109	7.96	6.64	-	-	-	-	-	-	-	-	-	-		7.26	7.18	6.96	6.91	7.03	7.09	7.19	
DS110	8.01	4.01	-	-	-	-	-	-	-	-	-	-		6.11	6.51	6.27	5.18	6.15	6.04	6.36	
DS111	8.29	6.65	-	-	-	-	-	-	-	-	-	-		6.80	6.76	Dry to 6.65					
DS112	8.64	4.15	-	-	-	-	-	-	-	-	-	-		6.41	6.32	5.44	6.03	5.95	5.94	6.41	
DS113	7.29	2.84	-	-	-	-	-	-	-	-	-	-		6.55	6.46	6.13	5.95	6.16	6.14	6.58	

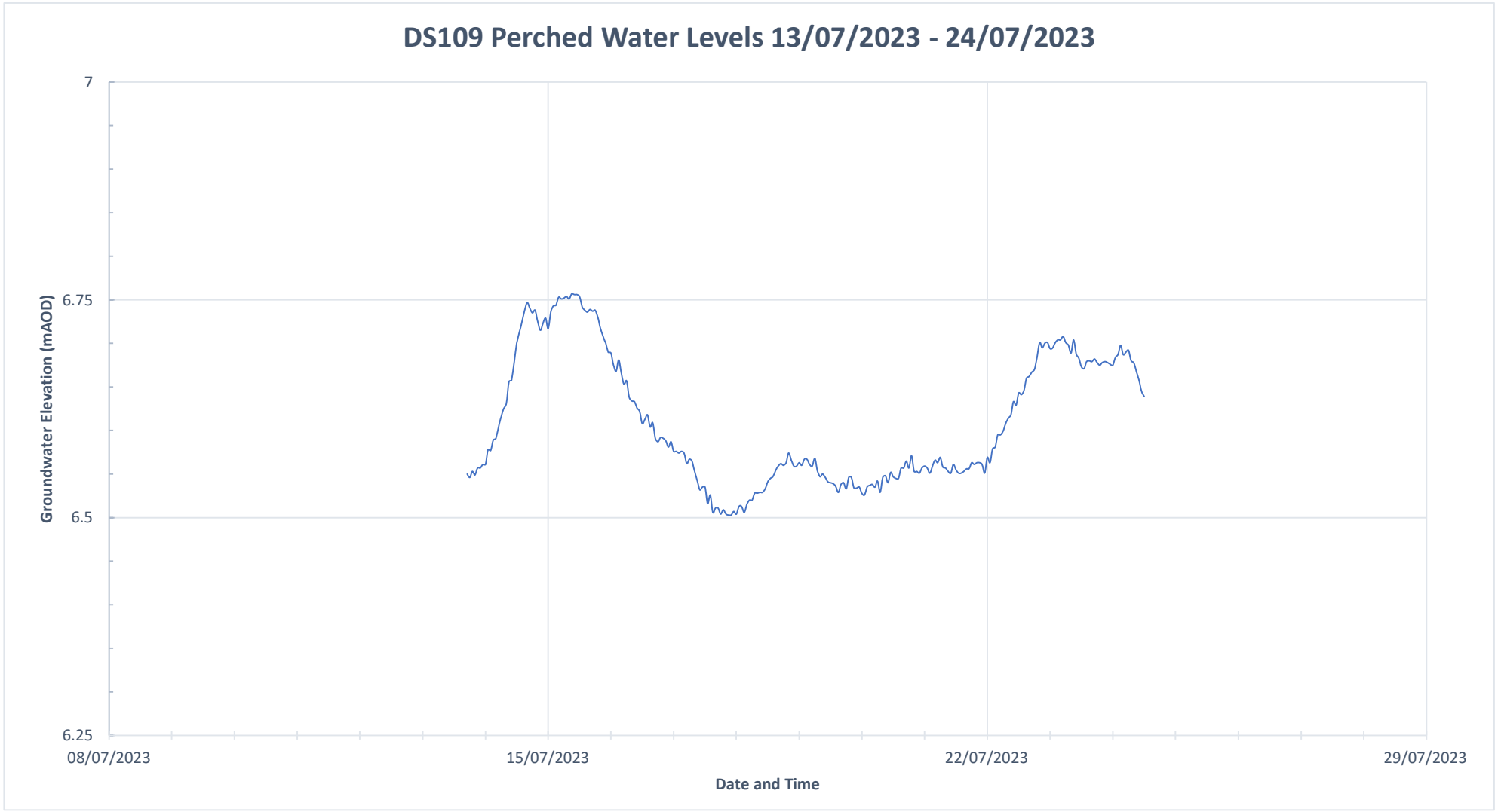

Port Talbot Perched Water Levels 13/07/2023 - 24/07/2023
Date and Time
13/07/2023
14/07/2023
15/07/2023
16/07/2023
17/07/2023
18/07/2023
19/07/2023
20/07/2023
21/07/2023
22/07/2023
23/07/2023
24/07/2023
25/07/2023
26/07/2023
Depth to water (mmbgl)
0
1
2
3
4
5
6
7
8
DS101
DS103
DS107
DS109
DS110
DS113
WS10
WS11

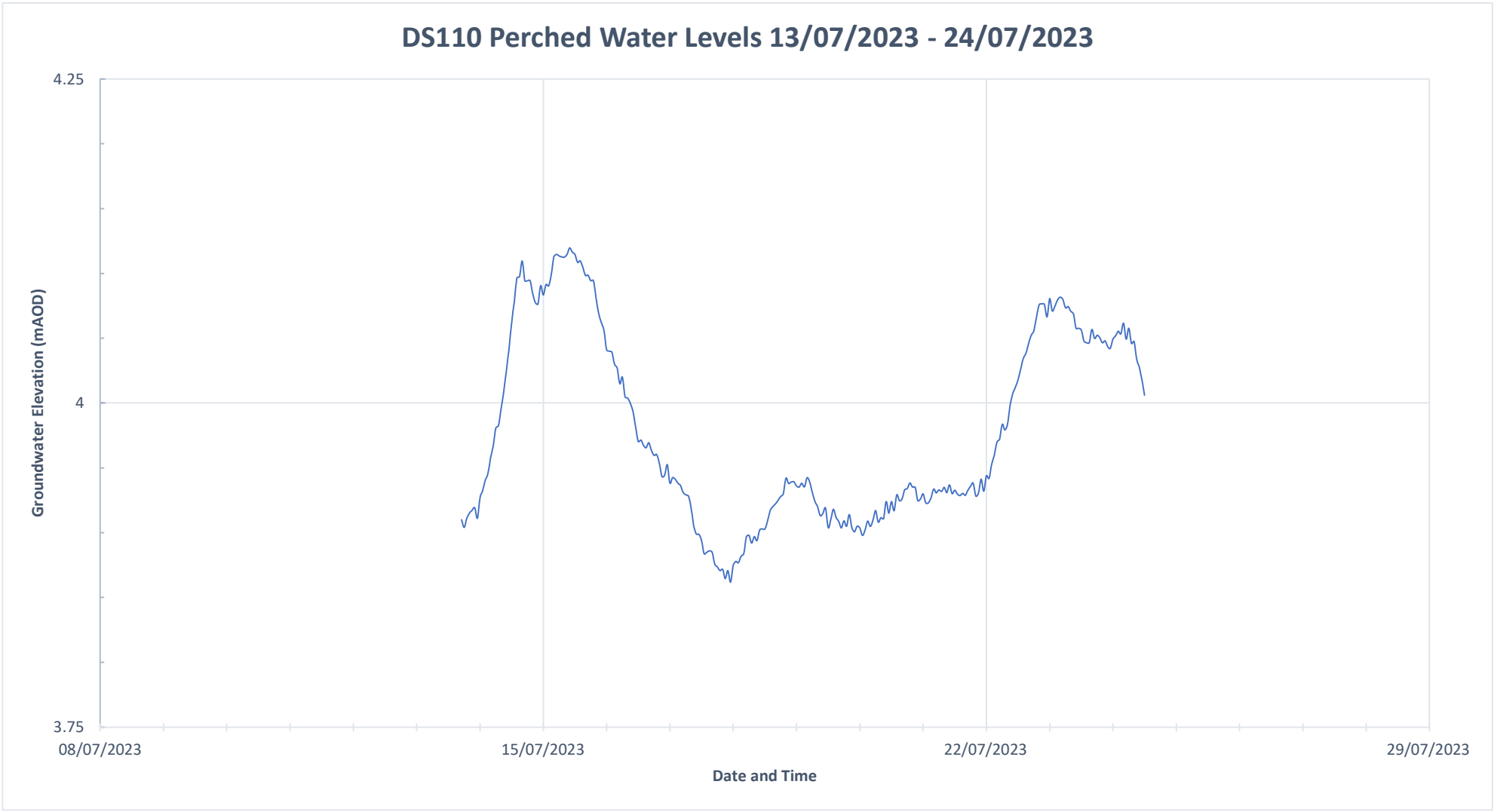

Port Talbot Perched Water Levels 13/07/2023 - 24/07/2023
Groundwater Elevations (mAOD)
8
7
6
5
4
3
2
13/07/2023
14/07/2023
15/07/2023
16/07/2023
17/07/2023
18/07/2023
19/07/2023
20/07/2023
21/07/2023
22/07/2023
23/07/2023
24/07/2023
25/07/2023
26/07/2023
Date and Time
DS101
DS103
DS107
DS109
DS110
DS113
WS10
WS11

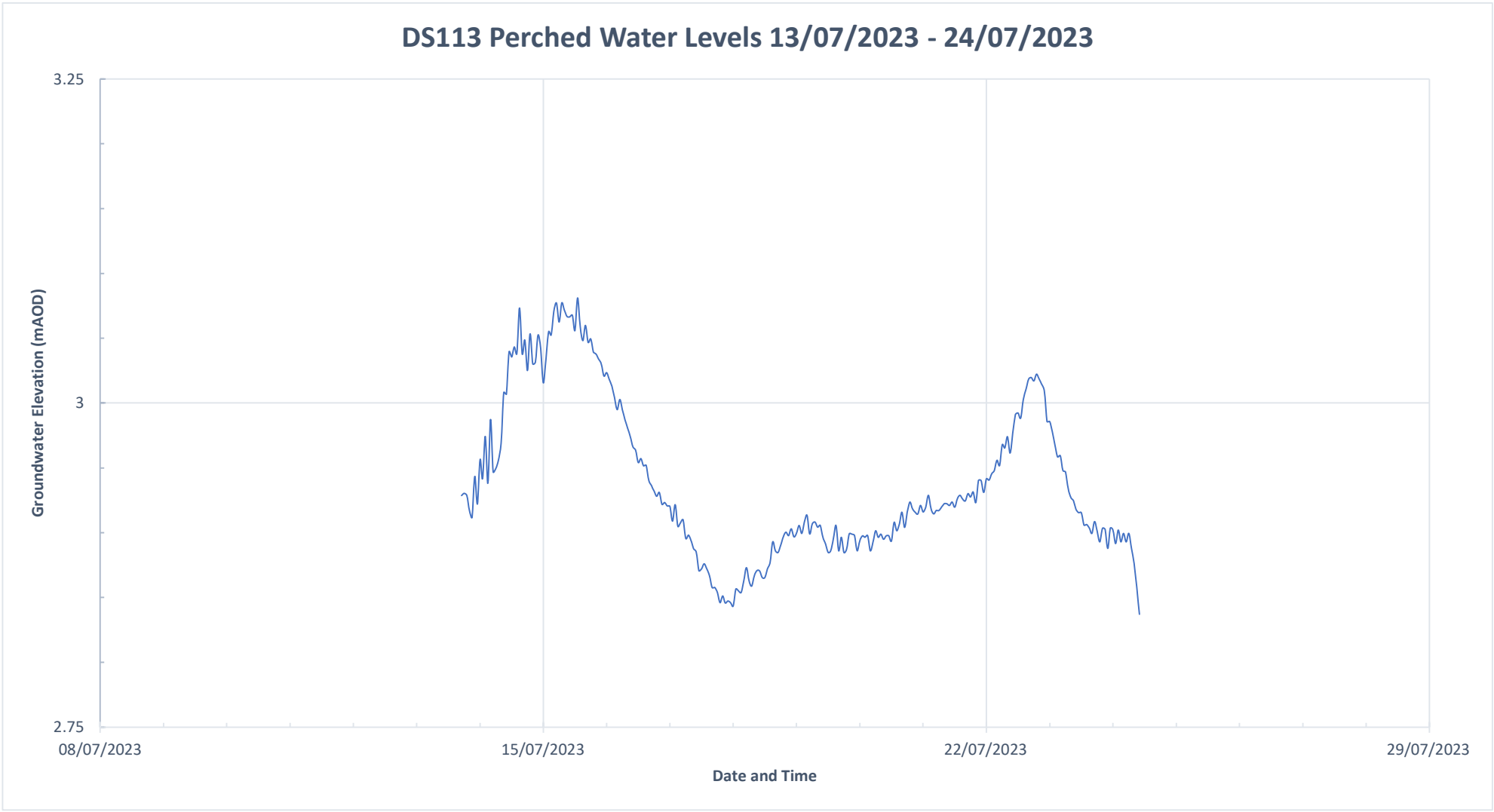

DS101 Perched Water Levels 13/07/2023 - 24/07/2023
6
5.75
5.5
Groundwater Elevation (mAOD)
08/07/2023
15/07/2023
22/07/2023
29/07/2023
Date and Time

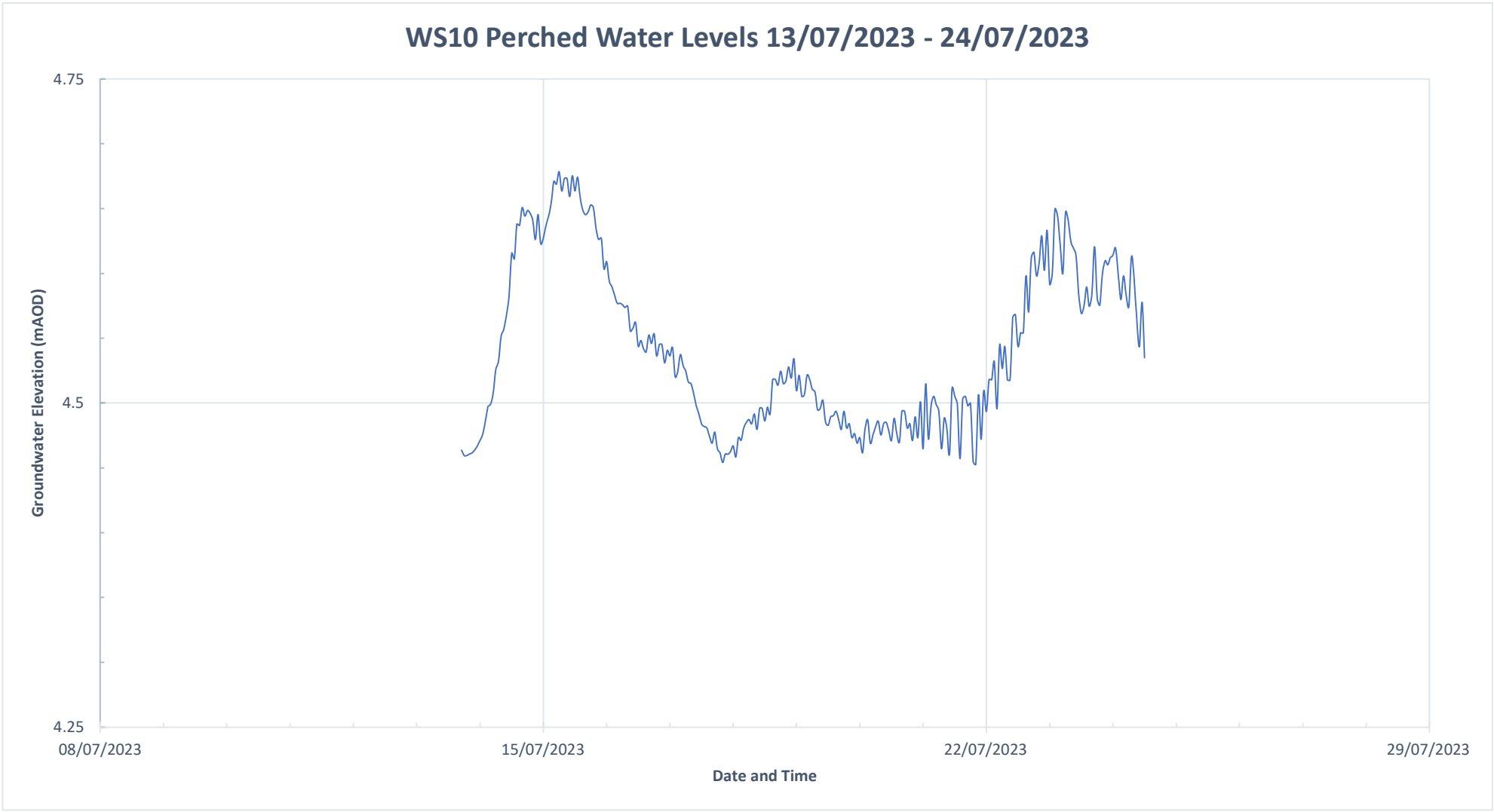

DS103 Perched Water Levels 13/07/2023 - 24/07/2023
Groundwater Elevation (mAOD)
7
6.75
6.5
08/07/2023
15/07/2023
22/07/2023
29/07/2023
Date and Time

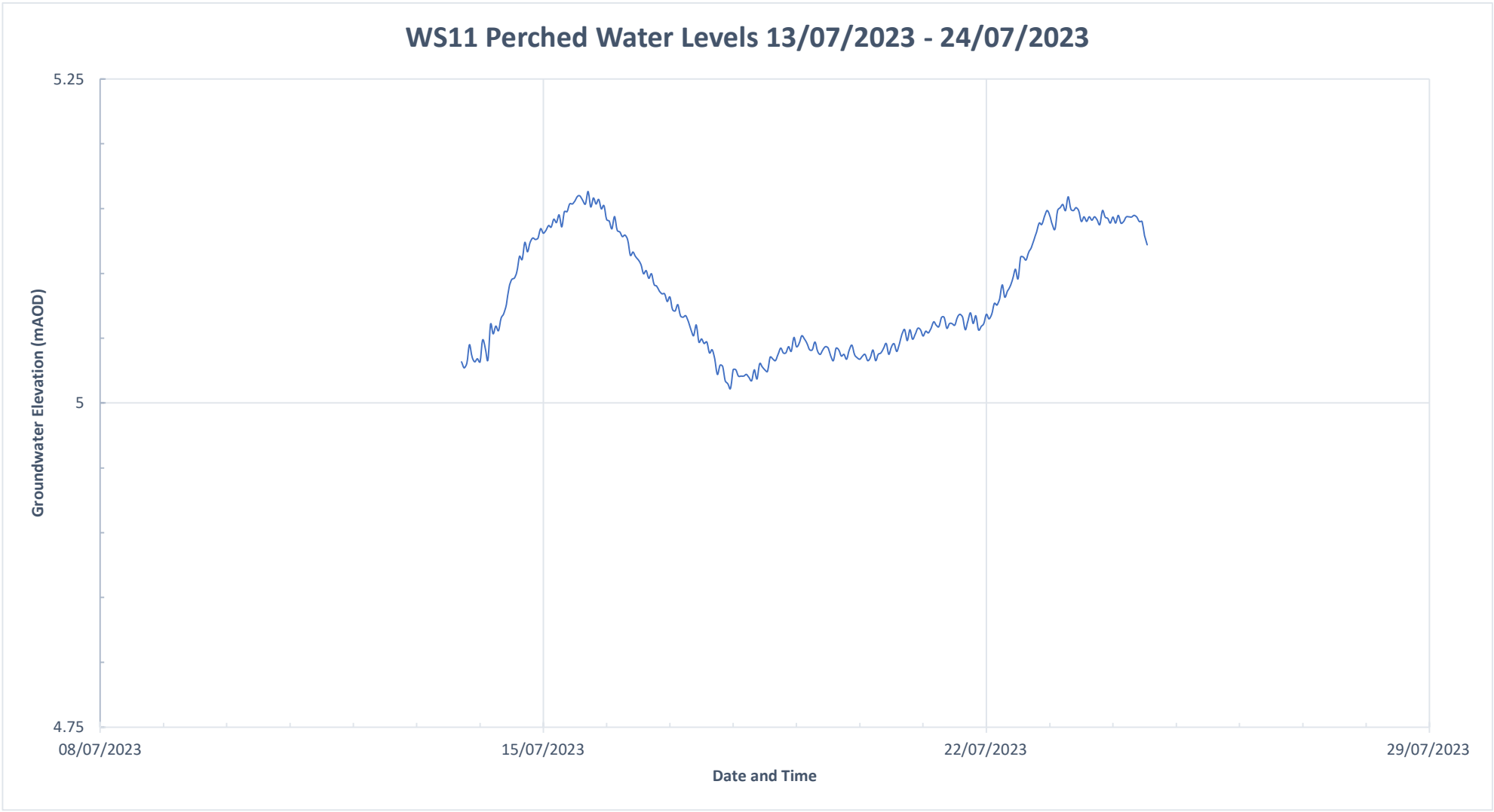

DS107 Perched Water Levels 13/07/2023 - 24/07/2023
4
3.75
3.5
Groundwater Elevation (mAOD)
08/07/2023
15/07/2023
22/07/2023
29/07/2023
Date and Time

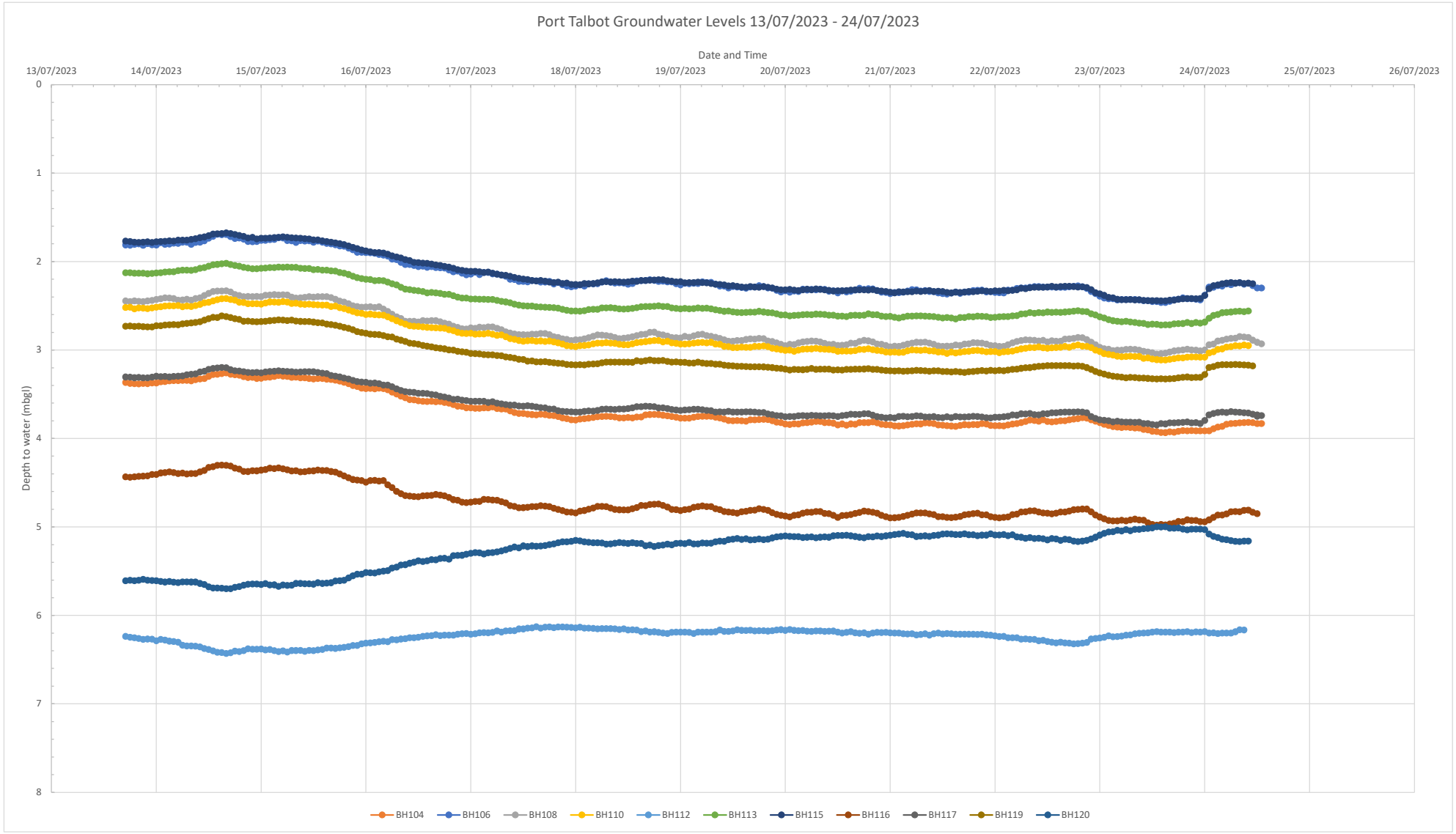

DS109 Perched Water Levels 13/07/2023 - 24/07/2023
7
6.75
6.5
6.25
Groundwater Elevation (mAOD)
08/07/2023
15/07/2023
22/07/2023
29/07/2023
Date and Time

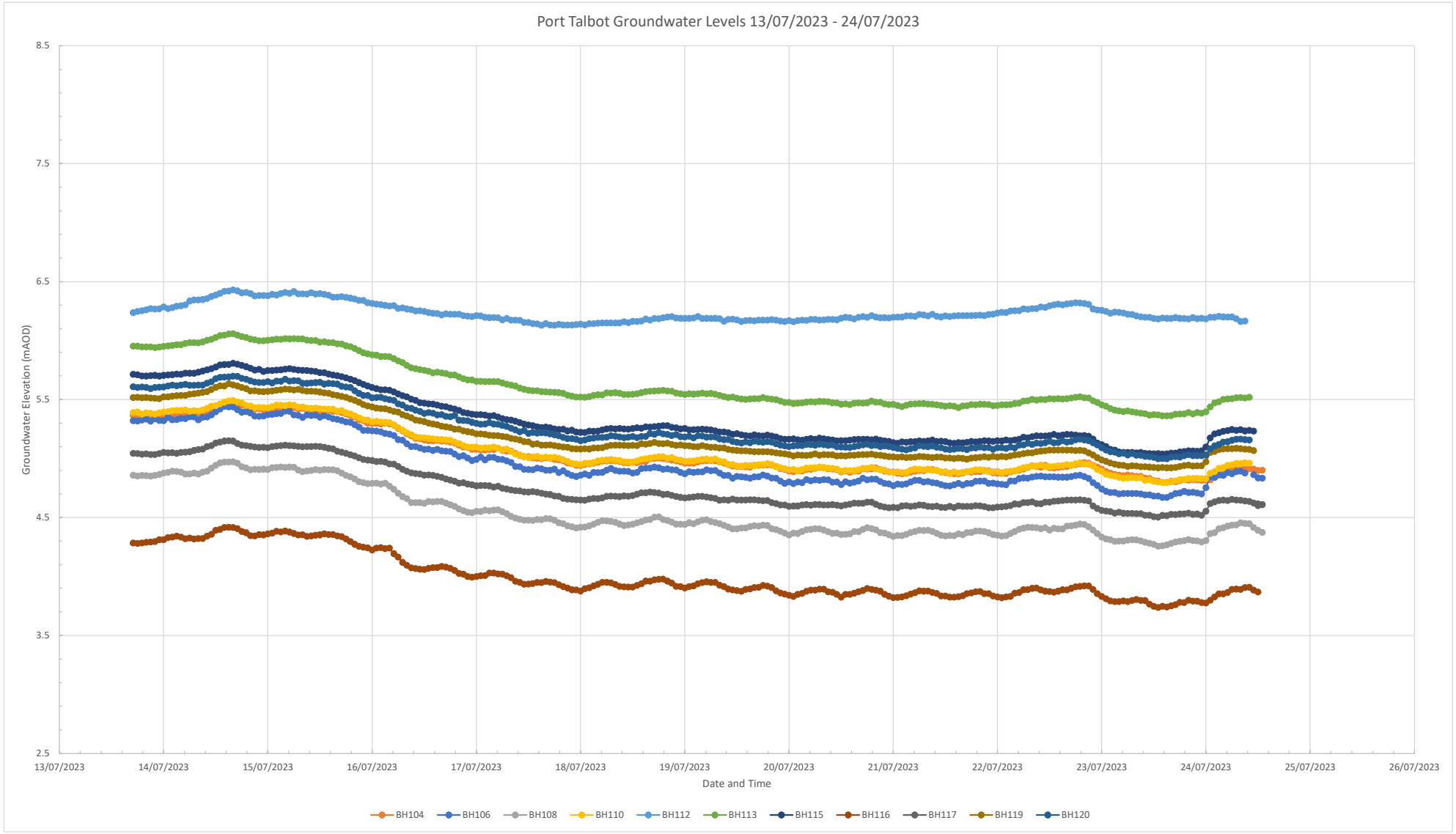

DS110 Perched Water Levels 13/07/2023 - 24/07/2023
4.25
4
3.75
Groundwater Elevation (mAOD)
08/07/2023
15/07/2023
22/07/2023
29/07/2023
Date and Time

