

LAND WEST OF WARRENBY, TEESWORKS, REDCAR

Contaminated Land Generic Quantitative Risk Assessment
and Detailed Quantitative Risk Assessment

South Tees Development Corporation

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LAND WEST OF WARRENBY, TEESWORKS, REDCAR

Detailed Quantitative Risk Assessment

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This report dated 12 August 2022 has been prepared for South Tees Site Company (the “Client”) in accordance with the terms and conditions of appointment dated 17 April 2020(the “Appointment”) between the Client and **Arcadis (UK) Limited** (“Arcadis”) for the purposes specified in the Appointment. For avoidance of doubt, no other person(s) may use or rely upon this report or its contents, and Arcadis accepts no responsibility for any such use or reliance thereon by any other third party.

Arcadis Consulting (UK) Limited (Arcadis) was commissioned by South Tees Development Corporation to undertake a Detailed Quantitative Risk Assessment (DQRA) for the plot of land known as Land West of Warrenby (“the Site”), situated at the Teesworks, located within the industrial area generally known as ‘South Tees’.

Background

Activities were historically undertaken at the Site to support the production of steel, albeit operations ceased in 2015. It is understood that the consortium Net Zero Teeside are the prospective tenant for the Site and intended to redevelop the Site into a carbon capture, utilisation and storage facility. As such, the DQRA has been undertaken based on generic commercial / industrial end use.

The South Tees Regeneration Masterplan has been developed detailing the industrial-led regeneration of the Teesworks into a world class employment-generating zone and economic growth enabler for the Tees Valley.

Site Description & Surrounding Area

The entirety of the Site is reclaimed land from the Tees Estuary. The surrounding land to the west, east and south also forms part of the wider Teesworks area, albeit sand dunes are present to the north, beyond which is the North Sea. Made Ground has been used for land reclamation across the Site and wider area (including to the north) and is primarily composed of by-products from surrounding industrial processes, including slag.

A number potentially contaminative historical land uses have occurred at the Site. These include, but are not limited to, the steel plant, pellet plant, sinter plant, sinter and pellet stocking areas, slag, tar and macadam works, above ground storage tanks, transformers, substations, iron ponds, disposal area, blast furnace stock house, workshop, stores, railway lines.

Previous Environmental Works

A number of phases of intrusive investigation have been undertaken at the Site and across the wider area, with the primary investigations undertaken in 2004 and 2017 / 2018 and 2021. The 2021 investigation was commissioned independently by the prospective tenant and was focused solely on the Site and land to the north.

Works undertaken have comprised desk study, trial pitting, advancement of boreholes, Cone Penetration Testing (CPT), collection of soil and groundwater samples, geotechnical testing, environmental testing of soil, soil leachate and groundwater, geophysical investigation, hydrogeological investigation and quantitative risk assessment.

Scope and Objectives

The objective of this DQRA was to assess the potential risks to the identified receptors associated with Contaminants of Concern (CoC) measured in the subsurface during the previous investigations and to aid the development of a remedial strategy for the Site, if required. The specific objectives of this DQRA comprised:

- To further characterise pollutant linkages at the Site using site-specific information.
- To evaluate the significance of the identified impacts across the Site within the existing legislative framework, through the development of Site-Specific Assessment Criteria (SSAC) where appropriate.

Geology

Site Setting

The Site is underlain by Made Ground of up to 8.9metre (m) thickness (although typically between 4 and 6m), comprising mainly slag dominated material (granular in nature) or granular Made Ground. Made Ground is underlain by superficial deposits of Tidal Flat Deposits (typically comprising silty sands with occasionally a more cohesive component), beneath which are Glaciolacustrine Deposits (not identified across the entirety of the Site and generally comprising a laminated clay interlaminated with silt partings) and subsequently Glacial Till (sandy slightly gravelly clay). Beneath the superficial deposits is bedrock of the Redcar Mudstone Formation (majority of the Site) and the Penarth Group and Mercia

Mudstone Group (northwestern most portion of the Site). Similar geology was encountered hydraulically down-gradient off-Site to the north, towards the North Sea, albeit Made Ground was not encountered in locations closest to the Sea, with Blown Sands also indicated to be present.

Hydrogeology

Groundwater is typically resting within the Made Ground on-Site, with groundwater in the Made Ground likely to be in hydraulic continuity with groundwater in the underlying moderately permeable Tidal Flat Deposits, and flowing in a northerly direction towards the North Sea. The more cohesive superficial deposits were potentially considered to act as an aquitard between the overlying granular superficial deposits and bedrock. Groundwater within the low permeability Redcar Mudstone Formation was indicated to be flowing towards the north / northeast.

The Tidal Flat Deposits (and off-Site Blown Sands) are designated as Secondary A Aquifers, while the Glacial Till is Secondary Undifferentiated and Glaciolacustrine Deposits are as Unproductive Strata. The Redcar Mudstone Formation is designated as a Secondary Undifferentiated Aquifer while the Penarth Group and Mercia Mudstone Group (in the northwestern tip of the Site) are designated as Secondary B Aquifers. The Site is not located within a Source Protection Zone (SPZ).

Hydrology

The nearest surface water feature is a pond, which is located approximately 20m to the north of the Site, albeit this is unlikely to be in hydraulic continuity with groundwater beneath the Site. The North Sea is located approximately 450m to the north, with the land immediately to the north designated a Ramsar site, Site of Special Scientific Interest (SSSI) and a Special Protection Area (SPA).

Generic Quantitative Risk Assessment

A Generic Quantitative Risk Assessment (GQRA) was undertaken to allow refinement of the source pathway receptor linkages requiring further consideration. The findings of the GQRA indicated a number of potentially active pollutant linkages in relation to water resources and ecological receptors (associated with the North Sea) associated with the presence of measured concentrations of metals, inorganics, Total Petroleum Hydrocarbons (TPH), Polycyclic Aromatic Hydrocarbons (PAH) and the presence of tar and Non Aqueous Phase Liquids (NAPL).

In addition, a potential risk to future on-Site commercial workers from measured concentrations of PAH (limited number of locations) and the presence of asbestos and tar / NAPL (limited number of locations). However, the risk to human health was considered to be low on the basis that the removal of tar / NAPL is proposed as part of the remedial strategy for the Site, with the risks from asbestos and PAH mitigated by the requirement to import a suitable growing medium in landscaped areas during redevelopment, which would break the pathways driving risk.

The focus of further assessment was therefore on the risk to water resources only.

Sources

Potential sources of contamination exist on-Site, associated with the Made Ground and historical use of the Site. Review of the contaminant distribution identified a single primary source comprising **Made Ground**. Made Ground (including slag) was considered to represent a single diffuse soil source across the entirety of the Site footprint.

Diffuse groundwater contaminants found throughout the Site associated with Made Ground included metals, hydrocarbons including PAH and TPH, inorganics including cyanide, thiocyanate, ammoniacal nitrogen and sulphate. Typically, the highest measured concentrations of these compounds were associated with groundwater collected from the Made Ground and Tidal Flat Deposits.

Executive Summary

Pathways	<p>The pathways modelled comprised lateral migration in groundwater through the Tidal Flat Deposits towards the North Sea. It is noted that localised lateral movement of water within the Made Ground was considered likely, albeit this was not modelled given that Made Ground was not identified to extend to the North Sea. Further, that leaching of CoC from soil into groundwater was not modelled on the basis that dissolved phase CoC were considered to provide a good indication of the potential risks, given that groundwater is relatively shallow across the Site, that Made Ground is typically granular and the length of time that the Site has been developed, indicating that “steady state” conditions are likely (where “steady state” relates to the fact that conditions on site are considered to be at equilibrium and the leaching from soils will not lead to a further increase in groundwater concentrations).</p>
Receptors	<p>The primary water resource receptor associated with the Site was considered to be the North Sea, which is additionally noted to be designated as a Ramsar site, SPA and a SSSI.</p> <p>Groundwater associated with the designated aquifers underlying the Site (primarily the Tidal Flat Deposits and Blown Sands indicated to the north of the Site) were also considered a potential receptor, albeit was considered likely to be of low resource potential based the industrial history of the Site and its surroundings, the brackish nature of groundwater identified in the north of the Site, the absence of potable groundwater abstractions in the vicinity of the Site and that it would be unlikely that future potable abstraction would be viable.</p> <p>The majority of contamination was identified in Made Ground and upper granular Tidal Flat Deposits. Impacts within the Redcar Mudstone Formation were typically limited and localised, indicating that vertical migration into these units on-Site may be limited.</p>
Modelling Approach	<p>The risk to the identified water resource and ecological receptors was modelled using the Remedial Targets Worksheet (RTW) v3.2.</p> <p>Two points of compliance were considered:</p> <ul style="list-style-type: none">• 50m, hypothetical point of compliance selected in line with guidance and protective of the underlying aquifers (associated with hazardous compound, albeit a more distant compliance point up to 250m can be considered for non hazardous compounds)• 200m, considered protective of the North Sea (and its ecologically protected status). While the North Sea is located approximately 450m from the Site boundary, a reduced point of compliance was conservatively considered to account for the presence of the Made Ground source off-Site, inferred to be present up to 250m from the Site boundary.
Water Resource DQRA Outcome	<p>Manganese, ammoniacal nitrogen, cyanide, thiocyanide, sulphate, aromatic >EC10-EC12 and aromatic >EC16-EC21, fluoranthene and anthracene were measured in excess of the SSAC based on a 50m compliance point. The majority of exceedances were associated with non hazardous compounds (ammoniacal nitrogen, cyanide, sulphate and thiocyanate). While a hypothetical risk to the aquifer was identified based on a 50m, it was considered that this should not drive decision making in relation to potential remediation measures, if required, given the likely low resource potential of the aquifer.</p> <p>Comparison of concentrations of CoC with the SSAC based on a 200m compliance point indicated that only ammoniacal nitrogen, cyanide, sulphate and thiocyanate were in excess of the SSAC. However, when considering the complexities of modelling (that it is not possible to incorporate the mechanisms affecting the attenuation of inorganics and that a 200m compliance point is likely conservative) and the significant degree of dilution that would occur if CoC were to migrate to the North Sea, the risks were considered not to be significant. It was further noted that:</p>

Executive Summary

- The water quality standard adopted for the assessment of sulphate in relation to the North Sea was based on drinking water in the absence of an Environmental Quality Standard (EQS), with sulphate a major ion in seawater.
- That a Predicted No Effect Concentration was adopted for thiocyanate in the absence of a statutory EQS.
- That the compliance criteria for ammoniacal nitrogen is potentially conservative on the basis of the species of ammoniacal nitrogen likely to be present.

Conclusions

Based on the modelling and the findings of the assessment undertaken, the risk to water resources and ecological receptors is not considered to be significant. The risk to on-Site commercial workers was considered to be low provided that:

- Tar / NAPL was removed (in line with the Remediation Strategy developed for the Site).
- That importation of clean soils in landscaped areas was undertaken to break the driving pathways in relation to asbestos (identified in shallow soils) and PAH (identified in excess of the GAC in a limited number of samples). This is likely required to provide a suitable growing medium.

Other Considerations

It is expected that any risks associated with ground gas, and subsequent mitigation measures required (e.g. building controls) would be the responsibility of the developer.

Pipe permeation in relation to new water supply pipes, if installed within the Made Ground, primarily in relation to organic contaminants would need to be considered as part of any redevelopment.

A risk to construction workers may be present in relation to potential contaminants in the subsurface during the redevelopment phase. However, these risks can be mitigated through best practice and employment of suitable mitigation measures which would be considered standard practice in brownfield site redevelopment.

A preferential pathway could be created if piled foundations are included within the design; a piling risk assessment would potentially be required.

If preferential pathways exist based on the presence of historical sub-surface features such as tunnels and relic pile foundations, they are considered unlikely to significantly increase the risk to water resource receptors given their localised nature. The contaminant distribution review supports the conclusion that such features, if present, are not measurably affecting contaminant transport across the Site.

Contents

1	Introduction.....	8
2	Environmental Investigations and Site Setting	13
3	Initial Conceptual Site Model.....	28
4	Generic Quantitative Risk Assessment.....	31
5	Review of Conceptual Site Model	45
6	Detailed Quantitative Risk Assessment.....	55
7	Conclusions	62
8	References	64

Tables (in text)

Table A Groundwater Elevations: 13 November 2017 and 9 August 2021	18
Table B Difference in Groundwater Elevations in Dual Screened Monitoring Wells.....	18
Table C Calculated Salinity of Groundwater.....	22
Table D Summary of Locations in which Evidence of NAPL or Tars was Identified.....	25
Table E Summary of Contaminants Exceeding Human Health GAC in Soil.....	33
Table F Summary of Contaminants Exceeding Water Quality Standards in Soil Leachate	37
Table G Summary of Contaminants Exceeding Water Quality Standards in Groundwater.....	39
Table H Remedial Targets Workshop: Model Run Parameters	55
Table I Summary of Exceedances of Water Resource SSAC in Groundwater.....	57

Tables

Table 1	Water Resource Site Specific Assessment Criteria
Table 2	Comparison of Measured Concentrations of CoC in Groundwater with SSAC

Figures

Figure 1	Site Location & Environmental Site Setting
Figure 2	Current and Historical Site Layout
Figure 3	Proposed Site Layout
Figure 4	Intrusive Investigation Location Plan
Figure 5	Monitoring Well Location Plan
Figure 6	Groundwater Contour Plan
Figure 7	Visual Evidence of Contamination
Figure 8	Distribution of Dissolved Phase Total TPH in Groundwater
Figure 9	Conceptual Site Model Cross Section

Appendices

Appendix A

NQMS Declaration Reference

Appendix B

Figures

Appendix C

Study Limitations

Appendix D

Summary of Previous Site Investigation Data

Appendix E

Geological Cross Sections

Appendix F

Groundwater Elevation Data

Appendix G

Schedule of Laboratory Analysis

Appendix H

Summary of Sample Deviations

Appendix I

Soil, Leachate and Groundwater Data (Enviros 2004, AEG 2018 and AEG 2022)

Appendix J

Comparison of Measured Concentrations of Contaminants of Concern in Soil with Human Health GAC

Appendix K

Comparison of Measured Concentrations of Contaminants of Concern in Groundwater with GAC

Appendix L

Water Quality Standard Sources

Appendix M

Comparison of Measured Concentrations of Contaminants of Concern in Soil Leachate with GAC

Appendix N

Chemical Input Parameter Values

Appendix O

Sensitivity Testing

Appendix P

Physical Input Parameter Values

Appendix Q

Risk Assessment Methodology

Appendix R

TPH Breakthrough Times

Appendix S

Example RTW Output Sheet

1 Introduction

Arcadis (UK) Limited (Arcadis) was commissioned by South Tees Development Corporation (STDC) to undertake a Detailed Quantitative Risk Assessment (DQRA) for the development plot known as Land west of Warrenby, Teesside (the “Site”). The Site is a land parcel situated within the wider Teesworks area located across the Redcar, Lackenby, Grangetown and South Bank conurbations of the Borough of Redcar & Cleveland, set in the industrial area generally known as ‘South Tees’. Activities historically undertaken on-Site included the production of steel, alongside ancillary activities associated with steelworks.

Under the instruction of South Tees Development the Phase 1 Contaminated Land Desk Study has been documented as technically adequate under the National Quality Mark Scheme (NQMS) to provide visible identification that the Remediation Strategy has been checked for quality by a Suitably Qualified and experienced Person (SQP). In this instance the SQP is Ian Evans. The NQMS Declaration Reference is 0822-G3393, a copy of the declaration is contained as Appendix A.

The site is under consideration as a potential location for the Teesside Net Zero carbon capture and storage facility, this facility is to be constructed by a third party under a Development Consent Order (DCO). Although some documentation pertinent to the DCO has been used to produce this report the two projects are not formerly linked and should be assessed separately and in isolation within their respective planning frameworks.

The work was carried out in accordance with the proposal “Teesworks, Net Zero Teesside Plot – Planning and design technical Support” dated 20th October 2020. All works have been carried out in reference to English legislation and regulatory guidance for the assessment of land contamination.

A Site location plan is presented as Figure 1, while the current Site layout is presented on Figure 2. The proposed layout, as presented by the prospective tenant / STDC, is presented as Figure 3.

1.1 South Tees Regeneration Masterplan

The South Tees Regeneration Masterplan has been developed detailing the industrial-led regeneration of the former Redcar Teesworks site into a world class employment-generating zone and economic growth enabler for the Tees Valley. The Masterplan has identified the Site as being located within the North Industrial Zone. The Site is a priority development area. Regulatory Context

Outline planning for remediation of the site has been submitted under Planning application R/2021/1048/FFM. This document is intended to support the discharge of planning conditions associated with remediation at the plot, as defined under Outline Planning Approval. The planning redline is shown on drawing TSWK-STDC-NZT-ZZ-DR-C-0005 Net Zero Teesside – Remediation Zones – Rev D, contained within Appendix B, redlines on all other drawings should be considered indicative.

Planning guidance relating to the development of land potentially affected by contamination is detailed in the National Planning Policy Framework (NPPF), updated July 2021 and constitutes guidance for Local Planning Authorities (LPA). In this case the LPA is Redcar and Cleveland Borough Council (RCBC). RCBC within their planning portal/guidance strongly recommend Developers to use the The Yorkshire and Lincolnshire Pollution Advisory Group (YALPAG) guidance documents which they have adopted, to prevent any delays (Contaminated land | Redcar and Cleveland (redcar-cleveland.gov.uk)). As such the report has been documented as technically adequate under the NQMS.

The NPPF sets out the Government’s planning policies for England and how these should be applied. Under the NPPF the planning process aims to ensure that land is suitable for its proposed future use, in particular:

‘Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the

natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development.’

The NPPF also states that:

- Strategic policies should set out a clear strategy for accommodating objectively assessed needs, in a way that makes as much use as possible of previously-developed or ‘brownfield’ land.
- Give substantial weight to the value of using suitable brownfield land within settlements for homes and other identified needs, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land.

Therefore, planning policies and decision should ensure that:

- A site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation).
- After remediation, as a minimum, land should be capable of not being determined as contaminated land under Part IIA of the Environmental Protection Act 1990.
- Adequate site investigation information, prepared by a competent person, is available to inform these assessments.
- The planning system should contribute to and enhance the natural and local environment by:
 - preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability.
 - Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

The statutory definition of contaminated land is given under Part 2A of the Environmental Protection Act (EPA) 1990 (Part 2A). This does not include land that is already regulated through other means, such as Waste Management Legislation or the Environmental Permitting Regulations 2010.

1.2 Background

Early historical maps indicate that the Site comprised tidal mudflats and sand, with reclamation activities occurring from around the 1930s to 1970s to facilitate the construction of Site features. Reclamation is thought to have included tipping of slag and the placement of hydraulic fill dredged from the River Tees. The Site was operated until 2015 as a steel works, which included ancillary activities and plants over the course of its operation, including pellet production, sinter and pellet stocking areas, sinter plant and slag, tar and macadam plant.

A number of geo-environmental investigations have been undertaken across the Site and wider area to characterise the subsurface. This included three main phases of investigation on-Site (see Section 1.3 for further details on related reports):

- Baseline geo-environmental investigation in 2004 for the Site and wider area;
- Desk study and subsequent geo-environmental intrusive investigations for the Site and wider area in 2017 and 2018, which were commissioned by STDC; and,
- Geo-environmental investigations in 2021 commissioned by the prospective tenant for the Site and for the pipeline corridor to the north of the Site.