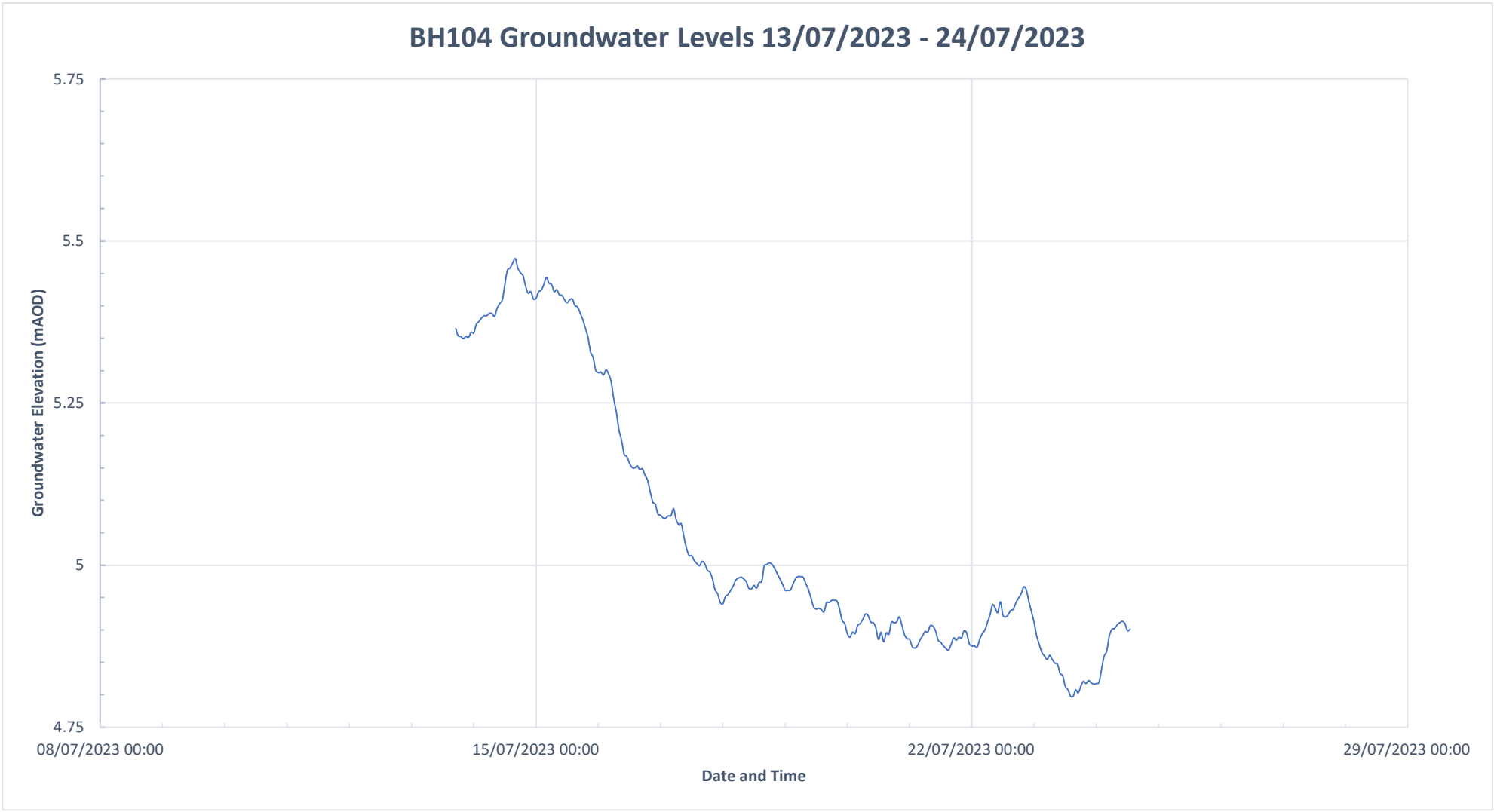

DS113 Perched Water Levels 13/07/2023 - 24/07/2023
3.25
3
2.75
Groundwater Elevation (mAOD)
08/07/2023
15/07/2023
22/07/2023
29/07/2023
Date and Time

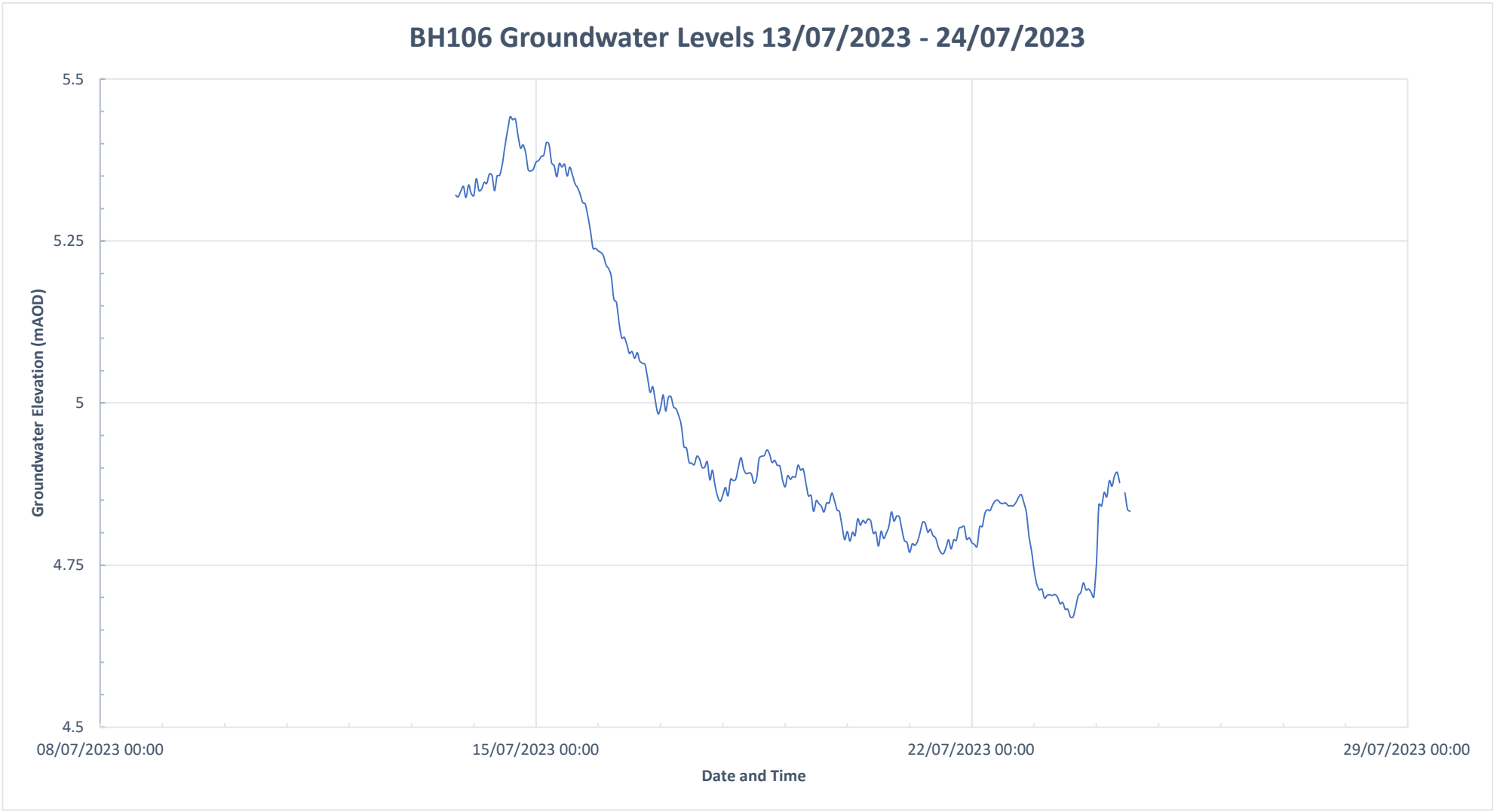

WS10 Perched Water Levels 13/07/2023 - 24/07/2023
4.75
4.5
4.25
Groundwater Elevation (mAOD)
08/07/2023
15/07/2023
22/07/2023
29/07/2023
Date and Time

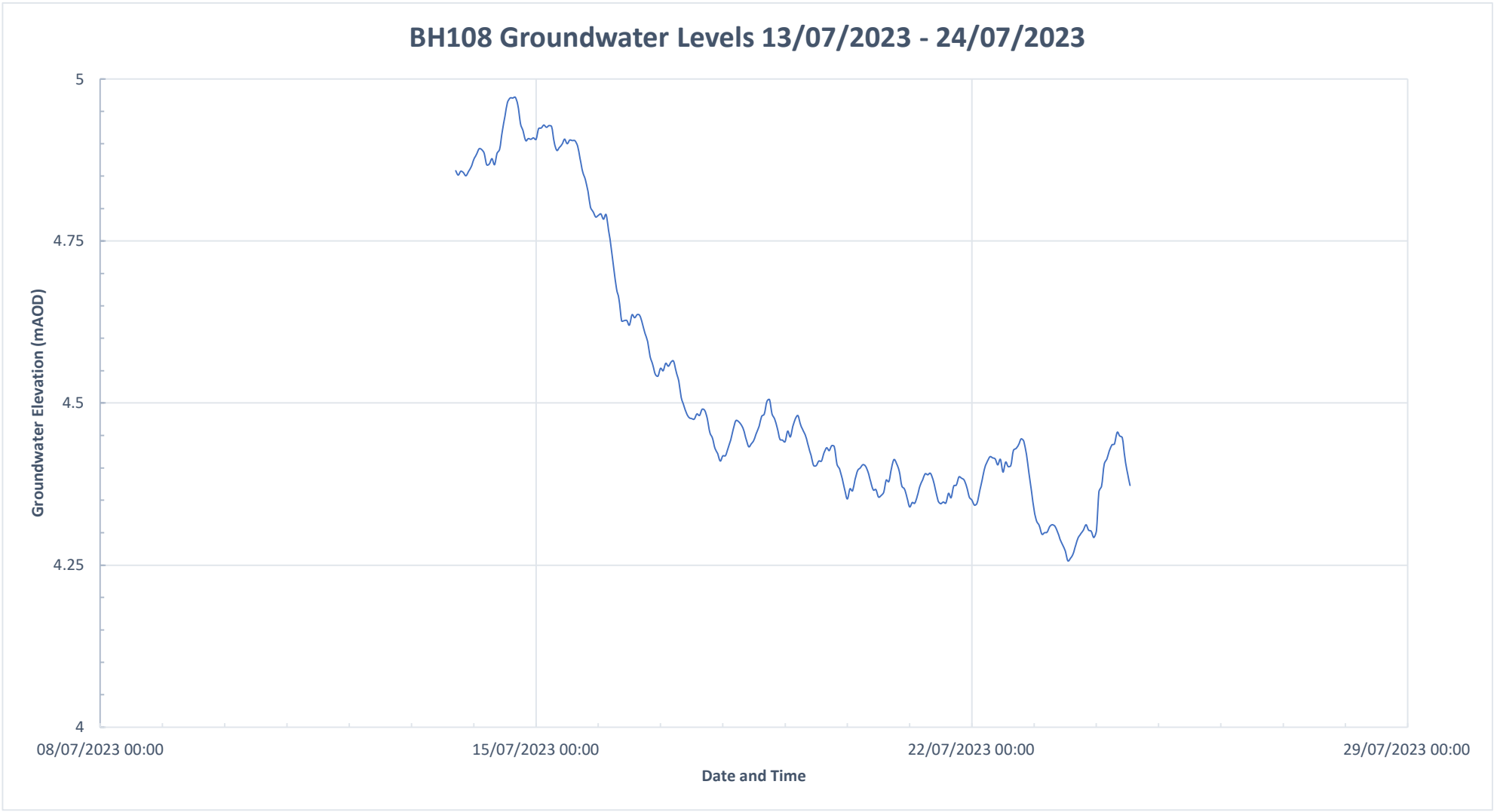

WS11 Perched Water Levels 13/07/2023 - 24/07/2023
5.25
5
4.75
Groundwater Elevation (mAOD)
08/07/2023
15/07/2023
22/07/2023
29/07/2023
Date and Time

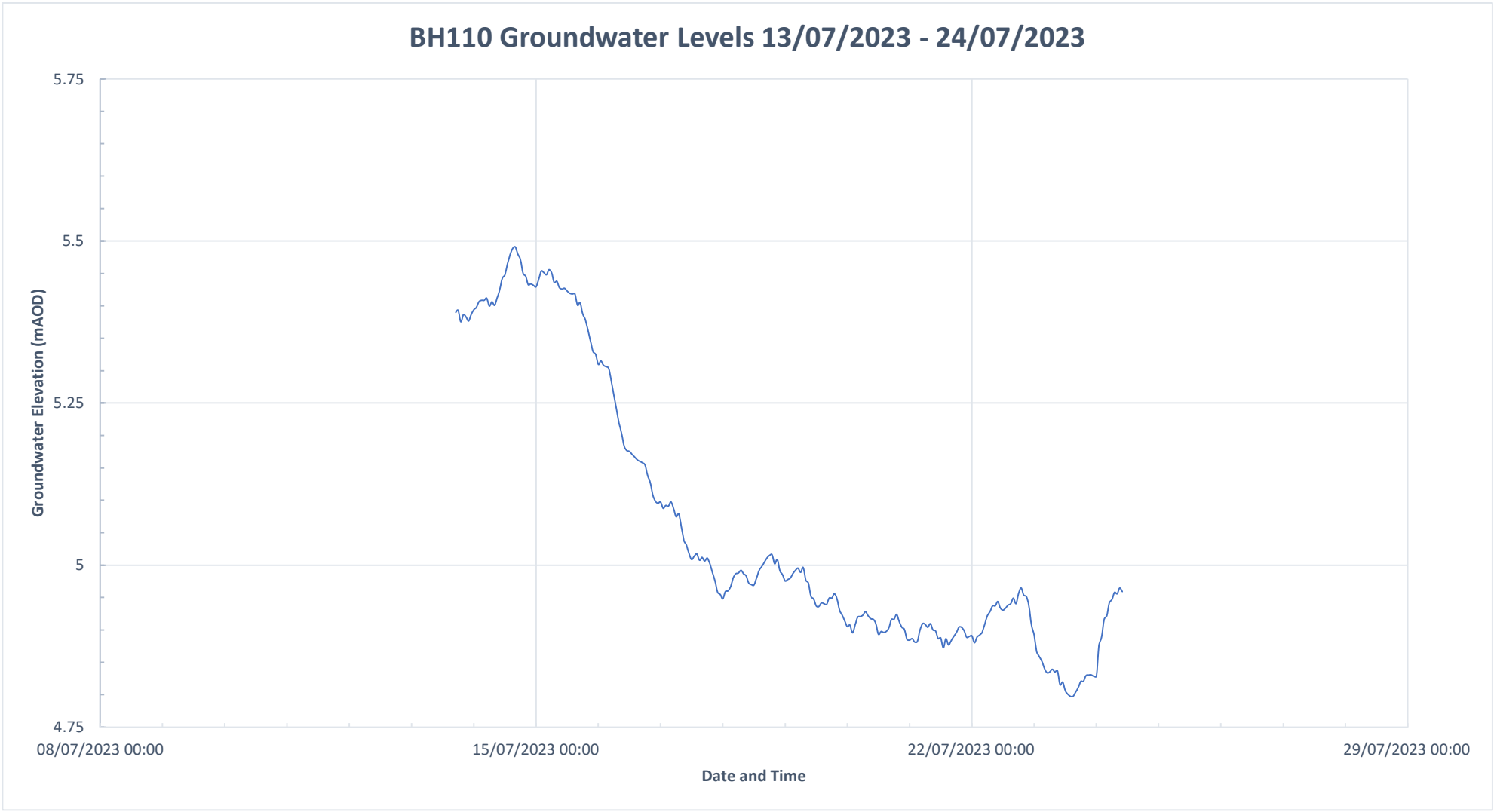

Port Talbot Groundwater Levels 13/07/2023 - 24/07/2023
Date and Time
13/07/2023
14/07/2023
15/07/2023
16/07/2023
17/07/2023
18/07/2023
19/07/2023
20/07/2023
21/07/2023
22/07/2023
23/07/2023
24/07/2023
25/07/2023
26/07/2023
Depth to water (mbgl)
0
1
2
3
4
5
6
7
8
BH104
BH106
BH108
BH110
BH112
BH113
BH115
BH116
BH117
BH119
BH120

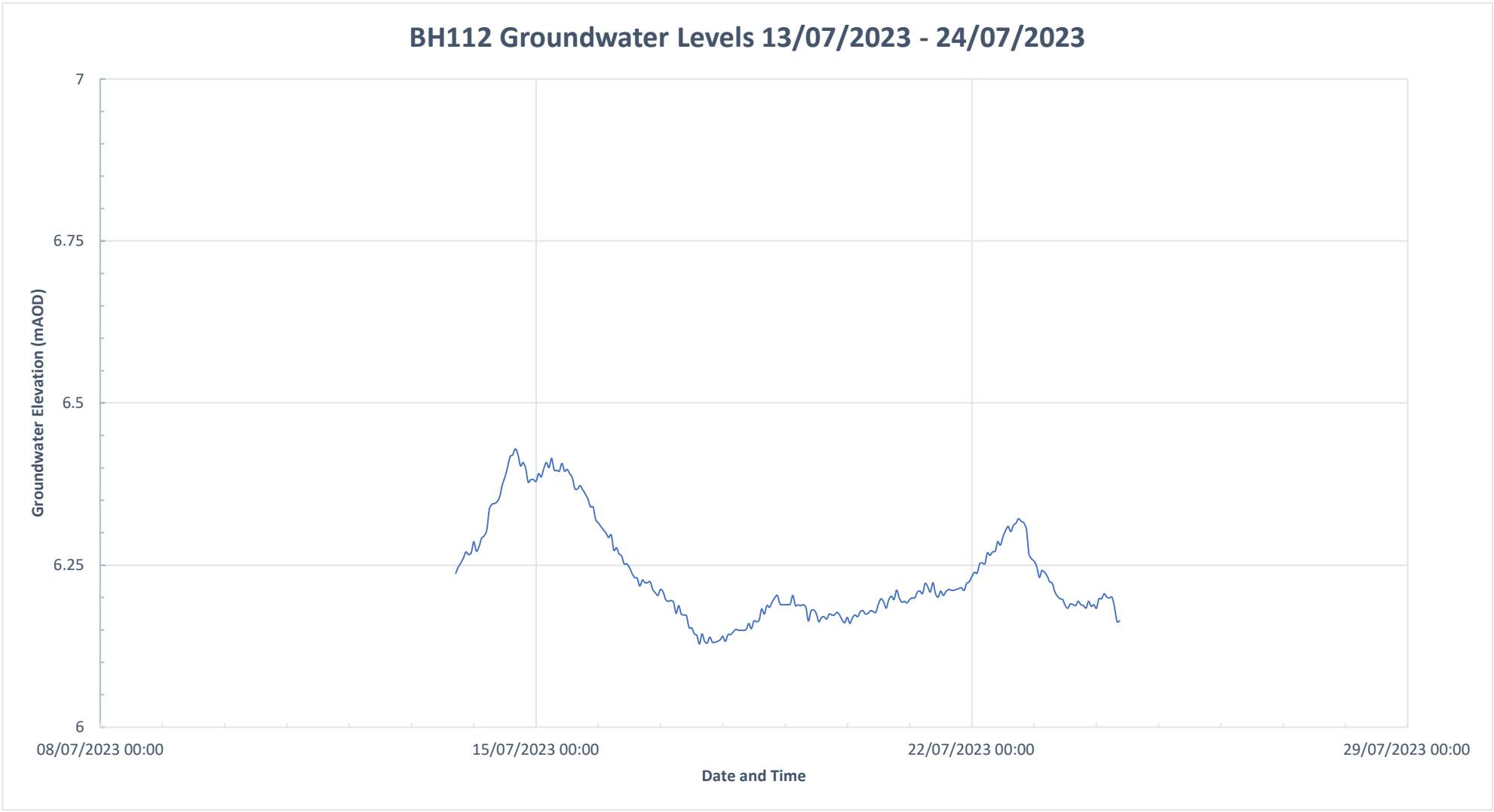

Port Talbot Groundwater Levels 13/07/2023 - 24/07/2023
Groundwater Elevation (mAOD)
8.5
7.5
6.5
5.5
4.5
3.5
2.5
13/07/2023
14/07/2023
15/07/2023
16/07/2023
17/07/2023
18/07/2023
19/07/2023
20/07/2023
21/07/2023
22/07/2023
23/07/2023
24/07/2023
25/07/2023
26/07/2023
Date and Time
BH104
BH106
BH108
BH110
BH112
BH113
BH115
BH116
BH117
BH119
BH120

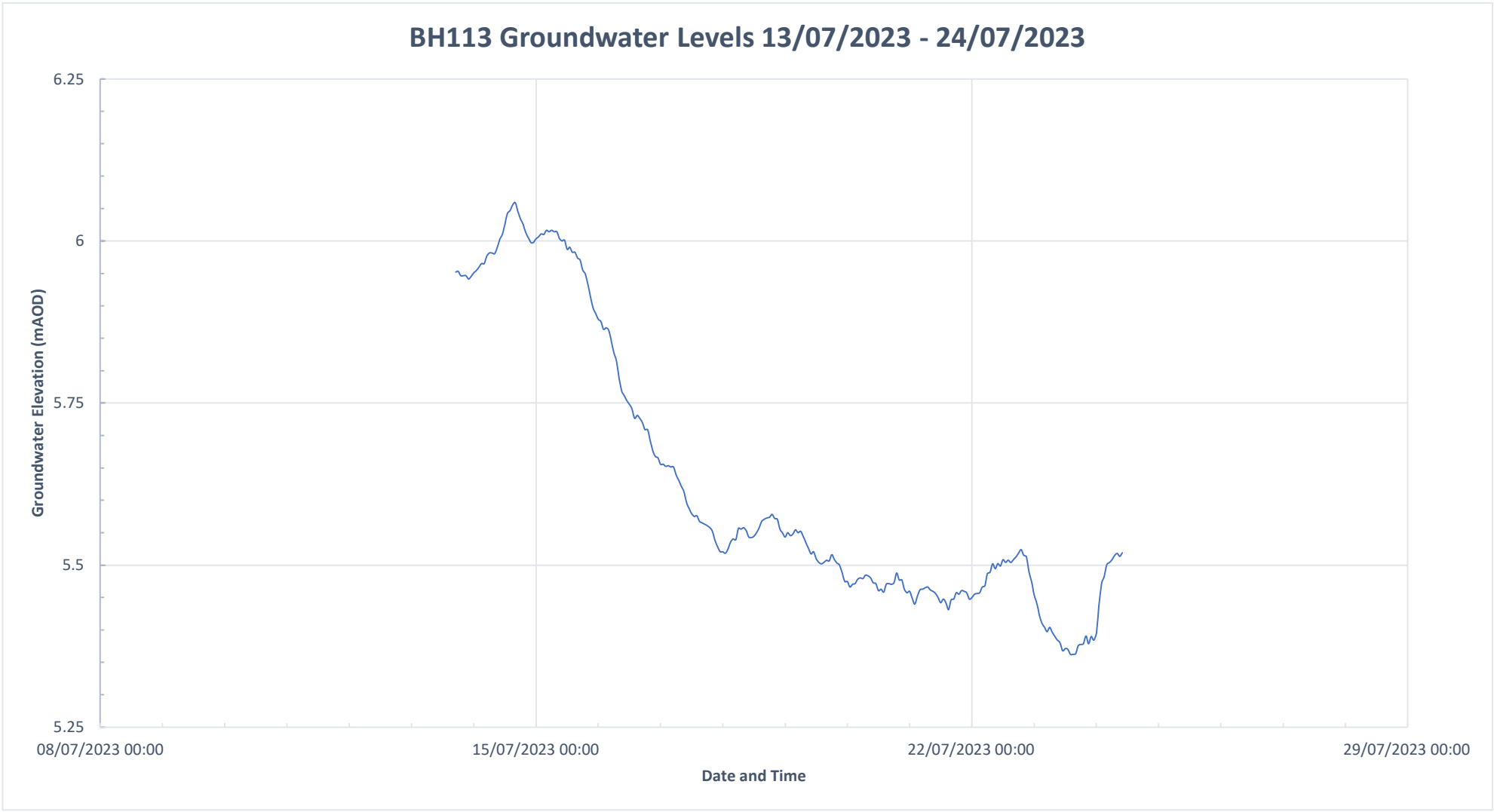

BH104 Groundwater Levels 13/07/2023 - 24/07/2023
5.75
5.5
5.25
5
4.75
Groundwater Elevation (mAOD)
08/07/2023 00:00
15/07/2023 00:00
22/07/2023 00:00
29/07/2023 00:00
Date and Time

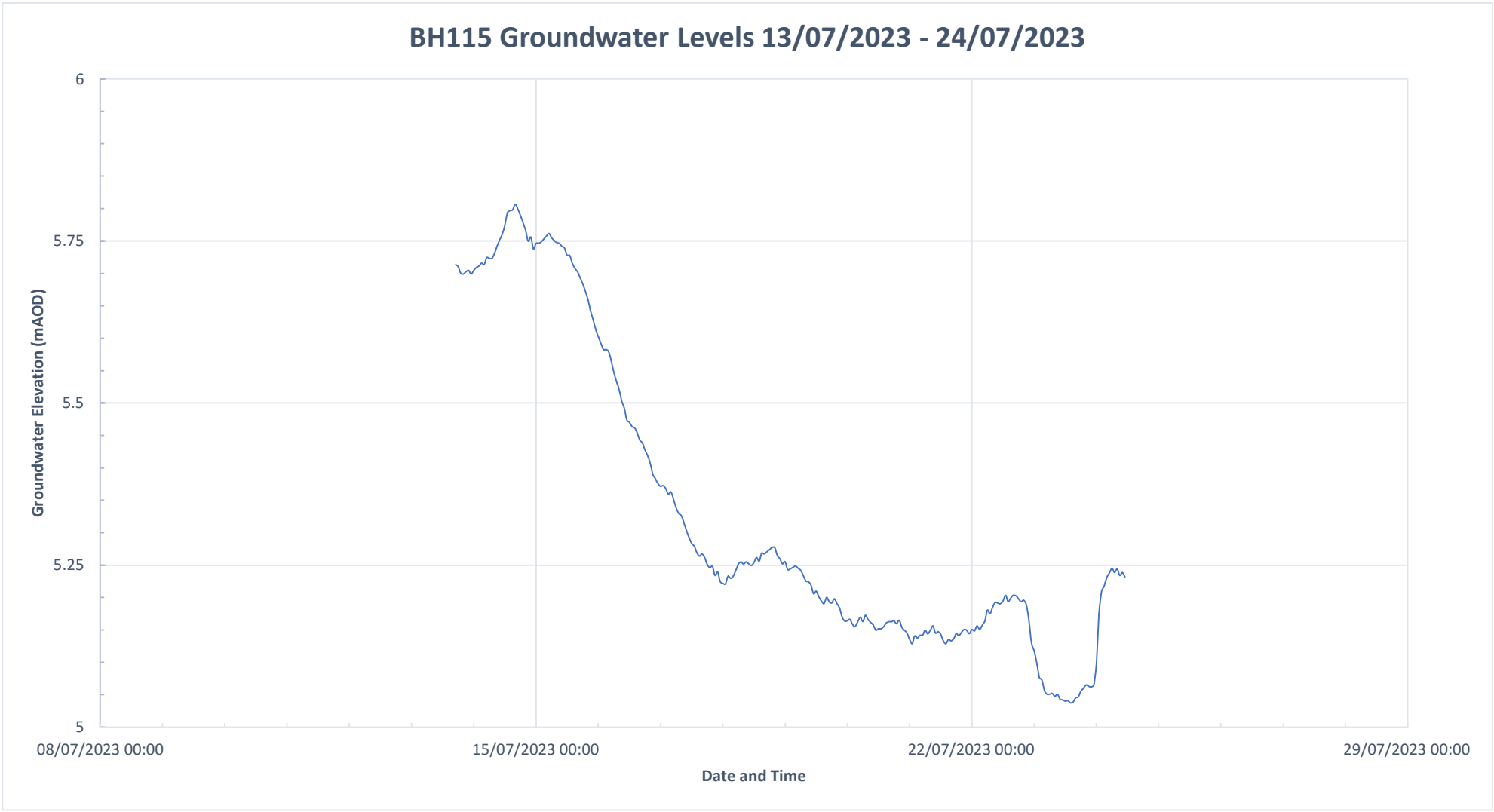

BH106 Groundwater Levels 13/07/2023 - 24/07/2023
5.5
5.25
5
4.75
4.5
Groundwater Elevation (mAOD)
08/07/2023 00:00
15/07/2023 00:00
22/07/2023 00:00
29/07/2023 00:00
Date and Time