All three investigation phases included trial pitting, the advancement of boreholes, installation of monitoring wells, geo-environmental analytical testing (including soils, soil leachate and groundwater) and collection of parameters to allow the assessment of hydrogeological conditions beneath the Site. The 2017 / 2018 investigations additionally incorporated quantitative risk assessment, which comprised a comparison of

measured concentrations of potential Contaminants of Concern (CoC) with Generic Assessment Criteria (GAC) based on a commercial end use.

A number of CoC were measured in soil leachate and groundwater above the GAC protective of water resources and ecological receptors, with further assessment of the potentially active pollutant linkages recommended. No significant risks to human health receptors associated with a future commercial redevelopment were identified based on the measured concentrations of CoC encountered, provided that mitigation measures were put in place to address the presence of asbestos in soils, both during construction works and following development. Asbestos was noted to represent a potential risk via the inhalation pathways, including within dust. It was recommended that potential risks from inhalation exposure to asbestos fibres by future commercial workers in areas of the Site not covered by buildings or hardstanding could be mitigated through importation of a clean soil cover system in landscaped areas, which would likely be required to provide a suitable growing medium. Potential risks to construction workers could be mitigated through implementation of best practice measures during redevelopment activities and compliance with the Control of Asbestos Regulations 2012. Additional recommendations included consideration of barrier pipe for any proposed new water supply pipes laid in the Made Ground, a foundation works risk assessment if penetration of foundations through the Glacial Till were proposed as part of redevelopment works, alongside management of soils during the redevelopment / construction phase such that deep soils containing contamination were not moved towards the surface.

Following the GQRA undertaken in 2017 / 2018, additional data has been collected in 2021 at the instruction of the prospective tenant. The 2021 data has been provided to Arcadis by STDC and has been included in this assessment as supporting evidence for Site conditions. The DQRA has been undertaken to aid development of a remedial strategy for the Site, if required.

1.3 Previous Reports

The following reports have been prepared for or include the Site:

- Soil and Groundwater Baseline Characterisation Study, Teesside Works, prepared by Enviro for Corus UK Ltd [Enviros 2004], comprising:
 - Volume 1 – Factual Report, Ref. Rlp250604corusteessidefactual.Doc dated 25th June 2004 and marked Final;
 - Volume 2 – Interpretive Report Ref. Mwicorusdraftinterpretivemmdv#2.Doc dated 25th June 2004 and marked Final; and,
 - Volume 3 – Summary Report dated June 2004
- SSI1 Redcar Works – Phase 1 Geo-Environmental Desk Study, 678079_SSI1_001 prepared by CH2M, dated August 2017 [CH2M 2017a]
- SSI2 Redcar Works – Phase 1 Geo-Environmental Desk Study, 678079_SSI2_001 prepared by CH2M, dated August 2017 [CH2M 2017b]
- Factual Report – Initial Trial Pitting - SSI Redcar – SSI1, prepared by CH2M and dated November 2017 [CH2M 2017c];
- Factual Report – Initial Trial Pitting - SSI Redcar – SSI2, prepared by CH2M and dated November 2017 [CH2M 2017d];
- 4153 & 4154 Area A Former Steelworks Redcar Contract 1 & 2 (Area A) (Final report), prepared by Allied Exploration and Geotechnics Limited (AEG) for South Tees Site Company Ltd, dated June 2018 [AEG 2018].
- The Former SSI Steelworks, Redcar: Priority Areas within SSI Landholdings Contract 1 and 2A: Site Condition Report, Redcar Steelworks-AUK-XX-XX-RP-GE-0001-02-SSI1_SSI2A_GI_SCR, prepared by Arcadis and dated August 2018 [Arcadis 2018a].

- The Former SSI Steelworks, Redcar: Priority Areas within SSI Landholdings Contract 1 and 2A: Environmental Risk Assessment, Redcar Steelworks-AUK-XX-XX-RP-GE-0001-P1-SSI1_SSI2A_GI_ERA, prepared by Arcadis and dated August 2018 [Arcadis 2018b].
- The Former SSI Steelworks, Redcar: Priority Areas within SSI Landholdings Contract 1 and 2A: Geotechnical Risk Assessment Report, Redcar Steelworks-AUK-UK-XX-XX-RP-GE-0001-P1-SSI1_SSI2A_GI_GRA, prepared by Arcadis and dated November 2018 [Arcadis 2018c].
- The Former SSI Steelworks, Redcar: Priority Areas within SSI Landholdings Contract 1 and 2A: Ground Remediation Options Appraisal Report, Redcar Steelworks-AUK UK-XX-XX-RP-GE-0001-01-SSI1_SSI2A_GI_ROA, prepared by Arcadis and dated December 2018 [Arcadis 2018d].
- Former Steelworks Land, South Tees Outline Remedial Strategy, Prepared for South Tees Development Corporation by Wood, ref 41825-wood-XX-XX-RP-OC-0001_S0_P01 dated 25th June 2019 [Wood 2019].
- Net Zero Teeside – Environmental Statement Volume III – Appendices, EN010103-001064-NZT DCO 6.4.11 ES Vol III Appendix 9C WFD Assessment, Prepared by AECOM for BP [AECOM 2021a].
- Onshore Unexploded Ordnance Threat and Risk Assessment with Risk Mitigation Strategy: Net Zero Teesside, Prepared for BP Plc by AECOM and 6 Alpha, NS051-CV-REP-000-00001 dated March 2021 [AECOM 2021b].
- Preliminary Onshore Ground Investigation for Net Zero Teeside (NZT) – South Tees Development Corporation (STDC) ‘Main Site’ and Onshore CO2 Export Pipeline Corridor Final Factual Report, prepared by AEG and dated January 2022 [AEG 2022].
- Phase 1 Environmental Contaminated Land Desk Study, Land west of Warrenby, Teesworks, 10035117-AUK-XX-XX-RP-ZZ-0520-04-Land West of Warrenby Redcar Preliminary Risk Assessment, prepared by Arcadis and dated August 2022 [Arcadis 2022].

This DQRA should be read in conjunction with the aforementioned reports, which form the basis for the conceptual understanding of the Site.

1.4 Objectives

The objective of this DQRA was to assess the potential risks to the identified receptors associated with CoC measured in the subsurface and to aid the development of a remedial strategy for the Site, if required. The specific objectives of this DQRA comprised:

- To further characterise pollutant linkages at the Site using site-specific information.
- To evaluate the significance of the identified impacts across the Site within the existing legislative framework, through the development of Site-Specific Assessment Criteria (SSAC) where appropriate.

1.5 Scope of Works

The scope of works was developed with reference to the Environment Agency’s (EA) Land Contamination Risk Management (LCRM) guidance, published October 2020 and last updated in April 2021.

1.6 Reliability of Information / Limitations

The scenarios overleaf are not considered in the derivation of site-specific assessment criteria (SSAC):

- Risks to Construction Workers – any redevelopment and construction work should be conducted in full recognition of HS(G)66 (no longer current but has not been updated and is cited in The Building Regulations, 2010) and with reference to CIRIA Report 132¹; and,
- Nuisance health effects – the Statutory Nuisance Act considers olfactory impacts from odours and allows comparison of enclosed space air concentrations with odour threshold concentrations.

Arcadis' liability, pursuant to the terms of the appointment of Arcadis by STDC, is strictly limited to the work undertaken and the matters contained and specifically referred to in this report.

A copy of Arcadis' Study Limitations is presented in Appendix C.

1.7 Reliance

It is understood that the current report has been prepared for the use of STDC in their planning process. The contents of this report may not be used or relied upon by any person other than this party without the express written consent and authorisation of Arcadis.

¹ Construction Industry Research and Information Association, 1996. CIRIA report 132 – A Guide for Safe Working on Contaminated Sites

2 Environmental Investigations and Site Setting

2.1 Previous Works

A number of investigations have been undertaken for the Site, including desk study, trial pitting, advancement of boreholes, Cone Penetration Testing (CPT), collection of soil and groundwater samples, geotechnical testing, environmental testing of soil, soil leachate and groundwater, geophysical investigation, hydrogeological investigation (comprising collection of data pertaining to tidal conditions, hydraulic continuity of underlying geological units and aquifer permeability testing), alongside quantitative risk assessment. As referenced in Section 1.2, the primary intrusive investigations associated with the Site were undertaken in:

- 2004 – extensive intrusive investigation undertaken for the wider area, including the Site;
- 2017 / 2018 – extensive intrusive investigations undertaken for the wider area, including the Site (CH2M 2017c, CH2M 2017d, AEG 2018); and
- 2021 – investigations focused on the Site, with several locations advanced off-Site to the north in the vicinity of the pipeline corridor (AEG 2022), with investigations undertaken to assess the relationship between groundwater and a pond identified to the north of the Site (AECOM 2021a).

The sequence of ground investigation works carried out is considered to provide a reasonable confidence in ground conditions and chemical composition of soil and groundwater across the Site however the presence of structures at the Site means it has not yet been possible to investigate a limited number of areas including: the area adjoining the blast furnace complex in the north; the blast furnace stockhouse and stores area; and the Sinter plant. Following demolition/clearance works, limited ground investigation in these areas is planned to address these data gaps.

In addition to those works undertaken on-Site, extensive investigations have been carried across the wider Teesworks area.

The site data referenced in this report is summarised below and key information has also been compiled in Appendix D, which includes: investigation location plans, trial pit and borehole logs, soil and groundwater analysis and monitoring summary and hydrogeological data (vibrating wire piezometer charts, aquifer permeability tests and tidal monitoring results).

The information gathered from these investigations has been used to develop the environmental Site setting, as reported within. A plan showing the intrusive investigation locations is presented as Figure 4, while a monitoring well location plan is presented as Figure 5.

2.2 Site Description

The Site comprises reclaimed land, with reclamation activities commencing in the 18th century, albeit the majority of reclamation in the north of the Site occurred in the 1930s with the southern portion typically undertaken around the 1970s. The reclamation is thought to have included end tipping of slag from railway sidings and the placement of hydraulic fill dredged from the River Tees.

The Site is currently dominated by large expanses of relatively flat artificial topography at between 6 - 8m above Ordnance Datum (AOD), with lower platforms present north of the Sinter Plant and to the northeast around the former iron ponds. The region is divided by roads, steelworks structures; including the Teesside Management Office (TMO), Coal Blending Plant and RDL Stores, Sinter Plant, D. Jones Construction and Haulage Limited compound (former Tube City). Railway lines and the Blue Main Road form the southern boundary of the Site, the former Hot Metal Route railway bisects the northern half of the Site. Tunnels associated with the former Pellet Plant may also be present on Site.

In general, the roadways are level with the surrounding land. However, the roads running along the eastern and southern boundaries of the site are approximately 3-4m higher, with steep slopes leading onto the site. Mounds and stockpiles are present across parts of the Site primarily in the iron ponds area, around the former Pellet Plant.

The ground around the TMO and north of the sinter building is primarily of soft landscaping with areas of gravel. The southern, central and western portions of the Site are formed with compacted gravel comprising sinter where the former coal, ore and sinter stocks were located. These stocking yards are traversed by covered conveyor belts which transported the materials northwards to the blast furnace and coke ovens located within the adjacent Teesworks Foundry site.

2.3 Geology

The focus of this section is on geology as identified beneath the Site, although additionally considers geology within the wider area, where pertinent. A particular focus is placed on off-Site geology located between the Site and coast in the vicinity of the pipeline corridor, given that this is hydraulically down-gradient of the Site (see Section 2.5).

2.3.1 Published Geology

Review of the British Geological Survey (BGS) online map viewer and BGS map for the area (Guisborough, 1:50,000 Solid and Drift Edition, Sheet 34) indicates that the Site is directly underlain by worked ground. Worked ground is indicated to be underlain by superficial deposits comprising primarily Tidal Flat Deposits of sand and silt, albeit within the northeastern portion of the Site Blown Sand are recorded. Blown Sand, and subsequently Beach and Tidal Flat Deposits are noted to the north of the Site, between the Site and the coast, with Glaciolacustrine Deposits and Glacial Till noted in the general area, and potentially present at depth beneath the Tidal Flat Deposits and Blown Sand.

Bedrock beneath the majority of the Site comprises the Redcar Mudstone Formation, up to 250m thick. The Redcar Mudstone Formation is described as mudstones and siltstones with subordinate thin beds of shelly limestone in the lower part and argillaceous limestone concretions throughout. The Penarth Group outcrops in the northwestern most portion of the Site and is described as mudstones with subordinate limestones and sandstones (from 0 to >12m thickness). The Mercia Mudstone Group, described as mudstones and subordinate siltstones (greater than 1,350m thick) is indicated to be present beneath the northwestern most tip of the Site.

2.3.2 On Site: Site Specific Geology

The information presented in this section is based on a review of readily available investigation data collected to date (Enviros 2004, CH2M 2017c and 2017d, AEG 2018 and AEG 2022). A summary of data collected during previous investigations has been included within Appendix D which includes on-site borehole and trial pit logs and borehole logs from off-site immediately downgradient boreholes which provide information on the potential off-site migration pathway.

Geological cross sections of the Site have been included within Appendix E, which includes investigation locations advanced within 2017 / 2018 and additionally in 2021. The cross sections have been included to provide an indication of conditions beneath the Site.

Made Ground

Review of readily available investigation data collected to date (Enviros 2004, CH2M 2017c and 2017d, AEG 2018 and AEG 2022) indicates that Made Ground is present across the whole of the Site, typically in the order of 4 to 6m but noted to be up to 8.9m thick in some areas. The exception was Made Ground in the vicinity of

Enviros trial pits 13BTXX series (in the west of the Site) and on the northeastern corner of the Site. In the vicinity of the 13BTXX locations, Made Ground was only identified at a thickness of approximately 0.5 to 1m, although this was inconsistent with other locations in the area (CH2M 2017c and AEG 2022). In the northeastern corner of the Site, Made Ground was identified at a thickness of 0.9m (one location; MS\BH04). It should be noted that in the majority of trial pit locations, the base of Made Ground was not proven, and therefore a greater thickness of material may exist across the Site where only trial pits have been excavated as opposed to boreholes.

Two main types of Made Ground were noted:

- **Slag-dominant material:** Generally ranging from gravel to boulder size fragments and intermixed with other types of manmade fragments including brick, concrete, coal, sandstone, and clinker. The slag material generally ranged from light grey to dark grey/black in colour, but a wide range of other colours were also noted including grey brown, red brown and orange brown. Discolouration of the slag surface was also noted with white crystallisation/discolouration often noted on the outer surface.
- **Granular Made Ground:** Generally described as a sandy gravel with varying amounts of clay, cobbles and gravel. Gravel and cobbles include brick, concrete and other demolition materials, slag was not the dominant constituent although often still present within the soil matrix.

In addition to the above, cohesive Made Ground (generally described as soft to very stiff clay containing minor constituents of sand, gravel and cobbles), Hydraulic Fill Material (generally described as yellow gravelly fine to coarse sand with shell fragments), sinter (widely identified as a surfacing material in the south of the Site and generally described as black fine gravel), and waste (comprising metal, wood, and plastic in addition to the Made Ground deposit) were also encountered beneath the Site, albeit to a far lesser extent.

Superficial Deposits

The sequence of superficial geology identified beneath the Site broadly comprised:

- Tidal Flat Deposits
- Glaciolacustrine Deposits
- Glacial Till

The superficial deposits directly underlying Made Ground typically comprised Tidal Flat Deposits, which were predominantly recovered as silty sands with occasional gravel horizons with occasional layers of silt or soft or loose clay. Locations advanced in 2021 (AEG 2022) generally recorded granular Tidal Flat Deposits overlying more cohesive Tidal Flat Deposits [generally logged at the base of this unit by AEG in 2021]). The Tidal Flat Deposits were identified at a maximum depth of approximately 21.8metres below ground level (m bgl) (MS\BH08; Tidal Flat Deposits logged to 17.8m bgl with Tidal Flat / Glacial Deposits logged to 21.8m bgl), albeit was typically not identified below depths of 15m bgl. Blown Sand was not identified beneath the Site; however, it may be difficult to differentiate from the granular Tidal Flat Deposits given they can comprise comparable constituents.

Glaciolacustrine Deposits were identified in a limited number of boreholes and generally comprised laminated clay interlaminated with silt partings. Locally these deposits were noted to be organic, and were occasionally present as bands within the underlying Glacial Till. Glacial Till was present in all locations beneath the Glaciolacustrine Deposits or Tidal Flat Deposits (where Glaciolacustrine Deposits were absent), and was typically identified as a sandy slightly gravelly clay. While published geology indicates that the Glacial Till can contain lenses of gravel locally (Arcadis 2022), sand and gravel lenses were not identified in the Glacial Till encountered at the Site. The thickness of the Glacial Till varied from 1.05m to 9.0m. It is noted that while the Glacial Till has been identified in all locations advanced across the Site, it has been absent in other locations in the wider area. The thickness of Glacial Till is considered to be influenced by the presence of former valleys

(identified as hollows within the rockhead). As such, where the rockhead has been identified at shallower depths across the wider area, Glacial Till has occasionally been absent.

Bedrock

The Redcar Mudstone Formation was recovered as an extremely weak to weak grey mudstone which was locally noted to be fossiliferous. Some horizons were noted to be heavily fractured, or recovered as non-intact rock, but Solid Core Recovery (SCR), and Rock Quality Designation (RQD) were generally higher than for the other formations encountered.

The Penarth Group and Mercia Mudstone Group were identified in one location only (borehole S2-BHA04). The Penarth Group was recovered as a weak weathered sequence of interbedded mudstones and siltstones and was encountered from 27 to 33m bgl. The underlying Mercia Mudstone Group was proven to a maximum depth of 40m bgl and was recovered as a distinctly weathered extremely weak or weak red brown to brown mudstone.

2.3.3 Off-Site: Site Specific Geology (Corridor pipeline)

The focus of this section is on investigation data collected in relation to land situated between the Site and coast (corridor pipeline), given that this could form a potential pathway for lateral migration of groundwater. Information presented in this section is based on a review of the investigation data collected by AEG (AEG 2022). An indicative geological cross section showing off-Site geology in this area is included in Appendix E.

The geology identified was broadly consistent with that identified on-Site. Made Ground (slag dominant) was identified in locations within approximately 260m of the Site boundary, including LF\TP01 – LFTP\03, LF\BH01, LF\BH02 and LFCPT02A, albeit was absent in LF\CPT01A (located approximately 240m from the Site boundary). Within the remaining off-Site locations (at distances of greater than 440m), Made Ground was not identified. The presence of slag dominant Made Ground is consistent with the reclamation of land in this area, and was proven to a depth of 3.7 to 4.2m bgl in the two boreholes advanced off-Site, with the depth to base of Made Ground not proven in the trial pits advanced off-Site.

Made Ground was typically underlain by a significant thickness of estuarine sand, which were logged as Tidal Flat Deposits, but it is considered plausible that these may represent Blown Sands, given the similarity between the two units. The estuarine sand was present at surface where Made Ground was absent. This was subsequently underlain by estuarine clay (considered to represent cohesive Tidal Flat Deposits). The two units were typically identified at thickness of greater than 15m, with the cohesive Tidal Flat Deposits increasing in thickness with increasing distance from the Site boundary.

Tidal Flat Deposits were underlain by Glacial Till, which occasionally included bands of Glaciolacustrine Deposits, which was subsequently underlain by Redcar Mudstone Formation.

2.4 Hydrogeology

The Site was reclaimed from the Tees Estuary on low lying areas immediately above high water by the placement of biproducts from the steel making process. As discussed, a significant thickness of Made Ground has been identified across the Site, in addition to off-Site between the Site and coast. The following describes the hydrogeological regime beneath and adjacent to the Site (in the hydraulically down gradient direction).

Additionally, groundwater contour plots of six monitoring visits from December 2017 to November 2021 have been produced and are presented as Figures 6a to 6f. Groundwater contour plots have been created for dates where comprehensive monitoring of wells present has been undertaken.

2.4.1 Groundwater Elevation

The depth to groundwater, groundwater elevation, lithology screened and unit within which groundwater was found resting is presented in the Table A. The datasets included comprised the most recent and comprehensive datasets for locations gauged on a single day, namely the 13 November 2017 for the S1 and S2 series wells (AEG 2018), and the 9 August 2021 for the MS series wells (AEG 2022).

A comprehensive table presenting the full groundwater elevation dataset collected between October 2017 and November 2021 and a summary of the groundwater elevation data per well is presented in Appendix F Table 1 and Appendix F table 2 respectively.

Table A Groundwater Elevations: 13 November 2017 and 9 August 2021

Monitoring Well Screen	Number of Monitoring Wells Gauged	Water Depth (m bgl) & Location	Water Level (m AOD) & Location	Lithology groundwater resting within
13 November 2017				
Made Ground only	7	2.02 (S1-BH05) – 4.84 (S2-BHA04)	2.80 (S2-BHA04) – 3.70 (S1-BH05)	Made Ground
Made Ground / Tidal Flat Deposits	4	1.8 (S2-BHA05) – 4.58 (S1-BH13A)	2.66 (S2-BHA06) – 5.2 (S1-BHA07A)	Made Ground or interface of Made Ground and underlying Tidal Flat Deposits
Tidal Flat Deposits only	1	4.71 (S2-BHA04)	2.82 (S2-BHA04)	Made Ground
15 November 2021				
Made Ground only	3	1.91 (MS\BH03S) – 4.39 (MS\BH07S)	2.76 (MS\BH03S) – 3.72 (MS\BH15S)	Made Ground
Tidal Flat Deposits only	8	2.28 (MS\BH13S) – 4.61 (MS\BH05S)	2.65 (MS\BH04S) – 3.68 (MS\BH15D)	Typically within the Made Ground
Glacial Till & Tidal Flat Deposits / Glacial Till	2	2.4 (MS\BH04D) – 4.01 (MS\BH12S)	2.6 (MS\BH04D) – 3.14 (MS\BH12S)	Top of the Tidal Flat Deposits
Mudstone	5	1.98 (MS\BH03D) – 5.69 (MS\BH05D)	1.79 (MS\BH05D) – 3.61 (MS\BH17D)	Made Ground or top of the Tidal Flat Deposits

The difference in head in the 9 dual installed monitoring wells (i.e. shallow and deep) is presented in Table B, for gauging data collected between June 2021 and November 2021. A variety of dates have been considered given observed changes in groundwater elevations beneath the Site over time.

Table B Difference in Groundwater Elevations in Dual Screened Monitoring Wells

Location	Location	Number of Gauging Events	Screened Units (Shallow / Deep)	Range in Head Difference*
LF\BH01	Off-Site	7	Tidal Flat Deposits / Bedrock	5 to -16cm
MS\BH03	On-Site	14	Made Ground / Bedrock	7 to -20cm
MS\BH04	On-Site	16	Tidal Flat Deposits / Glacial Till	19 to -1cm
MS\BH05	On-Site	16	Tidal Flat Deposits / Bedrock	70 to 171cm

Location	Location	Number of Gauging Events	Screened Units (Shallow / Deep)	Range in Head Difference*
MS\BH07	On-Site	5	Made Ground / Tidal Flat Deposits	1 to -5cm
MS\BH11	On-Site	24	Made Ground / Tidal Flat Deposits	0 to 32cm
MS\BH12	On-Site	20	Tidal Flat Deposits & Glacial Till / Bedrock	13 to -18cm
MS\BH13	On-Site	14	Tidal Flat Deposits / Bedrock	49 to -40cm
MS\BH15	On-Site	11	Made Ground / Tidal Flat Deposits	0 to 4cm

* A positive value indicates a higher elevation in the shallow screened well (i.e. downward head present) and a negative value indicates a higher elevation in the deeper screened well (i.e. upward head present).

Review of the above data indicates that the vertical hydrogeological regime beneath the Site is complex, with evidence for upward head between units in some instances, and downward head on other instances, even within the same dual well installation. Groundwater within the Made Ground is likely to be in continuity with groundwater within the underlying Tidal Flat Deposits based on the small head difference typically observed, albeit in MS\BH11, elevations are typically higher in the well screening Made Ground indicating a greater downward head at times at this location. The largest variability in head difference was observed in dual installations screening superficial and bedrock deposits. It is considered that the cohesive superficial deposits (primarily the Glacial Till, which was identified in all locations, and potentially the Glaciolacustrine Deposits), may be in part acting as an aquitard in relation to the overlying superficial and underlying bedrock aquifers. The variability in the head difference observed could be in part due rainfall events, where groundwater in the shallower units is likely more responsive to such events, albeit the findings of the vibrating wire piezometers (see below) and tidal monitoring does not support this, with elevations within all units typically mirroring each other across the monitoring period. However, while Glacial Till was noted in all locations on-Site, in the wider area Glacial Till has been absent where valleys in the rockhead are absent. Further, that where more permeable horizons within the Glacial Till are observed, these may allow more localised lateral flow.

Vibrating wire piezometers were installed in five locations across the Site by AEG between June and July 2021 (AEG 2022), which monitored the pore water pressure at different elevations and depths in the borehole (presented in Appendix D). The piezometers were set at depths to provide information within the Made Ground, granular and cohesive Tidal Deposits, Glacial Till and Mudstone. Interpretation of the data to assess the relationship between the various hydrogeological units has been undertaken. The interpretation is broadly in line with the findings reported above, although the average groundwater level within the Mudstone was consistently higher than that of the average groundwater level within the tidal sands at each location (rather than variable as spot monitoring has indicated). This provides evidence that an upward head may be present, reducing the potential for downward vertical migration of contamination into the Mudstone. However, the evidence from the spot monitoring indicates that an upward head may not consistently be present so the pathway of downward migration into the Mudstone cannot be discounted.

2.4.2 Groundwater Flow Direction

Made Ground & Superficial Deposits

Review of groundwater elevation data collected on 13 November 2017 for the S1 and S2 series well which screen primarily Made Ground (with a limited number of locations [4] screening Made Ground and Tidal Flat Deposits and a single location screening Tidal Flat Deposits), indicates a northerly flow direction towards the coast. This is consistent with previous monitoring events for these wells.

Groundwater elevation data collected on 9 August 2021 for the MS series monitoring well (and including off-Site well LF\BH01) indicates a flow direction to the north / northeast, which appears relatively consistent with previous dataset for these wells. This is also broadly in line with the flow direction inferred based on the vibrating wire piezometers. However, a north to south flow direction was inferred off-Site on the basis of the findings of groundwater elevations in LF\BH02, which were consistently higher than the closest on-Site monitoring well monitored (MS\BH02). It is noted that spot groundwater gauging data did not include LF\BH02, which is located approximately 75m to the north of off-Site monitoring well LF\BH01. Monitoring well LF\BH01 was included in spot groundwater gauging, with elevations consistently lower than those observed on-Site.

Bedrock

Review of the groundwater elevation data collected on 9 August 2021 for monitoring wells screening the bedrock aquifer indicates a flow direction towards the north / northeast. It is noted that all monitoring wells screening bedrock on Site screen the Redcar Mudstone Formation, rather than the Penarth Group or Mercia Mudstone Group in the northwest of the Site. The flow direction inferred appears to be relatively consistent with previous data sets for these wells and additionally with the flow direction inferred based on the findings of the vibrating wire piezometers.

2.4.3 Aquifer Permeability

Aquifer permeability testing was undertaken in two on-Site locations by AEG between October and November 2017, with variable head tests and slug tests undertaken by AEG in 2021. The permeabilities calculated by AEG for the respective geological units are detailed below:

- **Made Ground:** 2.1m/day based on testing in monitoring well S1-BH19, 12.81 – 15.66m/day based MS\BH07 and a range of 3.7 – 17.6m/day based on tests undertaken in MS\BH15;
- **Made Ground / Tidal Flat Deposits:** 0.4m/day for monitoring well S2-BHA6 and a range of 2.2 – 21.9m/day based on tests undertaken in MS\BH03; and,
- **Redcar Mudstone Formation** (monitoring well MS\BH05): 0.01m/day for test undertaken in MS\BH05, 4.73 – 5.33m/day based on tests undertaken in MS\BH03 and 0.17 – 0.37m/day based on tests undertaken in MS\BH13

Further slug tests data was reported from MS\BH05, MS\BH13, MS\BH14 and MS\BH15 which screen the Tidal Flat Deposits. The data reported may be representative of recharge from the well pack instead of the aquifer and the reported values are one to two orders of magnitude higher than has typically been observed for the Tidal Flat Deposits. As such, this data is not considered to represent aquifer recharge in the Tidal Flat Deposits which were generally recorded as a silty or gravelly Sand. Reported values ranged from 84.2m/day to 353m/day.

In addition to the above, aquifer permeability testing has been undertaken across the wider Teeswork area, with the following indicated for the respective geological units:

- **Granular Tidal Flat Deposits** – 0.56 – 2.9m/day based on testing undertaken in 5No. locations

- **Glaciolacustrine Deposits** – 0.012 – 0.31m/day, based on testing undertaken in 2No. locations. The upper end of the calculated hydraulic conductivity was considered likely to be associated with the presence of granular bands with the Glaciolacustrine Deposits
- **Glacial Till** – 0.007 – 0.025m/day based on testing undertaken at 1No. location
- **Mercia Mudstone** - 0.00023 – 2.4m/day, based on testing undertaken in 10No. locations
- **Redcar Mudstone** – 0.16 – 1.99m/day, based on testing undertaken at 2No locations

It is noted that in comparison to literature values for a mudstone, the upper end of the permeabilities calculated for the Mercia Mudstone and the range presented for the Redcar Mudstone are more rapid than expected. For example, ConSim 2000 suggests between 8.64×10^{-9} to 0.00017 m/day for a shale, with similar values reported by Tindal 1998. The unexpectedly high permeabilities may be the result of drilling induced fracturing of the mudstone in the close proximity of the well, with the mudstone described in some sections of the well screen as extremely weak and badly broken. Based on this, it is considered that the mudstone would not support significant groundwater flow (or the yields likely required for a viable abstraction).

2.4.4 Aquifer Salinity

The salinity of the aquifers underlying the Site has been calculated using concentrations of chloride (Cl⁻) measured in the groundwater samples collected assuming all chloride resulted from sodium chloride (NaCl). It is recognised that this assumption may overestimate the calculated salinity as it is plausible that not all sodium and chloride ions will be present as NaCl, and therefore careful interpretation of the results is required.

The concentration of NaCl, the most abundant salt in marine waters, was calculated using these concentrations and used to determine whether the groundwater underlying the Site was likely to be saline, brackish or fresh.

Equation

At 1 litre mass = concentration

$$n_{(Cl^-)} = m_{(Cl^-)} / M_{(Cl^-)}$$

Assume all free chloride results from NaCl therefore: $n_{(NaCl)} = n_{(Cl^-)}$

$$\text{Therefore } m_{(NaCl)} = M_{(NaCl)} * n_{(NaCl)}$$

Where n = no. of moles

$$m = \text{mass (g)}$$

M = Molecular weight

$$\text{Molecular weight of sodium (Na)} = 22.99$$

$$\text{Molecular weight of chloride (Cl)} = 35.5$$

The results of the calculation are presented in Table C below. The distinction between saline, brackish or fresh water is made based on the average concentration, where an average is presented.

Table C Calculated Salinity of Groundwater

Approximate Area	Geology screened	Locations Included	Range in Concentration NaCl (mg/l)
Northern Portion of the Site	Made Ground	S2-BHA04	544
	Made Ground / Tidal Flat Deposits or Tidal Flat Deposits	S2-BHA04 & S2-BHA05	1,219 – 2,966
Southern Portion of the Site	Made Ground	S1-BH04, S1-BH05, S1-BH06, S1-BH12, S1-BH18, S1-BH19	54 – 1,335 (average 278)
	Made Ground / Tidal Flat Deposits or Tidal Flat Deposits	S1-BH07A, S1-BH13A & S2-BHA06	43 – 150 (average 93)

Freshwater: <500 mg/l

Brackish Water: 500 to 30,000 mg/l

Saline Water: 30,000 – 50,000 mg/l

Water beneath the northern portion of the Site is indicated to be brackish, while that in the south is likely freshwater (based on average NaCl concentrations rather than the maximum). This is consistent with the North Sea being closer to the northern portion of the Site, although it should additionally be noted that the maximum concentration of NaCl in the southern portion of the Site is indicative of brackish water, which may be as a result of land reclamation.

It is considered that the presence of brackish conditions beneath the Site is in line with expectations given the Site history and location. However, it may be either attributable to saline intrusion from the North Sea, or due to the fact that the land is reclaimed from the sea and therefore likely to have residual salts within the underlying ground.

2.4.5 Tidal Influence

A pressure transducer was installed in on-Site monitoring well S2-BHA05 between November and December 2017 (AEG 2018) to assess tidal influence. Monitoring well S2-BHA05 is located in the northeastern most portion of the Site and screens the Made Ground and top of the underlying granular Tidal Flat Deposits. Review of the groundwater elevations across the monitoring period indicated no tidal influence was present. This is noted to be consistent with other locations in the wider area for which testing was undertaken at the same time (AEG 2018).

In addition to the above, pressure transducers were installed in on-Site monitoring wells screening the Made Ground (MS\BH07), granular Tidal Flat Deposits (MS\BH05, MS\BH14, MS\BH13), Tidal Flat Deposits / Made Ground (MS\BH12) and bedrock (MS\BH03). The pressure transducers were active in locations MS\BH07, MS\BH12 and MS\BH13 between July and September 2021 and in MS\BH03, MS\BH05 and MS\BH14 between July and November 2021. All locations are located in the northern portion of the Site with the exception of MS\BH14 which is in the southern portion of the Site. A pressure transducer was also installed in off-Site monitoring well LFBH01 (located approximately 150m to the north of the Site), screening the shallow granular Tidal Flat Deposits. Review of the groundwater elevations monitored across a period of nearly 4 months indicated that no tidal influence was observed, including within off-Site location LFBH01.

The tidal monitoring data is presented graphically as part of Appendix D.

The tidal monitoring data undertaken covers a number of locations across the Site and in the off-site downgradient area between the Site and the North Sea. The monitoring units screened also include shallow superficial, deeper bedrock and Made Ground and has been undertaken over sufficient time that any tidal influence would be captured. As such, the tidal monitoring dataset is considered sufficient to draw robust conclusions on the underlying influence of cyclical tidal variation. The absence of any notable cyclical tidal variation is likely due to the presence of cohesive deposits and provides evidence that the horizontal migration pathway between the Site and the North Sea may be limited by their presence.

Section 2.4.4 concluded that groundwater underlying the Site may be brackish. As stated in Section 2.4.4, this remains in line with expectations and may be either attributable to saline intrusion from the North Sea, or due to the fact that the land is reclaimed from the sea and therefore likely to have residual salts within the underlying ground.

2.4.6 Aquifer Classification

The Tidal Flat Deposits beneath the Site are designated as a Secondary A Aquifer by the EA, although within the local area are noted to be designated as a Secondary Undifferentiated Aquifer. The Glacial Till is designated as a Secondary Undifferentiated Aquifer and the Glaciolacustrine Deposits are designated by the EA as Unproductive Strata, while the underlying Redcar Mudstone Formation is also designated as a Secondary Undifferentiated Aquifer. The Penarth Group and Mercia Mudstone Group (in the northwestern tip of the Site) are designated as Secondary B Aquifers.

The Blown Sand located immediately north of the Site is also indicated to be a Secondary A Aquifer.

2.4.7 Source Protection Zones

The Site is not located within a groundwater Source Protection Zone (SPZ).

2.5 Hydrology

The North Sea is present approximately 450m to the north of the Site boundary, considering the mean high water mark as the boundary. The River Tees which flows into the North Sea at the Tees Estuary, is located approximately 1500m to the west of the Site at its closest point. Another river, the River Fleet, is located approximately 150m to the southeast of the Site at its nearest point. In addition, a number of ponds (closest within 20m of the Site) were formerly present between the Site and coastline within an area of off-Site Made Ground associated with the South Gare and Coatham Dunes. It is thought that these ponds may have been fed by surface runoff from operation of the Redcar Blast Furnace (to the west of the Site), and have reduced significantly in size since termination of operations at the steelworks. During a Site walkover undertaken by an Arcadis representative on 8 November 2021, only a single pond was observed to be present (located 20m north of the Site boundary), as indicated on Figure 2. Several ponds historically thought to be present in the area (based on aerial mapping), were not identified, with significant quantities of slag observed at ground's surface.

The findings of the above were consistent with that reported within the Water Framework Directive Assessment undertaken for the Site and wider area by AECOM (AECOM 2021a), whereby only a single pond containing water was identified. This was referred to as "Pond 14", and the same as the pond observed by the Arcadis representative on the 8 November 2021. AECOM reported that the remaining waterbodies were fully overgrown with no water observed, with observations undertaken during periods of heavy rainfall in December 2020 and January 2021. All former ponds and Pond 14 were noted to be in an area of dune slacks.

As part of the AECOM assessment, an extensive and comprehensive investigation was undertaken into the relationship between Pond 14 and groundwater / coastal waters. This included but was not limited to: a review of Lidar data, pond water level monitoring (across varying tidal regimes), water quality monitoring, salinity

assessment and review of ecological designations and flora present. The conclusions in relation to the former ponds and Pond 14 included (Italics Arcadis):

“All ponds are *unnatural features* developed in the historical slag deposits which are likely to be relatively impermeable, and their hydrological functioning is unlikely to be consistent to typical sand dune slacks.”

“It is evident that these ponds (albeit not natural ‘dune slacks’) have been succeeding as the spatial area of the standing water bodies has decreased over the last 20 years.”

“Water levels in Pond 14 appears to be controlled by seasonal heavy rain over the late autumn and winter periods, when direct precipitation and overland flow and seepage from surrounding embankments exceed losses from infiltration and evaporation. No influence *from groundwater or the tide was observed.*”

“Several metals are elevated and are likely related to the previous industrial use of the surroundings and the slag deposits *within which they are formed.*”

“The lack of vegetation across the pond implies that there may be a hard, impenetrable bed that is preventing rooting by plants. This would also support the notion that *locally, Made Ground is not very permeable in this area and does not support significant volumes of groundwater.*”

Based on the above, Arcadis considers that the pond (Pond 14) is unlikely in continuity with groundwater beneath the Site, and as such, is not considered as a potential receptor in relation to the Site. On this basis, the primary surface water feature in relation to the Site is the North Sea (located approximately 450m to the north).