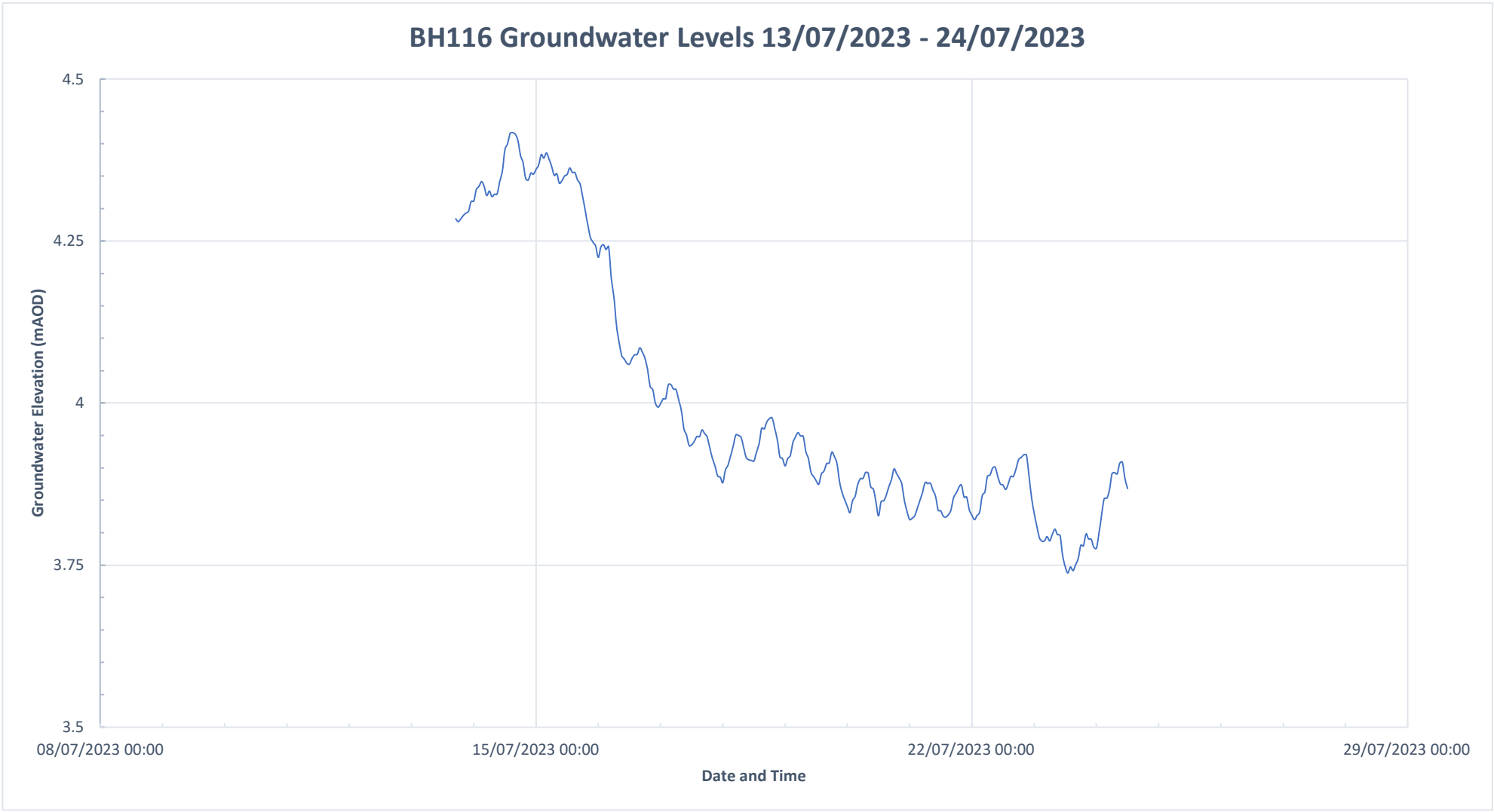

BH108 Groundwater Levels 13/07/2023 - 24/07/2023
5
4.75
4.5
4.25
4
Groundwater Elevation (mAOD)
08/07/2023 00:00
15/07/2023 00:00
22/07/2023 00:00
29/07/2023 00:00
Date and Time

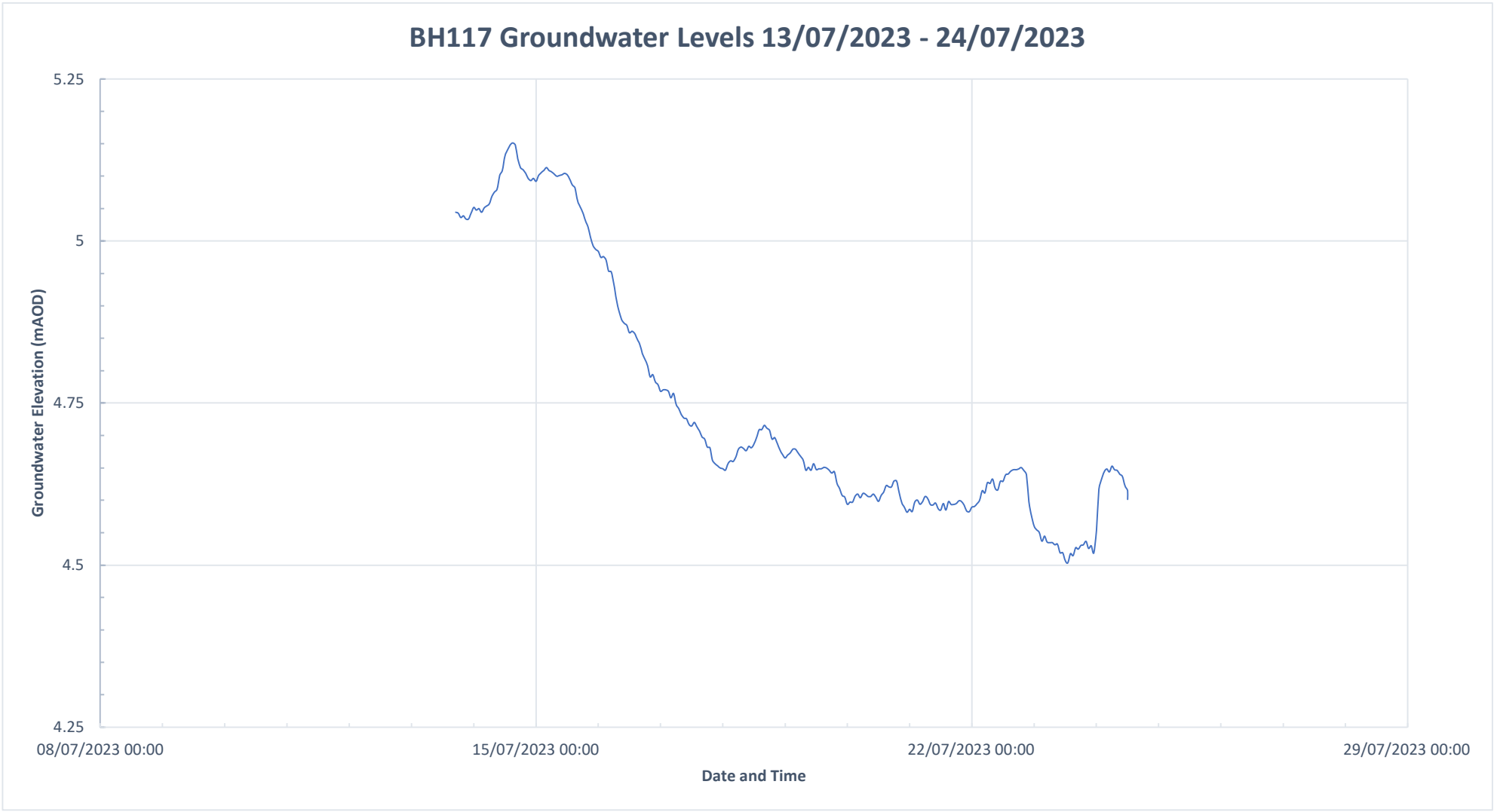

BH110 Groundwater Levels 13/07/2023 - 24/07/2023
5.75
5.5
5.25
5
4.75
Groundwater Elevation (mAOD)
08/07/2023 00:00
15/07/2023 00:00
22/07/2023 00:00
29/07/2023 00:00
Date and Time

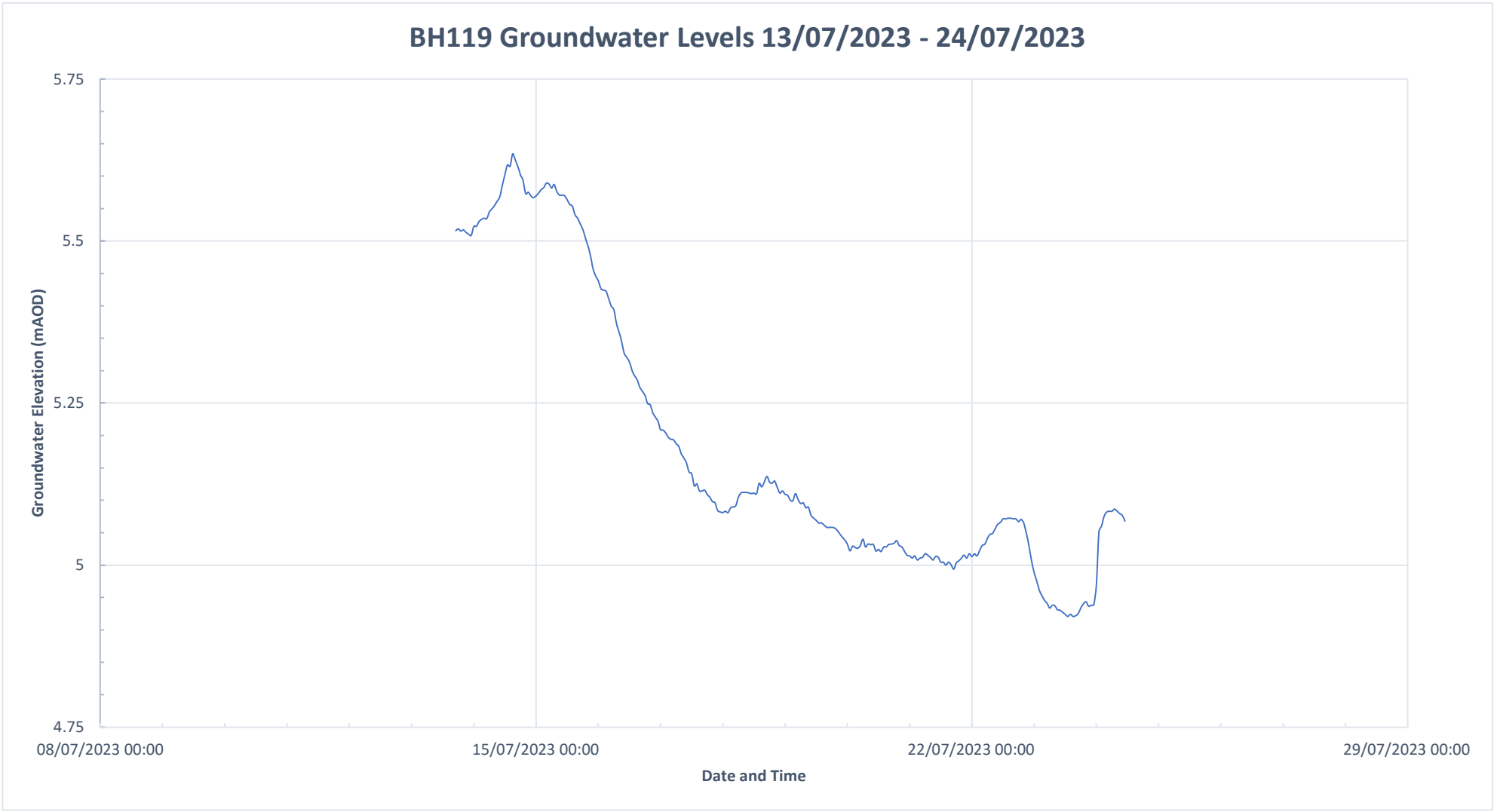

BH112 Groundwater Levels 13/07/2023 - 24/07/2023
7
6.75
6.5
6.25
6
Groundwater Elevation (mAOD)
08/07/2023 00:00
15/07/2023 00:00
22/07/2023 00:00
29/07/2023 00:00
Date and Time

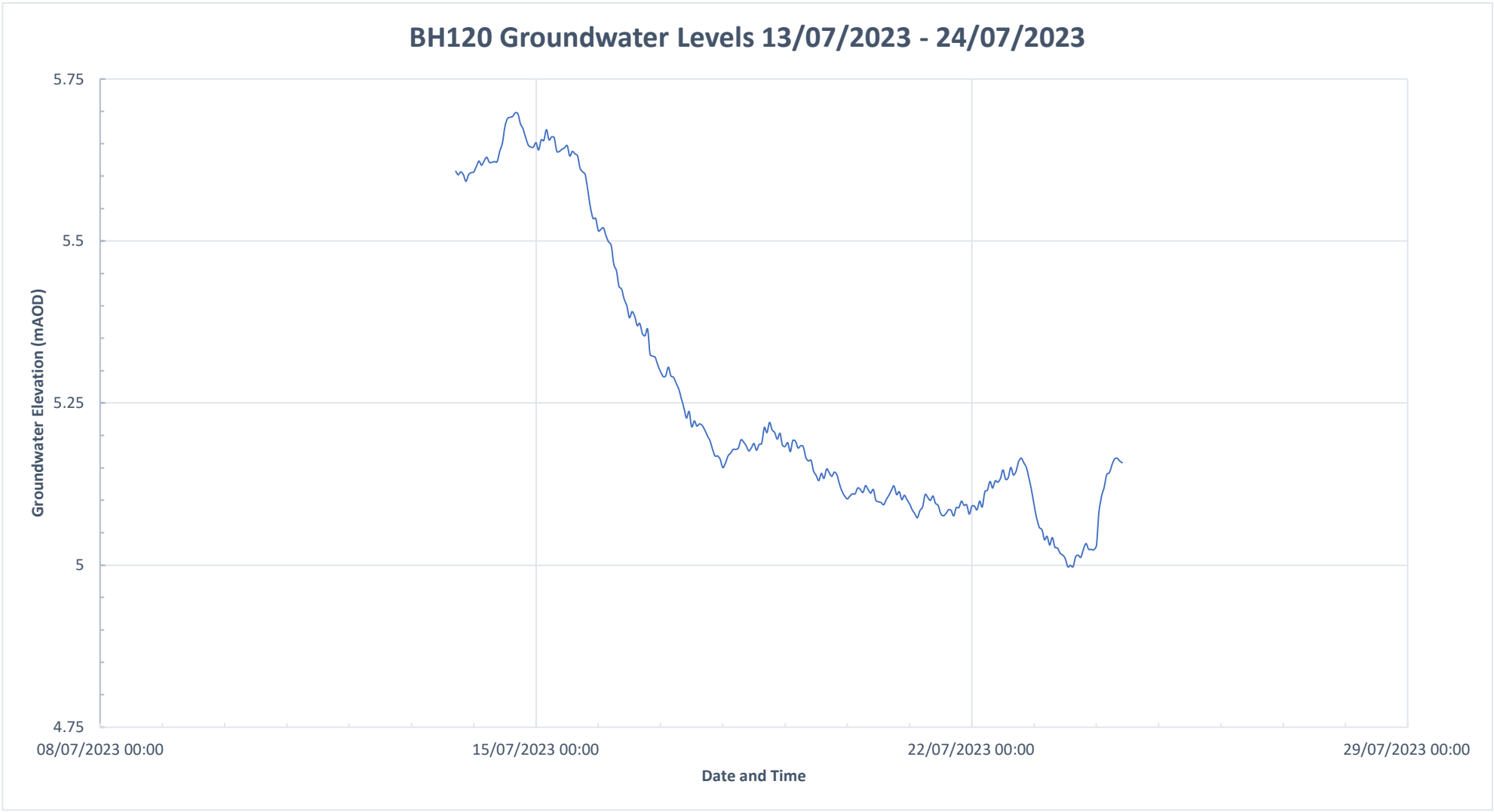

BH113 Groundwater Levels 13/07/2023 - 24/07/2023
6.25
6
5.75
5.5
5.25
Groundwater Elevation (mAOD)
08/07/2023 00:00
15/07/2023 00:00
22/07/2023 00:00
29/07/2023 00:00
Date and Time


BH115 Groundwater Levels 13/07/2023 - 24/07/2023
6
5.75
5.5
5.25
5
Groundwater Elevation (mAOD)
08/07/2023 00:00
15/07/2023 00:00
22/07/2023 00:00
29/07/2023 00:00
Date and Time


BH116 Groundwater Levels 13/07/2023 - 24/07/2023
4.5
4.25
4
3.75
3.5
Groundwater Elevation (mAOD)
08/07/2023 00:00
15/07/2023 00:00
22/07/2023 00:00
29/07/2023 00:00
Date and Time


BH117 Groundwater Levels 13/07/2023 - 24/07/2023
5.25
5
4.75
4.5
4.25
Groundwater Elevation (mAOD)
08/07/2023 00:00
15/07/2023 00:00
22/07/2023 00:00
29/07/2023 00:00
Date and Time


BH119 Groundwater Levels 13/07/2023 - 24/07/2023
5.75
5.5
5.25
5
4.75
Groundwater Elevation (mAOD)
08/07/2023 00:00
15/07/2023 00:00
22/07/2023 00:00
29/07/2023 00:00
Date and Time


BH120 Groundwater Levels 13/07/2023 - 24/07/2023
5.75
5.5
5.25
5
4.75
Groundwater Elevation (mAOD)
08/07/2023 00:00
15/07/2023 00:00
22/07/2023 00:00
29/07/2023 00:00
Date and Time