2.6 Ecologically Protected Sites

Review of DEFRA’s magic map website (accessed 23 November 2021) indicates that the land immediately to the north of the Site has ecologically protected status, as detailed below.

- Site of Special Scientific Interest (SSSI) associated with the Teesmouth and Cleveland Coast;
- Special Protection Area (SPA) associated with the Teesmouth and Cleveland Coast; and
- Ramsar Site associated with the Teesmouth and Cleveland Coast. It is understood that following formal consultation in 2018 led by Natural England, the Ramsar boundary in the local area was extended to include land up to the Site boundary in January 2020 (AECOM 2021a), although this is referenced currently as “Proposed Ramsar site” on DEFRA’s magic map.

Site of Special Scientific Interest

The land to the north of the Site falls within SSSI of the Teesmouth and Cleveland Coast, which is made up of 33 units. The SSSI units 27 (South Gare to Marske), 28 (South Gare and Coatham Dunes) and 29 (Coatham Quarries and Lagoons) are located to the north of the Site.

The Teesmouth and Cleveland Coast SSSI is of special interest for the following nationally important features that occur within and are supported by the wider mosaic of coastal and freshwater habitats:

- Jurassic geology;
- Quaternary geology;
- Sand dunes;
- Saltmarsh;
- Breeding harbour seal;
- breeding avocet, common tern, little tern;

- a diverse assemblage of breeding birds of sand dunes, saltmarshes and lowland water and their margins;
- non-breeding waterbird species (Sandwich tern, redshank, knot, ruff, ringed plover, sanderling, purple sandpiper, shoveler, shelduck and gadwall);
- an assemblage of over 20,000 waterbirds during the non breeding season; and
- a diverse assemblage of invertebrates associated with sand dunes.

Special Protection Area

The SPA was first classified in 1995 for its numbers of European importance of breeding little tern, passage sandwich tern, wintering Red knot and passage Common redshank as well as an assemblage of waterbirds. In 2000, the determination was updated to include additional areas of coastal and wetland habitats important for waterbirds. Coatham Sands is an important feeding and roosting areas for waders, notably red knot and sanderling.

RAMSAR

The Ramsar site was first classified in 1995 for encompassing a range of habitats which support internationally important numbers of waterbirds, such as Common redshank, wintering Red knot and sandwich tern.

2.7 Soil and Groundwater Quality

Data on the quality of soil and groundwater has been collected as part of previous investigations undertaken at the Site (CH2M 2017c, CH2M 2017d, AEG 2018 and AEG 2022). The focus of this section is on the data collected. Detailed assessment and interpretation of the data is considered in the following sections.

The collection of soil and groundwater samples for laboratory analysis, which included leachate testing, has been undertaken at the Site to assess the quality of the soil, soil leachate and groundwater. Where present, visual and olfactory evidence of impacts were recorded. The Site has an extensive industrial history as outlined in Section 2.2. The former uses of the Site and as such, potential contaminants of concern associated with the Site, informed the laboratory analysis undertaken on collected samples.

A schedule of analysis is presented in Appendix G and a summary of sample deviations recorded by the laboratory is included as Appendix H. The results of environmental testing are presented in Appendix I1 for soils, Appendix I2 for asbestos in soils, Appendix I3 for soil leachate and Appendix I4 for groundwater. This data forms the basis for the assessment undertaken in this report.

2.7.1 Tar and Non-Aqueous Phase Liquid

Tar or evidence of the possible presence of Non-Aqueous Phase Liquids (NAPL) has been visually identified within the Made Ground and associated with subsurface or former above ground structures and plant during previous investigations at the site. A measurable thickness of NAPL has not been identified during any of the groundwater monitoring events, with only sheens typically noted on soils.

A summary of locations in which NAPL or tars were identified on Site is presented in Table G below.

Table D Summary of Locations in which Evidence of NAPL or Tars was Identified

Location	Geological Unit	Description	Investigation
13BT9	Made Ground	Black hydrocarbon staining	Enviros [2004]

Location	Geological Unit	Description	Investigation
13BT12	Made Ground	Oily sheen on water entering put. Oily with black staining at 2 m and a strong oily odour	
S1-BH14	Made Ground	Reworked gravel has contaminated black sand between 4.0 and 8.9 m bgl	CH2M [2017a]
S1-TPH07	Made Ground	Waste materials, oil contamination from 0.2m bgl	CH2M [2017a]
S2-TPA53	Made Ground	Possible tar pockets from 2.2m bgl	CH2M [2017b]
S2-TPA59	Made Ground	Strong hydrocarbon odour and black layer of coal dust/ coal tar fragments	CH2M [2017b]
S2-TPA61	Made Ground	Slight hydrocarbon sheen from 2.1m bgl	CH2M [2017b]
S2-TPA62	Made Ground	Slight oil sheen at water level from 0.9m bgl	CH2M [2017b]
S2-TPA69	Made Ground	Tar odour and appearance between 1.8 and 2.1 m bgl	CH2M [2017b]
S2-TPA79	Made Ground	Becoming oily at the base of the trial pit (1.05 m bgl)	CH2M [2017b]
S2-TPA83	Made Ground	Rare glassy black crystallised tar in Made Ground (minimum depth of Made Ground of 0.3m bgl)	CH2M [2017b]
MS\BH07	Made Ground	Tar coating on slag and tar odour at 4.2m bgl	AEG [2022]
MS\TP06 / MS\TP06A	Made Ground	Sheen noted at 3.0m bgl Potential solidified tar cladding on buried pipe at 0.7m bgl	AEG [2022]
MS\TP10	Made Ground	Sheen noted at 0.4m bgl	AEG [2022]

Visual observation of potential tar and hydrocarbon impacts have been recorded on the Site and are presented on a site plan included as Figure 7 and a summary of the visual and olfactory evidence of contamination is included as Appendix I5. The distribution of the maximum dissolved phase total TPH measured in groundwater sampled from monitoring wells during the most recent groundwater sampling undertaken at each location is presented as Figure 8. While concentrations of TPH in the 100,000's µg/l were measured in water sampled from MS/TP06, the sample was collected as a grab sample and not using low-flow sampling methodology; as such it has not been presented on Figure 8.

2.7.2 Laboratory Deviations

The reported laboratory deviations are presented in Appendix H. The majority of deviations relate to holding times being exceeded. Where holding times are recorded as being exceeded by 365 days, this is due to the sample date not being supplied to the laboratory. The reported laboratory deviations have been reviewed and are not considered to have a material impact on the quality of data reported.

3 Initial Conceptual Site Model

3.1 Sources

A number of potential sources associated with the historical use of the Site have been identified both on-Site and off-Site in the Phase 1 Environmental Assessment (Arcadis 2022). In brief, these include Made Ground both on and off-site which often comprise slag, on and off-site historical industrial land uses associated with iron and steel making and railways. Analytical testing of soils, soil leachate and groundwater has incorporated the following Contaminants of Concern (CoC) based on the identified sources: Total Petroleum Hydrocarbons (TPH), Polycyclic Aromatic Hydrocarbons (PAH), Volatile Organic Compounds (VOC), Semi Volatile Organic Compounds (SVOC), metals and inorganics, Polychlorinated Biphenyls (PCBs) and asbestos (soil only).

3.2 Receptors

3.2.1 Human Health

On the basis of the proposed redevelopment of the Site for commercial / industrial use, the primary human health receptors are considered to comprise future on-Site industrial workers. There are no neighbouring residents in the vicinity of the Site and it is considered unlikely that residential properties would be constructed hydraulically down-gradient of the Site within the ecologically protected area. As such, neighbouring residents have not been considered a receptor. Consideration of the risk to on-Site industrial workers is considered to provide protection to off-Site commercial/industrial workers, provided that any remedial measures, if undertaken, are based on source reduction or pathway management which also cuts the pathway for off-Site commercial/industrial workers.

3.2.2 Controlled Waters

The primary water resource receptor is considered to be surface water associated with the North Sea, located approximately 450m to the north of the Site. It is noted that the North Sea also has ecologically protected status, and is therefore also considered a receptor in relation to ecological receptors.

As discussed in Section 2.6, ponds have historically been present to the north and northwest of the Site within land which has ecologically protected status. The ponds have diminished over the last 20 years, such that only a single pond is currently present. This pond, which is located approximately 20m to the north of the Site is considered unlikely to be in hydraulic continuity with groundwater, and as such, is not considered a potential receptor in relation to the Site. Further, that for a potential risk to be recognised in relation to the ecologically protected land immediately adjacent to the northern Site boundary, impacted groundwater would need to be present at surface. As such, only the North Sea has been considered a receptor in relation to ecologically protected sites.

In addition to surface water, groundwater within the underlying superficial deposits (primarily Tidal Flat Deposits, and additionally the Blown Sands which are present immediately north of the Site and with the same designation) is also considered a potential receptor. Groundwater within bedrock beneath the Site is considered a potential receptor given their designations as a Secondary Undifferentiated Aquifer (Redcar Mudstone Formation) and Secondary B Aquifers (Penarth Group and Mercia Mudstone Formation), albeit the cohesive Glacial Till (and where present, Glaciolacustrine Deposits) are considered to offer a degree of protection to this aquifer.

3.3 Pathways

The following fate and transport pathways are potentially active:

- Partitioning from NAPL and of soil impacts into the soil leachate and vertical migration (downwards) of impacts towards the surface of groundwater.
- Lateral migration of potentially impacted groundwater towards the identified water resource receptors.
- Partitioning from NAPL and of soil and groundwater impacts into the soil gas and vertical migration (upwards) towards ground surface (and human health receptors).
- Dilution in an overlying air space.
- Dermal contact with soils
- Soil and dust ingestion and inhalation

In addition to the above, the Phase 1 Environmental Assessment (Arcadis 2022) identified the potential for shallow tunnels to be present and also the potential for relic pile foundations. These features, if present, may represent preferential pathways.

3.4 Potentially Active Pollutant Linkages

As such, the following linkages have been identified which require further consideration:

- Leaching of contaminants from on-Site Made Ground into groundwater, and subsequent lateral migration towards the identified water resource receptors (aquifers and the North Sea);
- Leaching of contaminants from on-Site Made Ground into groundwater, and subsequent lateral migration towards the identified ecologically protected receptors associated with the North Sea;
- Dermal contact, soil and dust ingestion and inhalation of dusts (indoor and outdoor) in relation to future on-Site industrial workers derived from shallow on-Site Made Ground;
- Inhalation of contaminants in vapours in a future indoor or outdoor air space associated with an on-Site unsaturated soil or groundwater source in relation to future on-Site industrial workers;
- Lateral migration off contaminants in groundwater associated with potential off-Site sources (Made Ground and historical industrial land uses) on to Site and subsequent inhalation of vapours in an outdoor or indoor air space in relation to on-Site industrial workers; and,
- Lateral migration of contaminated groundwater associated with off-Site sources such as Made Ground across the wider Teeswork site, on to Site in relation to the identified water resource receptors.

In addition to the above, the following linkages are also noted to exist, albeit have not been assessed further in this report:

- The potential presence of permanent ground gas and human health or built receptors. No unacceptable risk to human health or built receptors from the accumulation of ground gas was identified based on the findings of Arcadis 2018b. However, as the ground investigation was not designed with a particular redevelopment scenario in mind, the gas data monitoring was limited and may not be representative of the entire extent of the Site under a particular redevelopment. Additional ground gas monitoring has been undertaken in 2021 (AEG 2022), albeit Arcadis understand from STDC that it is expected that any risks associated with ground gas, and subsequent mitigation measures required (e.g. building controls) would be the responsibility of the developer. As such, this linkage has not been considered further here.
- Pipe permeation in relation to new water supply pipes, if installed within the Made Ground, primarily in relation to organic contaminants;

- A risk to construction workers may be present in relation to potential contaminants in the subsurface during the redevelopment phase. However, these risks can be mitigated through best practice and employment of suitable mitigation measures which would be considered standard practice in brownfield site redevelopment.
- A preferential pathway could be created if piled foundations are included within the design which penetrate through the Glacial Till and Glaciolacustrine Deposits; a piling risk assessment may be required to inform pile design.
- Preferential pathways based on the presence of historical sub-surface features such as tunnels and relic pile foundations. Where these sub-surface structures are identified as potential pathways, further action may be required as part of the redevelopment of the Site.

4 Generic Quantitative Risk Assessment

In order to identify potential source pathway receptor linkages requiring further consideration, a GQRA was initially undertaken. The GQRA comprised comparison of measured concentrations of contaminants of concern, in the various media tested, against Arcadis' set of Generic Assessment Criteria (GAC) for commercial / industrial end use. The GAC have been derived using conservative assumptions to enable potential pollutant pathways that do not pose unacceptable risks to be identified and discounted. Exceedance of a GAC does not imply that an unacceptable risk is necessarily present, rather that further assessment may be required to assess the potential risk. The GAC have not been developed to assess potential preferential pathways.

The GAC have been developed assuming that the Site will be redeveloped as a typical commercial/industrial development, represented by office buildings, hardstanding and some areas of soft landscaping. Given the planned industrial development, this conceptualisation is likely a conservative assumption.

4.1 Datasets included in the Comparison

The data included in the comparison comprised:

- Available soil data collected to date, comprising datasets collected in 2004 (Enviros 2004), 2017 / 2018 (CH2M 2017c and 2017d and AEG 2018) and 2021 (AEG 2022), with the exception of off-Site locations;
- Leachate data collected to date was additionally included within the comparison (CH2M 2017c and 2017d, AEG 2018) and 2021 (AEG 2022), with the exception of off-Site locations; and,
- The most recent groundwater data collected in 2018 and 2021 (AEG 2018, 2021 and AEG 2022) from on and off-Site locations, as this is considered most representative of current conditions, which was supplemented with data collected in 2004 (Enviros 2004) to provide Site coverage (3No. locations).

It is noted that a GQRA was undertaken previously by Arcadis (Arcadis 2018b) to assess the data collected in 2004 and 2017 / 2018, albeit it incorporated the Site **and** wider area. As such, the soil dataset comparison has been reproduced within this report for clarity, incorporating only the locations within the Site boundary. Further, that data collected in 2004 should be considered with caution given that in some instances, significant changes have been made in relation to analytical techniques.

The data included in the comparison is presented in Appendix I.

4.2 Human Health GQRA

4.2.1 Selection of Soil Generic Assessment Criteria

Potentially active pollutant linkages and CoC in relation to human health risks requiring further assessment have been identified as follows, based on the discussion in Section 3:

- A. Dust inhalation from Made Ground from Site (potential CoC include primarily asbestos and heavy metals)
- B. (1) Vapour inhalation of indoor or outdoor air from volatile contaminants in soil (potential CoC include primarily VOCs and SVOCs)
- B. (2) Vapour inhalation of indoor or outdoor air from contaminated groundwater (potential CoC include primarily VOCs and SVOCs)
- C. Direct contact and ingestion of contaminated soil (potential CoC include primarily heavy metals, organic/inorganic compounds)

The proposed re-development is considered to represent an industrial end use, and as such, on-Site industrial workers are the primary receptor of concern for any contamination risk. The risk would be influenced by the duration and location of the staff work regimes. For the basis of this assessment, it is assumed that Site workers will be on-Site for a “standard” 8 hour working day.

Industry best-practice for commercial/industrial end-use is to develop GAC assuming a pre-1970s commercial property is present at the Site, with some open areas uncovered by hardstanding.

To assess the identified potential linkages A, B(1) and C above, GAC have been adopted based on the proposed industrial end use. Criteria published by authoritative industry bodies and commonly accepted by regulators for use under the planning regime for development sites have been used first. For contaminants for which no published values are available, Arcadis-derived criteria (developed following the CLEA framework) or foreign national criteria have been used.

The GAC comprise (in order of priority):

- Land Quality Management / Chartered Institute of Environmental Health (LQM / CIEH) Suitable for Use Levels (S4UL) (LQM / CIEH, 2015),
- DEFRA Category 4 Screening Levels (C4SL) (DEFRA, 2014),
- Arcadis derived generic assessment criteria, using CLEA v1.07, and adopting the model set up for the S4ULs,
- USEPA Regional Screening Levels (RSLs) (US EPA, November 2021)

Wood derived GAC using CLEA v1.07, which were presented in Wood 2019², for benzo(a)pyrene and naphthalene. It is understood that these values were acceptable to the regulator for the wider area (which included the Site) and as such they have been retained here.

In the absence of suitable GAC, Arcadis derived site specific assessment criteria for free cyanide for the Prairie site³ (part of the wider area). It is understood that these values were acceptable to the regulator for the Prairie site and as such they have been retained here as the underlying conceptual model used in their development is consistent with the conceptual site model for this Site.

Soil organic matter (SOM) recorded in 199No. soil samples obtained for the Made Ground for the Site ranged from 0.1 to 14% (average of 1.5%) although the upper values are considered to be influenced by elevated hydrocarbons in the sample. As such, the S4UL selected as GAC are those for a commercial end use assuming a SOM content of 1% (the lowest, and most conservative, value).

The selected human health GAC for soil and maximum recorded concentrations in soil in Made Ground, superficial deposits and bedrock for all contaminants are listed in Appendix J.

4.2.2 Soil Screen

Contaminant concentrations in soil samples collected from the Site have been compared with the soil GAC in Appendix J. Contaminants which exceed the GAC are summarised in Table D. Contaminants that do not exceed the respective GAC are not considered to require further assessment and have not been considered further.

² Former Steelworks Land, South Tees Outline Remedial Strategy, Prepared for South Tees Development Corporation by Wood, ref 41825-wood-XX-XX-RP-OC-0001_S0_P01 dated 25th June 2019

³ Grangetown Prairie Area, Former Steelworks, Redcar, Detailed Conceptual Site Model Review and Risk Assessment, prepared by Arcadis, report reference 10035117-AUK-XX-XX-RP-ZZ-0062-01-Prairie_ESA and dated July 2020

Table E Summary of Contaminants Exceeding Human Health GAC in Soil

Compound Group	Compound	Unit	No. Samples Exceeding	GAC Exceeded		Concentration (mg/kg), Location, Depth and Geology
Polycyclic Aromatic Hydrocarbons	Benzo(b)fluoranthene	mg/kg	1	44	S4UL	48mg/kg - S1-BH13A, 6.8m bgl (Granular Made Ground) 60mg/kg - S2-TPA83, 3.0m (Granular Made Ground)*
	Dibenzo(a,h)anthracene	mg/kg	3	3.5	S4UL	6.6mg/kg - S1-BH13A, 6.8m bgl (Granular Made Ground) 6.1mg/kg - S2-TPA83, 3.0m (Granular Made Ground)* 5.0mg/kg - 12BT14, 0.3m bgl (Slag)

* Tar was identified in S2-TPA83, described as rare glassy black crystallised tar, within granular Made Ground which was identified at a minimum depth of 0.3m (and extending to the base of the trial pit at 3.4m bgl).

The risks associated with benzo(b)fluoranthene and dibenzo(a,h)anthracene are driven by the direct contact pathways (linkages A and C) i.e. assuming that the soils at these locations remain uncovered by hardstanding, buildings or another suitable cover system. The depth at which the PAH exceedances were identified in locations S1-BH13A and S2-TPA83 are such that direct contact exposure is unlikely. However, crystallised tar was noted in location S2-TPA83 within Made Ground, which was identified at a minimum depth of 0.3m bgl, with the tar identified in this location a potential contributing factor to the elevated PAH concentrations identified. As such, direct contact with shallow soils containing tar (and elevated PAH) in this location may be active. Similarly, direct contact exposure from the soil sample collected from 12BT14 at a depth of 0.3m bgl is considered to be potentially active. However, while a potential risk is indicated to be present in relation to future on-Site industrial workers by the concentrations measured in shallow soils in 12BT14 and potentially tar in relation to S2-TPA83, Made Ground across the Site is unlikely to represent a suitable growing medium. As such, some form of capping is likely to be incorporated into the development, which would break the direct contact pathways (including dust).

4.2.2.1 Compounds for which no GAC are readily available

In addition to the above, a number of compounds were detected for which no GAC criteria were readily available. These included a limited number of metals (aluminium, iron, manganese, magnesium and silicon), inorganics (sulphur species, total / complex cyanide and nitrate), asbestos and a limited number of VOC and SVOC (including 1,1-dichloropropene, 1,2,4-trimethylbenzene, n-butylbenzene, p-isopropyltoluene, 4-nitrophenol, 4-chlorophenyl phenyl ether and 2-methylnaphthalene). These are discussed further below.

Metals and Inorganics

The metals and inorganics detected are all elements present naturally in soil at relatively high concentrations (with the exception of total / complex cyanide), with some noted to be biologically required nutrients. They may be elevated above natural levels where slag and other steelmaking wastes are incorporated into soil due to the Site's former use, particularly manganese and iron. These substances are typically considered to be those with low known toxicity, and none of the compounds that have been reviewed are expected to pose a significant human health risk under an industrial redevelopment scenario. Other effects, such as phytotoxicity, are not

assessed as the Made Ground is likely to be unsuitable as a growing medium and some form of capping is likely to be incorporated into the development if any areas remain uncovered by hardstanding or buildings.

The potential risks associated with total and complex cyanide were assessed based on the detections of free cyanide, which is of higher toxicity and of a similar composition, with none of the measured concentrations of free cyanide in soil in excess of the GAC.

Volatile Organic Compounds and Semi Volatile Organic Compounds

The VOC / SVOC 1,2,4-trimethylbenzene, n-butylbenzene, p-isopropyltoluene were typically measured in a limited number of samples and marginally above the laboratory MDL (concentrations typically less than 0.03mg/kg). On this basis, the risk from these compounds is not considered significant. Similarly, the SVOC 4-chlorophenyl phenyl ether was detected in only 1 of 83 samples analysed, marginally above the MDL of 0.1mg/kg at a concentration of 0.2mg/kg, and therefore is not considered to represent a significant risk.

The SVOC 2-methylnaphthalene was detected in 10 of 83 samples analysed and was measured at a maximum concentration of 1.2mg/kg. The SVOC 2-methylnaphthalene is a type of PAH, with detections of this compound corresponding with samples in which the remaining PAH analysed were also measured. The remaining PAH are considered to represent suitable indicator compounds for the assessment of risk from 2-methylnaphthalene in soil.

The VOC 1,1-dichloropropene was detected in 17 of the 85 samples analysed, albeit the maximum measured concentration was the laboratory MDL of 0.01mg/kg. While a GAC was not readily available for the assessment of 1,1-dichloropropene, it is noted that the US EPA presents a value of 8.2mg/kg for 1,3-dichloropropene (used in pesticides), which is likely to behave in a similar way in the environment and be of similar toxicity. On the basis that the maximum measured concentrations of 1,1-dichloropropene were two orders of magnitude lower than this value, further consideration of the risk to human health from measured concentrations of 1,1-dichloropropene are not considered warranted.

The SVOC 4-nitrophenol was detected in 3 of 83 samples analysed at a maximum concentration of 2mg/kg. Based on its chemical properties, 4-nitrophenol is unlikely to represent a risk via the vapour inhalation pathways. Two of the three samples in which 4-nitrophenol was detected were at depth, with concentrations of 4-nitrophenol in shallower soil samples collected from the same locations below the laboratory MDL, indicating the direct contact pathways in these locations is unlikely to be significant. The third location in which 4-nitrophenol was detected was at a depth of 1 – 1.2m bgl (MS\BH17), at a concentration of 0.2mg/kg (in the same order of magnitude as the laboratory MDL), with no shallower soil sample collected. Given the relatively low concentration of 4-nitrophenol detected at shallow depths and a review of compounds with similar chemical composition, the measured concentration of 4-nitrophenol is not considered to represent a risk to human health via the direct contact pathways.

Asbestos

A total of 220No. samples were analysed for the presence of asbestos (on-Site only), with asbestos identified in 23No. of the samples analysed (approximately 10% of samples). Asbestos was typically detected in the form of amosite and/or chrysotile fibre bundles, although 4No. samples were identified to contain loose fibrous asbestos debris or asbestos microscopic fibrous asbestos debris.

Sample depths where asbestos was detected ranged from 0.5m to 4.4m bgl, with asbestos identified across the wider Site footprint.

Asbestos quantification was carried out on 23No. samples by gravimetric methods. 13No. samples recorded an asbestos mass lower than the limit of quantification (<0.001 % m/m), while the remaining 12No. samples recorded asbestos between 0.001 and 0.333% m/m primarily as fibre bundles (mostly amosite and chrysotile), albeit the highest concentration was identified in a sample containing loose fibrous asbestos debris. The

potential for asbestos fibres to be present in construction arisings should form part of the Site remediation strategy. It is considered unlikely that, post development, areas of the Site will remain uncovered by buildings, hardstanding or another cover system; if this is the case, however, the potential risks from asbestos may need further consideration.

4.2.3 Selection of Groundwater Inhalation GAC

To assess the potential risk to human health via pollutant linkage B (2) (inhalation of volatile contaminants from groundwater), inhalation GAC have been derived by Arcadis for volatile contaminants in groundwater.

These have been derived by Arcadis using the CLEA process and industry standard vapour transport modelling (Johnson & Ettinger model). The same assumptions relating to an industrial/commercial end use of the Site have been included in the model. The GAC included in the comparison comprise those protective of on-Site industrial workers.

The inhalation GAC are listed against maximum recorded groundwater concentrations in Appendix K.

4.2.4 Inhalation from Groundwater

Contaminants of concern in groundwater samples were screened against inhalation GAC (where applicable) that are protective of human health via an inhalation from groundwater pathway (potential pollutant linkage B (2)).

A summary of the 72No. groundwater samples obtained from 37No. monitoring wells beneath the Site are listed against the inhalation GAC in Appendix K.

None of the CoC exceeded the inhalation GAC for on-Site industrial workers. For a number of compounds, human health GAC were not available for comparison, including a limited number of metals, inorganics and SVOCs. The SVOC and majority of the inorganics detected are considered to be of limited volatility, with the metals detected considered non volatile. Further, the SVOC detected for which no GAC were available, were typically identified at low concentrations (in the same order of magnitude as the laboratory MDL) and generally in a limited number of samples. On this basis, the risk from measured concentrations of the metals, inorganics and SVOC detected for which no GAC was readily available for comparison are not considered to represent a risk via the vapour inhalation pathways.

Based on the above, the risk to human health from measured concentrations of CoC in groundwater is not considered significant.

4.2.5 Conclusion

Soils

The majority of the soil samples tested recorded concentrations of the potential contaminants of concern below the GAC for an industrial land use.

A sample from S2-TPA83 at 3m bgl exceeded the GAC for two PAH compounds, which were considered to be potentially associated with the presence of tar in this location described as "*rare glassy black crystallised tar*". The Made Ground in which the tar was encountered was identified at a minimum depth of 0.3m bgl. PAH were additionally noted in excess of the GAC in a soil sample collected from S1-BH13A (6.8m bgl) and 12BT14 (0.3m bgl), although tar was not noted in these locations. The PAH measured represent a potential risk via the direct contact pathways, including within dust (linkages A and C) if the shallow soils remain uncovered post-development. The depth at which PAH were measured in S1-BH13A is such that these pathways are not considered to be active. However, the depth at which the soil sample collected from 12BT14 (at 0.3m bgl) and

the possible presence of tar from a minimum depth of 0.3m bgl in S2-TPA83 is such that the direct contact pathways (linkages A and C) could be active.

Around 10% of the investigation locations recorded asbestos fibre bundles or ACM. Asbestos is potentially hazardous when inhaled and, therefore, pollutant linkage A (inhalation of dust) is considered potentially active as surface soils may become airborne during construction or if incorporated into soft landscaping without a suitable cover system.

Based on the results of the soil testing, none of the measured concentrations of CoC are considered to represent a risk via the vapour inhalation pathways (linkage B [1]). However, pollutant linkages A and C (direct contact pathways including within dust) may represent a risk to human health receptors in two locations. It is considered that Made Ground is unlikely to represent a suitable growing medium in areas of landscaping. As such, it is anticipated that clean soils would be imported for this purpose. On this basis, a significant risk to future on-Site industrial workers would not be present in relation to soils and linkages A, B(1) and C.

Acute risks to construction workers arising from short-term contact with contaminated soils during demolition and redevelopment of the Site are not assessed by the chronic risk assessment methods in this report. An appropriate management plan will need to be developed to guide safe construction activities, and it is recommended that, as a minimum, all works are conducted in accordance with the Health and Safety Executive publication entitled "Protection of Workers and the General Public during the Development of Contaminated Land" (HSE, 1991).

Groundwater

None of the volatile contaminants of concern recorded in groundwater exceeded GAC for potential inhalation risks. Therefore, pollutant linkage B (2) is not considered to be active based on the available data.

4.3 Risks to Controlled Waters and Ecological Receptors

3.3.1 Selection of GAC

Potentially active pollutant linkages in relation to Controlled Waters have been identified in the initial CSM as:

- E. Leaching of CoC from Made Ground to groundwater in superficial deposits and subsequent lateral migration
- F. Vertical migration of CoC downwards to bedrock aquifers (albeit this is likely to be limited by the presence of cohesive superficial deposits) and subsequent lateral migration
- G. Horizontal migration of contaminants in groundwater on to Site
- H. Migration of CoC in groundwater into off-site surface water features (the North Sea), with the North Sea additionally designated as an ecological receptor.

An assessment of the potential for contaminants in the Made Ground on the Site to impact the Controlled Waters receptors identified in the CSM has been undertaken.

Concentrations of CoC in groundwater samples collected from the Made Ground, superficial deposits and bedrock have been compared to Water Quality Standards (WQS). On the basis that groundwater beneath the Site has been identified at relatively shallow depths (ranging from 1.8 to 4.6m bgl based on the information presented in Section 2.5.1 for monitoring wells screening the Made Ground), the generally relatively permeable nature of the Made Ground identified alongside the length of time potential sources have been present (1930s to 1970s), it is considered that measured concentrations of CoC in groundwater are reflective of equilibrium conditions i.e. groundwater quality is suitable to assessing the potential risks from linkages E to H. However,

to provide further context, measured concentrations of CoC based on leachate testing have additionally been included.

The WQS chosen are UK Drinking Water Standards (DWS) protective of aquifer water resources, and Environmental Quality Standards (EQS) considered protective of surface waterbody quality. The EQS are for saline waters protective of the North Sea receptor. The WQS are listed in Appendix L.

4.3.1 Soil Leachate

The results of 87No. soil leachate tests (from on-Site soils) were compared to WQS as shown in Appendix M. Appendix M considers all of the leachate tests conducted and presents the number of samples analysed for each contaminant and the number of detections of that contaminant (where concentrations were measured above laboratory MDL). Contaminant concentrations that exceeded the WQS are shown in Table E below. The majority of the samples subject to leachate testing comprised Made Ground (81No. in total), albeit a limited number of samples from the superficial deposits were also tested (6No. in total). Samples were taken across the site from depths ranging from 0.2 m to 6.8m bgl.

Table F Summary of Contaminants Exceeding Water Quality Standards in Soil Leachate

Compound Group	Contaminant	Max. Measured Conc. (µg/l)	Adopted EQS (µg/l)	Adopted DWS (µg/l)	No. Samples Exceeding EQS / DWS	No. Samples Analysed	Unit Screened in which Exceedance Measured
Metals	Arsenic	55	25	10	1 / 2	87	Made Ground & Superficial
	Cadmium	3.1	0.2	5	7 / 0	87	Made Ground
	Copper	33	3.76	2000	9 / 0	87	Made Ground & Superficial
	Iron	4,400	1,000	200	1 / 6	68	Made Ground, Superficial & Bedrock
	Lead	26	1.3	10	9 / 1	87	Made Ground
	Manganese	190	-	50	- / 2	63	Made Ground
	Mercury	0.25	0.07	1	3 / 0	87	Made Ground, Superficial & Bedrock
	Nickel	35	8.6	20	1 / 1	87	Made Ground & Bedrock
Inorganics	Ammoniacal Nitrogen as N	37,000	21	-	37 / -	77	Made Ground, Superficial & Bedrock

Compound Group	Contaminant	Max. Measured Conc. (µg/l)	Adopted EQS (µg/l)	Adopted DWS (µg/l)	No. Samples Exceeding EQS / DWS	No. Samples Analysed	Unit Screened in which Exceedance Measured
	Cyanide (total)	1.5	1	50	1 / 0	20	Made Ground & Superficial
	Nitrite as NO ²⁻	6,800	-	500	- / 3	14	Superficial
	Sulphate	2,900 (mg/l)	-	250 (mg/l)	- / 8	14	Made Ground
Petroleum Hydrocarbons	TPH (total)	14	50	10	0 / 1	1	Made Ground, Superficial & Bedrock
	Fluoranthene	1.4	0.0063	-	10 / -	15	Made Ground, Superficial & Bedrock
	Anthracene	0.23	0.1	-	1 / -	15	Made Ground & Superficial
	Benzo(b)fluoranthene	3	See BaP	0.025	0 / 7	15	Made Ground
Polycyclic Aromatic Hydrocarbons	Benzo(k)fluoranthene	1.3	See BaP	0.025	0 / 6	15	Made Ground
	Benzo(a)pyrene	2	0.00017	0.01	7 / 7	15	Made Ground
	Benzo(g,h,i)perylene	1.5	See BaP	0.025	0 / 7	15	Made Ground
	Indeno(1,2,3-c,d)pyrene	1.6	See BaP	0.025	0 / 6	15	Made Ground

4.3.2 Groundwater

The maximum measured concentrations of CoC in groundwater samples collected in 2004 (Enviros 2004), 2018 (AEG 2018) and 2021 (AEG 2022) were compared to WQS as shown in Appendix K, Table 1 for on-Site wells, which included data from:

- 14No. wells screening Made Ground
- 5No. wells screening both the Made Ground and the Superficial Deposits
- 1No. grab sample from trial pit MS\TP06
- 12No. wells screening superficial deposits
- 5No. wells screening bedrock

Appendix K, Table 1 additionally includes the total number of samples analysed, the number of detections of that contaminant (where concentrations were measured above laboratory MDL), the maximum measured concentration associated with each geology screened and number of exceedances of the WQS.

The results of groundwater monitoring of off-Site well LF\BH01 (installed and sampled in 2021), which is located hydraulically down-gradient of the Site and includes a dual screen, have additionally been presented in Appendix K Table 2 for context albeit should be considered with caution given that LF\BH01 is located within an area of Made Ground; therefore impacts present in this location could be as a result of lateral migration from the Site or due to the presence of potential off-Site source material (potentially associated with the Made Ground present).

Contaminant concentrations that exceeded the WQS which may require further consideration are summarised in Table F, alongside the number of samples which exceeded, the geological unit screened and the total number of samples analysed. The maximum measured concentration of CoC in down gradient off-Site well LF\BH01 are also presented below for those CoC requiring further consideration for context; where off-Site concentrations exceed either the DWS or EQS these are highlighted in blue.

Table G Summary of Contaminants Exceeding Water Quality Standards in Groundwater

Compound Group	Contaminant	Max. Measured Conc. On-Site / Off-Site LF/BH01 (µg/l)	Adopted EQS (µg/l)	Adopted DWS (µg/l)	No. Samples Exceeding EQS / DWS: On-Site	No. Samples Analysed: On-Site	Unit Screened in which Exceedances Measured: On-Site
Metals	Arsenic	25 / 11	25	10	0 / 14	71	Made Ground & Superficial
	Cadmium	0.39 / 0.05	0.2	5	3 / 0	72	Made Ground
	Copper	56 / 3.3	3.76	2000	7 / 0	72	Made Ground & Superficial
	Iron	4,500 / 56	1000	200*	7 / 16	63	Made Ground, Superficial & Bedrock
	Lead	10 / 1.4	1.3	10	5 / 0	72	Made Ground & Bedrock
	Manganese	1,400 / NA	-	50*	- / 3	13	Made Ground
	Mercury	0.72 / 0.23	0.07	1	19 / 0	72	Made Ground, Superficial & Bedrock
	Nickel	22 / 6.5	8.6	20	6 / 1	72	Made Ground & Bedrock

Compound Group	Contaminant	Max. Measured Conc. On-Site / Off-Site LF/BH01 (µg/l)	Adopted EQS (µg/l)	Adopted DWS (µg/l)	No. Samples Exceeding EQS / DWS: On-Site	No. Samples Analysed: On-Site	Unit Screened in which Exceedances Measured: On-Site
	Selenium	38 / 15	-	10	- / 13	66	Made Ground, Superficial & Bedrock
	Vanadium	280 / 15	100	-	2 / -	66	Made Ground
	Zinc	440 / 10	7.9	3000	15 / 0	72	Made Ground, Superficial & Bedrock
Inorganics	Ammoniacal Nitrogen as N	19,000 / 390	21	-	62 / -	63	Made Ground, Superficial & Bedrock
	Ammoniacal Nitrogen as NH ₃	23 / 0.47	21	-	49 / -	50	Made Ground, Superficial & Bedrock
	Cyanide (free)	130 / 0.8	1	50	8 / 2	67	Made Ground, Superficial & Bedrock
	Cyanide (total)	9900 / 6.3			38 / 11	69	Made Ground, Superficial & Bedrock
	Nitrate as NO ₃ ⁻	140,000 / 17,000	-	50,000	- / 1	27	Bedrock
	Nitrite as N	270 / 370	-	150	- / 2	20	Made Ground, & Bedrock
	Nitrite as NO ₂ ⁻	440,000 / NA	-	500	- / 13	30	Made Ground, Superficial & Bedrock
	Sulphate	3,000,000 / 900,000	-	250,000	- / 44	69	Made Ground, Superficial & Bedrock
	Thiocyanate	85,000 / 100	9	-	44 / -	63	Made Ground, Superficial & Bedrock

Compound Group	Contaminant	Max. Measured Conc. On-Site / Off-Site LF/BH01 (µg/l)	Adopted EQS (µg/l)	Adopted DWS (µg/l)	No. Samples Exceeding EQS / DWS: On-Site	No. Samples Analysed: On-Site	Unit Screened in which Exceedances Measured: On-Site
Petroleum Hydrocarbons	TPH (total)	430,000*** / 37	50	10	16 / 32	72	Made Ground, Superficial & Bedrock
	Benzene	58 / <MDL	8	1	1 / 2	71	Superficial & Bedrock
	Ethylbenzene	210 / <MDL	20	300	1 / 0	71	Bedrock
Polycyclic Aromatic Hydrocarbons	Naphthalene	25 / <MDL	2	-	7 / -	58	Made Ground & Superficial
	Fluoranthene**	5400*** / 0.01	0.0063	-	30 / -	58	Made Ground, Superficial & Bedrock
	Anthracene**	2.5 / <MDL	0.1	-	7 / -	58	Made Ground & Superficial
	Benzo(b)fluoranthene**	140 / <MDL	-	0.025	- / 13	58	Made Ground
	Benzo(k)fluoranthene**	0.38/ <MDL	-	0.025	- / 7	58	Made Ground
	Benzo(a)pyrene**	0.88 / <MDL	0.00017	0.01	9 / 9	58	Made Ground
	Benzo(g,h,i)perylene**	0.36 / <MDL	-	0.025	- / 7	58	Made Ground
Volatile Organic Compounds & Semi Volatile Organic Compounds	Indeno(1,2,3-c,d)pyrene**	0.33 / <MDL	-	0.025	- / 8	58	Made Ground
	Phenols Monohydric	2000 / <MDL	7.7	-	11 / 0	69	Made Ground, Superficial & Bedrock
	Bis(2-ethylhexyl)phthalate	20 / 5	1.3	-	3 / -	41	Made Ground

* Based on aesthetics rather than a health-based value.