Appendix H

Ground Gas Monitoring Data

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1010 - 1035 (falling)	Sunny / Dry	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Black	Temperature range:	14 - 24°c		
Test Date:	13/06/2023	Operator:	OD	Rainfall:	0.0mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS01	Atmospheric Conditions	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A	Dry	2.45	
Time: 11:30	0	0.0	0	0.0	0.0	20.0	0.0	0	0	N/A			
	15	0.0	0	0.0	0.1	19.7	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1023	30	0.0	0	0.0	0.1	20.2	0.0	0	0	N/A			
	45	0.0	0	0.0	0.1	20.3	0.0	0	0	N/A			
	60	0.0	0	0.0	0.1	20.4	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1023	120			0.0	0.1	20.5	0.0	0	0				
	180			0.0	0.1	20.5	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS03	Atmospheric Conditions	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A	1.41	2.36	
Time: 12:20	0	0.0	0	0.0	0.0	20.1	0.0	0	0	N/A			
	15	0.0	0	0.0	2.2	16.9	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1023	30	0.0	0	0.0	2.2	16.8	0.0	0	0	N/A			
	45	0.0	0	0.0	2.2	16.8	0.0	0	0	N/A			
	60	0.0	0	0.0	2.2	16.8	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1023	120			0.0	2.2	16.8	0.0	0	0				
	180			0.0	2.2	16.8	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS06	Atmospheric Conditions	0.0	0	0.0	0.0	21.4	0.0	0	0	N/A	0.50	2.55	
Time: 14:00	0	0.0	0	0.0	0.0	20.1	0.0	0	0	N/A			
	15	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1021	30	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A			
	45	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A			
	60	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1021	120			0.0	0.0	21.0	0.0	0	0				
	180			0.0	0.0	21.0	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1010 - 1035 (falling)	Sunny / Dry	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Black	Temperature range:	14 - 24°c		
Test Date:	13/06/2023	Operator:	OD	Rainfall:	0.0mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS07	Atmospheric Conditions	0.0	0	0.0	0.0	20.9	0.0	0	0	N/A	0.79	3.19	
Time: 08:50	0	0.0	0	0.0	0.0	20.2	0.0	0	0	N/A			
	15	0.0	0	0.0	0.0	20.0	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1027	30	0.0	0	0.0	0.0	20.0	0.0	0	0	N/A			
	45	0.0	0	0.0	0.0	20.1	0.0	0	0	N/A			
	60	0.0	0	0.0	0.0	20.1	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1027	120			0.0	0.0	20.1	0.0	0	0				
	180			0.0	0.0	20.1	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS10	Atmospheric Conditions	0.0	0	0.0	0.0	21.5	0.0	0	0	N/A	3.23	4.70	
Time: 11:40	0	0.0	0	0.0	0.0	20.0	0.0	0	0	N/A			
	15	0.0	0	0.0	0.7	18.0	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1023	30	0.0	0	0.0	0.7	17.9	0.0	0	0	N/A			
	45	0.0	0	0.0	0.7	17.5	0.0	0	0	N/A			
	60	0.0	0	0.0	0.7	17.1	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1023	120			0.0	0.7	17.0	0.0	0	0				
	180			0.0	0.7	16.9	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS11	Atmospheric Conditions	0.0	0	0.0	0.0	21.4	0.0	0	0	N/A	1.36	3.32	
Time: 12:30	0	0.0	0	0.0	0.0	20.0	0.0	0	0	N/A			
	15	0.0	0	0.0	3.3	17.9	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1022	30	0.0	0	0.0	3.2	17.8	0.0	0	0	N/A			
	45	0.0	0	0.0	3.3	17.7	0.0	0	0	N/A			
	60	0.0	0	0.0	3.4	17.7	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1022	120			0.0	3.4	17.7	0.0	0	0				
	180			0.0	3.4	17.6	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1010 - 1035 (falling)	Sunny / Dry	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Black	Temperature range:	14 - 24°c		
Test Date:	13/06/2023	Operator:	OD	Rainfall:	0.0mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS101	Atmospheric Conditions	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A	1.34	2.17	
Time: 10:10	0	0.0	0	0.0	0.0	20.2	0.0	0	0	N/A			
	15	0.0	0	0.0	0.1	20.5	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1024	30	0.0	0	0.0	0.1	20.5	0.0	0	0	N/A			
	45	0.0	0	0.0	0.1	20.5	0.0	0	0	N/A			
	60	0.0	0	0.0	0.1	20.5	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1024	120			0.0	0.1	20.5	0.0	0	0				
	180			0.0	0.1	20.5	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS102	Atmospheric Conditions	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A	Dry	0.92	
Time: 09:50	0	0.0	0	0.0	0.0	20.5	0.0	0	0	N/A			
	15	0.0	0	0.0	0.2	20.6	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1028	30	0.0	0	0.0	0.2	20.6	0.0	0	0	N/A			
	45	0.0	0	0.0	0.2	20.6	0.0	0	0	N/A			
	60	0.0	0	0.0	0.2	20.6	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1028	120			0.0	0.2	20.6	0.0	0	0				
	180			0.0	0.2	20.6	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS103	Atmospheric Conditions	0.0	0	0.0	0.0	21.5	0.0	0	0	N/A	0.95	4.36	
Time: 10:00	0	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A			
	15	0.0	0	0.0	0.2	20.7	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1025	30	0.0	0	0.0	0.2	20.7	0.0	0	0	N/A			
	45	0.0	0	0.0	0.2	20.7	0.0	0	0	N/A			
	60	0.0	0	0.0	0.1	20.7	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1025	120			0.0	0.1	20.7	0.0	0	0				
	180			0.0	0.1	20.7	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1010 - 1035 (falling)	Sunny / Dry	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Black	Temperature range:	14 - 24°c		
Test Date:	13/06/2023	Operator:	OD	Rainfall:	0.0mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS104	Atmospheric Conditions	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A	1.42	4.19	
Time: 14:30	0	0.0	0	0.0	0.0	20.5	0.0	0	0	N/A			
	15	0.0	0	0.0	1.1	20.1	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1024	30	0.0	0	0.0	1.1	19.9	0.0	0	0	N/A			
	45	0.0	0	0.0	1.1	19.9	0.0	0	0	N/A			
	60	0.0	0	0.0	1.1	19.7	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1024	120			0.0	1.1	19.7	0.0	0	0				
	180			0.0	1.1	19.7	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS105	Atmospheric Conditions	0.0	0	0.0	0.0	20.8	0.0	0	0	N/A	2.19	2.74	
Time: 14:10	0	0.0	0	0.0	0.0	19.5	0.0	0	0	N/A			
	15	0.0	0	0.0	0.6	13.6	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1023	30	0.0	0	0.0	0.6	13.5	0.0	0	0	N/A			
	45	0.0	0	0.0	0.6	13.1	0.0	0	0	N/A			
	60	0.0	0	0.0	0.6	13.0	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1023	120			0.0	0.6	12.8	0.0	0	0				
	180			0.0	0.6	12.7	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS106	Atmospheric Conditions	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A	1.91	3.61	
Time: 15:00	0	0.0	0	0.0	0.0	20.5	0.0	0	0	N/A			
	15	0.0	0	0.0	2.6	16.5	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1023	30	0.0	0	0.0	2.7	16.4	0.0	0	0	N/A			
	45	0.0	0	0.0	2.7	16.4	0.0	0	0	N/A			
	60	0.0	0	0.0	2.7	16.3	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1023	120			0.0	2.7	16.3	0.0	0	0				
	180			0.0	2.7	16.3	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1010 - 1035 (falling)	Sunny / Dry	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Black	Temperature range:	14 - 24°c		
Test Date:	13/06/2023	Operator:	OD	Rainfall:	0.0mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS107	Atmospheric Conditions	0.0	0	0.0	0.0	21.2	0.0	0	0	N/A	0.94	4.39	
Time: 13:25	0	0.0	0	0.0	0.0	20.0	0.0	0	0	N/A			
	15	0.0	0	0.0	3.4	17.5	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1023	30	0.0	0	0.0	3.4	17.3	0.0	0	0	N/A			
	45	0.0	0	0.0	3.4	17.2	0.0	0	0	N/A			
	60	0.0	0	0.0	3.4	17.2	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1023	120			0.0	3.4	17.2	0.0	0	0				
	180			0.0	3.4	17.2	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS108	Atmospheric Conditions	0.0	0	0.0	0.0	21.5	0.0	0	0	N/A	1.57	3.51	
Time: 12:00	0	0.0	0	0.0	0.0	20.5	0.0	0	0	N/A			
	15	0.0	0	0.0	1.1	20.1	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1023	30	0.0	0	0.0	1.1	20.1	0.0	0	0	N/A			
	45	0.0	0	0.0	1.1	20.1	0.0	0	0	N/A			
	60	0.0	0	0.0	1.1	20.1	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1023	120			0.0	1.1	20.1	0.0	0	0				
	180			0.0	1.1	20.1	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS109	Atmospheric Conditions	0.0	0	0.0	0.0	21.2	0.0	0	0	N/A	0.78	1.32	
Time: 12:50	0	0.0	0	0.0	0.5	19.5	0.0	0	0	N/A			
	15	0.0	0	0.0	4.3	3.9	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1022	30	0.0	0	0.0	4.4	3.8	0.0	0	0	N/A			
	45	0.0	0	0.0	4.4	3.7	0.0	0	0	N/A			
	60	0.0	0	0.0	4.4	3.8	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1022	120			0.0	4.4	3.8	0.0	0	0				
	180			0.0	4.4	3.8	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1010 - 1035 (falling)	Sunny / Dry	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Black	Temperature range:	14 - 24°c		
Test Date:	13/06/2023	Operator:	OD	Rainfall:	0.0mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS110	Atmospheric Conditions	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A	1.50	4.00	
Time: 11:20	0	0.0	0	0.0	0.0	19.8	0.0	0	0	N/A			
	15	0.0	0	0.0	1.6	1.8	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1023	30	0.0	0	0.0	1.6	1.7	0.0	0	0	N/A			
	45	0.0	0	0.0	1.6	1.7	0.0	0	0	N/A			
	60	0.0	0	0.0	1.6	1.7	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1023	120			0.0	1.6	1.7	0.0	0	0				
	180			0.0	1.6	1.7	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS111	Atmospheric Conditions	0.0	0	0.0	0.0	20.9	0.0	0	0	N/A	1.53	1.64	
Time: 10:30	0	0.0	0	0.4	0.0	20.1	0.0	0	0	N/A			
	15	0.0	0	0.0	0.6	13.7	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1023	30	0.0	0	0.0	0.5	13.9	0.0	0	0	N/A			
	45	0.0	0	0.0	0.5	13.9	0.0	0	0	N/A			
	60	0.0	0	0.0	0.5	13.9	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1023	120			0.0	0.4	13.9	0.0	0	0				
	180			0.0	0.4	13.9	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS112	Atmospheric Conditions	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A	2.32	4.49	
Time: 10:00	0	0.0	0	0.0	0.0	20.2	0.0	0	5	N/A			
	15	0.0	0	0.0	3.2	8.5	0.0	0	25	N/A			
Atmospheric pressure (mb) before: 1023	30	0.0	0	0.0	3.2	8.3	0.0	0	25	N/A			
	45	0.0	0	0.0	3.2	8.3	0.0	0	25	N/A			
	60	0.0	0	0.0	3.2	8.3	0.0	0	25	N/A			
Atmospheric pressure (mb) after: 1023	120			0.0	3.2	8.3	0.0	0	20				
	180			0.0	3.2	8.3	0.0	0	20				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1010 - 1035 (falling)	Sunny / Dry	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Black	Temperature range:	14 - 24°c		
Test Date:	13/06/2023	Operator:	OD	Rainfall:	0.0mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS113	Atmospheric Conditions	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A	0.83	4.45	
Time: 13:50	0	0.0	0	0.0	0.0	20.5	0.0	0	0	N/A			
	15	0.0	0	0.0	2.0	13.3	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1020	30	0.0	0	0.0	2.0	13.3	0.0	0	0	N/A			
	45	0.0	0	0.0	2.0	13.2	0.0	0	0	N/A			
	60	0.0	0	0.0	2.0	13.2	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1020	120			0.0	2.0	13.2	0.0	0	0				
	180			0.0	2.0	13.2	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref:	Atmospheric Conditions												
Time:	0												
	15												
Atmospheric pressure (mb) before:	30												
	45												
	60												
Atmospheric pressure (mb) after:	120												
	180												
Well Condition:													
Well Diameter:													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref:	Atmospheric Conditions	0.0	0	0.0	0.0		0.0	0	0	N/A			
Time:	0	0.0	0	0.0	0.0		0.0	0	0	N/A			
	15									N/A			
Atmospheric pressure (mb) before:	30									N/A			
	45									N/A			
	60									N/A			
Atmospheric pressure (mb) after:	120												
	180												
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1010 - 1035 (falling)	Sunny / Dry	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Black	Temperature range:	14 - 24°c		
Test Date:	13/06/2023	Operator:	OD	Rainfall:	0.0mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH01	Atmospheric Conditions	0.0	0	0.0	0.0	21.2	0.0	0	0	N/A	1.71	18.57	
Time: 14:40	0	0.0	0	0.0	0.7	20.1	0.0	0	0	N/A			
	15	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1022	30	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A			
	45	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A			
	60	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1022	120			0.0	0.0	21.0	0.0	0	0				
	180			0.0	0.0	21.0	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH02	Atmospheric Conditions	0.0	0	0.0	0.0	20.9	0.0	0	0	N/A	3.17	24.14	
Time: 10:10	0	0.0	0	0.0	0.0	18.0	0.0	0	0	N/A			
	15	0.0	0	30.7	0.3	12.1	>>>.>	12	0	N/A			
Atmospheric pressure (mb) before: 1025	30	0.0	0	68.7	5.2	5.1	>>>.>	0	0	N/A			
	45	0.0	0	72.6	5.8	5.8	>>>.>	0	0	N/A			
	60	0.0	0	74.0	6.2	4.0	>>>.>	0	0	N/A			
Atmospheric pressure (mb) after: 1025	120			74.0	6.2	3.7	>>>.>	0	0				
	180			74.0	6.2	3.7	>>>.>	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH03A	Atmospheric Conditions	0.0	0	0.0	0.0	20.6	0.0	0	0	N/A	2.71	19.87	
Time: 12:40	0	0.0	0.0	0.0	0.0	20.0	0.0	0	0	N/A			
	15	0.0	0.0	21.4	1.2	14.8	>>>.>	0	0	N/A			
Atmospheric pressure (mb) before: 1022	30	0.0	0.0	21.8	1.2	14.8	>>>.>	0	0	N/A			
	45	0.0	0.0	22.9	1.2	14.8	>>>.>	0	0	N/A			
	60	0.0	0.0	23.2	1.2	14.8	>>>.>	0	0	N/A			
Atmospheric pressure (mb) after: 1022	120			23.2	1.2	14.8	>>>.>	0	0				
	180			22.8	1.2	14.9	>>>.>	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1010 - 1035 (falling)	Sunny / Dry	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Black	Temperature range:	14 - 24°c		
Test Date:	13/06/2023	Operator:	OD	Rainfall:	0.0mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH04	Atmospheric Conditions	0.0	0	0.0	0.0	21.5	0.0	0	0	N/A	4.67	19.25	
Time: 11:50	0	0.0	0	0.0	0.0	20.5	0.0	0	0	N/A			
	15	0.0	0	0.0	0.3	20.7	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1023	30	0.0	0	0.0	0.2	20.8	0.0	0	0	N/A			
	45	0.0	0	0.0	0.2	20.8	0.0	0	0	N/A			
	60	0.0	0	0.0	0.2	20.8	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1023	120			0.0	0.2	20.8	0.0	0	0				
	180			0.0	0.2	20.8	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH103	Atmospheric Conditions	0.0	0	0.0	0.0	20.8	0.0	0	0	N/A	3.29	21.16	
Time: 11:00	0	0.0	0.0	0.0	0.1	20.6	0.0	0	0	N/A			
	15	0.0	0.0	0.0	0.1	20.6	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1023	30	0.0	0.0	0.0	0.1	20.6	0.0	0	0	N/A			
	45	0.0	0.0	0.0	0.1	20.6	0.0	0	0	N/A			
	60	0.0	0.0	0.0	0.1	20.6	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1023	120	0.0	0.0	0.0	0.1	20.6	0.0	0	0				
	180	0.0	0.0	0.0	0.1	20.6	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH104	Atmospheric Conditions	0.0	0	0.0	0.0	21.2	0.0	0	0	N/A	3.72	59.72	
Time: 12:10	0	0.0	0	0.0	0.0	20.9	0.0	0	0	N/A			
	15	0.0	0	0.0	0.1	20.9	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1023	30	0.0	0	0.0	0.1	20.9	0.0	0	0	N/A			
	45	0.0	0	0.0	0.1	20.9	0.0	0	0	N/A			
	60	0.0	0	0.0	0.1	20.9	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1023	120			0.0	0.1	20.9	0.0	0	0				
	180			0.0	0.1	20.9	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1010 - 1035 (falling)	Sunny / Dry	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Black	Temperature range:	14 - 24°c		
Test Date:	13/06/2023	Operator:	OD	Rainfall:	0.0mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH105	Atmospheric Conditions	0.0	0	0.0	0.0	20.5	0.0	0	0	N/A	3.08	22.4	
Time: 10:40	0	0.0	0	0.0	0.0	19.0	0.0	0	0	N/A			
	15	0.0	0	54.6	8.7	5.0	>>>.>		650	N/A			
Atmospheric pressure (mb) before: 1023	30	0.0	0	54.6	8.7	5.0	>>>.>		670	N/A			
	45	0.0	0	54.6	8.5	5.1	>>>.>		680	N/A			
	60	0.0	0	54.7	8.5	5.2	>>>.>		710	N/A			
Atmospheric pressure (mb) after: 1023	120			54.7	8.5	5.3	>>>.>		720				
	180			54.4	8.5	5.3	>>>.>		730				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH106	Atmospheric Conditions	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A	1.82	19.7	
Time: 09:15	0	1.3	10	0.0	0.0	20.4	0.0	0	0	N/A			
	15	0.1	1	0.0	0.0	20.4	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1031	30	0.1	1	0.0	0.0	20.4	0.0	0	0	N/A			
	45	0.0	0	0.0	0.0	20.4	0.0	0	0	N/A			
	60	0.0	0	0.0	0.0	20.4	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1031	120			0.0	0.0	20.4	0.0	0	0				
	180			0.0	0.0	20.4	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH107 (not tested)	Atmospheric Conditions												
Time:	0												
	15												
Atmospheric pressure (mb) before:	30												
	45												
	60												
Atmospheric pressure (mb) after:	120												
	180												
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1010 - 1035 (falling)	Sunny / Dry	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Black	Temperature range:	14 - 24°c		
Test Date:	13/06/2023	Operator:	OD	Rainfall:	0.0mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH108	Atmospheric Conditions	0.0	0	0.0	0.0	20.5	0.0	0	0	N/A	2.20	21.30	
Time: 09:25	0	0.0	0.0	0.0	0.1	20.5	0.0	0	0	N/A			
	15	0.0	0.0	0.0	0.1	20.5	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1030	30	0.0	0.0	0.0	0.1	20.5	0.0	0	0	N/A			
	45	0.0	0.0	0.0	0.1	20.5	0.0	0	0	N/A			
	60	0.0	0.0	0.0	0.1	20.5	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1030	120	0.0	0.0	0.0	0.1	20.5	0.0	0	0				
	180	0.0	0.0	0.0	0.1	20.5	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH110	Atmospheric Conditions	0.0	0	0.0	0.0	21.3	0.0	0	0	N/A	2.72	19.00	
Time: 13:35	0	0.0	0	0.0	0.0	20.9	0.0	0	0	N/A			
	15	0.0	0	0.0	0.2	21.0	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1022	30	0.0	0	0.0	0.1	21.0	0.0	0	0	N/A			
	45	0.0	0	0.0	0.1	21.0	0.0	0	0	N/A			
	60	0.0	0	0.0	0.1	21.0	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1022	120			0.0	0.1	21.0	0.0	0	0				
	180			0.0	0.1	21.0	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH111	Atmospheric Conditions	0.0	0	0.0	0.0	20.9	0.0	0	0	N/A	1.90	18.00	
Time: 15:10	0	0.0	0	0.0	0.0	19.8	0.0	0	0	N/A			
	15	0.0	0	9.1	0.9	15.7	>>>.>	0	0	N/A			
Atmospheric pressure (mb) before: 1021	30	0.0	0	8.5	0.9	16.0	>>>.>	0	0	N/A			
	45	0.0	0	8.4	0.8	16.1	>>>.>	0	0	N/A			
	60	0.0	0	8.4	0.8	16.2	>>>.>	0	0	N/A			
Atmospheric pressure (mb) after: 1021	120			8.4	0.8	16.2	>>>.>	0	0				
	180			8.4	0.8	16.3	>>>.>	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1010 - 1035 (falling)	Sunny / Dry	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Black	Temperature range:	14 - 24°c		
Test Date:	13/06/2023	Operator:	OD	Rainfall:	0.0mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH112	Atmospheric Conditions	0.0	0	0.0	0.0	20.9	0.0	0	0	N/A	0.86	7.35	
Time: 15:20	0	0.0	0	0.2	0.0	20.1	0.0	0	0	N/A			
	15	0.0	0	0.0	2.0	15.7	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1023	30	0.0	0	0.0	2.0	16.1	0.0	0	0	N/A			
	45	0.0	0	0.0	1.0	16.5	0.0	0	0	N/A			
	60	0.0	0	0.0	1.6	16.5	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1023	120			0.0	1.7	16.5	0.0	0	0				
	180			0.0	1.7	16.5	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH113	Atmospheric Conditions	0.0	0	0.0	0.0	20.8	0.0	0	0	N/A	2.82	57.71	
Time: 13:15	0	0.0	0	0.0	0.0	20.4	0.0	0	0	N/A			
	15	0.0	0	0.0	0.0	20.4	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1022	30	0.0	0	0.0	0.0	20.5	0.0	0	0	N/A			
	45	0.0	0	0.0	0.0	20.5	0.0	0	0	N/A			
	60	0.0	0	0.0	0.0	20.5	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1022	120			0.0	0.0	20.5	0.0	0	0				
	180			0.0	0.0	20.5	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH115	Atmospheric Conditions	0.0	0	0.0	0.0	21.2	0.0	0	0	N/A	2.03	19.74	
Time: 14:20	0	0.0	0	0.0	0.0	20.7	0.0	0	0	N/A			
	15	0.0	0	0.0	0.1	20.8	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1022	30	0.0	0	0.0	0.0	20.8	0.0	0	0	N/A			
	45	0.0	0	0.0	0.0	20.9	0.0	0	0	N/A			
	60	0.0	0	0.0	0.0	20.9	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1022	120			0.0	0.0	20.9	0.0	0	0				
	180			0.0	0.0	20.9	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1010 - 1035 (falling)	Sunny / Dry	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Black	Temperature range:	14 - 24°c		
Test Date:	13/06/2023	Operator:	OD	Rainfall:	0.0mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH116	Atmospheric Conditions	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A	3.88	31.85	
Time: 11:10	0	0.0	0	0.0	0.0	20.9	0.0	0	0	N/A			
	15	0.0	0	0.0	0.1	20.9	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1022	30	0.0	0	0.0	0.0	20.9	0.0	0	0	N/A			
	45	0.0	0	0.0	0.0	20.9	0.0	0	0	N/A			
	60	0.0	0	0.0	0.0	20.9	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1022	120			0.0	0.0	20.9	0.0	0	0				
	180			0.0	0.0	20.9	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH117	Atmospheric Conditions	0.0	0	0.0	0.0	20.5	0.0	0	0	N/A	3.55	54.34	
Time: 09:35	0	0.0	0	0.0	0.0	20.3	0.0	0	0	N/A			
	15	0.0	0	0.0	0.1	20.3	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1029	30	0.0	0	0.0	0.2	20.3	0.0	0	0	N/A			
	45	0.0	0	0.0	0.1	20.3	0.0	0	0	N/A			
	60	0.0	0	0.0	0.1	20.3	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1029	120			0.0	0.1	20.3	0.0	0	0				
	180			0.0	0.1	20.3	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH119	Atmospheric Conditions	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A	3.00	57.70	
Time: 14:50	0	0.0	0.0	0.0	0.0	20.0	0.0	0	0	N/A			
	15	0.0	0.0	0.0	1.2	17.9	0.0	0	0	N/A			
Atmospheric pressure (mb) before: 1022	30	0.0	0.0	0.0	1.3	17.8	0.0	0	0	N/A			
	45	0.0	0.0	0.0	1.3	17.5	0.0	0	0	N/A			
	60	0.0	0.0	0.0	1.3	17.5	0.0	0	0	N/A			
Atmospheric pressure (mb) after: 1022	120			0.0	1.7	16.5	0.0	0	0				
	180			0.0	1.7	16.0	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1010 - 1035 (falling)	Sunny / Dry	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Black	Temperature range:	14 - 24°c		
Test Date:	13/06/2023	Operator:	OD	Rainfall:	0.0mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH120	Atmospheric Conditions	0.0	0	0.0	0.0	21.0	0.0	0	0	N/A	2.97	20.10	
Time: 13:00	0	0.0	0	0.0	0.0	20.5	0.0	0	0	N/A			
	15	0.0	0	0.9	1.3	15.6	22.9	0	0	N/A			
Atmospheric pressure (mb) before: 1021	30	0.0	0	0.9	1.1	18.0	17.2	0	0	N/A			
	45	0.0	0	0.8	1.0	18.9	12.4	0	0	N/A			
	60	0.0	0	0.7	0.9	19.4	9.9	0	0	N/A			
Atmospheric pressure (mb) after: 1021	120			0.3	0.7	19.4	3.3	0	0				
	180			0.0	0.5	19.4	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref:	Atmospheric Conditions												
Time:	0												
	15												
Atmospheric pressure (mb) before:	30												
	45												
	60												
Atmospheric pressure (mb) after:	120												
	180												
Well Condition:													
Well Diameter:													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref:	Atmospheric Conditions												
Time:	0												
	15												
Atmospheric pressure (mb) before:	30												
	45												
	60												
Atmospheric pressure (mb) after:	120												
	180												
Well Condition:													
Well Diameter:													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1005 - 1020 (falling)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	15m Green	Temperature range:	13 - 18°c		
Test Date:	10/07/2023	Operator:	RK	Rainfall:	6.2mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS01	Atmospheric Conditions	0.0	0	0.0	0.0	21.2	0.0	0	0	0.0	Dry	2.45	
Time: 16:30	0	0.0	0	0.0	0.0	20.9	0.0	0	0	0.0			
	15	0.0	0	0.0	0.0	20.0	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1011	30	0.0	0	0.0	0.0	19.7	0.0	0	0	0.0			
	45	0.0	0	0.0	0.0	19.7	0.0	0	1	0.0			
	60	0.0	0	0.0	0.0	19.8	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1012	120			0.0	0.0	19.7	0.0	0	0				
	180			0.0	0.0	19.7	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS03	Atmospheric Conditions	0.0	0	0.0	0.0	21.1	0.0	0	0	0.0	Dry	2.36	
Time: 15:15	0	0.0	0	0.0	0.0	20.8	0.0	0	0	0.0			
	15	0.0	0	0.0	0.0	20.8	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1015	30	0.0	0	0.0	0.0	20.9	0.0	0	0	0.0			
	45	0.0	0	0.0	0.0	20.8	0.0	0	0	0.0			
	60	0.0	0	0.0	0.0	20.8	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1015	120			0.0	0.0	20.8	0.0	0	0	0.0			
	180			0.0	0.0	20.8	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS06	Atmospheric Conditions	0.0	0	0.0	0.0	21.7	0.0	0	0	0.0	0.91	2.55	
Time: 12:10	0	0.0	0.0	0.0	0.0	20.4	0.0	0	0	0.0			
	15	0.0	0.0	0.0	0.0	20.0	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1014	30	0.0	0.0	0.0	0.0	20.0	0.0	0	0	0.0			
	45	0.0	0.0	0.0	0.0	20.0	0.0	0	0	0.0			
	60	0.0	0.0	0.0	0.0	20.0	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1013	120			0.0	0.0	20.0	0.0	0	0				
	180			0.0	0.0	20.1	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1005 - 1020 (falling)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	15m Green	Temperature range:	13 - 18°c		
Test Date:	10/07/2023	Operator:	RK	Rainfall:	6.2mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS07	Atmospheric Conditions	0.0	0	0.0	0.0	21.2	0.0	0	0	0.0	1.19	3.19	
Time: 12:25	0	0.0	0	0.0	0.0	20.4	0.0	0	0	0.0			
	15	0.0	0	0.0	5.0	8.1	0.0	0	0	0.1			
Atmospheric pressure (mb) before: 1013	30	0.1	1	0.0	5.1	6.1	0.0	0	0	0.1			
	45	0.0	0	0.0	5.2	5.9	0.0	0	0	0.1			
	60	0.0	0	0.0	5.2	5.8	0.0	0	0	0.1			
Atmospheric pressure (mb) after: 1013	120			0.0	5.3	5.8	0.0	0	0				
	180			0.0	5.3	5.8	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS10	Atmospheric Conditions	0.0	0	0.0	0.0	20.7	0.0	0	0	0.0	3.34	4.70	
Time: 13:55	0	0.0	0	0.0	0.0	20.1	0.0	0	0	0.0			
	15	0.0	0	0.0	2.1	10.5	0.0	0	0	0.1			
Atmospheric pressure (mb) before: 1013	30	0.0	0	0.0	2.1	9.5	0.0	0	0	0.1			
	45	0.0	0	0.0	2.1	9.5	0.0	0	0	0.1			
	60	0.0	0	0.0	2.1	9.3	0.0	0	0	0.1			
Atmospheric pressure (mb) after: 1013	120			0.0	2.1	9.1	0.0	0	0				
	180			0.0	2.2	9.0	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS11	Atmospheric Conditions	0.0	0	0.0	0.0	21.4	0.0	0	0	0.0	1.84	3.32	
Time: 15:00	0	0.0	0.0	0.0	0.1	20.8	0.0	0	0	0.0			
	15	0.0	0.0	0.0	0.1	20.5	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1014	30	0.0	0.0	0.0	0.2	20.4	0.0	0	0	0.0			
	45	0.0	0.0	0.0	0.4	20.3	0.0	0	0	0.0			
	60	0.0	0.0	0.0	0.5	20.2	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1013	120			0.0	0.8	19.9	0.0	0					
	180			0.0	0.9	19.8	0.0	0					
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1005 - 1020 (falling)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	15m Green	Temperature range:	13 - 18°c		
Test Date:	10/07/2023	Operator:	RK	Rainfall:	6.2mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS101	Atmospheric Conditions	0.0	0	0.0	0.0	20.9	0.0	0	0	0.0	1.89	2.17	
Time: 14:45	0	0.0	0	0.0	0.0	20.3	0.0	0	0	0.0			
	15	0.0	0	0.0	0.6	20.2	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1015	30	0.0	0	0.0	0.8	20.0	0.0	0	0	0.1			
	45	0.0	0	0.0	0.8	20.1	0.0	0	0	0.0			
	60	0.0	0	0.0	0.8	20.0	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1015	120	0.0	0	0.0	0.9	19.9	0.0	0	0				
	180	0.0	0	0.0	1.0	19.9	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS102	Atmospheric Conditions	0.0	0	0.0	0.0	20.9	0.0	0	0	0.0	Dry	0.92	
Time: 14:10	0	0.9	7	0.0	0.0	20.2	0.0	0	0	0.0			
	15	0.0	0	0.0	0.8	0.9	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1014	30	0.0	0	0.0	0.8	12.1	0.0	0	0	0.0			
	45	0.0	0	0.0	0.7	12.6	0.0	0	0	0.0			
	60	0.0	0	0.0	0.7	13.4	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1015	120			0.0	0.5	14.5	0.0	0	0				
	180			0.0	0.5	14.9	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS103	Atmospheric Conditions	0.0	0	0.0	0.0	20.8	0.0	0	0	0.0	1.59	4.36	
Time: 14:20	0	2.8	3	0.0	0.0	20.2	0.0	0	0	0.0			
	15	0.0	0	0.0	0.0	19.2	0.0	0	0	0.1			
Atmospheric pressure (mb) before: 1015	30	0.0	0	0.0	0.0	19.0	0.0	0	0	0.2			
	45	0.0	0	0.0	0.0	19.0	0.0	0	0	0.3			
	60	0.0	0	0.0	0.0	19.0	0.0	0	0	0.3			
Atmospheric pressure (mb) after: 1014	120			0.0	0.0	18.9	0.0	0	0				
	180			0.0	0.0	18.9	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1005 - 1020 (falling)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	15m Green	Temperature range:	13 - 18°c		
Test Date:	10/07/2023	Operator:	RK	Rainfall:	6.2mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS104	Atmospheric Conditions	0.0	0	0.0	0.0	21.2	0.0	0	0	0.0	2.00	4.19	
Time: 09:20	0	0.0	0	0.0	0.0	20.7	0.0	0	0	0.1			
	15	0.0	0	0.0	1.2	18.0	0.0	0	0	0.1			
Atmospheric pressure (mb) before: 1015	30	0.0	0	0.0	1.2	17.4	0.0	0	1	0.1			
	45	0.0	0	0.0	1.2	17.2	0.0	0	0	0.0			
	60	0.0	0	0.0	1.2	17.1	0.0	0	1	0.0			
Atmospheric pressure (mb) after: 1014	120			0.0	1.2	17.0	0.0	0	0				
	180			0.0	1.2	17.0	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS105	Atmospheric Conditions	0.0	0	0.0	0.0	21.2	0.0	0	0	0.0	Dry	2.74	
Time: 09:45	0	0.0	0	0.0	0.0	20.3	0.0	0	0	0.1			
	15	0.0	0	0.0	0.5	10.4	0.0	0	0	0.3			
Atmospheric pressure (mb) before: 1015	30	0.0	0	0.0	0.5	8.5	0.0	0	0	0.3			
	45	0.0	0	0.0	0.5	8.2	0.0	0	0	0.3			
	60	0.0	0	0.0	0.5	8.1	0.0	0	0	0.3			
Atmospheric pressure (mb) after: 1014	120			0.0	0.5	8.0	0.0	0	0				
	180			0.0	0.5	8.0	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS106	Atmospheric Conditions	0.0	0	0.0	0.0	21.3	0.0	0	0	0.0	2.50	3.61	
Time: 09:00	0	0.0	0.0	0.0	0.2	20.4	0.0	0	0	0.0			
	15	0.0	0.0	0.0	0.8	19.5	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1015	30	0.0	0.0	0.0	0.8	19.2	0.0	0	0	0.0			
	45	0.0	0.0	0.0	0.8	19.2	0.0	0	0	0.0			
	60	0.0	0.0	0.0	0.8	19.2	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1015	120			0.0	0.9	19.1	0.0	0	0				
	180			0.0	0.9	19.1	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1005 - 1020 (falling)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	15m Green	Temperature range:	13 - 18°c		
Test Date:	10/07/2023	Operator:	RK	Rainfall:	6.2mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS107	Atmospheric Conditions	0.0	0	0.0	0.0	20.6	0.0	0	0	0.0	1.21	4.39	
Time: 11:30	0	0.0	0	0.0	0.0	20.1	0.0	0	0	0.0			
	15	0.0	0	0.0	2.4	17.9	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1014	30	0.0	0	0.0	2.4	17.5	0.0	0	0	0.0			
	45	0.0	0	0.0	2.5	17.4	0.0	0	0	0.0			
	60	0.0	0	0.0	2.5	17.3	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1014	120			0.0	2.6	17.3	0.0	0	0				
	180			0.0	2.6	17.3	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS108	Atmospheric Conditions	0.0	0	0.0	0.0	21.1	0.0	0	0	0.0	2.20	3.51	
Time: 11:25	0	0.0	0	0.0	0.0	20.4	0.0	0	0	0.1			
	15	0.0	0	0.0	2.9	18.2	0.0	0	0	0.1			
Atmospheric pressure (mb) before: 1015	30	0.0	0	0.0	2.9	18.0	0.0	0	0	0.2			
	45	0.0	0	0.0	2.9	17.9	0.0	0	0	0.1			
	60	0.0	0	0.0	3.0	17.8	0.0	0	0	0.1			
Atmospheric pressure (mb) after: 1015	120			0.0	3.2	17.7	0.0	0	0				
	180			0.0	3.3	17.6	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS109	Atmospheric Conditions	0.0	0	0.0	0.0	20.9	0.0	0	0	0.0	1.05	1.32	
Time: 10:50	0	0.0	0	0.0	0.0	20.2	0.0	0	0	0.1			
	15	0.0	0	0.0	0.0	9.6	0.0	0	0	0.2			
Atmospheric pressure (mb) before: 1014	30	0.0	0	0.0	0.0	7.1	0.0	0	1	0.2			
	45	0.0	0	0.0	0.0	6.8	0.0	0	0	0.2			
	60	0.0	0	0.0	0.0	6.7	0.0	0	0	0.2			
Atmospheric pressure (mb) after: 1014	120			0.0	0.0	6.7	0.0	0	0				
	180			0.0	0.0	6.7	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1005 - 1020 (falling)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	15m Green	Temperature range:	13 - 18°c		
Test Date:	10/07/2023	Operator:	RK	Rainfall:	6.2mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS110	Atmospheric Conditions	0.0	0	0.0	0.0	20.8	0.0	0	0	0.0	2.83	4.00	
Time: 13:20	0	0.2	2	0.0	0.0	20.2	0.0	0	0	0.0			
	15	0.0	0	0.0	1.5	4.0	0.0	0	0	0.1			
Atmospheric pressure (mb) before: 1013	30	0.7	3	0.0	1.5	0.6	0.0	0	0	0.2			
	45	0.0	0	0.0	1.6	0.2	0.0	0	0	0.2			
	60	0.0	0	0.0	1.6	0.2	0.0	0	0	0.2			
Atmospheric pressure (mb) after: 1013	120			0.0	1.6	0.2	0.0	0	0				
	180			0.0	1.6	0.3	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS111	Atmospheric Conditions	0.0	0	0.0	0.0	21	0.0	0	0	0.0	Dry	1.64	
Time: 12:40	0	0.0	0	0.0	0.0	20.2	0.0	0	0	0.0			
	15	0.0	0	0.0	0.0	16.4	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1013	30	0.0	0	0.0	0.0	16.3	0.0	0	0	0.0			
	45	0.0	0	0.0	0.0	16.1	0.0	0	0	0.0			
	60	0.0	0	0.0	0.0	16.0	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1014	120			0.0	0.0	15.9	0.0	0	0				
	180			0.0	0.0	16.0	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS112	Atmospheric Conditions	0.0	0	0.0	0.0	20.8	0.0	0	0	0.0	2.61	4.49	
Time: 13:00	0	0.7	3	0.0	0.0	20.1	0.0	0	0	0.0			
	15	0.0	0	0.0	2.2	10.5	0.0	0	0	0.1			
Atmospheric pressure (mb) before: 1013	30	0.0	0	0.0	2.1	8.9	0.0	0	0	0.0			
	45	0.1	1	0.0	2.2	8.6	0.0	0	0	0.0			
	60	0.0	0	0.0	2.2	8.5	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1013	120			0.0	2.2	8.4	0.0	0	0				
	180			0.0	2.2	8.3	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 430	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1005 - 1020 (falling)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	15m Green	Temperature range:	13 - 18°c		
Test Date:	10/07/2023	Operator:	RK	Rainfall:	6.2mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS113	Atmospheric Conditions	0.0	0	0.0	0.0	21.3	0.0	0	0	0.0	1.34	4.45	
Time: 11:55	0	2.2	2	0.0	0.0	20.9	0.0	0	0	0.0			
	15	0.0	0	0.0	0.9	19.1	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1014	30	0.0	0	0.0	0.9	18.8	0.0	0	0	0.1			
	45	0.0	0	0.0	0.9	18.7	0.0	0	0	0.2			
	60	0.0	0	0.0	0.9	18.6	0.0	0	0	0.1			
Atmospheric pressure (mb) after: 1014	120			0.0	0.9	18.6	0.0	0	0				
	180			0.0	0.9	18.5	0.0	0	0				
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref:	Atmospheric Conditions												
Time:	0												
	15												
Atmospheric pressure (mb) before:	30												
	45												
	60												
Atmospheric pressure (mb) after: 1015	120												
	180												
Well Condition:													
Well Diameter:													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref:	Atmospheric Conditions												
Time:	0												
	15												
Atmospheric pressure (mb) before:	30												
	45												
	60												
Atmospheric pressure (mb) after:	120												
	180												
Well Condition:													
Well Diameter:													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 436	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1001 - 1011 (rising)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Dual Phase / 100m Black	Temperature range:	12 - 19°c		
Test Date:	24/07/2023	Operator:	RK	Rainfall:	7.8mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS01	Atmospheric Conditions	0.0	0	0.0	0.0	20.7	0.0	0	0	0.0	Dry	2.45	Dual Phase Dipmeter = Intermittent = Water
Time: 16:40	0	0.0	0	0.0	0.0	20.1	0.0	0	0	0.0			
	15	0.0	0	0.0	0.0	20.0	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1009	30	0.0	0	0.0	0.1	20.0	0.0	0	0	0.0			
	45	0.0	0	0.0	0.1	20.0	0.0	0	0	0.0			
	60	0.0	0	0.0	0.1	20.0	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1010	120	0.0	0	0.0	0.0	19.9	0.0	0	0	0.0			
	180	0.0	0	0.0	0.0	19.9	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS03	Atmospheric Conditions	0.0	0	0.0	0.0	20.7	0.0	0	0	0.0	Dry	2.35	Dual Phase Dipmeter = Intermittent = Water Silty sand at base.
Time: 12:55	0	0.0	0	0.0	0.0	20.2	0.0	0	0	0.0			
	15	0.0	0	0.0	2.3	18.4	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1008	30	0.0	0	0.0	2.4	18.1	0.0	0	0	0.0			
	45	0.0	0	0.0	2.4	18.0	0.0	0	0	0.0			
	60	0.0	0	0.0	2.4	18.0	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1007	120	0.0	0	0.0	2.4	18.0	0.0	0	0	0.0			
	180	0.0	0	0.0	2.4	18.1	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS06	Atmospheric Conditions	0.0	0	0.0	0.0	20.7	0.0	0	0	0.0	0.8	2.55	Dual Phase Dipmeter = Intermittent = Water Standing water around borehole.
Time: 14:25	0	0.0	0.0	0.0	0.0	20.4	0.0	0	0	0.0			
	15	0.0	0.0	0.0	0.0	20.4	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1008	30	0.0	0.0	0.0	0.0	20.4	0.0	0	0	0.0			
	45	0.0	0.0	0.0	0.0	20.3	0.0	0	0	0.0			
	60	0.0	0.0	0.0	0.0	20.3	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1008	120	0.0	0.0	0.0	0.0	20.3	0.0	0	0	0.0			
	180	0.0	0.0	0.0	0.0	20.3	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 436	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1001 - 1011 (rising)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Dual Phase / 100m Black	Temperature range:	12 - 19°c		
Test Date:	24/07/2023	Operator:	RK	Rainfall:	7.8mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS07	Atmospheric Conditions	0.0	0	0.0	0.0	20.3	0.0	0	0	0.0	0.93	3.19	Additional sample taken for dissolved methane testing. Dual Phase Dipmeter = Intermittent = Water
Time: 08:10	0	41.4	80	0.0	0.0	20.2	0.0	0	0	0.0			
	15	8.7	54	1.3	8.0	1.8	0.0	0	0	0.1			
Atmospheric pressure (mb) before: 1007	30	3.4	19	1.8	8.4	0.4	0.0	0	0	0.0			
	45	0.9	5	1.9	8.5	0.2	0.0	0	0	0.0			
	60	0.0	0	1.9	8.5	0.1	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1007	120	0.1	0	1.9	8.5	0.1	0.0	0	0	0.0			
	180	0.1	0	1.9	8.5	0.0	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS10	Atmospheric Conditions	0.0	0	0.0	0.0	20.4	0.0	0	0	0.0	3.29	4.69	Dual Phase Dipmeter = Intermittent = Water
Time: 12:00	0	0.1	0	0.0	0.0	20.2	0.0	0	0	0.1			
	15	0.0	0	0.0	0.9	18.0	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1008	30	0.1	0	0.0	0.9	17.5	0.0	0	0	0.0			
	45	0.0	0	0.0	0.9	17.4	0.0	0	0	0.0			
	60	0.0	0	0.0	0.9	17.4	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1008	120	0.0	0	0.0	0.9	17.3	0.0	0	0	0.0			
	180	0.0	0	0.0	0.9	17.4	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: WS11	Atmospheric Conditions	0.0	0	0.0	0.0	20.7	0.0	0	0	0.0	1.95	3.3	Dual Phase Dipmeter = Intermittent = Water
Time: 13:25	0	0.0	0.0	0.0	0.0	20.6	0.0	0	0	0.0			
	15	0.0	0.0	0.0	0.0	20.4	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1008	30	0.0	0.0	0.0	0.0	20.4	0.0	0	0	0.0			
	45	0.0	0.0	0.0	0.1	20.2	0.0	0	0	0.0			
	60	0.0	0.0	0.0	0.0	20.2	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1009	120	0.0	0.0	0.0	0.1	20.2	0.0	0	0	0.0			
	180	0.0	0.0	0.0	0.0	20.3	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 436	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1001 - 1011 (rising)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Dual Phase / 100m Black	Temperature range:	12 - 19°c		
Test Date:	24/07/2023	Operator:	RK	Rainfall:	7.8mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS101	Atmospheric Conditions	0.0	0	0.0	0.0	20.6	0.0	0	0	0.0	1.9	2.17	Dual Phase Dipmeter = Intermittent = Water
Time: 12:30	0	0.0	0	0.0	0.0	20.4	0.0	0	0	0.0			
	15	0.0	0	0.0	0.0	20.2	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1008	30	0.0	0	0.0	0.0	20.2	0.0	0	0	0.0			
	45	0.0	0	0.0	0.1	20.0	0.0	0	0	0.0			
	60	0.0	0	0.0	0.1	20.1	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1008	120	0.0	0	0.0	0.0	20.1	0.0	0	0	0.0			
	180	0.0	0	0.0	0.1	20.1	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS102	Atmospheric Conditions	0.0	0	0.0	0.0	20.7	0.0	0	0	0.0	Dry	0.92	Dual Phase Dipmeter = Intermittent = Water
Time: 14:50	0	0.1	1	0.0	0.1	20.1	0.0	0	0	0.1			
	15	0.0	0	0.0	1.3	5.2	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1009	30	0.0	0	0.0	1.1	5.4	0.0	0	0	0.0			
	45	0.1	0	0.0	1.0	6.2	0.0	0	0	0.1			
	60	0.0	0	0.0	0.9	8.1	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1009	120	0.0	0	0.0	0.8	11.2	0.0	0	0	0.0			
	180	0.0	0	0.0	0.7	11.6	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS103	Atmospheric Conditions	0.0	0	0.0	0.0	20.8	0.0	0	0	0.0	1.21	4.36	Dual Phase Dipmeter = Intermittent = Water
Time: 14:35	0	0.0	0	0.0	0.0	20.2	0.0	0	0	0.1			
	15	0.0	0	0.0	0.0	3.5	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1009	30	0.0	0	0.0	0.0	2.6	0.0	0	0	0.0			
	45	0.0	0	0.0	0.0	3.1	0.0	0	0	0.1			
	60	0.0	0	0.0	0.0	5.2	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1009	120	0.0	0	0.0	0.0	2.8	0.0	0	0	0.0			
	180	0.0	0	0.0	0.0	8.2	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 436	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1001 - 1011 (rising)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Dual Phase / 100m Black	Temperature range:	12 - 19°c		
Test Date:	24/07/2023	Operator:	RK	Rainfall:	7.8mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS104	Atmospheric Conditions	0.0	0	0.0	0.0	20.5	0.0	0	0	0.0	1.88	4.20	Dual Phase Dipmeter = Intermittent = Water
Time: 10:30	0	0.1	0	0.0	0.0	20.4	0.0	0	0	0.0			
	15	0.0	0	0.0	1.7	16.2	0.0	0	0	0.1			
Atmospheric pressure (mb) before: 1008	30	0.0	0	0.0	1.8	15.1	0.0	0	0	0.0			
	45	0.0	0	0.0	1.9	14.9	0.0	0	0	0.0			
	60	0.0	0	0.0	1.9	14.7	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1008	120	0.0	0	0.0	2.3	13.3	0.0	0	0	0.1			
	180	0.0	0	0.0	2.5	12.7	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS105	Atmospheric Conditions	0.0	0	0.0	0.0	20.7	0.0	0	0	0.0	Dry	2.74	Dual Phase Dipmeter = Intermittent = Water Silt at base.
Time: 10:05	0	3.8	20	0.0	0.0	20.4	0.0	0	0	0.0			
	15	0.0	0	0.0	0.7	11.4	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1007	30	0.0	0	0.0	0.7	10.7	0.0	0	0	0.0			
	45	0.0	0	0.0	0.7	10.4	0.0	0	0	0.0			
	60	0.0	0	0.0	0.8	10.1	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1008	120	0.0	0	0.0	0.8	9.9	0.0	0	0	0.0			
	180	0.0	0	0.0	0.8	9.8	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS106	Atmospheric Conditions	0.0	0	0.0	0.0	20.5	0.0	0	0	0.0	2.54	3.61	Dual Phase Dipmeter = Intermittent = Water
Time: 11:00	0	2.1	15.0	0.0	0.0	20.2	0.0	0	0	0.0			
	15	0.0	0.0	0.0	1.9	4.8	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1009	30	0.0	0.0	0.0	2.0	3.6	0.0	0	0	0.1			
	45	0.0	0.0	0.0	2.2	3.2	0.0	0	0	0.0			
	60	0.0	0.0	0.0	2.1	3.0	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1010	120	0.0	0.0	0.0	2.1	3.2	0.0	0	0	0.0			
	180	0.0	0.0	0.0	2.0	3.4	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 436	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1001 - 1011 (rising)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Dual Phase / 100m Black	Temperature range:	12 - 19°c		
Test Date:	24/07/2023	Operator:	RK	Rainfall:	7.8mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS107	Atmospheric Conditions	0.0	0	0.0	0.0	20.4	0.0	0	0	0.0	1.01	4.39	Dual Phase Dipmeter = Intermittent = Water
Time: 09:10	0	0.4	3	0.0	0.0	20.2	0.0	0	0	0.0			
	15	0.0	0	0.0	4.2	15.3	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1007	30	0.0	0	0.0	4.4	14.3	0.0	0	0	0.0			
	45	0.0	0	0.0	4.4	14.1	0.0	0	0	0.0			
	60	0.0	0	0.0	4.5	14.0	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1007	120	0.0	0	0.0	4.5	13.9	0.0	0	0	0.0			
	180	0.0	0	0.0	4.6	13.8	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS108	Atmospheric Conditions	0.0	0	0.0	0.0	20.6	0.0	0	0	0.0	2.31	3.51	Dual Phase Dipmeter = Intermittent = Water
Time: 13:10	0	0.0	0	0.0	0.0	20.2	0.0	0	0	0.0			
	15	0.0	0	0.0	4.1	16.2	0.0	0	0	0.1			
Atmospheric pressure (mb) before: 1008	30	0.0	0	0.0	4.3	15.7	0.0	0	0	0.2			
	45	0.0	0	0.0	4.4	15.7	0.0	0	0	0.2			
	60	0.0	0	0.0	4.5	15.5	0.0	0	0	0.2			
Atmospheric pressure (mb) after: 1008	120	0.0	0	0.0	4.7	15.2	0.0	0	0	0.1			
	180	0.0	0	0.0	4.7	15.1	0.0	0	0	0.1			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS109	Atmospheric Conditions	0.0	0	0.0	0.1	20.5	0.0	0	0	0.0	0.93	1.38	Dual Phase Dipmeter = Intermittent = Water Silty sand at base.
Time: 09:30	0	0.0	0	0.0	0.0	18.0	0.0	0	0	0.0			
	15	0.0	0	0.0	4.1	12.9	0.0	0	0	0.1			
Atmospheric pressure (mb) before: 1008	30	0.0	0	0.0	4.4	11.9	0.0	0	0	0.0			
	45	0.0	0	0.0	4.5	11.6	0.0	0	0	0.1			
	60	0.0	0	0.0	5.0	10.1	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1008	120	0.0	0	0.0	5.5	9.5	0.0	0	0	0.0			
	180	0.0	0	0.0	5.8	9.2	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 436	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1001 - 1011 (rising)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Dual Phase / 100m Black	Temperature range:	12 - 19°c		
Test Date:	24/07/2023	Operator:	RK	Rainfall:	7.8mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS110	Atmospheric Conditions	0.0	0	0.0	0.0	20.4	0.0	0	0	0.0	1.86	4.00	Dual Phase Dipmeter = Intermittent = Water
Time: 12:15	0	0.5	5	0.0	0.0	19.9	0.0	0	0	0.0			
	15	0.0	0	0.0	2.0	3.1	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1009	30	0.1	0	0.0	2.1	1.7	0.0	0	0	0.0			
	45	0.0	0	0.0	2.1	1.3	0.0	0	0	0.0			
	60	0.0	0	0.0	2.1	1.1	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1008	120	0.0	0	0.0	2.1	0.7	0.0	0	0	0.1			
	180	0.0	0	0.0	2.1	0.5	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS111	Atmospheric Conditions	0.0	0	0.0	0.1	20.6	0.0	0	0	0.0	Dry	1.64	Dual Phase Dipmeter = Intermittent = Water
Time: 14:10	0	0.0	0	0.0	0.1	20.1	0.0	0	0	0.0			
	15	0.0	0	0.0	0.4	17.5	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1008	30	0.0	0	0.0	0.4	16.0	0.0	0	0	0.1			
	45	0.0	0	0.0	0.5	15.6	0.0	0	0	0.0			
	60	0.0	0	0.0	0.5	15.1	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1010	120	0.0	0	0.0	0.5	15.2	0.0	0	0	0.0			
	180	0.0	0	0.0	0.5	15.2	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS112	Atmospheric Conditions	0.0	0	0.0	0.0	20.4	0.0	0	0	0.0	2.69	4.49	Dual Phase Dipmeter = Intermittent below 2.75m = Water and Solid between 2.61m and 2.75m = Product.
Time: 11:35	0	-0.6	-3	0.0	0.0	20.1	0.0	0	0	0.0			
	15	0.0	0	0.0	3.6	3.0	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1009	30	0.0	0	0.0	3.8	1.8	0.0	0	0	0.1			
	45	0.0	0	0.0	3.8	1.4	0.0	0	0	0.0			
	60	0.0	0	0.0	3.9	1.2	0.0	0	0	0.1			
Atmospheric pressure (mb) after: 1008	120	0.0	0	0.0	3.9	1.1	0.0	0	0	0.0			
	180	0.0	0	0.0	3.9	1.0	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 436	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1001 - 1011 (rising)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Dual Phase / 100m Black	Temperature range:	12 - 19°c		
Test Date:	24/07/2023	Operator:	RK	Rainfall:	7.8mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: DS113	Atmospheric Conditions	0.0	0	0.0	0.0	20.5	0.0	0	0	0.0	1.16	4.45	Dual Phase Dipmeter = Intermittent = Water
Time: 08:50	0	2.4	16	0.0	0.0	20.0	0.0	0	0	0.0			
	15	0.4	2	0.0	3.4	12.4	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1007	30	0.2	1	0.0	3.8	10.0	0.0	0	0	0.0			
	45	0.4	2	0.0	3.8	9.8	0.0	0	0	0.0			
	60	0.2	1	0.0	3.8	9.7	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1007	120	0.2	1	0.0	3.8	9.7	0.0	0	0	0.0			
	180	0.4	2	0.0	3.8	9.7	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH02	Atmospheric Conditions	0.0	0	0.0	0.0	20.6	0.0	0	0	0.0	3.40	24.14	Additional sample taken for dissolved methane testing. Dual Phase Dipmeter = Intermittent = Water
Time: 12:45	0	0.0	0	0.0	0.0	19.8	0.0	0	0	0.1			
	15	0.0	0	67.0	4.5	6.0	>>>.>	0	100	0.1			
Atmospheric pressure (mb) before: 1008	30	0.1	1	67.4	4.7	5.8	>>>.>	0	120	0.3			
	45	0.0	0	67.0	4.6	5.5	>>>.>	0	160	0.3			
	60	0.0	0	61.4	4.2	6.4	>>>.>	0	210	0.3			
Atmospheric pressure (mb) after: 1008	120	0.0	0	55.1	3.9	7.4	>>>.>	0	220	0.3			
	180	0.0	0	47.9	3.4	9.3	>>>.>	0	200	0.3			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH03A	Atmospheric Conditions	0.0	0	0.0	0.0	20.4	0.0	0	0	0.0	2.94	19.87	Additional sample taken for dissolved methane testing. Dual Phase Dipmeter = Intermittent = Water
Time: 09:45	0	4.7	25	0.0	0.1	20.3	0.0	0	0	0.1			
	15	0.5	2	34.4	2.4	11.4	>>>.>	0	0	0.1			
Atmospheric pressure (mb) before: 1008	30	0.0	0	38.7	2.4	10.6	>>>.>	0	0	0.1			
	45	0.0	0	40.0	2.4	10.4	>>>.>	0	0	0.1			
	60	0.0	0	40.2	2.4	10.2	>>>.>	0	0	0.0			
Atmospheric pressure (mb) after: 1008	120	0.0	0	40.4	2.5	10.1	>>>.>	0	0	0.1			
	180	0.0	0	40.4	2.5	10.1	>>>.>	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 436	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1001 - 1011 (rising)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Dual Phase / 100m Black	Temperature range:	12 - 19°c		
Test Date:	24/07/2023	Operator:	RK	Rainfall:	7.8mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH105	Atmospheric Conditions	0.0	0	0.0	0.0	20.7	0.0	0	0	0.0	3.28	22.4	Additional sample taken for dissolved methane testing. Dual Phase Dipmeter = Intermittent = Water
Time: 16:00	0	1.5	10	0.0	0.0	20.1	0.0	0	0	0.0			
	15	0.0	0	18.3	3.4	15.5	>>>.>	0	0	0.1			
Atmospheric pressure (mb) before: 1008	30	0.0	0	20.1	3.5	14.7	>>>.>	0	0	0.0			
	45	0.0	0	19.5	3.4	14.9	>>>.>	0	0	0.0			
	60	0.0	0	19.4	3.3	14.8	>>>.>	0	0	0.1			
Atmospheric pressure (mb) after: 1009	120	0.0	0	19.1	3.3	14.8	>>>.>	0	0	0.0			
	180	0.0	0	18.8	3.2	15.0	>>>.>	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH107	Atmospheric Conditions	0.0	0	0.0	0.0	20.8	0.0	0	0	0.0	3.64	21.23	Dual Phase Dipmeter = Intermittent = Water
Time: 15:30	0	0.0	0	0.0	0.1	20.6	0.0	0	0	0.1			
	15	0.0	0	0.0	0.4	20.3	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1008	30	0.0	0	0.0	0.4	20.3	0.0	0	0	0.0			
	45	0.0	0	0.0	0.2	20.6	0.0	0	0	0.0			
	60	0.0	0	0.0	0.2	20.6	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1009	120	0.0	0	0.0	0.2	20.6	0.0	0	0	0.0			
	180	0.0	0	0.0	0.2	20.6	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH111	Atmospheric Conditions	0.0	0	0.0	0.0	20.6	0.0	0	0	0.0	2.23	18.00	Additional sample taken for dissolved methane testing. Dual Phase Dipmeter = Intermittent = Water
Time: 08:30	0	0.0	0.0	0.0	0.0	20.4	0.0	0	0	0.1			
	15	0.0	0.0	1.5	0.7	18.4	31.2	0	0	0.1			
Atmospheric pressure (mb) before: 1007	30	0.0	0.0	1.5	0.7	18.3	34.7	0	0	0.0			
	45	0.0	0.0	1.3	0.6	18.5	30.5	0	0	0.0			
	60	0.0	0.0	0.5	0.5	19.3	9.4	0	0	0.1			
Atmospheric pressure (mb) after: 1007	120	0.0	0.0	0.4	0.5	19.3	9.1	0	0	0.1			
	180	0.0	0.0	0.3	0.4	19.3	6.2	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Ground Gas Monitoring Results