**MDL is higher than the adopted DWS and EQS for a number of samples analysed as part of AEG 2022. Additional analysis has been undertaken to test for PAHs with a suitable MDL however the results of this are not available at the time of writing. As such the number of samples exceeding EQS and/or DWS is likely to be higher.

*** Maximum measured is grab sample from trial pit. May not represent groundwater concentrations and measured TPH fractions above the limit of solubility. Second highest TPH is 670µg/l (MS/BH03) and second highest fluoranthene concentrations is 6.4µg/l (S1-BH13A).

A number of compounds have been measured in excess of either the DWS, EQS or both. In addition, a number of compounds were detected for which no GAC criteria were readily available. These included a limited number of PAH (including eight compounds within the PAH suite and additionally carbazole, dibenzofuran, 2-methylnaphthalene and 1-methylnaphthalene), VOC and SVOC, including phenolics (3-&4-methylphenol, 2,4-dimethylphenol, pentachlorophenol), chloromethane and benzyl alcohol.

On the basis that in some instances, maximum measured concentrations were several orders of magnitude higher than the applicable WQS, further consideration of a number of compounds is considered to be required. However, prior to undertaking detailed assessment, it was considered prudent to further evaluate the exceedances and those compounds for which no GAC was readily available, to ensure the focus of any further assessment was on those linkages of primary concern. Consideration of the frequency and magnitude of detections / exceedances, the potential for assessment via indicator compounds and distribution, where applicable, has been undertaken in Appendix K, Table 3.

Following the evaluation undertaken in Appendix K, Table 3, further consideration of selected metals, inorganics, TPH and PAH is required. It is noted that while certain metals are not considered to require further evaluation (such as arsenic), this does not preclude the presence of or a potential source of arsenic on-Site (e.g. slag). However, the results of the screening exercise indicate that the risk to water resources is not significant.

4.4 Materials Impacted with Non-Aqueous Phase Liquids

Tar or evidence of the possible presence of Non-Aqueous Phase Liquids (NAPL) have been visually identified within the Made Ground and associated with subsurface or former above ground structures and plant as detailed in Section 2.7.1.

The majority of locations in which observations were made were located in the northeast of the Site, in the vicinity of the former tar and macadam works, iron ponds and steel plant, with a limited number of locations (2No.) located in the southern section of the Site. It is noted that a measurable thickness of NAPL has not been identified during any of the groundwater monitoring events, with only sheens typically noted on soils.

Soils impacted with tars or NAPL potentially represent a risk to water resources. For a risk to water resources to be present, contaminants must first partition into groundwater. As such, measured concentrations of CoC in groundwater are considered to best represent the potential risk to water resources.

Soils impacted with tars or NAPL potentially represent a risk to human health resources.

The applicable pathways in relation to human health in relation to the tar that was visually identified include the direct contact pathways, including within dust (linkages A and C). However, based on the composition of the tar identified, it is considered unlikely to represent a risk via the vapour inhalation pathways (linkage B(1)). The depth at which tar has typically been visually identified is such that the direct contact pathways are unlikely to represent a significant risk. The exception was tar identified in Made Ground in S2-TPA83, which was identified at a minimum depth of 0.3m bgl; therefore, the direct contact and dust inhalation pathways could be active in this location if the tar remained *in situ* and uncovered.

The remaining sheens / oil contamination that were identified were typically at depth (greater than 0.9m bgl), and as such, the direct contact pathways are considered inactive, albeit a potential vapour pathway could be present. The exception to this was in relation to borehole MS\TP10 and S1-TPH07, where a sheen or oil contamination were noted in the top 0.5m bgl, which could represent a risk through either the vapour inhalation pathways or direct contact pathways.

It is understood that as part of the remedial strategy for the Site, identified tar and NAPL impacted materials are to be removed from the Site as they represent a primary source of contamination. As such, tars and NAPL are being managed via source removal, irrespective of whether they present a potential risk to human health or environmental receptors.

4.5 Summary

A number of potentially active linkages have been identified in relation to controlled waters which require more detailed assessment. In addition, potentially active pollutant linkages have been identified in relation to PAH and future on-Site industrial workers in a limited number of soil samples, and additionally in relation to the presence of asbestos in approximately 10% of the samples analysed. The pathways of concern comprise direct contact exposure and dust inhalation, under the assumption that near-surface soils remain uncovered in the end-use scenario. This is considered unlikely, given the nature of the planned development where the majority of the Site is likely to be covered by hardstanding or buildings. Even where landscaping is planned, importation of topsoil is likely given that Made Ground is unlikely to represent a suitable growing medium in landscaped areas, which will act as a suitable cover system to break the linkages driving risk in relation to PAH and asbestos in association with human health in the future use scenario.

Theoretically active linkages were also identified in relation to future on-Site industrial workers and water resources in relation to tar / NAPL, albeit a quantitative assessment was not undertaken. However, as part of

the remedial strategy, removal of soils containing tar / NAPL is planned irrespective of potential risks presented. As such, these theoretical linkages will be managed through the remediation process.

The potential risks to construction workers during the redevelopment phase can be mitigated through implementation of best practice and compliance with relevant legislation, including Control of Asbestos Regulations 2012.

On the basis of the above, the focus of further consideration within the risk assessment has been in relation to water resources and ecological receptors only. Based on the screening undertaken, further consideration of selected metals and inorganics TPH and PAH is required.

5 Review of Conceptual Site Model

5.1 Environmental Site Setting

The environmental setting of the site is summarised on Figure 1 and 9. Figure 1 identifies potentially sensitive land uses in the vicinity of the Site, alongside identified water resource and ecological receptors. Figure 9 includes a simplified profile of the geological conditions, alongside a conceptual cross-section identifying potentially active pollutant linkages.

5.2 Sources

5.2.1 On-Site Sources

A number of potential on-Site sources were identified for the contaminants of concern. These included Made Ground, localised sources and background conditions, as detailed below.

Made Ground – Site Wide

The entirety of the Site is reclaimed land from the River Tees Estuary. The Made Ground used for the land reclamation is primarily composed of by-products from surrounding industrial processes, including slag. The Made Ground has therefore been considered as a single diffuse source of CoC beneath the entire Site.

Contaminants primarily associated with Made Ground are found dispersed throughout the Site in varying concentrations. Diffuse contaminants found throughout the Site associated with Made Ground include metals, hydrocarbons including PAH, inorganics including cyanide, ammonia and sulphate, asbestos and limited amounts of other organic compounds.

Other Potential On-Site Sources – Localised

The other potential sources, identified in addition to Made Ground, represent more localised potential sources of historical contamination, and included:

- Steel plant (central portion of the Site extending into the northeast of the Site);
- Above ground storage tanks (various – central eastern portion of the Site and additionally southern portion of the Site);
- Transformers and substations (central portion of the Site);
- Iron ponds & disposal area (northeast of the Site);
- Blast furnace stockhouse (western portion of the Site);
- Workshop and stores (eastern portion of the Site);
- D Jones Haulage and Construction (vehicle storage and maintenance – located in the eastern portion of the Site) with Tube city IMS [former on-Site service provider] occupying this area prior to this;
- Railway lines (and potential for spills associated with transport of materials – primarily in the northern portion of the Site);
- Pellet Plant (southeastern portion of the Site);
- Sinter Plant and sinter stocking area (southern portion of the Site) – the sinter stocking area was formerly used for pellets; and,
- Slag, Tar and Macadam works (northern portion of the Site).

Contaminants associated with the above include metals, hydrocarbons (including tars), PAH, inorganics including cyanide, ammonia and sulphate, polychlorinated biphenyls (PCB), asbestos and other VOC and SVOC.

Other Potential On-Site Sources – Background

In addition to the above, it is important to note that certain CoC are naturally occurring in the environment as well as potentially present as a result of anthropogenic sources. This includes metals, PAH (which could be present as a result of the underlying geology) and certain inorganics (e.g. sulphate, which is a major ion in seawater).

5.2.2 Off-Site Sources

In addition, a number of off-Site sources were historically present associated with the wider Teeswork area. These included (but are not limited to) the following. Those in **bold italics** are considered to be hydraulically up-gradient of the Site:

- **Tar lagoons** (southwest of the Site),
- Blended ore stocks (west of the Site),
- **Coal stocks area** (southwest of the Site),
- **Blended coal stocks** (southwest of the Site),
- Coke crushing / blending (west of the Site),
- Blast furnace (west of the Site)
- Steel Works (west of the Site)
- **Water treatments works** (south of the Site),
- **Landfills** (south and east of the Site),
- **Reclaimed land** (wider area)
- Power station (west of the Site)
- Fuel storage (west of the Site).

Associated contaminants with the potential to affect groundwater quality include metals, hydrocarbons, PAH, inorganics including cyanide, ammonia and sulphate and other VOC and SVOC.

5.3 Contaminant Distribution

The CoC distribution discussed in the sections below is based primarily on the site investigations undertaken in 2017 / 2018 (CH2M 2017c, CH2M 2017d and AEG 2018) and that undertaken in 2021 (AEG 2022). The focus is on those compounds considered to require further assessment following screening undertaken in Section 4.3. The findings of the 2004 investigation have also been considered (Enviros 2004), although it is noted that the findings of the 2004 investigation should be considered with caution, given that in some instances, significant changes have been made in relation to analytical techniques.

5.3.1 Non-Aqueous Phase Liquid (NAPL)

Tar has been visually identified in a limited number of locations (4No.) in the northeast of the Site, with evidence of sheens on soils in 3No. locations in the northeast of the Site (S2-TPA61, S2-TPA62 and S2-TPA83) and 2No. (S1-TPH07 and MS\TP10) in the southern / southeastern section of the Site respectively.

Neither (light) LNAPL or (dense) DNAPL has been identified at a measurable thickness in any of the groundwater monitoring events undertaken in 2004, 2018 or 2021 (Enviros 2004, AEG 2018 and AEG 2022).

Tars and sheens appear to be more prevalent in the north of the Site, in the vicinity of the former tar and macadam works, iron ponds and steel plant. It is possible that the presence of tars in particular, and potentially sheens, are associated with the historical use of the Site in these areas rather than associated with the presence of Made Ground, although it should be noted that sheens have also been noted in other areas in the southern and southeastern portion of the Site.

5.3.2 Soil & Soil Leachate

Metals and Inorganics

Metals (copper, iron, manganese, mercury, nickel and zinc) and inorganic species (including cyanide species and sulphate) are found throughout the Site in soil and soil leachate. This is likely in part due to the imported Made Ground and slag from which the Site is formed, albeit sulphate could also be present as a result of seawater, given the proximity to the sea and given that the land is reclaimed. In general, the distribution of metals and inorganics is relatively well dispersed, but isolated highs have been identified. There is a potential correlation with the location of on-Site sources identified in relation to iron, and to a lesser extent manganese:

- Iron was identified in the thousands to tens of thousands mg/kg in soil in the northern portion of the Site in the vicinity of the former iron ponds, tar and macadam plant and steel plant, with similar concentrations additionally observed in the south and southwest of the Site in the vicinity of the sinter plant and sinter and pellet stocking area. Notably lower concentrations of iron were observed in soils in the central eastern portion of the Site (typically in the tens to hundreds mg/kg). However, only a limited degree of correlation is observed in relation to soil leachate and soil concentrations in relation to iron, with sporadic elevated concentration in the north of the Site, but similarly elevated concentrations in the central eastern portion of the Site.
- A similar pattern to iron is observed in relation to concentrations of manganese in both soil and soil leachate, albeit it is less pronounced.

As such, the presence of metals and inorganics in soils is generally considered to be associated with a diffuse source associated with Made Ground. While iron and manganese are also likely present as a result of Made Ground, higher concentrations appear to correlate somewhat with potential on-Site sources.

Organic Compounds

Similarly to metals, PAH and TPH are found throughout the Site. Generally, no discernible correlation with on-Site sources has been identified across the majority of the Site, although the highest concentrations of TPH and PAH correlate with soils in which hydrocarbon odours or tar was noted. Localised hot spots may be present, albeit on the whole, the measured concentrations of TPH and PAH are likely to be associated with the imported Made Ground and slag from which the Site is formed.

The highest concentrations of sum PAH in the hundreds of mg/kg were measured in S1-BH13A, located in the southeast of the Site (in the area of the Pellet Plant), with similar concentrations measured in S2-TPA83, located in the northeast of the Site (adjacent to the steel plant). However, it is noted that tar was visually identified in S2-TPA83, and as such, the PAH are likely to be associated with the presence of tar.

Sum TPH was measured above the laboratory MDL in soil in approximately 40% of the samples analysed, with a maximum concentration of 51,000mg/kg in soil sampled from S2-TPA53 (in the far northeast of the Site), in which tar was also visually identified. The second highest concentration of 19,000mg/kg was identified in soil collected from S2-TPA58, in the north of the Site, adjacent to the railway lines and disposal area. Concentrations of TPH were typically dominated by the C12-C16 range aliphatic and aromatic carbon bands, with concentrations of sum TPH typically below 500mg/kg, and frequently below 100mg/kg, with the exception of a limited number of samples (19No in addition to those referenced above out of 240No total were greater than 500mg/kg). Some lighter end TPH fractions were identified within soils in the eastern portion of the Site, albeit these were generally at significantly lower concentrations than that of the C12-C16 range.

As such, the presence of PAH and TPH in soil is considered to predominately be a diffuse source associated with Made Ground, although some potential localised areas of higher concentrations associated with historical land uses may be present.

5.3.3 Groundwater

As discussed, data considered in the discussion around distribution include that collected in 2004, 2018 and 2021, to allow reasonable coverage of the Site, which included:

- 3No. samples from monitoring wells 12AB2, 12BB1 and 13CB1, screening Made Ground and collected most recently in 2004 (Enviros 2004)
- 19No. samples collected in 2018 from the S1 and S2 series monitoring wells, screening predominantly Made Ground, albeit a limited number of samples were collected from wells screening the superficial deposits (AEG 2018)
- 52No. samples collected from the MS series monitoring wells over three monitoring rounds undertaken in August, October and November 2021 and including a water sample collected from trial pit MS\TP06 (Enviros 2004 and AEG 2018 and 2021). Monitoring wells screen the Made Ground (4No.), superficial deposits (12No. including one off-Site location LF\BH01S) and bedrock (6No. including one off-Site location LF\BH01D).

Metals & Sulphate

Copper, iron, manganese, mercury, nickel, zinc and sulphate were measured above the laboratory MDL in the on-Site groundwater samples analysed. The range in the majority of metal concentrations and sulphate measured was generally around one to two orders of magnitude (maximum to minimum concentrations reported), indicating limited variability across the Site. Similarly to soils, there are some locations which show higher concentrations than others; in some instances this is likely to be associated with variation within the overlying Made Ground, albeit for selected metals there is a potential link to on-Site sources. This is challenging to infer definitively, in part due to the more limited analytical testing for CoC such as manganese, which was only analysed in 13No. locations, and as such reference should additionally be made to those concentrations measured in soils, where more extensive sampling is available. Metals for which a potential link with on-Site sources in addition to Made Ground include:

- Iron, where the highest concentration of 4,500µg/l (MS\BH12) was measured in groundwater collected from a monitoring well screening the bedrock and the second highest concentration of 3,600µg/l (S2-BHA04S) was measured in groundwater collected from a monitoring well screening the Made Ground in the north of the Site, in the vicinity of the iron ponds. Concentrations in groundwater within the 18No. remaining samples collected from monitoring wells screening Made Ground from across the Site were less than 400µg/l. A similar distribution within monitoring wells screening the superficial deposits was observed (highest concentration of 2,700µg/l associated with S2-BHA04D). Concentrations of iron within samples collected from monitoring wells screening the bedrock aquifer were generally less than 100µg/l in all but three locations, in which 360µg/l (MS\BH03), 1,200µg/l (MS\BH13D), 4500µg/l and 2700µg/l (MS\BH12) of iron were measured in groundwater. Like S2-BHA04S, MS\BH03 is located in the north of the site, in the vicinity of the iron ponds, albeit concentrations measured in the monitoring well screening the Made Ground at MS\BH03 were less than 100µg/l in consecutive monitoring visits. Monitoring well MS\BH13D is located in the central portion of the Site in an area where no known significant historical land use was identified, with no hydraulically up-gradient wells available for comparison. Monitoring well MS\BH12 is located on the northern boundary of the Former Steel Plant. Concentrations of iron measured at the same location, in the well screening the superficial deposits, were two orders of magnitude lower than those seen in the bedrock.
- Manganese, where the highest concentration of 1,400µg/l (S2-BHA05) was measured in groundwater collected from a monitoring well screening the Made Ground in the north of the Site in the vicinity of the iron ponds, with the second highest\ measured in S2-BHA06 (1,200µg/l), in the northeast of the Site. Concentrations of manganese in the one sample collected from a monitoring well screening the superficial deposits (S2-BHA04D) was measured at 10µg/l while no samples were analysed associated with bedrock.

Manganese was tested for in 13No. locations. The highest concentrations in groundwater appear to loosely correlate with those identified in soils.

- Copper, which generally reflected the distribution of iron, where an isolated elevated concentration of 56µg/l (S2-BHA04S) was measured in groundwater collected from a monitoring well screening the Made Ground in the north of the Site, in the vicinity of the iron ponds. Concentrations in the remaining groundwater samples were typically less than 5µg/l. It is possible that the concentration measured in S2-BHA04S represents an isolated high, particularly given that no spatial distribution was inferred based on a review of the soil data.
- Zinc, where concentrations in the hundreds µg/l were measured in three locations (S2-BHA06, MS\BH11S and trial pit MS\TP06) in the area of the steel plant in the eastern portion of the Site, which were associated with monitoring wells screening the Made Ground. Concentrations in groundwater within the remaining samples collected from monitoring wells screening Made Ground from across the Site were typically less than 25µg/l, with detections in monitoring wells screening superficial deposits and bedrock also less than 25µg/l.