Project:	Production Facility	Gas analyser:	GFM 436	Preceding Weather Conditions		On-site weather conditions	General Site Conditions / Ground Conditions / On-site Activities
Project Number:	2111006.005	Condition:	Calibrated	Atmospheric trend:	1001 - 1011 (rising)	Wet; Overcast; Occasional Showers	Partially Overgrown / Derelict Site
Location:	Port Talbot	Dip meter:	30m Dual Phase / 100m Black	Temperature range:	12 - 19°c		
Test Date:	24/07/2023	Operator:	RK	Rainfall:	7.8mm		

GAS MONITORING TO BE UNDERTAKEN IN ACCORDANCE WITH TEC METHOD STATEMENT

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH112	Atmospheric Conditions	0.0	0	0.0	0.0	20.4	0.0	0	0	0.0	0.99	7.40	Additional sample taken for dissolved methane testing (elevated levels recorded in 1st monitoring round). Dual Phase Dipmeter = Intermittent = Water Silt at base.
Time: 08:20	0	0.0	0	0.0	0.0	20.1	0.0	0	0	0.0			
	15	0.0	0	0.0	0.5	19.8	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1009	30	0.0	0	0.0	0.7	19.3	0.0	0	0	0.0			
	45	0.0	0	0.0	0.8	19.1	0.0	0	0	0.0			
	60	0.0	0	0.0	0.8	19.1	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1009	120	0.0	0	0.0	0.9	18.9	0.0	0	0	0.0			
	180	0.0	0	0.0	0.9	18.9	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref: BH120	Atmospheric Conditions	0.0	0	0.0	0.0	20.7	0.0	0	0	0.0	3.22	20.10	Additional sample taken for dissolved methane testing (elevated levels recorded in 1st monitoring round). Dual Phase Dipmeter = Intermittent = Water
Time: 15:15	0	0.0	0	0.0	0.0	20.4	0.0	0	0	0.0			
	15	0.0	0	0.0	0.3	20.2	0.0	0	0	0.0			
Atmospheric pressure (mb) before: 1009	30	0.0	0	0.0	0.3	20.2	0.0	0	0	0.0			
	45	0.0	0	0.0	0.2	20.3	0.0	0	0	0.0			
	60	0.0	0	0.0	0.2	20.3	0.0	0	0	0.0			
Atmospheric pressure (mb) after: 1009	120	0.0	0	0.0	0.2	20.4	0.0	0	0	0.0			
	180	0.0	0	0.0	0.2	20.4	0.0	0	0	0.0			
Well Condition: Good													
Well Diameter: 50mm													

Borehole Information	Time (s)	Borehole Flow Rate (l/hr)	DP (Pa)	Gas Concentrations							Groundwater Level (mbgl)	Borehole Depth (mbgl)	Comments
				CH4 (%v/v)	CO2 (%v/v)	O2 (%v/v)	LEL (%)	CO (ppm)	H2S (ppm)	VOC (ppm)			
BH ref:	Atmospheric Conditions												
Time:	0												
	15												
Atmospheric pressure (mb) before:	30												
	45												
	60												
Atmospheric pressure (mb) after:	120												
	180												
Well Condition:													
Well Diameter:													