A number of factors may influence the mobility of metals and sulphate in the environment, including the form in which they are present, the cation or anion capacity of the underlying geology alongside the pH of groundwater. In particular, metals are typically of low mobility under neutral conditions (i.e. around a pH of 7). pH in groundwater beneath the Site and in off-Site hydraulically down gradient monitoring well LF\BH01 is typically alkaline, ranging from 7.1 to 11.9 (average of 9.5) within monitoring wells screening the Made Ground, from 7.7 to 11.8 for monitoring wells screening superficial deposits (average of 9.3), and from 7.0 to 12.2 (average of 9.5) for monitoring wells screening bedrock. The presence of alkaline conditions in groundwater is in line with the typically alkaline nature of the slag deposits which form a significant proportion of the Made Ground. It is likely that the pH encountered in groundwater beneath the Site is influencing the observed distribution of dissolved phase metals in groundwater beneath the Site.

Review of the above indicates that sulphate is likely present as a result of Made Ground, albeit could additionally be present due to seawater, with the distribution relatively evenly distributed. While metals are also likely present in groundwater beneath the Site as a result of a diffuse Made Ground source, it is plausible that the elevated concentrations of iron, manganese and copper in the north of the Site are associated with the historical use of the Site in this area. The presence of elevated zinc and iron within the area of the steel plant is suggestive of an additional localised source in this area. The source of elevated iron within the bedrock in the central portion of the Site is unclear, particularly given that iron in groundwater sampled from the same location from a monitoring well screening the superficial deposits was an order of magnitude lower.

Cyanide

Of the cyanide species present, thiocyanate was most prevalent, and was detected in 47 of the 66 samples analysed, including from monitoring wells screening the Made Ground (16 of the 20 samples analysed), superficial deposits (21 of the 31No. groundwater samples analysed, including within off-Site monitoring well LF\BH01 at a concentration of 100µg/l) and bedrock (10 of the 15No. groundwater samples analysed including within off-Site monitoring well LF\BH01D at a concentration of 46µg/l). The highest concentrations of thiocyanate were generally associated with groundwater samples collected from monitoring wells screening Made Ground (maximum concentration of 85,000µg/l in January 2018 although a sample collected from the same location in February 2018 comprised only 5,100µg/l), with maximum measured concentrations of thiocyanate in monitoring wells screening the superficial deposits and bedrock of 9,300µg/l and 3,900µg/l, respectively.

Review of the lateral distribution indicates that the highest concentrations (in the thousands of µg/l) are typically present within the central and eastern portion of the Site, with concentrations in the tens to hundreds in the northern portion of the Site, with the exception of MS\BH05 (screening superficial deposits and located in the northwest of the Site), in which 2,300µg/l was measured. In the south of the Site, thiocyanate was typically measured in the hundreds of µg/l.

Whilst background concentrations of thiocyanate are evidently present due to the Made Ground, there also appears to be a source with the central and eastern portion of the Site in the vicinity of the former Pellet Plant and in an area which less information is available on historical use.

Ammoniacal Nitrogen

Ammoniacal nitrogen was measured above the laboratory MDL in all 69No. groundwater samples analysed. Concentrations within monitoring wells screening the Made Ground ranged from 0.09mg/l to 9.6mg/l with no discernible link to on-Site sources. Concentrations within groundwater within the superficial deposits ranged from 0.015 to 19mg/l, with the lowest concentrations noted to be in the northeast of the Site and low concentrations also measured in off-Site well LF\BH01. Concentrations within groundwater within the bedrock ranged from 0.12 to 13mg/l with concentrations in the off-site well LF\BH01 less than 0.4mg/l. The highest concentrations (>1mg/l) of ammoniacal nitrogen in groundwater sampled from wells screening the bedrock were measured from locations spread across the site with no discernible pattern.

The distribution of ammoniacal nitrogen within the Made Ground suggests that ammoniacal nitrogen is likely present as a result of a diffuse Made Ground source.

TPH

Sum TPH (C5-C35) was measured above the laboratory MDL in 33 of the 78 groundwater samples analysed, including within off-Site well LF\BH01D (72 on-site samples and 6 off-site samples). The highest concentration of sum TPH (430,000µg/l) was measured in a water sample collected from MS\TP06, which is located in the central northern portion of the Site in the footprint of the former steel plant. An iridescent sheen was noted on groundwater ingress in trial pit MS\TP06, and it is likely that given the nature of the sample (grab sample) that the results are representative of entrained NAPL rather than true dissolved phase TPH. The second highest concentration of sum TPH (670µg/l) was measured in MS\BH03D, located in the northeast of the Site in the vicinity of the iron ponds, screening the underlying bedrock. The remaining detections of sum TPH were typically less than 100µg/l and include:

- 24No. (of 28) groundwater samples collected from monitoring wells screening Made Ground, with detections sporadically identified across the Site;
- 30No. (of 34) groundwater samples collected from monitoring wells screening superficial deposits. Sum TPH was detected in monitoring wells sporadically across the Site, with concentrations in off-Site monitoring well LF\BH01S noted below the laboratory MDL of 10µg/l; and,
- 14No. (of 16) groundwater samples collected from monitoring wells screening bedrock, including off-Site well LF\BH01D (37µg/l).

Detections comprised predominantly aliphatic and aromatic TPH in the C10-C35 range, with the exception of the sample collected from MS\BH03D (screening bedrock and located in the northern most portion of the Site), which comprised solely aliphatic and aromatic C5-C10, with groundwater collected from MS\BH12D (also screening bedrock, located in the eastern portion of the Site) also incorporating a lighter end TPH fraction component.

Generally, review of the lateral distribution indicates that detections are relatively isolated, and are likely to be associated with the Made Ground. Concentrations of sum TPH in the water sample from MS\TP06 are likely to represent a localised source associated with the presence of a sheen in this location.

Some variation in concentrations of sum TPH over consecutive monitoring visits can be seen over time. In some monitoring locations, concentrations change by an order of magnitude. For example, in MS\BH03D, where the second highest concentration of sum TPH (670µg/l) was measured in August 2021, concentrations were less than MDL in the next monitoring visit, undertaken in November of the same year. The same variation has been observed in MS\BH05S, MS\BH07D, MS\BH09D, MS\BH13S and MS\BH13D in which concentrations of sum TPH were in the 100's µg/l in the October 2021 monitoring and less than MDL in the November monitoring.

The detections of predominantly lighter end TPH within the bedrock aquifer does not appear to be consistent with measured concentrations of sum TPH in groundwater from either the Made Ground or superficial deposits. This, in combination with the presence of cohesive Glacial Till across the Site, which is anticipated to restrict the vertical movement of CoC downwards, suggests that the origin of these impacts may not be associated with the Site. However, concentrations of sum TPH in hydraulically up-gradient locations screening the bedrock aquifer were below the laboratory MDL.

PAH

PAHs were detected above the laboratory MDL in the majority of groundwater samples analysed, including those collected from monitoring wells screening the Made Ground (measured in 19 of the 25No. samples), superficial deposits (11 of the 24No. groundwater samples analysed) and bedrock (5 of the 9No. samples analysed). The highest concentrations of sum PAH were associated with groundwater samples collected from monitoring wells screening Made Ground (maximum concentration of sum PAH of 92µg/l), with maximum measured concentrations of sum PAH concentrations in monitoring wells screening the superficial deposits and bedrock of 6.8µg/l and 0.61µg/l, respectively.

Review of the lateral distribution indicates that concentrations of sum PAH were typically identified in the ones to tens of µg/l in the south of the Site (in wells screening either Made Ground or superficial deposits) in the vicinity of the former Pellet plant, Sinter Plant and pellet stocking areas, where sinter has been identified as a surface material. Concentrations of sum PAH in the northern portion of the Site were typically less than 1µg/l. While it appears evident that elevated PAH in the south of the Site are likely associated with the historical land use in this area, Made Ground also appears to represent a diffuse source across the Site.

5.3.4 Summary of Contaminant Distribution Findings

In soil, in most cases, no significant spatial distribution trends have been identified, suggesting Made Ground is of a similar composition across the Site and should be considered as a single source. The exceptions are iron, manganese, TPH and PAH. Iron and manganese were identified in soils across the Site, albeit were comparatively higher in the northern portion of the Site (in the vicinity of the iron ponds, tar and macadam plant and steel plant) and additionally in the southwest of the Site (in the vicinity of the former sinter plant and pellet stocking area). TPH and PAH have also been measured in soils across the Site, again, likely due the Made Ground. However, isolated elevated concentrations of TPH and PAH have also been identified, which may represent localised sources, and which have been occasionally linked to the presence of e.g. tars, which have been primarily visually identified in a limited number of locations in the northern portion of the Site. As such, while the overall distribution suggests a diffuse source associated with Made Ground, relatively higher concentrations of selected contaminants has been observed which may be linked to historical infrastructure and industrial processes on-Site.

Within groundwater, a similar observation is made; concentrations appear relatively widespread across the Site, suggesting a diffuse Made Ground source, albeit more elevated concentrations of selected CoC have been identified in certain areas which may be associated with potential sources. For the metals under consideration, the distribution in groundwater is likely to be influenced by the generally alkaline pH identified in groundwater. As such, elevated metal concentrations may be observed as a localised effect depending on the pH conditions present.

The following compounds were potentially identified as being present in groundwater as a result of a localised on-Site source, in addition to the presence of Made Ground:

- Iron, manganese and copper, which were identified across the Site albeit the highest concentrations were measured in groundwater collected from the north of the Site in the vicinity of the iron ponds, tar and macadam plant and steel plant. As referenced above, the highest concentration of iron and manganese in soil were typically identified in this area as well, although copper in soil appeared reasonably well distributed

- Elevated zinc in groundwater collected from monitoring wells in the eastern portion of the Site in the steel plant footprint, albeit zinc was measured above the MDL in groundwater across the Site
- Measured concentrations of thiocyanate were generally highest in the central and eastern portion of the Site (vicinity of former Pellet Plant albeit additionally an area of unknown use)
- TPH, which were detected sporadically in groundwater and generally at relatively low concentrations, with the exception of an isolated detection in the central portion of the Site in the footprint of the former steel plant.
- PAH, which were identified across the Site, albeit the highest concentrations were typically identified in the southern portion of the Site in the vicinity of the former Pellet Plant, Sinter Plant and Pellet Stocking areas.

In general, concentrations in groundwater were highest in monitoring wells screening the Made Ground, with lower concentrations observed in monitoring wells screening the superficial deposits and bedrock. This suggests that the presence of cohesive Glacial Till across the Site, and cohesive Glaciolacustrine deposits, where present, is providing a degree of protection to the vertical movement of CoC downwards into the underlying bedrock.

There are however exceptions, such as TPH; while the highest concentration of sum TPH in groundwater is associated with a sample from the Made Ground, the second highest concentration is associated with groundwater collected from the bedrock aquifer. The signature of the TPH in the bedrock aquifer differs significantly to that identified in groundwater and soil collected from other locations across the Site and is considered to be potentially associated with an off-Site source. Maximum measured concentrations of sulphate, nickel, iron and ammoniacal nitrogen in the bedrock aquifer have also been identified at similar but generally lower concentrations to those in Made Ground, albeit sulphate in particular may be present as a result of seawater ingress.

4.2.5 Modelled Source Area

Based on the above assessment of the contaminant distribution, a number of sources could in theory be modelled in relation to specific contaminants. However, it is also clear that Made Ground, which has been identified at a significant thickness across the entirety of the Site (and off-Site to the north), is contributing to the observed distribution of all contaminants under consideration across the Site. Therefore, and to consider the potential additive effects of multiple sources, only a single source has been modelled that encompasses the entirety of the Site and accounts for the presence of Made Ground as a diffuse source across the Site.

On the basis that groundwater across the Site has been identified at relatively shallow depths, the generally relatively permeable nature of the Made Ground identified alongside the length of time potential sources have been present (from around the 1930s to 1970s), it is considered that leaching of contaminants from soil to groundwater will have reached equilibrium conditions. As such, measured concentrations of CoC in groundwater are the best indicator to assess potential risks to the identified water resource and ecological receptors. As such, soil has not been modelled.

It is noted that CoC have been measured in groundwater collected from the bedrock aquifer. However, on the basis that they have typically been at lower concentrations, and given that the mudstone is of lower permeability than that of the more granular Made Ground (and underlying granular superficial deposits), consideration of groundwater within the Made Ground as a source is considered to provide a more conservative evaluation of the potential risks.

5.3.5 Chemical Characterisation

Chemical Characterisation	The chemical data from EA (2008a) has been adopted where provided. A range of literature sources have been reviewed and chemical properties applicable at 10°C have been adopted where possible.
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Key chemical properties for the CoC are presented in Appendix N.

Receptors

5.3.6 Water Resources

Surface Water

The primary water resource receptor associated with the site is considered to be the North Sea, which is located approximately 450m to the north of the Site (based on the mean high water mark).

Groundwater

Groundwater has been primarily identified resting within the Made Ground beneath the Site, although was resting within the top of the Tidal Flat Deposits in a limited number of locations in the north of the Site and in off-Site monitoring well LF\BH01. Groundwater within the superficial Tidal Flat Deposits beneath the Site and Blown Sands (indicated to be hydraulically down-gradient of the Site to the north) are designated as Secondary A Aquifers, and are therefore considered to be potential receptors. The Glacial Till and Glaciolacustrine Deposits underlying the Tidal Flat Deposits are designated as Unproductive Strata, and are considered to offer a degree of protection to the underlying Secondary Undifferentiated and Secondary B Aquifers associated with the Redcar Mudstone Formation and Penarth Group and Mercia Mudstone Formation (in the northwestern tip of the Site). While the designation of the underlying Secondary aquifer units means they are considered potential receptors, due to the aquifer characteristics, the industrial history of the site and its surroundings and the likely brackish nature of the underlying groundwater (superficial deposits are indicated to be brackish in the northern portion of the Site based on analytical testing), groundwater abstraction for potable water is unlikely to be considered in the future. The resource potential for these aquifers is therefore considered to be very low.

Groundwater within the Made Ground is not considered as a receptor in the absence of an aquifer classifications and instead represents a pathway.

5.3.7 Ecological Receptors

The North Sea in the area adjacent to the Site has ecologically protected status and is considered a potential receptor in relation to the Site. As discussed in Section 2, the land immediately adjacent to the Site is also designated as a SSSI, Ramsar and SPA, albeit is not considered a receptor of significance in relation to measured concentrations of CoC in groundwater beneath the Site given the depth to water encountered and that exposure to potentially impacted groundwater is unlikely to occur.

5.4 Pathways

To assess the level of risk presented to the identified receptors, the pathways defined as potentially active within the pollutant linkages need to be considered further. Site-specific information is used where possible to assign parameter values for the physical characterisation of the geological and hydrogeological setting of the Site.

Based on the results of the environmental investigations completed at the Site, the source zone and aquifer have been conceptualised as presented in Figure 9.

Assessment of the contaminant distribution indicates that the majority of contamination is within the Made Ground, albeit impacts have also been identified in the underlying superficial deposits and mudstone. The permeability of the Made Ground is, generally, believed to be notably higher than that for the underlying natural geology, based on the soil log descriptions from the Made Ground and permeability data available for these units, although localised areas of lower permeability Made Ground have also been identified. Made Ground

extends off-Site to the north (hydraulically down-gradient), but the data indicates it does not extend to the Sea, with reclamation thought to have occurred by end tipping.

The resting water level across the majority of the locations monitored on-Site is typically within the Made Ground, albeit groundwater is resting in a limited number of locations at the interface of the Tidal Flat Deposits and Made Ground, or within the underlying Tidal Flat Deposits. This includes monitoring well MS\BH04, located on the northern boundary of the Site, and also off-Site location LF\BH01 (the closest monitoring well to the north of the Site, and located approximately 150m away), where groundwater was resting within the Tidal Flat Deposits. As such, while localised migration to the north is likely to be occurring in the Made Ground off-Site, where the depth of the Made Ground is sufficient to intercept groundwater, it is considered unlikely that a continuous pathway to the sea is present associated with the Made Ground. As such, off-Site lateral migration has been modelled within the underlying natural granular Tidal Flat Deposits, as shown in Figure 9.

A sensitivity analysis has been carried out using the Remedial Targets Worksheet (RTW) model, in line with the methodology outlined in the Remedial Targets Methodology (RTM) Guidance (EA, 2006), to assist with selection of parameter values required for the key fate and transport pathways. The results of sensitivity testing are presented in Appendix O. Sensitivity testing was completed for naphthalene. A full listing of the physical parameter values, used in the risk assessment is presented in Appendix P.

5.4.1 Environmental Fate and Transport Pathways

The environmental fate and transport pathways modelled within the DQRA is lateral migration of potentially impacted groundwater towards the identified water resource and ecological receptors.

6 Detailed Quantitative Risk Assessment

6.1 Selection of the Assessment Tools

The DQRA has been undertaken using site-specific information, where available, to derive risk-based assessment criteria, which can be used to assess whether the measured concentrations of CoC present potentially unacceptable risks to the identified receptors.

The non-statutory regulatory technical guidance consulted in undertaking this DQRA, the methodology used and available modelling tools are presented in Appendix Q.

The RTW v. 3.2 was selected for the assessment of potential risk to water resources and ecological receptors.

6.2 Methodology

The risk assessment has been undertaken using RTW to back-calculate evaluation criteria, or ecological / water resource SSAC (protective of aquifers and ecological receptors, and herein referred to as “water resource SSAC”), as outlined in Appendix Q.

6.2.1 Model Run Parameters

The model run parameters are presented in Table H below:

Table H Remedial Targets Workshop: Model Run Parameters

Parameter	Value	Comment
Assessment Point Distance – Groundwater and Surface Water / Ecological Receptors	<p>Two compliance point distances (in the hydraulically down gradient direction) were adopted for the derivation of water resource SSAC;</p> <ul style="list-style-type: none"> • 50m • 200m (compliance point protective of the North Sea). 	<p>A compliance point of 50m is presented within EA guidance (EA, 2017) for hazardous substances, albeit a more distant compliance point of up to 250m may be considered for non hazardous compounds.</p> <p>A more distant compliance point of 200m was additionally considered, which is protective of the North Sea. The mean high water mark is approximately 450m from the Site boundary. However, a reduced compliance point distance has been conservatively considered to account for the presence of the Made Ground source off-Site. Groundwater was resting in the Tidal Flat Deposits in monitoring well LF\BH01, located approximately 150m north of the Site, albeit within LF\BH02, located approximately 225m north of the Site, groundwater was resting within the Made Ground. As such, a distance of 200m is considered to provide a balanced (albeit potentially conservative) approach to the assessment of risk to the North Sea as it is assumed that the Made Ground source extends 250m off-Site..</p>
Compliance Criteria	CoC Specific	Appendix L and Water quality standards protective of both aquifers and surface water / ecological receptors have been selected when considering a 50m compliance point (the lower of the two was selected). When a more distant

Parameter	Value	Comment
		<p>compliance point was considered, the WQS were adopted in order of preference as:</p> <ul style="list-style-type: none"> • saline EQS • Predicted no effect concentrations, (PNEC) • DWS.
Degradation*	CoC Specific	Appendix N
Time Frame	Ogata-Banks solution	In line with RTM methodology
Dispersivity	Longitudinal and transverse dispersivities have been calculated within the RTW model as 10% and 1% of the compliance point distance respectively. Vertical dispersion was set as 1e-99 on the basis that that the saturated aquifer thickness was limiting dispersion.	In line with RTM methodology

*There is a wealth of literature which provides evidence for the ready degradation of petroleum hydrocarbons, one of the key CoC groups under consideration, in aerobic conditions (e.g. Potter & Simmons, 1998; EA, 2009c; Noble & Morgan, 2002; Howard et al 1991; CCME, 2000). It is possible to simulate the fate and transport of this group of compounds using RTW and making reasonable assumptions regarding degradation half lives. It is plausible that degradation of petroleum hydrocarbon compounds is occurring in both the dissolved and sorbed phases, given that groundwater is shallow and the relatively granular nature of the underlying aquifer. However, degradation has been conservatively modelled in the dissolved phase only for all contaminants considered. For the remaining CoC groups, metals and inorganic compounds typically do not undergo microbial degradation; their attenuation in the environment can be more challenging to simulate. The fate and transport of metals and inorganic compounds beneath the Site is complex, and influenced by a number of factors, such as pH, the form in which the compounds are present and cation and anion exchange capacity of the underlying geology.