Appendix I

Generic Quantitative Risk Assessment: Human Health

Project Number: 213006.005.01		Lab Sample Number:	2660080	2679165	2679166	2679167	2679172	2653195	2666585	2666586	2666587	2666588	2686245	2686246	2686251	2686260	2686261	2686277	2686278	2693801	2693802	2693803	2693808	2693809	2693810	2693811	2693812	2693813	2693814	2693815	2693828	2693829	2693830	2693831
Project Name: Project Dragon - SAF Production Facility - Zone 1		Sample Reference:	BH103	BH108	BH108	BH108	BH116	BH117	TP118	TP122	TP122	TP123	TP101	TP101	TP106	TP115	TP115	TP105	TP105	TP103A	TP103A	TP124	DS110	DS110	DS112	DS112	DS112	DS112	DS111	DS102B	DS101	DS101	DS103	DS103
Site End Use:		Sample Number:																																
Commercial		Depth (m):	0.50-1.00	0.20-0.40	1.50-1.80	3.20-3.40		0.20-0.60	0.50-0.80	0.40-0.60	1.20-1.40	1.00-1.20	0.40-0.60	1.80-2.20	0.40-0.60	0.30-0.50	1.40-1.60	0.20-0.40	1.60-1.80	0.60-0.80	1.80-2.00	0.30-0.50	0.20-0.60	1.60-2.00	0.20-0.60	1.40-1.70	3.50-3.70	5.80-6.00	0.30-0.70	0.70-1.00	0.40-0.80	1.40-1.80	0.30-0.80	1.40-1.60
		Date Sampled:	20/04/2023	12/05/2023	12/05/2023	12/05/2023	45058	45029	45042	45042	45042	45042	45061	45061	45061	45062	45062	45063	45063	45070	45070	45070	45070	45070	45070	45070	45070	45070	45070	45070	45070	45070	45070	45070
		Time Taken:																																
Determinand	**GAC**	**Units**																																
Arsenic	640[a]	mg/kg	56	60	52	41		220	120	43	8.3	22	42	41	32	30	30	53	66	53	33	38	98	26	61	25	32	17	36	42	5	75	20	73
Boron	240000[a1]	mg/kg	0.8	1	2.7	12		1.2	0.5	0.6	0.3	2.1	1.2	1.1	0.5	0.8	0.8	2.8	5.2	0.2	0.9	0.9	< 0.2	< 0.2	< 0.2	< 0.2	1.7	2	0.2	0.4	< 0.2	0.6	2.2	0.6
Cadmium	410[a]	mg/kg	< 0.2	3	< 0.2	< 0.2		< 0.2	13	2.4	0.4	3.6	3.5	2.5	< 0.2	< 0.2	< 0.2	9.1	13	< 0.2	< 0.2	2	< 0.2	< 0.2	< 0.2	< 0.2	11	< 0.2	< 0.2	< 0.2	< 0.2	2	< 0.2
Chromium (total)	8600[a]	mg/kg	54	120	14	34		100	240	55	8.5	48	94	100	6.6	99	13	210	140	15	12	480	31	29	49	96	28	28	88	5.5	3.5	4.8	120	11
Chromium (VI)	49[a]	mg/kg	< 1.2	< 1.2	-	< 1.2		1.7	-	-	< 1.2	-	< 1.2	< 1.2	-	< 1.2	< 1.2	< 1.2	<1.8	< 1.2	< 1.2	1.6	< 1.2	< 1.2	< 1.2	<1.8	<1.8	<1.8	1.3	< 1.2	<1.8	< 1.2	< 1.2	< 1.2
Copper	68000[a]	mg/kg	240	310	320	85		580	1500	86	12	68	150	150	150	100	120	270	1400	260	120	680	120	290	140	78	570	12	180	100	37	84	170	2200
Lead	2300[a]	mg/kg	71	170	71	30		140	380	220	16	99	380	260	56	130	40	790	710	84	49	550	70	60	100	86	92	17	130	74	4.5	42	64	28
Mercury	3600[a]	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3		< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	0.5	< 0.3	0.6	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel	1800[a]	mg/kg	42	33	35	44		31	40	28	6.4	27	39	36	11	26	17	63	130	27	20	280	31	29	42	28	27	26	90	13	3.8	26	30	28
Selenium	13000[a]	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc	730000[a]	mg/kg	190	1100	78	160		410	2500	530	82	640	800	580	80	290	81	1900	2400	150	100	860	110	150	180	210	240	73	270	75	9.7	68	270	91
Beryllium	12[a]	mg/kg	1.4	1	1.2	1.2		1	1.2	1	0.21	1.2	1.3	1.8	0.33	1.4	0.57	1.2	1.2	0.75	0.52	1.1	1.1	1.6	1.2	1.3	0.8	0.94	0.67	0.48	0.1	1	0.48	0.41
Vanadium	9000[a]	mg/kg	110	160	28	48		160	460	100	18	55	150	160	13	120	23	210	160	26	20	43	42	50	68	140	46	41	86	25	4.8	13	260	20
Barium	22000[a]	mg/kg	200	180	250	80		210	340	170	20	160	380	260	80	320	190	270	240	100	77	230	120	150	180	170	190	26	190	120	19	150	80	36
Cyanide (Total)	20[a]	mg/kg	< 1.0	1.6	< 1.0	< 1.0		1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.9	3.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Phenol (Monohydric)	440[a]	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sulphide	-	mg/kg	38	19	33	37		13	18	9.7	6.6	50	9.2	75	< 1.0	75	10	15	110	3.9	9.5	42	11	140	6.2	37	100	28	7.5	< 1.0	2.3	10	14	12
Total Organic Carbon (TOC)	-	%	3.7	2.7	-	2.5		3.3	3.3	2.6	0.6	2.5	2	1.7	2.2	2.3	8.3	2.3	3.3	2.6	2.5	2.4	2.7	2.4	2.4	1.6	2.1	1	2.4	2.6	0.2	2.5	1.3	0.7
Naphthalene	190[a]	mg/kg	2	0.87	14	0.45		0.76	0.32	0.6	0.22	0.92	0.86	1.6	0.42	0.77	17	0.65	1.3	0.51	0.65	0.56	0.85	0.8	0.81	0.57	8.4	0.41	0.76	1.1	< 0.05	0.93	0.19	0.06
Acenaphthylene	83000[a]	mg/kg	0.15	0.15	< 0.05	< 0.05		0.08	< 0.05	0.11	0.06	0.15	0.55	0.87	< 0.05	0.29	2	0.6	0.22	0.05	< 0.05	0.09	< 0.05	0.1	< 0.05	< 0.05	1.2	< 0.05	0.08	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	84000[a]	mg/kg	0.25	0.63	19	0.67		0.24	0.19	< 0.05	< 0.05	0.12	0.16	0.33	< 0.05	0.74	50	0.6	0.64	0.18	1.2	0.8	0.12	0.07	0.12	< 0.05	1.1	< 0.05	0.1	0.08	< 0.05	0.11	0.19	< 0.05
Fluorene	63000[a]	mg/kg	0.66	0.56	19	0.72		0.28	0.27	0.32	0.07	0.56	0.33	0.81	0.2	0.76	45	0.68	0.79	0.19	0.88	0.74	0.18	0.4	0.28	0.23	3.5	< 0.05	0.23	0.17	< 0.05	0.18	0.16	< 0.05
Phenanthrene	22000[a]	mg/kg	4.5	6.1	250	7.6		2.8	2.8	1.3	0.55	1.6	2.8	4.7	1.4	9.5	740	6.5	6.8	2.1	8.3	10	1.3	1.5	1.8	1.1	18	0.11	1.8	1.2	0.11	1.2	2.6	0.45
Anthracene	520000[a]	mg/kg	0.8	1.5	73	2		0.61	0.48	0.27	0.16	0.24	1.2	2.4	0.23	2.7	220	1.8	1.6	0.38	1.6	2.4	0.28	0.21	0.41	0.26	3.6	< 0.05	0.35	0.12	< 0.05	< 0.05	0.52	0.07
Fluoranthene	23000[a]	mg/kg	4.6	8.9	320	10		4.4	4.3	1.4	0.79	1.7	6.4	9.5	1.3	17	980	12	11	2.4	7.8	14	1.4	0.97	1.6	1.3	16	< 0.05	2.2	0.8	0.11	0.18	3.6	0.51
Pyrene	54000[a]	mg/kg	3	7.6	300	9.1		3.5	3.2	0.95	0.53	1.2	4.4	6.7	1.1	14	800	10	8.8	2.1	6.7	12	1.1	0.69	1.3	0.96	12	< 0.05	1.8	0.64	0.09	0.17	3	0.43
Benzo(a)anthracene	170[a]	mg/kg	2.2	4.5	180	4.7		2	2.6	0.99	0.5	0.91	4.8	6.8	0.66	9.2	510	7.9	6.1	1.2	3.4	7	0.84	0.53	1.1	0.84	5	< 0.05	1.4	0.4	< 0.05	0.1	1.6	0.23
Chrysene	350[a]	mg/kg	2.5	4.9	180	4.8		2.5	2.5	1.2	0.63	0.92	4.9	6.9	0.79	8.2	490	6.7	5.4	1.4	3	6	1	0.66	1.1	0.81	4.4	< 0.05	1.6	0.66	< 0.05	0.42	1.7	0.25
Benzo(b)fluoranthene	44[a]	mg/kg	2.6	5.9	230	5.7		2	2.7	0.95	0.41	0.9	6	8.2	0.86	11	500	8.9	7.6	1.3	3.2	7.6	1.2	0.61	1.3	0.98	4.2	< 0.05	1.5	0.52	< 0.05	0.19	1.9	0.28
Benzo(k)fluoranthene	1200[a]	mg/kg	0.62	1.9	69	1.7		0.7	1.2	0.42	0.21	0.27	1.8	2.4	0.21	2.8	220	2.8	2.1	0.62	1.1	2.6	0.29	0.16	0.32	0.29	2	< 0.05	0.76	0.2	< 0.05	0.05	0.77	0.07
Benzo(a)pyrene	35[a]	mg/kg	1.4	4.4	200	4.7		1	1.9	0.61	0.26	0.55	3.3	4.8	0.45	7.8	450	6	5.2	0.82	2.3	5.7	0.6	0.31	0.65	0.6	3.4	< 0.05	0.86	0.22	< 0.05	0.07	1.4	0.19
Indeno(1,2,3-cd)pyrene	500[a]	mg/kg	0.67	2.9	110	2.7		0.55	1.1	0.34	0.13	0.27	2.2	3.1	0.31	4.3	240	3.2	3.1	0.52	1.3	3.3	0.42	0.22	0.44	0.38	2	< 0.05	0.81	0.23	< 0.05	< 0.05	0.85	0.12
Dibenz[a,h]anthracene	3.5[a]	mg/kg	0.26	0.93	30	0.84		< 0.05	0.37	0.18	< 0.05	0.1	0.81	1.2	0.09	1.3	60	1.1	0.93	0.19	0.44	0.88	0.15	0.11	0.21	0.16	0.61	< 0.05	0.28	< 0.05	< 0.05	< 0.05	0.22	< 0.05
Benzo[ghi]perylene	3900[a]	mg/kg	0.63	3.6	130	3.4		0.57	1.2	0.34	0.14	0.29	2.2	3	0.36	4.5	240	3.2	3.1	0.48	1.4	3.8	0.38	0.24	0.4	0.33	2.1	< 0.05	0.8	0.22	< 0.05	0.08	0.88	0.12
Speciated Total EPA-16 PAHs	-	mg/kg	27	-	2110	59.2		22	25.1	9.88	4.66	10.6	42.6	63.2	8.33	94.4	5550	72.8	64.1	-	-	78.2	-	7.6	-	8.76	86.6	< 0.80	15.2	-	< 0.80	3.72	19.5	2.78
Benzene	27[a]	µg/kg	-	< 5.0	< 5.0	-		< 5.0	< 5.0##	< 5.0###	-	< 5.0##	-	-	< 5.0###	< 5.0	-	-	< 5.0###	< 5.0	< 5.0	-	< 5.0###	-	< 5.0	< 5.0^	43	< 5.0	-	< 5.0	< 5.0	-	-	-
Toluene	56000[a]	µg/kg	-	< 5.0	< 5.0	-		< 5.0	< 5.0##	< 5.0###	-	< 5.0##	-	-	< 5.0###	< 5.0	-	-	< 5.0###	< 5.0	< 5.0	-	< 5.0	-	< 5.0	< 5.0^	160	< 5.0	-	< 5.0	< 5.0	-	-	-
Ethylbenzene	5700[a]	µg/kg	-	< 5.0	< 5.0	-		< 5.0	< 5.0##	< 5.0###	-	< 5.0##	-	-	< 5.0###	< 5.0	-	-	< 5.0###	< 5.0	< 5.0	-	< 5.0	-	< 5.0	< 5.0^	140	< 5.0	-	< 5.0	< 5.0	-	-	-
p & m-xylene	5900[a]	µg/kg	-	< 5.0	< 5.0	-		< 5.0	< 5.0##	< 5.0###	-	< 5.0##	-	-	< 5.0###	< 5.0	-	-	< 5.0###	< 5.0	< 5.0	-	< 5.0	-	< 5.0	< 5.0^	1100	< 5.0	-	< 5.0	< 5.0	-	-	-
o-xylene	6600[a]	µg/kg	-	< 5.0	< 5.0	-		< 5.0	< 5.0##	< 5.0###	-	< 5.0##	-	-	< 5.0###	< 5.0##	-	-	< 5.0###	< 5.0	< 5.0	-	< 5.0	-	< 5.0	< 5.0^	610	< 5.0	-	< 5.0	< 5.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	7900[a]	µg/kg	-	< 5.0	< 5.0	-		< 5.0	< 5.0##	< 5.0###	-	< 5.0##	-	-	< 5.0###	< 5.0	-	-	< 5.0###	< 5.0	< 5.0	-	< 5.0	-	< 5.0	< 5.0^	< 5.0	< 5.0	-	< 5.0	< 5.0	-	-	-
TPH Aliphatic C5 - C6	3200[a]	mg/kg	-	< 0.001	< 0.001	-		< 0.001	< 0.001	< 0.001	-	< 0.001			< 0.001	< 0.001	-	-	< 0.001	< 0.001	< 0.001	-	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	-	-	-
TPH Aliphatic C6 - C8	7800[a]	mg/kg	-	< 0.001	< 0.001	-		< 0.001	< 0.001	< 0.001	-	< 0.001			< 0.001	< 0.001	-	-	< 0.001	< 0.001	< 0.001	-	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	-	-	-
TPH Aliphatic C8 - C10	2000[a]	mg/kg	-	< 0.001	< 0.001	-		< 0.001	< 0.001	< 0.001	-	< 0.001			< 0.001	< 0.001	-	-	< 0.001	< 0.001	< 0.001	-	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	-	-	-
TPH Aliphatic C10 - C12	9700[a]	mg/kg	-	< 1.0	< 1.0	-		1.3	< 1.0	< 1.0	-	< 1.0			1.2	< 1.0	-	-	< 1.0	< 1.0	< 1.0	-	< 1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	-	1.8	< 1.0	-	-	-
TPH Aliphatic C12 - C16	59000[a]	mg/kg	-	2.1	5.2	-		2.2	3.5	< 2.0	-	2.1			5.2	< 2.0	-	-	15	< 2.0	2.8	-	< 2.0	-	< 2.0	< 2.0	11	< 2.0	-	11	< 2.0	-	-	-
TPH Aliphatic C16 - C21	1600000[a]	mg/kg	-	< 8.0	40	-		< 8.0	57	< 8.0	-	< 8.0			18	< 8.0	-	-	140	< 8.0	< 8.0	-	< 8.0	-	< 8.0	< 8.0	16	< 8.0	-	20	< 8.0	-	-	-
TPH Aliphatic C21 - C35	1600000[a]	mg/kg	-	13	250	-		9.3	910	< 8.0	-	47			42	< 8.0	-	-	470	< 8.0	24	-	< 8.0	-	< 8.0	< 8.0	28	< 8.0	-	24	< 8.0	-	-	-
TPH Aromatic C5 - C7	26000[a]	mg/kg	-	< 0.001	< 0.001	-		< 0.001	< 0.001	< 0.001	-	< 0.001			< 0.001	< 0.001	-	-	< 0.001	< 0.001	< 0.001	-	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	-	-	-
TPH Aromatic C7 - C8	56000[a]	mg/kg	-	< 0.001	< 0.001	-		< 0.001	< 0.001	< 0.001	-	< 0.001			< 0.001	< 0.001	-	-	< 0.001	< 0.001	< 0.001	-	< 0.001	-	< 0.001	< 0.001	0.14	< 0.001	-	< 0.001	< 0.001	-	-	-
TPH Aromatic C8 - C10	3500[a]	mg/kg	-	< 0.001	< 0.001	-		< 0.001	< 0.001	< 0.001	-	< 0.001			< 0.001	< 0.001	-	-	< 0.001	< 0.001	< 0.001	-	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	-	-	-
TPH Aromatic C10 - C12	16000[a]	mg/kg	-	< 1.0	2.3	-		< 1.0	< 1.0	< 1.0	-	1.6			< 1.0	< 1.0	-	-	< 1.0	< 1.0	1.2	-	< 1.0	-	1	< 1.0	9	< 1.0	-	3.4	< 1.0	-	-	-
TPH Aromatic C12 - C16	36000[a]	mg/kg	-	3.5	24	-		< 2.0	8.5	8.5	-	8.7			< 2.0	3.3	-	-	5.9	3.3	5.3	-	2.6	-	3.9	< 2.0	48	< 2.0	-	9.3	< 2.0	-	-	-
TPH Aromatic C16 - C21	28000[a]	mg/kg	-	17	380	-		11	24	< 10	-	< 10			< 10	35	-	-	76	< 10	19	-	< 10	-	< 10	< 10	120	< 10	-	14	< 10	-	-	-
TPH Aromatic C21 - C35	28000[a]	mg/kg	-	40	880	-		13	260	< 10	-	20			< 10	70	-	-	210	14	19	-	< 10	-	< 10	< 10	140	< 10	-	14	< 10	-	-	-

Notes:

[1] DEFRA C4SLs (2014)

[2] Environment Agency SGVs (2009)

[3] LQM/CIEH S4ULs (2015)

[4] CL:AIRE, ASCL & ES (2009)

[5] Dutch Intervention Value for free cyanide (VROM 2000)

*All GACs based on a sandy soil and Soil Organic Matter (SOM) of 1% where applicable.

Concentration does not exceed GAC

Concentration exceeds GAC

No set GAC

Project Number: 211006.005.01		Lab Sample Number:	2684344	2660081	2679168	2679169	2666590	2675016	2675017	2675018	2675019	2686252	2686253	2686254	2686255	2686262	2686263	2686264	2686265	2686266	2686267	2686268	2686274	2693816	2693817	2693818	2693819	2693820	2693821
Project Name: Project Dragon - SAF Production Facility - Zone 2		Sample Reference:	BH106	BH119	BH111	BH111	BH115	BH112	BH112	BH114	BH114	TP108	TP108	TP109	TP109	TP120	TP120	TP119	TP119	TP121	TP121	TP125	TP112	DS106	DS106	DS106	DS104	DS104	DS104
Site End Use:		Sample Number:																											
Commercial		Depth (m):	1.00-2.00	0.10-1.00	0.60-0.80	2.60-2.80	2.20-2.50	0.20-0.60	1.50-2.00	0.80-1.40	2.40-2.60	0.40-0.60	1.50-1.60	0.20-0.40	2.40-2.60	0.40-0.60	1.80-2.00	0.60-0.80	1.80-2.20	0.60-0.80	1.40-1.60	0.80-1.00	0.90-1.20	0.20-0.60	1.40-1.80	3.30-3.80	0.20-0.60	2.40-2.80	4.70-5.00
		Date Sampled:	Deviating	20/04/2023	12/05/2023	12/05/2023	45044	45050	45050	45050	45050	45061	45061	45061	45061	45062	45062	45062	45062	45062	45062	45062	45062	45070	45070	45070	45070	45070	45070
		Time Taken:																											
Determinand	**GAC**	**Units**																											
Arsenic	640[1]	mg/kg		56	27	16	21	22	21	23	18	40	11	28	13	38	12	110	21	160	55	27	22	51	36	14	62	15	10
Boron	240000[3]	mg/kg		0.9	2.4	1	0.9	3.4	1.6	0.8	0.9	1.8	1.2	1.3	1.8	0.8	1.5	0.5	0.8	2.3	1.5	0.6	1.2	1.3	1	4.4	0.3	1.2	0.6
Cadmium	410[1]	mg/kg		2.6	17	< 0.2	2.6	7.4	1.1	< 0.2	1.3	12	< 0.2	2.2	0.6	2.7	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.4	< 0.2	2.2	< 0.2	4.9	< 0.2	< 0.2
Chromium (total)	8600[3]	mg/kg		96	400	39	38	42	18	28	11	42	12	38	14	19	14	21	41	67	13	44	8.4	25	13	12	77	4.3	4.6
Chromium (VI)	49[1]	mg/kg		< 1.2		< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	-		< 1.2	< 1.2					< 1.2				< 1.8	< 1.2	< 1.2	<1.8	< 1.2	< 1.2	<1.8
Copper	68000[2]	mg/kg		280	800	24	110	360	120	99	170	710	56	370	390	330	21	790	89	140	79	120	66	140	520	74	1100	62	40
Lead	2300[1]	mg/kg		110	170	23	98	170	50	82	91	230	43	160	43	330	19	150	96	67	59	180	33	180	340	38	530	27	24
Mercury	3600[2]	mg/kg		< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	0.7	< 0.3	< 0.3	0.9	< 0.3	< 0.3
Nickel	1800[2]	mg/kg		69	69	24	48	58	28	50	26	44	12	43	21	38	13	27	40	66	26	64	27	66	37	30	360	29	13
Selenium	13000[2]	mg/kg		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.5	< 1.0	2.4	2
Zinc	730000[2]	mg/kg		420	2000	200	530	520	170	220	170	650	97	780	230	3600	50	320	150	150	120	230	54	270	640	71	1000	44	25
Beryllium	12[2]	mg/kg		1.1	2	0.96	1	0.94	0.96	1.3	0.66	2.5	0.42	1.3	0.47	1.2	0.47	0.95	1.1	0.79	0.74	1.4	1.2	1.6	0.86	1.1	1.1	1.2	0.47
Vanadium	9000[2]	mg/kg		54	410	43	37	47	29	42	17	46	20	42	21	44	24	47	15	170	26	42	19	38	25	18	98	8.3	7.6
Barium	22000[4]	mg/kg		200	410	38	160	300	56	180	130	450	42	270	69	470	21	210	1100	250	220	290	83	580	300	65	450	80	56
Cyanide (Total)	20[5]	mg/kg		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	11	< 1.0	< 1.0
Phenol (Monohydric)	440[2]	mg/kg		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sulphide	-	mg/kg		4.5	40	17	5.4	46	35	3.5	21	130	16	24	33	19	27	3.7	11	17	14	1.9	< 1.0	< 1.0	71	11	11	4	10
Total Organic Carbon (TOC)	-	%		3.8	1.5	0.8	2	-	-	-	6.6	3.7	0.7	3.7	1.2	11	0.8	6.1	2.5	1.6	2.7	3.9	1.8	8.8	5.5	2.4	2.7	1.4	5.2
Naphthalene	190[2]	mg/kg		0.67	0.43	< 0.05	1.4	1.8	4.1	0.43	2.1	1.5	0.12	1.2	0.49	140~	0.12	3.2	0.62	2	1.8	0.43	3.1	1.2	1.8	1.7	0.54	0.69	1.8
Acenaphthylene	83000[2]	mg/kg		0.05	0.2	< 0.05	< 0.05	< 0.05	0.25	0.06	0.16	0.2	< 0.05	0.26	< 0.05	< 1.0~	0.24	< 0.05	0.2	0.11	0.17	0.11	< 0.05	0.15	0.09	0.09	0.21	< 0.05	0.08
Acenaphthene	84000[2]	mg/kg		0.6	1.8	< 0.05	1.9	3	4.4	0.38	5.3	1.7	0.18	1.9	7.3	160~	0.31	16	0.8	1.4	2.8	0.49	5.7	0.62	3.1	0.14	0.41	< 0.05	0.83
Fluorene	63000[2]	mg/kg		0.68	2.1	< 0.05	1.7	3.1	4.2	0.41	6.9	1.7	0.17	1.9	14	170~	0.36	17	1	1.4	2.5	0.5	6.5	0.52	3.2	0.25	0.4	0.22	1.5
Phenanthrene	22000[2]	mg/kg		7.7	26	0.32	17	26	44	4.1	67	20	2.8	31	13	1500~ $	4.2	310	12	15	30	4.7	53	6.5	40	1.3	5.8	1.1	7
Anthracene	520000[2]	mg/kg		1.7	7.1	0.07	4.1	6.5	14	0.89	16	4.8	0.58	8.2	12	460~	0.94	73	2.8	3.9	7.2	0.84	14	1.2	9.9	0.24	1.8	< 0.05	1.4
Fluoranthene	23000[2]	mg/kg		9.3	28	0.37	20	35	71	6	80	28	4.3	51	71	1500~ $	6.5	450	17	18	37	5.4	54	8.3	56	1.2	9.7	0.3	5.6
Pyrene	54000[2]	mg/kg		7.5	24	0.31	18	29	66	4.8	64	25	3.8	45	56	1400~ $	5.8	380	15	17	33	4.7	44	6.7	48	1	8.5	0.28	5.1
Benzo(a)anthracene	170[2]	mg/kg		4.3	15	0.18	9.7	16	43	3.6	39	15	2.2	28	15	860~	3.8	240	9.1	9.9	20	2.8	28	4.3	29	0.67	5.2	0.15	2.9
Chrysene	350[2]	mg/kg		4.6	14	0.19	9.3	17	47	3.7	37	14	2.2	24	14	830~	3.3	230	8.6	8.1	17	2.7	23	5	27	0.64	5.4	0.38	3.2
Benzo(b)fluoranthene	44[2]	mg/kg		4.9	13	0.22	11	17	72	3.9	37	19	2.8	31	9.9	820~	4.8	250	11	11	23	3.4	28	5.7	31	0.81	6.5	0.24	3.2
Benzo(k)fluoranthene	1200[2]	mg/kg		1.8	6.4	0.09	3.1	6.3	20	1.9	18	6.3	0.92	13	4.9	420~	1.1	100	2.5	3.2	6.9	1	7.4	2.5	11	0.25	2.2	0.08	1.2
Benzo(a)pyrene	35[2]	mg/kg		3.6	11	0.17	8.4	14	62	2.9	28	14	2.1	26	8.2	770~	3.3	220	7.7	8.5	18	2.2	20	3.9	25	0.57	4.9	0.12	2.7
Indeno(1,2,3-cd)pyrene	500[2]	mg/kg		1.6	5.6	0.11	4.6	7.3	35	1.7	15	8.1	1.2	15	3.9	410~	1.8	97	3.9	4.6	9	1.4	9.3	2.6	13	0.33	2.8	0.1	1.5
Dibenz(a,h)anthracene	3.5[2]	mg/kg		0.48	1.8	< 0.05	0.97	2	9.9	0.59	4.9	1.8	0.32	3.7	0.91	120~	0.49	34	1.2	1.2	2.4	0.38	3	0.79	3.5	< 0.05	0.74	< 0.05	0.53
Benzo(ghi)perylene	3900[2]	mg/kg		1.7	6.1	0.13	5	8.2	40	1.7	15	8.9	1.4	16	3.6	440~	2	120	4	4.8	9.4	1.4	8.9	2.7	13	0.32	3	0.13	1.4
Speciated Total EPA-16 PAHs	-	mg/kg		-	163	-	-	192	532	37	435	168	25	296	233	10000~	39.1	2510	97.5	111	220	32.4	307	52.8	-	9.5	57.9	-	40
Benzene	27[2]	µg/kg		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	-	< 5.0	< 5.0	< 5.0	-	< 5.0###	< 5.0###	< 5.0###	< 5.0###	< 5.0###	-	< 5.0###	< 5.0###	< 5.0###	< 5.0###	-	< 5.0	< 5.0^	-	< 5.0	< 5.0^
Toluene	56000[2]	µg/kg		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	-	< 5.0	< 5.0	< 5.0	-	< 5.0###	< 5.0###	< 5.0###	< 5.0###	< 5.0###	-	< 5.0###	< 5.0###	< 5.0###	< 5.0###	-	< 5.0	< 5.0^	-	< 5.0	< 5.0^
Ethylbenzene	5700[2]	µg/kg		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	-	< 5.0	< 5.0	< 5.0	-	< 5.0###	< 5.0###	< 5.0###	< 5.0###	< 5.0###	-	< 5.0###	< 5.0###	< 5.0###	< 5.0###	-	< 5.0	< 5.0^	-	< 5.0	< 5.0^
p & m-xylene	5900[2]	µg/kg		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	-	< 5.0	< 5.0	< 5.0	-	< 5.0###	< 5.0###	< 5.0###	< 5.0###	< 5.0###	-	< 5.0###	< 5.0###	< 5.0###	< 5.0###	-	< 5.0	< 5.0^	-	< 5.0	< 5.0^
o-xylene	6600[2]	µg/kg		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	-	< 5.0	< 5.0	< 5.0###	-	< 5.0###	< 5.0###	< 5.0###	< 5.0###	< 5.0###	-	< 5.0###	< 5.0###	< 5.0###	< 5.0###	-	< 5.0	< 5.0^	-	< 5.0	< 5.0^
MTBE (Methyl Tertiary Butyl Ether)	7900[4]	µg/kg		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	-	< 5.0	< 5.0	< 5.0	-	< 5.0###	< 5.0###	< 5.0###	< 5.0###	< 5.0###	-	< 5.0###	< 5.0###	< 5.0###	< 5.0###	-	< 5.0	< 5.0^	-	< 5.0	< 5.0^
TPH Aliphatic C5 - C6	3200[2]	mg/kg		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH Aliphatic C6 - C8	7800[2]	mg/kg		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH Aliphatic C8 - C10	2000[3]	mg/kg		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH Aliphatic C10 - C12	9700[3]	mg/kg		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0	2.7	1.3	-	2.5	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0	< 1.0	-	< 1.0	< 1.0
TPH Aliphatic C12 - C16	59000[2]	mg/kg		< 2.0	< 2.0	< 2.0	2.1	2.8	-	< 2.0	11	< 2.0	-	4.6	17	4.7	< 2.0	7.4	-	< 2.0	< 2.0	< 2.0	< 2.0	-	4.7	< 2.0	-	< 2.0	< 2.0
TPH Aliphatic C16 - C21	1600000[2]	mg/kg		< 8.0	< 8.0	< 8.0	< 8.0	8.3	-	< 8.0	21	8.5	-	14	33	25	< 8.0	9.8	-	19	23	< 8.0	< 8.0	-	21	< 8.0	-	< 8.0	< 8.0
TPH Aliphatic C21 - C35	1600000[2]	mg/kg		13	< 8.0	< 8.0	48	65	-	17	140	49	-	61	36	200	< 8.0	77	-	140	120	66	< 8.0	-	100	< 8.0	-	< 8.0	< 8.0
TPH Aromatic C5 - C7	26000[3]	mg/kg		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH Aromatic C7 - C8	56000[2]	mg/kg		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH Aromatic C8 - C10	3500[3]	mg/kg		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH Aromatic C10 - C12	16000[2]	mg/kg		< 1.0	< 1.0	< 1.0	2.3	2.7	-	2.1	2.2	5.7	-	1.9	2	22	< 1.0	< 1.0	-	6.6	1.1	< 1.0	2	-	2.4	2.1	-	< 1.0	1.1
TPH Aromatic C12 - C16	36000[3]	mg/kg		< 2.0	5.7	< 2.0	7.3	8.2	-	4.7	16	9.6	-	9.1	100	230	< 2.0	22	-	21	18	< 2.0	15	-	13	5.1	-	< 2.0	8
TPH Aromatic C16 - C21	28000[2]	mg/kg		18	60	< 10	29	61	-	14	120	38	-	110	380	2600	15	640	-	110	260	23	120	-	130	< 10	-	< 10	23
TPH Aromatic C21 - C35	28000[2]	mg/kg		31	110	< 10	40	84	-	29	190	89	-	230	190	4200	37	1300	-	160	410	44	140	-	240	17	-	< 10	39

Notes:

[1] DEFRA C4SLs (2014)

[2] Environment Agency SGVs (2009)

[3] LQM/CIEH S4ULs (2015)

[4] CL:AIRE, AGS & EIS (2009)

[5] Dutch Intervention Value for free cyanide (VROM 2000)

*All GACs based on a sandy soil and Soil Organic Matter (SOM) of 1% where applicable.

Concentration does not exceed GAC

Concentration exceeds GAC

No set GAC

Project Number: 211006.005.01		Lab Sample Number:	2639377	2639378	2645666	2645665	2686247	2686248	2686249	2686250	2686256	2686257	2686258	2686259	2686279	2686286	2686287	2693804	2693805
Project Name: Project Dragon - SAF Production Facility - Zone 3		Sample Reference:	BH101	BH105	BH118	BH102	TP102	TP102	TP104	TP104	TP113	TP113	TP116	TP116	TP114	BH107	BH107	DS108	DS108
Site End Use:		Sample Number:																	
Commercial		Depth (m):	0.60-0.90	0.10-0.30	0.30-0.60	0.20-0.40	0.40-0.60	1.60-2.00	0.20-0.60	1.80-2.20	0.80-1.00	1.80-2.00	0.40-0.60	1.80-2.40	0.40-0.60	0.40-0.60	1.80-2.00	0.10-0.30	1.80-2.00
		Date Sampled:	30/03/2023	45015	45021	45021	45061	45061	45061	45061	45061	45061	45061	45061	45063	45064	45064	45070	45070
		Time Taken:																	
Determinand	**GAC**	**Units**																	
Arsenic	640[1]	mg/kg	27	54	21	39	9.8	8.8	28	8.1	15	11	11	11	59	34	11	22	11
Boron	240000[3]	mg/kg	1.6	2.2	0.3	0.2	0.4	1.1	1.8	2.1	1.8	7.9	0.7	0.9	1	1.1	0.5	< 0.2	0.4
Cadmium	410[1]	mg/kg	3.5	64	2	< 0.2	< 0.2	< 0.2	1.2	< 0.2	14	5.6	0.4	< 0.2	< 0.2	4.1	1.4	< 0.2	< 0.2
Chromium (total)	8600[3]	mg/kg	22	130	13	12	12	31	25	23	69	53	13	19	21	21	8	19	20
Chromium (VI)	49[1]	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	-	-	< 1.2	< 1.2	< 1.8	<1.8	< 1.2	< 1.2	<1.8
Copper	68000[3]	mg/kg	520	4300	450	220	24	18	91	17	9000	16000	99	10	130	390	80	120	15
Lead	2300[1]	mg/kg	110	430	150	76	11	17	88	13	530	210	12	14	120	150	18	43	12
Mercury	3600[2]	mg/kg	< 0.3	2.5	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel	1800[2]	mg/kg	37	250	22	22	11	28	26	20	740	300	15	16	45	42	8.5	23	20
Selenium	13000[2]	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc	730000[3]	mg/kg	230	1500	150	110	45	79	190	57	3400	5100	63	52	350	220	52	99	62
Beryllium	12[3]	mg/kg	0.54	0.76	0.47	0.49	0.35	0.9	0.85	0.66	0.39	0.19	0.33	0.6	1.5	0.58	0.2	0.61	0.66
Vanadium	9000[3]	mg/kg	39	98	21	23	17	38	47	33	29	18	17	27	43	29	13	31	27
Barium	22000[4]	mg/kg	140	580	230	88	11	18	120	15	190	150	14	20	330	280	40	51	14
Cyanide (Total)	20[5]	mg/kg	< 1.0	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Phenol (Monohydric)	440[3]	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sulphide	-	mg/kg	24	59	< 1.0	9.2	1.2	< 1.0	2.3	67	< 1.0	< 1.0	1.2	47	< 1.0	6	7.3	9.1	8.2
Total Organic Carbon (TOC)	-	%	5.6	4.3	5.2	3	0.2	0.4	2.7	0.9	0.6	0.3	0.3	1.2	5.1	6.1	0.6	1.6	0.7
Naphthalene	190[3]	mg/kg	< 0.05	0.91	140	< 0.05	< 0.05	< 0.05	0.52	< 0.05	< 0.05	< 0.05	0.11	< 0.05	0.3	5	< 0.05	1.1	< 0.05
Acenaphthylene	83000[3]	mg/kg	< 0.05	0.14	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.12	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	84000[3]	mg/kg	63	2.8	570	57	< 0.05	< 0.05	2.6	< 0.05	< 0.05	< 0.05	0.52	0.12	0.13	33	2.4	7.5	< 0.05
Fluorene	63000[3]	mg/kg	61	2.6	600	59	< 0.05	< 0.05	2.8	< 0.05	< 0.05	< 0.05	0.54	0.12	0.14	37	2.3	6.2	< 0.05
Phenanthrene	22000[3]	mg/kg	650	38	2300	730	0.11	< 0.05	32	0.16	0.48	0.13	6.4	1.9	1.4	400	23	80	< 0.05
Anthracene	520000[3]	mg/kg	190	9.1	1400	180	< 0.05	< 0.05	8.1	< 0.05	0.13	< 0.05	1.3	0.44	0.22	110	7	19	< 0.05
Fluoranthene	23000[3]	mg/kg	580	49	2200	720	0.12	< 0.05	34	0.18	0.84	0.15	6.9	3.2	1.7	380	23	82	< 0.05
Pyrene	54000[3]	mg/kg	480	42	2100	600	0.09	< 0.05	29	0.17	0.8	0.13	5.7	2.7	1.5	330	19	68	< 0.05
Benzo(a)anthracene	170[3]	mg/kg	250	24	1800	310	< 0.05	< 0.05	16	< 0.05	0.45	0.08	2.9	1.6	1.4	170	8.5	35	< 0.05
Chrysene	350[3]	mg/kg	240	20	1700	280	< 0.05	< 0.05	14	< 0.05	0.52	0.07	2.8	1.4	1.3	160	9.4	31	< 0.05
Benzo(b)fluoranthene	44[3]	mg/kg	230	24	1900	300	< 0.05	< 0.05	16	0.11	0.54	0.1	3.1	1.6	2.2	150	7.4	28	< 0.05
Benzo(k)fluoranthene	1200[3]	mg/kg	85	8.5	520	85	< 0.05	< 0.05	5	< 0.05	0.24	< 0.05	0.93	0.67	0.64	61	3.2	13	< 0.05
Benzo(a)pyrene	35[3]	mg/kg	190	18	1400	220	< 0.05	< 0.05	13	0.06	0.31	0.06	2.2	1.4	1.3	130	5.8	23	< 0.05
Indeno(1,2,3-cd)pyrene	500[3]	mg/kg	87	9	620	93	< 0.05	< 0.05	6.1	< 0.05	< 0.05	< 0.05	1.2	0.75	1	59	3.3	11	< 0.05
Dibenz(a,h)anthracene	3.5[3]	mg/kg	23	1.6	180	32	< 0.05	< 0.05	1.1	< 0.05	< 0.05	< 0.05	0.32	0.21	0.33	19	0.94	2.8	< 0.05
Benzo(ghi)perylene	3900[3]	mg/kg	99	9.3	690	98	< 0.05	< 0.05	5.9	< 0.05	< 0.05	< 0.05	1.4	0.83	1	67	3.5	13	< 0.05
Speciated Total EPA-16 PAHs	-	mg/kg	3240	259	18100	3760	< 0.80	< 0.80	187	< 0.80	4.31	< 0.80	36.2	17	14.6	2110	119	421	< 0.80
Benzene	27[3]	µg/kg	< 5.0	< 5.0			-	-	< 5.0	< 5.0	< 5.0###	< 5.0###	-	-	< 5.0###	< 5.0###	-	-	< 5.0
Toluene	56000[3]	µg/kg	< 5.0	< 5.0			-	-	< 5.0	< 5.0	< 5.0###	< 5.0###	-	-	< 5.0###	< 5.0###	-	-	< 5.0
Ethylbenzene	5700[3]	µg/kg	< 5.0	< 5.0			-	-	< 5.0	< 5.0	< 5.0###	< 5.0###	-	-	< 5.0###	< 5.0###	-	-	< 5.0
p & m-xylene	5900[3]	µg/kg	< 5.0	< 5.0			-	-	< 5.0	< 5.0	< 5.0###	< 5.0###	-	-	< 5.0###	< 5.0###	-	-	< 5.0##
o-xylene	6600[3]	µg/kg	< 5.0	< 5.0			-	-	< 5.0###	< 5.0###	< 5.0###	< 5.0###	-	-	< 5.0###	< 5.0###	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	7900[4]	µg/kg	< 5.0	< 5.0			-	-	< 5.0	< 5.0	< 5.0###	< 5.0###	-	-	< 5.0###	< 5.0###	-	-	< 5.0
TPH Aliphatic C5 - C6	3200[3]	mg/kg	< 0.001	< 0.001			-	-	< 0.001	< 0.001	< 0.001	< 0.001	-	-	< 0.001	< 0.001	-	-	< 0.001
TPH Aliphatic C6 - C8	7800[3]	mg/kg	< 0.001	< 0.001			-	-	< 0.001	< 0.001	< 0.001	< 0.001	-	-	< 0.001	< 0.001	-	-	< 0.001
TPH Aliphatic C8 - C10	2000[3]	mg/kg	< 0.001	< 0.001			-	-	< 0.001	< 0.001	< 0.001	< 0.001	-	-	< 0.001	< 0.001	-	-	< 0.001
TPH Aliphatic C10 - C12	9700[3]	mg/kg	8.2	< 1.0			-	-	< 1.0	< 1.0	< 1.0	< 1.0	-	-	< 1.0	< 1.0	-	-	< 1.0
TPH Aliphatic C12 - C16	59000[3]	mg/kg	22	4.2			-	-	< 2.0	< 2.0	< 2.0	< 2.0	-	-	< 2.0	< 2.0	-	-	< 2.0
TPH Aliphatic C16 - C21	1600000[3]	mg/kg	35	14			-	-	< 8.0	< 8.0	28	< 8.0	-	-	< 8.0	< 8.0	-	-	< 8.0
TPH Aliphatic C21 - C35	1600000[3]	mg/kg	70	53			-	-	< 8.0	< 8.0	79	< 8.0	-	-	< 8.0	42	-	-	< 8.0
TPH Aromatic C5 - C7	26000[3]	mg/kg	< 0.001	< 0.001			-	-	< 0.001	< 0.001	< 0.001	< 0.001	-	-	< 0.001	< 0.001	-	-	< 0.001
TPH Aromatic C7 - C8	56000[3]	mg/kg	< 0.001	< 0.001			-	-	< 0.001	< 0.001	< 0.001	< 0.001	-	-	< 0.001	< 0.001	-	-	< 0.001
TPH Aromatic C8 - C10	3500[3]	mg/kg	< 0.001	< 0.001			-	-	< 0.001	< 0.001	< 0.001	< 0.001	-	-	< 0.001	< 0.001	-	-	< 0.001
TPH Aromatic C10 - C12	16000[3]	mg/kg	3	< 1.0			-	-	1.3	< 1.0	< 1.0	< 1.0	-	-	< 1.0	10	-	-	< 1.0
TPH Aromatic C12 - C16	36000[3]	mg/kg	79	6.5			-	-	6.5	< 2.0	< 2.0	< 2.0	-	-	< 2.0	86	-	-	< 2.0
TPH Aromatic C16 - C21	28000[3]	mg/kg	770	68			-	-	74	< 10	< 10	< 10	-	-	17	820	-	-	< 10
TPH Aromatic C21 - C35	28000[3]	mg/kg	1000	110			-	-	94	< 10	< 10	< 10	-	-	49	1000	-	-	< 10

Notes:

[1] DEFRA C4SLs (2014)

[2] Environment Agency SGVs (2009)

[3] LQM/CIEH S4ULs (2015)

[4] CL:AIRE, AGS & EIS (2009)

[5] Dutch Intervention Value for free cyanide (VROM 2000)

*All GACs based on a sandy soil and Soil Organic Matter (SOM) of 1% where applicable.

Concentration does not exceed GAC

Concentration exceeds GAC

No set GAC

Project Number: 211006.005.01		Lab Sample Number:	2639376	2666589	2675014	2675015	2675020	2675021	2686269	2686270	2686271	2686272	2686273	2686275	2686276	2686280	2686281	2686282	2686283	2686284	2686285	2693799	2693800	2693806	2693807	2693822	2693823	2693824	2693825	2693826	2693827
Project Name: Project Dragon - SAF Production Facility - Zone 4		Sample Reference:	HP101	BH113	BH110	BH110	BH120	BH120	TP126	TP127	TP127	TP128	TP128	TP117	TP117	TP110	TP110	TP129	TP111	TP111	TP130	BH109	BH109	DS109	DS109	DS105	DS105	DS107	DS107	DS113	DS113
Site End Use:		Sample Number:																													
Commercial		Depth (m):	0.10-0.30	0.60-0.80	0.60-0.80	2.60-2.90	0.60-0.80	2.40-2.90	0.70-1.00	0.40-0.60	1.40-1.80	0.40-0.60	1.70-1.90	1.30-1.50	1.80-2.00	0.40-0.60	2.00-2.20	0.80-1.00	0.40-0.60	1.60-1.80	0.60-0.80	0.60-0.80	1.80-2.00	0.20-0.40	1.40-1.60	0.30-0.70	1.40-1.70	0.20-0.50	1.50-1.80	0.10-0.50	1.40-1.70
		Date Sampled:	30/03/2023	28/04/2023	04/05/2023	04/05/2023	45050	45050	45062	45062	45062	45062	45062	45062	45062	45063	45063	45063	45063	45063	45063	45070	45070	45070	45070	45070	45070	45070	45070	45070	45070
		Time Taken:																													
Determinand	**GAC**	**Units**																													
Arsenic	640[1]	mg/kg	27	40	37	11	19	22	22	33	9	37	15	30	17	22	11	22	23	7.8	19	29	9.5	32	9.5	-	18	-	10	42	8.3
Boron	240000[3]	mg/kg	0.3	0.9	0.4	11	2.7	4.7	1	1.1	0.5	0.9	1.1	1.3	2.2	0.6	0.3	1.2	0.6	0.3	2.1	0.6	< 0.2	0.3	< 0.2	-	0.6	-	< 0.2	0.6	0.3
Cadmium	410[1]	mg/kg	1.8	1.3	5.5	< 0.2	2.3	< 0.2	1.9	24	< 0.2	< 0.2	< 0.2	1.6	< 0.2	< 0.2	< 0.2	12	< 0.2	< 0.2	1.8	1.4	< 0.2	< 0.2	< 0.2	-	< 0.2	-	< 0.2	140	< 0.2
Chromium (total)	8600[3]	mg/kg	170	96	36	21	61	21	200	130	9.8	25	17	70	16	16	4.6	130	40	4.2	730	21	3.9	27	3.7	-	26	-	4.8	150	6.5
Chromium (VI)	49[1]	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	3.9	< 1.2	-	-	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	-	< 1.2	< 1.2	< 1.2	< 1.2	<1.8	< 1.2	-	< 1.2	-	<1.8	< 1.2	<1.8
Copper	68000[3]	mg/kg	110	160	270	22	92	59	150	1500	17	99	35	180	71	88	7.3	66	96	8.9	240	120	8.4	90	8.3	-	44	-	14	3700	11
Lead	2300[1]	mg/kg	94	79	230	17	140	27	230	370	13	110	23	200	62	40	18	190	53	5.2	450	100	4.5	100	5.9	-	22	-	5	510	12
Mercury	3600[2]	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.3	-	< 0.3	< 0.3	< 0.3
Nickel	1800[2]	mg/kg	79	94	60	23	37	21	26	200	10	39	19	44	20	25	4.9	33	30	3.9	51	25	4.5	50	4.5	-	20	-	4.8	300	6.4
Selenium	13000[2]	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0	-	< 1.0	< 1.0	< 1.0
Zinc	730000[3]	mg/kg	470	190	300	67	350	110	250	1400	37	200	71	200	95	110	20	630	130	18	770	190	20	260	26	-	54	-	19	1600	22
Beryllium	12[4]	mg/kg	1	0.83	0.8	0.74	1.1	0.78	0.51	1.3	0.3	1.1	0.67	1.1	0.56	0.84	0.16	0.92	0.7	0.13	1.4	0.66	0.15	0.94	0.15	-	0.41	-	0.16	0.89	0.2
Vanadium	9000[3]	mg/kg	96	78	39	30	97	31	220	110	17	39	26	95	27	37	14	90	44	8.8	480	45	9.5	50	9.2	-	37	-	11	48	13
Barium	22000[4]	mg/kg	140	200	420	24	280	26	73	810	17	340	44	440	99	120	12	170	120	4.5	380	190	4.9	120	5.2	-	41	-	9.7	570	7.7
Cyanide (Total)	20[5]	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0	-	< 1.0	< 1.0	< 1.0
Phenol (Monohydric)	440[2]	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0	-	< 1.0	< 1.0	< 1.0
Sulphide	-	mg/kg	190	7.9	< 1.0	43	22	36	16	6.6	4.5	1.7	6.4	22	24	1.2	< 1.0	15	5.3	< 1.0	110	2.2	< 1.0	1.6	< 1.0	-	4	-	< 1.0	6.9	4.5
Total Organic Carbon (TOC)	-	%	1.6	4	5.1	4.9	7.7	1.3	2.3	4.1	0.3	3.8	1.3	4.6	1.8	2.8	0.2	1.9	2.1	0.2	2.8	3.6	0.1	1.3	0.2	-	0.9	-	< 0.1	4.8	0.2
Naphthalene	190[3]	mg/kg	0.64	0.38	2.7	< 0.05	0.39	< 0.05	0.52	2.6	< 0.05	0.38	< 0.05	1.4	0.38	< 0.05	< 0.05	< 0.05	0.55	< 0.05	0.61	0.21	< 0.05	0.31	< 0.05	-	0.16	-	< 0.05	2	< 0.05
Acenaphthylene	8300[3]	mg/kg	< 0.05	0.06	0.2	< 0.05	0.06	< 0.05	0.11	0.65	< 0.05	0.11	< 0.05	0.19	0.09	< 0.05	< 0.05	< 0.05	0.07	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05	-	< 0.05	0.1	< 0.05
Acenaphthene	84000[3]	mg/kg	0.34	0.19	6.1	< 0.05	0.45	< 0.05	0.83	5	< 0.05	0.28	0.1	3.8	1.4	< 0.05	< 0.05	0.2	0.84	< 0.05	1.2	0.27	< 0.05	0.08	< 0.05	-	0.33	-	0.06	1.6	< 0.05
Fluorene	63000[3]	mg/kg	0.34	0.15	5.3	< 0.05	0.34	< 0.05	0.86	5.2	< 0.05	0.3	0.12	4.9	1.6	< 0.05	< 0.05	0.17	0.79	< 0.05	1.1	0.26	< 0.05	0.09	< 0.05	-	0.32	-	< 0.05	1.6	< 0.05
Phenanthrene	22000[3]	mg/kg	3.3	1.7	34	0.52	4.8	0.36	14	52	0.32	2.8	0.99	55	20	1.1	< 0.05	2.3	10	< 0.05	14	3.8	< 0.05	0.78	< 0.05	-	5.9	-	0.68	22	< 0.05
Anthracene	520000[3]	mg/kg	0.67	0.36	7	0.11	1.2	0.07	3.2	14	0.08	0.62	0.23	14	5	0.32	< 0.05	0.6	2.4	< 0.05	3.1	0.73	< 0.05	0.15	< 0.05	-	1.2	-	0.13	4.7	< 0.05
Fluoranthene	23000[1]	mg/kg	3.8	2.2	36	0.58	8.1	0.55	22	56	0.4	4.1	1.3	70	26	1.7	< 0.05	3.2	13	< 0.05	16	4.7	< 0.05	0.95	< 0.05	-	8.7	-	0.78	27	< 0.05
Pyrene	54000[3]	mg/kg	3.5	2	29	0.52	6.7	0.45	19	46	0.37	3.5	1.1	58	22	1.6	< 0.05	3.3	12	< 0.05	13	4.1	< 0.05	0.83	< 0.05	-	7.6	-	0.7	22	< 0.05
Benzo(a)anthracene	170[3]	mg/kg	1.7	1.5	17	0.32	4.9	0.29	12	29	0.19	2.6	0.69	39	13	0.8	< 0.05	1.4	6.7	< 0.05	6.5	2.1	< 0.05	0.57	< 0.05	-	3.9	-	0.31	13	< 0.05
Chrysene	350[3]	mg/kg	2	1.6	17	0.32	5	0.29	11	23	0.17	2.5	0.65	36	12	1.1	< 0.05	1.7	6	< 0.05	6	2.1	< 0.05	0.61	< 0.05	-	3.9	-	0.34	13	< 0.05
Benzo(b)fluoranthene	44[3]	mg/kg	2	1.8	17	0.33	6.5	0.29	13	30	0.23	3.5	0.83	45	15	0.84	< 0.05	1.4	7.5	< 0.05	5.6	2.4	< 0.05	0.78	< 0.05	-	4	-	0.34	14	< 0.05
Benzo(k)fluoranthene	1200[3]	mg/kg	0.74	0.78	6.6	0.14	2.5	0.12	5.3	9	0.06	1.1	0.17	12	3.4	0.32	< 0.05	0.7	2.8	< 0.05	5.3	0.74	< 0.05	0.32	< 0.05	-	1.8	-	0.23	5	< 0.05
Benzo(a)pyrene	35[3]	mg/kg	1.7	1.2	13	0.26	4.6	0.21	10	22	0.16	2.3	0.53	33	11	0.49	< 0.05	0.95	5.9	< 0.05	3.7	1.7	< 0.05	0.5	< 0.05	-	3.4	-	0.29	9.8	< 0.05
Indeno(1,2,3-cd)pyrene	500[3]	mg/kg	0.75	0.77	7.5	0.14	2.8	0.14	6	12	0.09	1.4	0.3	15	5.2	< 0.05	< 0.05	0.55	3.3	< 0.05	2.2	0.93	< 0.05	0.37	< 0.05	-	1.8	-	0.14	5.8	< 0.05
Dibenz(a,h)anthracene	3.5[3]	mg/kg	0.22	0.2	2.2	< 0.05	0.99	< 0.05	1.6	3.2	< 0.05	0.44	0.09	4.6	1.5	< 0.05	< 0.05	< 0.05	0.9	< 0.05	0.61	0.28	< 0.05	0.13	< 0.05	-	0.48	-	< 0.05	1.3	< 0.05
Benzo(ghi)perylene	3900[3]	mg/kg	0.85	0.82	7.9	0.2	2.9	0.13	5.9	12	0.11	1.4	0.33	15	5.2	< 0.05	< 0.05	0.6	3.4	< 0.05	2.8	1	< 0.05	0.33	< 0.05	-	1.8	-	< 0.05	6.5	< 0.05
Speciated Total EPA-16 PAHs	-	mg/kg	22.5	-	208	3.44	52.2	2.9	125	320	2.18	27.2	7.37	407	143	8.25	< 0.80	17.1	76.5	< 0.80	80.6	25.4	< 0.80	6.8	< 0.80	-	-	-	4	-	< 0.80
Benzene	27[3]	µg/kg	-	< 5.0	-	-	< 5.0	-	< 5.0###	< 5.0###	-	-	-	< 5.0	< 5.0	-	-	< 5.0	< 5.0###	-	-	-	-	< 5.0	-	-	< 5.0	-	< 5.0	< 5.0	< 5.0
Toluene	56000[3]	µg/kg	-	< 5.0	-	-	< 5.0	-	< 5.0###	< 5.0###	-	-	-	< 5.0	< 5.0	-	-	< 5.0	< 5.0###	-	-	-	-	< 5.0	-	-	< 5.0	-	< 5.0	< 5.0	< 5.0
Ethylbenzene	5700[3]	µg/kg	-	< 5.0	-	-	< 5.0	-	< 5.0###	< 5.0###	-	-	-	< 5.0	< 5.0	-	-	< 5.0	< 5.0###	-	-	-	-	< 5.0	-	-	< 5.0	-	< 5.0	< 5.0	< 5.0
p & m-xylene	5900[3]	µg/kg	-	< 5.0	-	-	< 5.0	-	< 5.0###	< 5.0###	-	-	-	< 5.0	< 5.0	-	-	< 5.0	< 5.0###	-	-	-	-	< 5.0	-	-	< 5.0	-	< 5.0	< 5.0	< 5.0
o-xylene	6600[3]	µg/kg	-	< 5.0	-	-	< 5.0	-	< 5.0###	< 5.0###	-	-	-	< 5.0###	< 5.0###	-	-	< 5.0###	< 5.0###	-	-	-	-	< 5.0	-	-	< 5.0#	-	< 5.0	< 5.0##	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	7900[4]	µg/kg	-	< 5.0	-	-	< 5.0	-	< 5.0###	< 5.0###	-	-	-	< 5.0	< 5.0	-	-	< 5.0	< 5.0###	-	-	-	-	< 5.0	-	-	< 5.0	-	< 5.0	< 5.0	< 5.0
TPH Aliphatic C5 - C6	3200[3]	mg/kg	< 0.001	< 0.001	-	-	< 0.001	< 0.001	-	-	-	-	< 0.001	-	-	< 0.001	-	< 0.001	< 0.001	< 0.001											
TPH Aliphatic C6 - C8	7800[3]	mg/kg	< 0.001	< 0.001	-	-	< 0.001	< 0.001	-	-	-	-	< 0.001	-	-	< 0.001	-	< 0.001	< 0.001	< 0.001											
TPH Aliphatic C8 - C10	2000[3]	mg/kg	< 0.001	< 0.001	-	-	< 0.001	< 0.001	-	-	-	-	< 0.001	-	-	< 0.001	-	< 0.001	< 0.001	< 0.001											
TPH Aliphatic C10 - C12	9700[3]	mg/kg	< 1.0	< 1.0	-	-	< 1.0	< 1.0	-	-	-	-	< 1.0	-	-	< 1.0	-	< 1.0	2.3	< 1.0											
TPH Aliphatic C12 - C16	59000[3]	mg/kg	7.6	< 2.0	-	-	< 2.0	< 2.0	-	-	-	-	< 2.0	-	-	4.2	-	< 2.0	9.4	< 2.0											
TPH Aliphatic C16 - C21	1600000[3]	mg/kg	20	11	-	-	< 8.0	< 8.0	-	-	-	-	< 8.0	-	-	9.4	-	< 8.0	98	< 8.0											
TPH Aliphatic C21 - C35	1600000[3]	mg/kg	210	140	-	-	< 8.0	37	-	-	-	-	< 8.0	-	-	36	-	< 8.0	330	< 8.0											
TPH Aromatic C5 - C7	26000[3]	mg/kg	< 0.001	< 0.001	-	-	< 0.001	< 0.001	-	-	-	-	< 0.001	-	-	< 0.001	-	< 0.001	< 0.001	< 0.001											
TPH Aromatic C7 - C8	56000[3]	mg/kg	< 0.001	< 0.001	-	-	< 0.001	< 0.001	-	-	-	-	< 0.001	-	-	< 0.001	-	< 0.001	< 0.001	< 0.001											
TPH Aromatic C8 - C10	3500[3]	mg/kg	< 0.001	< 0.001	-	-	< 0.001	< 0.001	-	-	-	-	< 0.001	-	-	< 0.001	-	< 0.001	< 0.001	< 0.001											
TPH Aromatic C10 - C12	16000[3]	mg/kg	1.5	< 1.0	-	-	< 1.0	1.1	-	-	-	-	< 1.0	-	-	< 1.0	-	< 1.0	< 1.0	< 1.0											
TPH Aromatic C12 - C16	36000[3]	mg/kg	14	22	-	-	< 2.0	5.5	-	-	-	-	< 2.0	-	-	< 2.0	-	< 2.0	9.4	< 2.0											
TPH Aromatic C16 - C21	28000[3]	mg/kg	180	320	-	-	< 10	44	-	-	-	-	< 10	-	-	16	-	< 10	66	< 10											
TPH Aromatic C21 - C35	28000[3]	mg/kg	490	530	-	-	12	90	-	-	-	-	< 10	-	-	27	-	11	240	< 10											

Notes:

[1] DEFRA C4SLs (2014)

[2] Environment Agency SGVs (2009)

[3] LQM/CIEH S4ULs (2015)

[4] CL:AIRE, AGS & EIS (2009)

[5] Dutch Intervention Value for free cyanide (VROM 2000)

*All GACs based on a sandy soil and Soil Organic Matter (SOM) of 1% where applicable.

Concentration does not exceed GAC

Concentration exceeds GAC

No set GAC

Appendix J

Generic Quantitative Risk Assessment: Controlled Waters

Zone 1 - Made Ground Leachability– Secondary A Aquifer and Docks

Contaminant	Maximum (µg/l)	Minimum (µg/l)	GAC (µg/l)	No. of Exceedances
Arsenic	**77**	<1.0	50[1]	**1**
Cadmium	<0.08[7]	<0.08[7]	0.08[4]	0
Chromium	3.8	<0.4[6]	50[1]	0
Copper	43	6.5	2000[1]	0
Lead	**19**	<1.0[7]	**1.2[3]**	**6**
Mercury	<0.5[7]	<0.5[7]	0.07[2]	0
Nickel	**6**	0.4	**4[1]**	**1**
Zinc	**27**	6.5	**10.9[3]**	**5**
Beryllium	<0.2[7]	<0.2[7]	12[5]	0
Selenium	<4.0[7]	<4.0[7]	10[4]	0
Vanadium	**84**	3.6	20[4]	**1**
Barium	40	9.4	700[6]	0
Cyanide (Total)	<10[7, 8]	<10[7, 8]	1[1]	**8**
Total Phenol (Monohydric)	<10[7, 8]	<10[7, 8]	7.7[1]	**8**
Sulphate	16900	2600	400000[1]	0
Sulphide	<5.0[7]	<5.0[7]	-	-
pH	7.9	7.4	-	-
Naphthalene	<0.01[7]	<0.01[7]	4[3]	0
Acenaphthylene	<0.01[7]	<0.01[7]	-	-
Acenaphthene	<0.01[7]	<0.01[7]	-	-
Fluorene	<0.01[7]	<0.01[7]	-	-
Phenanthrene	0.36	<0.01[7]	-	-
Anthracene	<0.01[7]	<0.01[7]	0.1[1]	0
Fluoranthene	**0.27**	<0.01[7, 8]	0.0063[1]	**8**
Pyrene	<0.01[7]	<0.01[7]	-	-
Benzo(a)anthracene	<0.01[7]	<0.01[7]	-	-
Chrysene	<0.01[7]	<0.01[7]	-	-
Benzo(b)fluoranthene	<0.01[7]	<0.01[6]	0.10[1]	0
Benzo(k)fluoranthene	<0.01[7]	<0.01[6]	0.10[1]	0
Benzo(a)pyrene	<0.01[7, 8]	<0.01[7, 8]	0.00017[1]	**8**
Indeno(1,2,3-cd)pyrene	<0.01[7]	<0.01[7]	0.10[1]	0
Benzo(g,h,i)perylene	<0.01[7]	<0.01[7]	-	-
Dibenz(a,h)anthracene	<0.01[7]	<0.01[7]	-	-
Total PAH	0.9	<0.2[7]	-	-

Notes:

1 EQS, Annual Average (AA) – Freshwaters
2 EQS, Maximum Allowable Concentrations (MAC) – Freshwaters
3 EQS, Annual Average – Bioavailable
4 EQS, Annual Average – Freshwaters, based on water hardness of 47.83mg/l (soft) as reported by Welsh Water for the site postcode
5 Water Supply (Water Quality) Regulations 2018 – Drinking Water Standards (DWS)
6 WHO Guidelines for Drinking Water Quality (2016)
7 Laboratory Limit of Detection
8 Laboratory Limit of Detection greater than SSV

Zone 2 - Made Ground Leachability– Secondary A Aquifer and Docks

Contaminant	Maximum (µg/l)	Minimum (µg/l)	GAC (µg/l)	No. of Exceedances
Arsenic	8.3	<1.0	50[1]	0
Cadmium	**0.14**	<0.08[7]	0.08[4]	**1**
Chromium	1.7	<0.4[6]	50[1]	0
Copper	47	6.4	2000[1]	0
Lead	**4**	<1.0[7]	**1.2[3]**	**3**
Mercury	<0.5[7]	<0.5[7]	0.07[2]	0
Nickel	2.9	0.5	4[1]	0
Zinc	**27**	4.9	**10.9[3]**	**4**
Beryllium	<0.2[7]	<0.2[7]	12[5]	0
Selenium	8.9	<4.0[7]	10[4]	0
Vanadium	230	3.6	20[4]	**1**
Barium	18	4.9	700[6]	0
Cyanide (Total)	<10[7, 8]	<10[7, 8]	1[1]	**8**
Total Phenol (Monohydric)	<10[7, 8]	<10[7, 8]	7.7[1]	**8**
Sulphate	37900	1700	400000[1]	0
Sulphide	<5.0[7]	<5.0[7]	-	-
pH	10.3	7.1	-	-
Naphthalene	0.37	<0.01[7]	4[3]	0
Acenaphthylene	0.45	<0.01[7]	-	-
Acenaphthene	45	<0.01[7]	-	-
Fluorene	20	<0.01[7]	-	-
Phenanthrene	0.39	<0.01[7]	-	-
Anthracene	**0.39**	<0.01[7]	0.1[1]	**1**
Fluoranthene	**0.9**	<0.01[7, 8]	0.0063[1]	**8**
Pyrene	0.52	<0.01[7]	-	-
Benzo(a)anthracene	<0.01[7]	<0.01[7]	-	-
Chrysene	<0.01[7]	<0.01[7]	-	-
Benzo(b)fluoranthene	<0.01[7]	<0.01[6]	0.10[1]	0
Benzo(k)fluoranthene	<0.01[7]	<0.01[6]	0.10[1]	0
Benzo(a)pyrene	<0.01[7, 8]	<0.01[7, 8]	0.00017[1]	**8**
Indeno(1,2,3-cd)pyrene	<0.01[7]	<0.01[7]	0.10[1]	0
Benzo(g,h,i)perylene	<0.01[7]	<0.01[7]	-	-
Dibenz(a,h)anthracene	<0.01[7]	<0.01[7]	-	-
Total PAH	68	<0.2[7]	-	-

Notes:

1 EQS, Annual Average (AA) – Freshwaters
2 EQS, Maximum Allowable Concentrations (MAC) – Freshwaters
3 EQS, Annual Average – Bioavailable
4 EQS, Annual Average – Freshwaters, based on water hardness of 47.83mg/l (soft) as reported by Welsh Water for the site postcode
5 Water Supply (Water Quality) Regulations 2018 – Drinking Water Standards (DWS)
6 WHO Guidelines for Drinking Water Quality (2016)
7 Laboratory Limit of Detection
8 Laboratory Limit of Detection greater than SSV

Zone 3 - Made Ground Leachability– Secondary A Aquifer and Docks

Contaminant	Maximum (µg/l)	Minimum (µg/l)	GAC (µg/l)	No. of Exceedances
Arsenic	1.3	<1.0	50[1]	0
Cadmium	<0.08[7]	<0.08[7]	0.08[4]	0
Chromium	2.2	0.8	50[1]	0
Copper	17	11	2000[1]	0
Lead	**3.3**	<1.0[7]	**1.2[3]**	**3**
Mercury	<0.5[7]	<0.5[7]	0.07[2]	0
Nickel	2.6	0.7	4[1]	0
Zinc	**25**	6.4	**10.9[3]**	**1**
Beryllium	<0.2[7]	<0.2[7]	12[5]	0
Selenium	<4.0[7]	<4.0[7]	10[4]	0
Vanadium	4.6	3.6	20[4]	0
Barium	74	3.4	700[6]	0
Cyanide (Total)	<10[7, 8]	<10[7, 8]	1[1]	**8**
Total Phenol (Monohydric)	<10[7, 8]	<10[7, 8]	7.7[1]	**8**
Sulphate	6800	1100	400000[1]	0
Sulphide	<5.0[7]	<5.0[7]	-	-
pH	7.7	7.5	-	-
Naphthalene	0.32	<0.01[7]	4[3]	0
Acenaphthylene	<0.01[7]	<0.01[7]	-	-
Acenaphthene	0.76	<0.01[7]	-	-
Fluorene	0.41	<0.01[7]	-	-
Phenanthrene	1.2	<0.01[7]	-	-
Anthracene	**0.26**	<0.01[7]	0.1[1]	**2**
Fluoranthene	**0.23**	<0.01[7, 8]	0.0063[1]	**8**
Pyrene	0.16	<0.01[7]	-	-
Benzo(a)anthracene	<0.01[7]	<0.01[7]	-	-
Chrysene	<0.01[7]	<0.01[7]	-	-
Benzo(b)fluoranthene	<0.01[7]	<0.01[6]	0.10[1]	0
Benzo(k)fluoranthene	<0.01[7]	<0.01[6]	0.10[1]	0
Benzo(a)pyrene	<0.01[7, 8]	<0.01[7, 8]	0.00017[1]	**8**
Indeno(1,2,3-cd)pyrene	<0.01[7]	<0.01[7]	0.10[1]	0
Benzo(g,h,i)perylene	<0.01[7]	<0.01[7]	-	-
Dibenz(a,h)anthracene	<0.01[7]	<0.01[7]	-	-
Total PAH	3.3	<0.2[7]	-	-

Notes:

1 EQS, Annual Average (AA) – Freshwaters
2 EQS, Maximum Allowable Concentrations (MAC) – Freshwaters
3 EQS, Annual Average – Bioavailable
4 EQS, Annual Average – Freshwaters, based on water hardness of 47.83mg/l (soft) as reported by Welsh Water for the site postcode
5 Water Supply (Water Quality) Regulations 2018 – Drinking Water Standards (DWS)
6 WHO Guidelines for Drinking Water Quality (2016)
7 Laboratory Limit of Detection
8 Laboratory Limit of Detection greater than SSV

Zone 4 - Made Ground Leachability– Secondary A Aquifer and Docks

Contaminant	Maximum (µg/l)	Minimum (µg/l)	GAC (µg/l)	No. of Exceedances
Arsenic	4.7	<1.0[7]	50[1]	0
Cadmium	<0.08[7]	<0.08[7]	0.08[4]	0
Chromium	2.5	<0.4[7]	50[1]	0
Copper	53	11	2000[1]	0
Lead	**6.2**	<1.0[7]	**1.2[3]**	**5**
Mercury	<0.5[7]	<0.5[7]	0.07[2]	0
Nickel	3	0.6	4[1]	0
Zinc	**24**	7.8	**10.9[3]**	**3**
Beryllium	<0.2[7]	<0.2[7]	12[5]	0
Selenium	4.1	<4.0[7]	10[4]	0
Vanadium	8.1	<1.7[7]	20[4]	0
Barium	67	6.1	700[6]	0
Cyanide (Total)	<10[7, 8]	<10[7, 8]	1[1]	**8**
Total Phenol (Monohydric)	<10[7, 8]	<10[7, 8]	7.7[1]	**8**
Sulphate	1000	10100	400000[1]	0
Sulphide	<5.0[7]	<5.0[7]	-	-
pH	8.4	7.1	-	-
Naphthalene	<0.01[7]	<0.01[7]	4[3]	0
Acenaphthylene	<0.01[7]	<0.01[7]	-	-
Acenaphthene	<0.01[7]	<0.01[7]	-	-
Fluorene	<0.01[7]	<0.01[7]	-	-
Phenanthrene	<0.01[7]	<0.01[7]	-	-
Anthracene	<0.01[7]	<0.01[7]	0.1[1]	**2**
Fluoranthene	<0.01[7]	<0.01[7, 8]	0.0063[1]	**8**
Pyrene	<0.01[7]	<0.01[7]	-	-
Benzo(a)anthracene	<0.01[7]	<0.01[7]	-	-
Chrysene	<0.01[7]	<0.01[7]	-	-
Benzo(b)fluoranthene	<0.01[7]	<0.01[6]	0.10[1]	0
Benzo(k)fluoranthene	<0.01[7]	<0.01[6]	0.10[1]	0
Benzo(a)pyrene	<0.01[7, 8]	<0.01[7, 8]	0.00017[1]	**8**
Indeno(1,2,3-cd)pyrene	<0.01[7]	<0.01[7]	0.10[1]	0
Benzo(g,h,i)perylene	<0.01[7]	<0.01[7]	-	-
Dibenz(a,h)anthracene	<0.01[7]	<0.01[7]	-	-
Total PAH	<0.2[7]	<0.2[7]	-	-

Notes:

1 EQS, Annual Average (AA) – Freshwaters
2 EQS, Maximum Allowable Concentrations (MAC) – Freshwaters
3 EQS, Annual Average – Bioavailable
4 EQS, Annual Average – Freshwaters, based on water hardness of 47.83mg/l (soft) as reported by Welsh Water for the site postcode
5 Water Supply (Water Quality) Regulations 2018 – Drinking Water Standards (DWS)
6 WHO Guidelines for Drinking Water Quality (2016)
7 Laboratory Limit of Detection
8 Laboratory Limit of Detection greater than SSV

Perched Water and Shallow Tidal Flat Deposits																	GAC (µg/l)	Exceedances (Y/N)
	Monitoring Well Location - Maximum Recorded Concentration (µg/l)																	
Contaminant	DS101	DS103	DS104	DS105	DS106	DS107	DS108	DS109	DS110	DS112	DS113	BH112	WS06	WS07	WS10	WS11		
Arsenic	59	1400	7.56	13	6.74	19.3	1.85	6.54	89.2	13.3	10.9	3.58	11.1	11.6	28.8	5.32	50[1]	Y
Cadmium	<0.02	<0.02	0.02	<0.02	0.04	<0.02	0.22	<0.02	0.2	0.09	6.3	< 0.02	0.09	0.03	0.36	0.05	0.08[4]	Y
Chromium	<0.2	0.6	<0.2	<0.2	<0.2	0.3	0.2	0.4	<0.2	0.7	1.3	0.2	1.5	<0.2	<0.2	<0.2	50[1]	N
Copper	1.8	3	12	2.6	3	7.1	4	9.8	7	4.8	6.2	1	64	3.9	9.2	4.5	2000[1]	Y
Lead	0.5	<0.02	0.5	<0.02	0.2	<0.02	<0.02	0.2	0.2	0.7	<0.02	0.3	0.6	<0.02	0.6	<0.02	1.2[3]	N
Mercury	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07[2]	Y
Nickel	8.8	2.3	8.8	4.4	3.4	6.4	11	12	5.4	8.1	10	4.6	8	7.3	8	3.1	4[1]	Y
Zinc	9	5.5	5	1.7	8.3	6.3	16	17	120	10	29	4.2	62	85	8.1	4.3	10.9[3]	Y
Beryllium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	12[5]	N
Selenium	2.1	3.6	1.8	0.9	2	0.7	0.7	<0.6	0.8	3.3	2.7	2.6	1.5	1.1	0.9	1.1	10[4]	N
Vanadium	0.7	8	0.9	3.5	0.8	0.8	2.8	0.6	1.8	6.8	1.1	2.2	12	1.4	0.5	0.9	20[4]	N
Barium	250	31	120	62	72	100	31	49	60	160	85	130	280	240	360	56	700[6]	N
Cyanide (Total)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	1[1]	Y
Total Phenol (Monohydric)	<10	<10	<10	<10	<10	<10	<10	<10	<10	210	<10	<10	<10	<10	<10	<10	7.7[1]	Y
Sulphate	290000	295000	115000	242000	57800	48500	492000	63600	245000	47000	99000		33300	84300	66500	97900	400000[1]	Y
Sulphide	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	-	-
pH	7.3	7.8	7.9	7.9	7.6	7.4	6.9	7.2	7.7	7.6	7.3	7.5	9	7.3	7.4	7.2	-	-
Naphthalene	< 0.01	< 0.01	0.8	< 0.01	0.73	< 0.01	< 0.01	< 0.01	0.27	18.1	< 0.01	0.24	< 0.01	0.28	< 0.01	< 0.01	4[3]	Y
Acenaphthylene	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01	0.44	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	-
Acenaphthene	< 0.01	< 0.01	< 0.01	< 0.01	0.23	< 0.01	< 0.01	< 0.01	< 0.01	0.73	< 0.01	0.25	< 0.01	< 0.01	< 0.01	< 0.01	-	-
Fluorene	< 0.01	< 0.01	0.44	< 0.01	0.19	< 0.01	< 0.01	< 0.01	0.27	1.04	< 0.01	0.17	< 0.01	< 0.01	< 0.01	< 0.01	-	-
Phenanthrene	< 0.01	< 0.01	1.71	< 0.01	2.69	< 0.01	< 0.01	< 0.01	0.97	1.51	< 0.01	2.15	1.31	1.24	< 0.01	< 0.01	-	-
Anthracene	< 0.01	< 0.01	0.2	< 0.01	0.72	< 0.01	< 0.01	< 0.01	0.23	0.51	< 0.01	0.54	0.35	0.36	< 0.01	< 0.01	0.1[1]	Y
Fluoranthene	< 0.01	< 0.01	0.75	< 0.01	2.66	< 0.01	< 0.01	< 0.01	1.18	1.21	< 0.01	3.6	2.01	1.93	< 0.01	< 0.01	0.0063[1]	Y
Pyrene	< 0.01	< 0.01	0.66	< 0.01	2.27	< 0.01	< 0.01	< 0.01	0.95	0.83	< 0.01	3.3	1.85	1.74	< 0.01	< 0.01	-	-
Benzo(a)anthracene	< 0.01	< 0.01	0.32	< 0.01	1.27	< 0.01	< 0.01	< 0.01	0.49	0.29	< 0.01	1.69	1.11	0.89	< 0.01	< 0.01	-	-
Chrysene	< 0.01	< 0.01	0.65	< 0.01	1.48	< 0.01	< 0.01	< 0.01	0.49	0.28	< 0.01	1.66	1.18	0.92	< 0.01	< 0.01	-	-
Benzo(b)fluoranthene	< 0.01	< 0.01	0.5	< 0.01	1.69	< 0.01	< 0.01	< 0.01	0.64	0.29	< 0.01	2.33	1.3	1.2	< 0.01	< 0.01	0.10[1]	Y
Benzo(k)fluoranthene	< 0.01	< 0.01	0.17	< 0.01	0.63	< 0.01	< 0.01	< 0.01	0.17	0.07	< 0.01	0.67	0.56	0.49	< 0.01	< 0.01	0.10[1]	Y
Benzo(a)pyrene	< 0.01	< 0.01	0.33	< 0.01	1.3	< 0.01	< 0.01	< 0.01	0.44	0.2	< 0.01	1.97	1.05	1.02	< 0.01	< 0.01	0.00017[1]	Y
Indeno(1,2,3-cd)pyrene	< 0.01	< 0.01	0.17	< 0.01	0.72	< 0.01	< 0.01	< 0.01	0.24	< 0.01	< 0.01	1.01	0.59	0.53	< 0.01	< 0.01	0.10[1]	Y
Benzo(g,h,i)perylene	< 0.01	< 0.01	< 0.01	< 0.01	0.23	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.29	< 0.01	0.16	< 0.01	< 0.01	-	-
Dibenz(a,h)anthracene	< 0.01	< 0.01	0.23	< 0.01	0.87	< 0.01	< 0.01	< 0.01	0.28	< 0.01	< 0.01	1.25	0.73	0.66	< 0.01	< 0.01	-	-
Total PAH	< 0.16	< 0.16	6.93	< 0.16	17.7	< 0.16	< 0.16	< 0.16	6.62	25.5	< 0.16	21.1	12	11.4	< 0.16	< 0.16	-	-

Notes:
1 EQS, Annual Average (AA) – Freshwaters
2 EQS, Maximum Allowable Concentrations (MAC) – Freshwaters
3 EQS, Annual Average – Bioavailable
4 EQS, Annual Average – Freshwaters, based on water hardness of 47.83mg/l (soft) as reported by Welsh Water for the site postcode
5 Water Supply (Water Quality) Regulations 2018 – Drinking Water Standards (DWS)
6 WHO Guidelines for Drinking Water Quality (2016)
7 Laboratory Limit of Detection
8 Laboratory Limit of Detection greater than SSV

Groundwater Alluvial Fan Deposits															
Contaminant	Monitoring Well Location - Maximum Recorded Concentration (µg/l)													GAC (µg/l)	Exceedances (Y/N)
	BH01	BH02	BH03A	BH04	BH103	BH105	BH106	BH107	BH108	BH110	BH111	BH115	BH120		
Arsenic	2.27	162	0.98	6.84	4.51	2.29	2.6	1.21	5.19	2.34	2.97	10.5	3.96	50[1]	Y
Cadmium	0.08	1.2	0.28	0.09	0.05	0.15	0.09	0.25	0.07	0.04	0.04	0.05	<0.02	0.08[4]	Y
Chromium	0.2	0.7	<0.2	0.3	<0.2	0.2	<0.2	0.2	0.4	3.5	<0.2	<0.2	<0.2	50[1]	N
Copper	3.7	4.9	2.4	4	4.1	4.7	4	6.6	3	2.3	2.2	6.4	25	2000[1]	Y
Lead	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1.2[3]	N
Mercury	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07[2]	N
Nickel	2.9	3.8	3	2.6	1.9	2.1	2.8	2.5	1.9	2.3	2.8	3.5	3.8	4[1]	N
Zinc	9.4	7.4	9.3	9.6	8.3	7.8	13	20	14	14	11	21	16	10.9[3]	Y
Beryllium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	12[5]	N
Selenium	6.3	7	12	6.3	15	13	-	5.6	6.1	6	6.4	<4.0	<4.0	10[4]	Y
Vanadium	0.9	2.9	<0.2	3.7	1	1.1	1.5	0.9	1	1	1.2	1.2	<0.2	20[4]	N
Barium	77	110	34	36	120	72	130	63	130	77	74	75	83	700[6]	N
Cyanide (Total)	<10	<10	<10	<10	<10	<10	12	<10	<10	<10	<10	<10	<10	1[1]	Y
Total Phenol (Monohydric)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	7.7[1]	Y
Sulphate	193000	106000	317000	186000	106000	134000	189000	208000	102000	146000	1350000	75400	246000	400000[1]	N
Sulphide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
pH	7.9	7.9	7.9	7.9	7.9	8.1	7.9	8.1	8.1	7.8	8.7	8	8	-	-
Naphthalene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	4[3]	Y
Acenaphthylene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Acenaphthene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Fluorene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Phenanthrene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Anthracene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1[1]	N
Fluoranthene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0063[1]	Y
Pyrene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Benzo(a)anthracene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Chrysene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Benzo(b)fluoranthene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.10[1]	Y
Benzo(k)fluoranthene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.10[1]	Y
Benzo(a)pyrene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00017[1]	Y
Indeno(1,2,3-cd)pyrene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.10[1]	N
Benzo(g,h,i)perylene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Dibenz(a,h)anthracene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Total PAH	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	-	-

Notes:
1 EQS, Annual Average (AA) – Freshwaters
2 EQS, Maximum Allowable Concentrations (MAC) – Freshwaters
3 EQS, Annual Average – Bioavailable
4 EQS, Annual Average – Freshwaters, based on water hardness of 47.83mg/l (soft) as reported by Welsh Water for the site postcode
5 Water Supply (Water Quality) Regulations 2018 – Drinking Water Standards (DWS)
6 WHO Guidelines for Drinking Water Quality (2016)
7 Laboratory Limit of Detection
8 Laboratory Limit of Detection greater than SSV

Groundwater South Wales Middle Coal Measures							
Contaminant	Monitoring Well Location - Maximum Recorded Concentration (µg/l)					GAC (µg/l)	Exceedances (Y/N)
	BH104	BH113	BH116	BH117	BH119		
Arsenic	3.1	2.13	13.3	8.65	4.11	50(1)	N
Cadmium	0.18	0.04	0.1	0.03	0.06	0.08(4)	Y
Chromium	0.2	<0.2	0.3	0.5	<0.2	50(1)	N
Copper	1.7	1.9	36	1.9	3.3	2000(1)	Y
Lead	<0.2	<0.2	<0.2	0.3	<0.2	1.2(3)	N
Mercury	<0.05	<0.05	<0.05	<0.05	<0.05	0.07(2)	N
Nickel	6.7	4.2	9.2	6.5	4.5	4(1)	Y
Zinc	5.3	12	4.8	4	17	10.9(3)	Y
Beryllium	<0.1	<0.1	<0.1	<0.1	<0.1	12(5)	N
Selenium	20	<4.0	2.5	<4.0	<0.6	10(4)	Y
Vanadium	0.5	0.4	0.3	0.6	0.3	20(4)	N
Barium	930	110	180	410	510	700(6)	Y
Cyanide (Total)	<10	<10	<10	<10	<10	1(1)	Y
Total Phenol (Monohydric)	<10	<10	<10	<10	<10	7.7(1)	Y
Sulphate	71900	391000	221000	150000	336000	400000(1)	N
Sulphide	<5.0	<5.0	<5.0	<5.0	<5.0	-	-
pH	8	7.9	7.9	8	8	-	-
Naphthalene	<0.01	<0.01	<0.01	<0.01	1.51	4(3)	N
Acenaphthylene	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Acenaphthene	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Fluorene	<0.01	<0.01	<0.01	<0.01	0.55	-	-
Phenanthrene	<0.01	<0.01	<0.01	<0.01	2.55	-	-
Anthracene	<0.01	<0.01	<0.01	<0.01	<0.01	0.1(1)	N
Fluoranthene	<0.01	<0.01	<0.01	<0.01	0.41	0.0063(1)	Y
Pyrene	<0.01	<0.01	<0.01	<0.01	0.47	-	-
Benzo(a)anthracene	<0.01	<0.01	<0.01	<0.01	0.48	-	-
Chrysene	<0.01	<0.01	<0.01	<0.01	0.71	-	-
Benzo(b)fluoranthene	<0.01	<0.01	<0.01	<0.01	0.39	0.10(1)	Y
Benzo(k)fluoranthene	<0.01	<0.01	<0.01	<0.01	0.16	0.10(1)	Y
Benzo(a)pyrene	<0.01	<0.01	<0.01	<0.01	0.37	0.00017(1)	Y
Indeno(1,2,3-cd)pyrene	<0.01	<0.01	<0.01	<0.01	<0.01	0.10(1)	N
Benzo(g,h,i)perylene	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Dibenz(a,h)anthracene	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Total PAH	<0.01	<0.01	<0.01	<0.01	7.6	-	-
SVOCs							
4-Methylphenol	-	-	-	-	0.69		
2,4-Dimethylphenol	-	-	-	-	1.4		
Naphthalene	-	-	-	-	1.5		
2-Methylnaphthalene	-	-	-	-	3.2		
Dibenzofuran	-	-	-	-	0.95		
Fluorene	-	-	-	-	0.55		
Phenanthrene	-	-	-	-	2.6		
Fluoranthene	-	-	-	-	0.41		
Pyrene	-	-	-	-	0.47		
Benzo(a)anthracene	-	-	-	-	0.48		
Chrysene	-	-	-	-	0.71		
Benzo(b)fluoranthene	-	-	-	-	0.39		
Benzo(k)fluoranthene	-	-	-	-	0.16		
Benzo(a)pyrene	-	-	-	-	0.37		
3&4-Methylphenol	-	-	-	-	0.69		

Notes:
1 EQS, Annual Average (AA) – Freshwaters
2 EQS, Maximum Allowable Concentrations (MAC) – Freshwaters
3 EQS, Annual Average – Bioavailable
4 EQS, Annual Average – Freshwaters, based on water hardness of 47.83mg/l (soft) as reported by Welsh Water for the site postcode
5 Water Supply (Water Quality) Regulations 2018 – Drinking Water Standards (DWS)
6 WHO Guidelines for Drinking Water Quality (2016)
7 Laboratory Limit of Detection
8 Laboratory Limit of Detection greater than SSV

Appendix K

Borehole Hazardous Gas Flow Rates

Borehole	Date	Methane - Hazardous Flow Rate CH_4 Q_{hg} (l/hr)	Carbon Dioxide – Hazardous Flow Rate CO_2 Q_{hg}(l/hr)	Implied CH_4 CS	Implied CO_2 - CS	Borehole specific Gas Screening Value (GSV) Q_{hg}(l/hr)
DS101	13/06/2023	0.0001	0.0001	CS1	CS1	0.01
	10/07/2023	0.0001	0.001	CS1	CS1	
	24/07/2023	0.0001	0.0001	CS1	CS1	
DS102	13/06/2023	0.0001	0.0002	CS1	CS1	0.0013
	10/07/2023	0.0001	0.0008	CS1	CS1	
	24/07/2023	0.0001	0.0013	CS1	CS1	
DS103	13/06/2023	0.0001	0.0002	CS1	CS1	0.0002
	10/07/2023	0.0001	0.0001	CS1	CS1	
	24/07/2023	0.0001	0.0001	CS1	CS1	
DS104	13/06/2023	0.0001	0.0011	CS1	CS1	0.0025
	10/07/2023	0.0001	0.0012	CS1	CS1	
	24/07/2023	0.0001	0.0025	CS1	CS1	
DS105	13/06/2023	0.0001	0.0006	CS1	CS1	0.0008
	10/07/2023	0.0001	0.0005	CS1	CS1	
	24/07/2023	0.0001	0.0008	CS1	CS1	
DS106	13/06/2023	0.0001	0.0027	CS1	CS1	0.0027
	10/07/2023	0.0001	0.0009	CS1	CS1	
	24/07/2023	0.0001	0.0022	CS1	CS1	
DS107	13/06/2023	0.0001	0.0034	CS1	CS1	0.0046
	10/07/2023	0.0001	0.0026	CS1	CS1	
	24/07/2023	0.0001	0.0046	CS1	CS1	
DS108	13/06/2023	0.0001	0.0011	CS1	CS1	0.0047
	10/07/2023	0.0001	0.0033	CS1	CS1	
	24/07/2023	0.0001	0.0047	CS1	CS1	
DS109	13/06/2023	0.0001	0.0044	CS1	CS1	0.0058
	10/07/2023	0.0001	0.0001	CS1	CS1	
	24/07/2023	0.0001	0.0058	CS1	CS1	
DS110	13/06/2023	0.0001	0.0016	CS1	CS1	0.0021
	10/07/2023	0.0001	0.0016	CS1	CS1	
	24/07/2023	0.0001	0.0021	CS1	CS1	
DS111	13/06/2023	0.0004	0.0006	CS1	CS1	0.0006
	10/07/2023	0.0001	0.0001	CS1	CS1	
	24/07/2023	0.0001	0.0005	CS1	CS1	
DS112	13/06/2023	0.0001	0.0032	CS1	CS1	0.0039
	10/07/2023	0.0001	0.0022	CS1	CS1	
	24/07/2023	0.0001	0.0039	CS1	CS1	
DS113	13/06/2023	0.0001	0.002	CS1	CS1	0.0152
	10/07/2023	0.0001	0.0009	CS1	CS1	
	24/07/2023	0.0004	0.0152	CS1	CS1	
WS01	13/06/2023	0.0001	0.0001	CS1	CS1	0.0001
	10/07/2023	0.0001	0.0001	CS1	CS1	
	24/07/2023	0.0001	0.0001	CS1	CS1	
WS03	13/06/2023	0.0001	0.0022	CS1	CS1	0.0024
	10/07/2023	0.0001	0.0001	CS1	CS1	
	24/07/2023	0.0001	0.0024	CS1	CS1	

Borehole	Date	Methane - Hazardous Flow Rate CH_4 Q_{hg} (l/hr)	Carbon Dioxide – Hazardous Flow Rate CO_2 Q_{hg}(l/hr)	Implied CH_4 CS	Implied CO_2 - CS	Borehole specific Gas Screening Value (GSV) Q_{hg}(l/hr)
WS06	13/06/2023	0.0001	0.0001	CS1	CS1	0.0001
	10/07/2023	0.0001	0.0001	CS1	CS1	
	24/07/2023	0.0001	0.0001	CS1	CS1	
WS07	13/06/2023	0.0001	0.0001	CS1	CS1	0.0085
	10/07/2023	0.0001	0.0053	CS1	CS1	
	24/07/2023	0.0019	0.0085	CS1	CS1	
WS10	13/06/2023	0.0001	0.0007	CS1	CS1	0..0022
	10/07/2023	0.0001	0.0022	CS1	CS1	
	24/07/2023	0.0001	0.0009	CS1	CS1	
WS11	13/06/2023	0.0001	0.0034	CS1	CS1	0.0034
	10/07/2023	0.0001	0.0009	CS1	CS1	
	24/07/2023	0.0001	0.0001	CS1	CS1	