5.2.3 Development of Water Resource SSAC

SSAC defined for the protection of the identified water resource and ecological receptors have been derived and are presented in Table 1 at both a 50m and 200m compliance point.

The RTW outputs based on 50m and 200m are presented in Appendix S, with example RTW output sheets for naphthalene based on a 50m and 200m compliance point also presented in Appendix S.

The RTM states:

“A simple check that should be undertaken is that the calculated remedial target does not exceed the solubility limit for the contaminant. In this case remediation of the soil would be unnecessary to protect water resources...”

For groundwater, the SSAC have been compared to the theoretical solubility. Where the SSAC exceeds the theoretical solubility, this is indicated in Appendix S and these CoC are not considered to pose unacceptable risks to the identified water resource or ecological receptors.

In addition, the RTM also states:

“For contaminants which are characterised by a high partition coefficient (e.g. some PAH compounds), the rates of contaminant movement can be slow (centimetres per year). Thus, there may be a considerable delay (tens

of thousands of years) before the contaminant reaches the compliance point. In these cases, it may be acceptable for no action to be taken even if the remedial target is exceeded.”

On the basis of the above, those CoC which are not predicted to breakthrough at the compliance point within 1,000 years are not considered to present a significant risk to the identified receptors.

6.3 Risk Estimation

The measured concentrations of CoC in groundwater collected to date in 2018 and 2021 (AEG 2018 and 2021) have been compared to the SSAC protective of water resources and ecological receptors in Table 2. In addition, 3No. groundwater samples collected in 2004 have been included in the comparison to provide Site coverage (Enviros 2004), with off-Site hydraulically down gradient location LF\BH01 also included for context. Measured concentrations of CoC in groundwater from LF\BH01 may be present as a result of lateral migration of CoC off-Site, but could also be present as a result of source material in this location, given that a significant thickness of Made Ground was identified here.

A number of compounds exceeded the SSAC derived based on a 50m compliance point. This included manganese, ammoniacal nitrogen, cyanide, thiocyanide, sulphate, aromatic >EC10-EC12 and aromatic >EC16-EC21, fluoranthene and anthracene. When considering a more distant compliance point of 200m, only ammoniacal nitrogen, cyanide, thiocyanide and sulphate exceeded the SSAC. A summary of the exceedances is listed in Table I, considering the most recent dataset collected from each location.

Table I Summary of Exceedances of Water Resource SSAC in Groundwater

Compound Group	Contaminant*	SSAC - 50m / 200m (µg/l)	Number of Locations of Exceeding 50m / 200m**	Location of Exceedances (grey indicates exceedance at 50m only, black indicates exceedance at 50m and 200m)
Metals	Manganese	50 / ND	3 / 0	230 (S1-BH04); 1,400 (S2-BHA05); 1,200 (S2-BHA06)
Inorganics	Ammoniacal Nitrogen as N	51 / 405	35 / 28	150 (LF\BH01D); 8 (LF\BH01S); 2800 (MS\BH03D); 90 (MS\BH03S); 70 (MS\BH04D); 100 (MS\BH04S); 13,000 (MS\BH05D); 19,000 (MS\BH05S); 1500 (MS\BH07D); 470 (MS\BH07S); 2500 (MS\BH08D); 5200 (MS\BH09S); 3800 (MS\BH11D); 160 (MS\BH11S); 5600 (MS\BH12D); 4100 (MS\BH12S); 5300 (MS\BH13D); 5300 (MS\BH13S); 4800 (MS\BH14); 1900 (MS\BH15D); 1500 (MS\BH15S); 2700 (MS\BH17D); 220 (MS\TP06); 510 (S1-BH04); 9600 (S1-BH05); 8,600 (S1-BH06); 1200 (S1-BH07A); 6800 (S1-BH12); 8200 (S1-BH13A); 8300 (S1-BH14); 1800 (S1-BH18); 3700 (S1-BH19); 880 (S2-BHA04D); 2700 (S2-BHA04S); 1100 (S2-BHA05); 2800 (S2-BHA06)

Compound Group	Contaminant*	SSAC - 50m / 200m (µg/l)	Number of Locations of Exceeding 50m / 200m**	Location of Exceedances (grey indicates exceedance at 50m only, black indicates exceedance at 50m and 200m)
	Cyanide (total)	1 / 1	26 / 26	5.2 (LF\BH01D); 5.7 (LF\BH01S); 1,000 (12BB1); 8.4 (MS\BH03S); 8.6 (MS\BH04D); 7.8 (MS\BH04S); 6 (MS\BH05D); 8.9 (MS\BH05S); 4.9 (MS\BH07D); 7.2 (MS\BH08D); 12 (MS\BH09S); 12 (MS\BH11D); 5.5 (MS\BH12S); 4.5 (MS\BH14); 11 (MS\BH15D); 8.2 (MS\BH15S); 76 (MS\BH17D); 7.5 (MS\TP06); 42 (S1-BH06); 230 (S1-BH12); 350 (S1-BH13A); 340 (S1-BH14); 210 (S1-BH19); 4600 (S2-BHA04D); 9900 (S2-BHA04S); 43 (S2-BHA06)
	Sulphate	250mg/l / 250mg/l	25 / 25	840 (LF\BH01S); 2100 (MS\BH03D); 840 (MS\BH03S); 1400 (MS\BH04D); 1500 (MS\BH04S); 1100 (MS\BH07S); 380 (MS\BH08D); 770 (MS\BH11S); 1100 (MS\BH12S); 2600 (MS\BH13D); 350 (MS\BH13S); 400 (MS\BH14); 1300 (MS\BH15D); 970 (MS\BH15S); 920 (MS\BH17D); 260 (S1-BH05); 300 (S1-BH06); 370 (S1-BH07A); 440 (S1-BH13A); 320 (S1-BH14); 1200 (S1-BH18); 690 (S1-BH19); 710 (S2-BHA04D); 1600 (S2-BHA05); 1300 (S2-BHA06)
	Thiocyanate	9 / 9	22 / 22	37 (LF\BH01S); 2700 (MS\BH05D); 4300 (MS\BH05S); 54 (MS\BH07D); 52 (MS\BH07S); 31 (MS\BH08D); 170 (MS\BH09S); 240 (MS\BH11D); 7400 (MS\BH13S); 210 (MS\BH14); 280 (MS\BH15D); 220 (MS\BH15S); 120 (MS\BH17D); 240 (S1-BH05); 5100 (S1-BH06); 1400 (S1-BH07A); 800 (S1-BH12); 2000 (S1-BH13A); 1000 (S1-BH14); 450 (S1-BH18); 370 (S1-BH19); 140 (S2-BHA04S)
Petroleum Hydrocarbons	Aromatic >EC10-EC12	1,910 / ND	1 / 0	7,000 (MS\TP06)***
	Aromatic >EC16-EC21	149 / ND	1 / 0	120,000 (MS\TP06)***
Polycyclic Aromatic Hydrocarbons	Fluoranthene****	0.046 / ND	14 / 0	0.09 (MS\BH11S), 0.24 (MS\BH14), 5400 (MS\TP06)***, 0.59 (S1-BH04), 0.92 (S1-BH05), 0.08 (S1-BH06), 0.5 (S1-BH07A), 0.89 (S1-BH12), 6.4 (S1-BH13A), 0.11 (S1-BH14), 0.17 (S1-BH18), 0.36 (S1-BH19), 0.44 (S2-BHA04S), 0.16 (S2-BHA06)

Compound Group	Contaminant*	SSAC - 50m / 200m (µg/l)	Number of Locations of Exceeding 50m / 200m**	Location of Exceedances (grey indicates exceedance at 50m only, black indicates exceedance at 50m and 200m)
	Anthracene****	0.68 / ND	1 / 0	2.5 (S1-BH13A)

ND Results of modelling indicate that there is no significant risk.

* Review of the Water Framework Directive UK Tag list of “*Substances confirmed as hazardous or non-hazardous pollutants following public consultation*” indicates that ammoniacal nitrogen, cyanide, sulphate and thiocyanate are either non hazardous, or likely non hazardous based on a review of similar compounds, while aromatic >EC10-EC12, aromatic >EC16-EC21, fluoranthene and anthracene are considered hazardous. For the non hazardous compounds considered, a more distant compliance point up to 250m may be considered, although ensuring any physical receptors, such as the North Sea, are afforded protection.

** Considers the most recent dataset for each location monitored.

*** Grab sample from a trial pit, in which a sheen on groundwater was noted. As such, the measured concentration is not considered representative of true dissolved petroleum hydrocarbons.

**** MDL is higher than the SSAC at 50m for a number of samples analysed as part of AEG 2022. Additional analysis has been undertaken to test for PAHs with a lower MDL however the results of this are not available at the time of writing. As such, the number of samples exceeding the SSAC at 50m may be higher. The SSAC at 200m is higher than the MDL and as such is unaffected. This is not considered to materially alter the conclusions of this report on the basis that the risk from PAHs has been further evaluated below given that concentrations of PAH in excess of the SSAC at 50m have been identified in the remaining data.

6.4 Risk Evaluation

A number of compounds were measured in excess of the water resource SSAC based on a 50m compliance point. The majority of the exceedances identified based on 50m were associated with compounds which are likely to be non hazardous ⁴ (ammoniacal nitrogen, cyanide, sulphate and thiocyanate), for which a more distant compliance point may be considered. The hazardous compounds were below the water resource SSAC based on 200m. Further, it is noted that the Site is not located within an SPZ, with no groundwater abstractions in the vicinity. As discussed, groundwater beneath the Site and hydraulically down gradient is considered to be of limited resource value on the basis that:

- Groundwater within the superficial deposits in the north of the Site is brackish;
- The industrial nature of the area (the wider Teesworks), with the local area built upon reclaimed land (potential source material) of a similar nature (including slag materials), including land hydraulically down gradient of the Site; and,

⁴ Based on a review of the “*Substances confirmed as hazardous or non-hazardous pollutants following public consultation*” as presented on the Water Framework Directive UK Technical Advisory Group website (<https://www.wfduk.org/reference/environmental-standards-0>), accessed on 13/01/2022. “Ammonia” and several ammonium compounds, alongside several sulphate compounds and “cyanide” (CAS no 74-90-8: hydrogen cyanide) are listed as non-hazardous. While thiocyanate is not included within this list, given that cyanide is considered non hazardous, it is considered likely that thiocyanate would be considered non hazardous.

- That the land to the north of the Site is an ecologically protected area, with it considered unlikely that an abstraction for potable supply would be permitted in this area in the future.

On the basis of the above, it is considered that any further action, if warranted, should not be based on a theoretical compliance point of 50m but rather protection of the physical receptors present, namely the North Sea and its associated ecological designations.

As discussed, a number of non hazardous inorganic compounds were additionally measured in excess of the water resource SSAC based on 200m (ammoniacal nitrogen, cyanide, sulphate and thiocyanate). Further consideration of these compounds has been undertaken below in relation to the potential risk to the North Sea and its ecologically protected status.

6.4.1 Further Consideration of the Risk to the North Sea

A number of factors should be further explored before a final conclusion is made in relation to the risk to the North Sea, including the complexities of modelling, the potential dilution effects of the North Sea and WQS adopted. These are detailed in the following sections.

Complexities of Modelling

The hydrogeological regime beneath the Site is complicated, with further complexities presented by the nature of the inorganic compounds being assessed.

A compliance point distance of 200m is considered to be conservative, given that the North Sea is located approximately 450m from the Site boundary. However, 200m was conservatively modelled on the basis that the Made Ground source extends off-Site. As such, it has been assumed that impacts may extend off-Site up to 250m, based on the inferred extent of Made Ground. Modelling of a 200m compliance point is therefore a potentially conservative assumption.

Further to the above, the attenuation of ammoniacal nitrogen, cyanide, sulphate and thiocyanate in the dissolved phase is complicated, and dependent on the complexes which may form, alongside other factors, such as pH and cation or anion exchange capacity of the underlying geology. These processes are likely further complicated by the presence of significant quantities of waste materials such as slag containing metal oxides. However, it is challenging to reflect this within the fate and transport models currently available for modelling lateral migration.

The primary model input parameters affecting attenuation within the aquifer comprising microbial degradation half life and soil water partition coefficient (in the instance of inorganic compounds), with no parameters accounting for pH or cation or anion exchange capacity. It is noted that a degradation half life of 9×10^{99} days was applied to cyanide, thiocyanate and sulphate, with six years for ammoniacal nitrogen (representing the upper end of the range for half life of 1 to 6 years for a granular aquifer), with very low soil water partition coefficients adopted for all four compounds. As can be seen from the model output, little to no attenuation is observed, with the water resource SSAC derived typically equivalent to the water quality standard upon which they were based. On the basis that these other processes are not accounted for within the modelling, the results of the modelling are considered to be overly conservative and are likely to significantly over estimate the risks associated with these ions.

Dilution in the North Sea

As discussed above, the modelling in relation to the inorganics is likely to significantly overestimate the associated risks to the North Sea. However, if the CoC considered were to reach the North Sea, the potential dilution effects would be significant. To provide context to this, concentrations would need to be diluted by the following, when considering the ranges in concentrations measured across the Site and accounting for 10% of the WQS (in line with RTM guidance when considering dilution in a receptor):

- Ammoniacal nitrogen: dilution in the order of approximately <1 to 250
- Total cyanide: dilution in the order of 75 to 99,000
- Sulphate: dilution in the order of 10 to 1,000
- Thiocyanate 30 to 5,700

The dilution potential of the North Sea is considered to far exceed the calculated dilutions above.

Appropriateness of Water Quality Standards

The WQS protective of the North Sea (and its ecologically protected status) should be based on statutory EQS. However, the following is noted in relation to the WQS used to derive the SSAC for sulphate, thiocyanate and ammoniacal nitrogen.

- **Sulphate:** The water quality standards upon which the derivation of the water resource SSAC was based for sulphate was the UK DWS, in the absence of a saline EQS for sulphate. Sulphate is a major ion in seawater, with concentrations typically in the order of 2,650mg/l, with the maximum measured concentration in groundwater of 2,700mg/l. On the basis that the maximum measured concentrations are equivalent to that of seawater (to which groundwater will discharge), and that the land beneath the Site has been reclaimed from the sea, measured concentrations of sulphate are not considered to represent a significant risk to the North Sea (or its ecologically protected status).
- **Thiocyanate:** The compliance criteria for thiocyanate was based on a Predicted No Effect Concentration (PNEC). The absence of an EQS may indicate that a substance is less well characterised or of lower environmental concern.
- **Ammoniacal Nitrogen:** The compliance criteria for ammoniacal nitrogen was based on an EQS of 21µg/l. Ammoniacal nitrogen species may exist as either the ammonium ion (NH₄⁺) or the more toxic free ammonia (NH₃). Under all normal conditions the bulk of the ammonia encountered in the sea will be as the ammonium ion. In marine waters, particularly at higher salinities, it has been shown that the ammonium ion can also permeate fish gills. The habitats standards for estuaries (WQTAG086, 2005) provides an annual average value of 1,100µg/l for total ammoniacal nitrogen which accounts for the presence of the ammonium ion. If this value were adopted as the compliance criteria, an SSAC of 21,200µg/l is derived, with maximum measured µconcentrations below this value.

5.2.7 Other Considerations

Non-aqueous Phase Liquid or evidence of NAPL has been identified on-Site. This may require consideration as part of remediation works, however, dissolved phase concentrations indicate that NAPL is not presenting a significant risk to water resources or ecological receptors.

6.4.2 Conclusions

On the basis of the above, the risk to the North Sea (and its ecologically protected status) from measured concentrations of CoC beneath the Site is not considered to be significant.

6.5 Assumptions, Limitations and Data Gaps

The SSAC defined to offer protection to the identified receptors are based on current best practice and are defined using the Site investigation data available at the present time. Modifications to the conceptual model, such as the collection of additional Site data, may result in changes to the SSAC defined here.

7 Conclusions

A GQRA and DQRA has been completed for the Site, based on the available investigation and monitoring data, with the focus of the assessment on the potential risk to water resource and ecological receptors.

7.1 Water Resources and Ecological Receptors

Based on the modelling undertaken, a hypothetical risk to the underlying aquifers was identified based on a 50m compliance point. However, the resource potential of the underlying aquifers is considered to be low and it is considered should not drive the decision-making regarding remediation on the basis that:

- The Site is not located within an SPZ and there are no groundwater abstractions in the vicinity;
- Groundwater associated with the superficial deposits in the north of the Site is brackish, precluding the potential for future potable supply;
- The industrial former land use in the local area;
- The local area is reclaimed, including hydraulically down gradient of the Site;
- The land to the north is ecologically protected, with future groundwater abstraction in this area unlikely.

For all except a limited number of likely non-hazardous contaminants (ammoniacal nitrogen, cyanide, sulphate and thiocyanate) the risk to the North Sea was not considered significant.

A theoretical risk to the North Sea (without dilution) was considered to be present from a limited number of compounds (inorganics) based on modelling undertaken, albeit the risks were considered to be overestimated. This was on the basis that it is not possible to readily model the dominant mechanisms that affect migration of inorganics in groundwater (such as pH and anion exchange capacity), that a reduced compliance point distance was incorporated to account for the presence of off-Site Made Ground (potential source material) rather than the measured distance from the Site boundary to the North Sea and that in the absence of statutory EQS, DWS or PNEC were adopted. Furthermore, calculated dilution required based on the modelling undertaken is likely to be far exceeded by the dilution occurring within the North Sea. On this basis, the risk to the North Sea (and its ecologically protected status) was not considered significant.

Dissolved phase concentrations of CoC indicate that NAPL and tars are not presenting a risk to water resources or ecological receptors. Regardless of this, as part of remedial works, removal of tars and NAPL encountered in the subsurface is planned.

7.2 Human Health

The findings of the GQRA indicated a potential chronic exposure risk to human health (on-Site industrial worker) from asbestos fibres in shallow soils and additionally from measured concentrations of PAH and tar in a limited number of locations. The driving pathways of concern were direct contact exposure with shallow soils or inhalation of dust generated from shallow soils.

The potential risks to future on-Site industrial workers and surrounding land users are anticipated to be mitigated as part of the development works, on the basis that:

- Where buildings and hardstanding are absent, it is unlikely that soils will remain uncovered i.e. soft landscaping will be in place. Importation of clean soils in landscaped areas would be required given that Made Ground is not considered to represent a suitable growing medium, which would break the direct contact and dust pathways provided designed appropriately.
- Removal of shallow tars and NAPL is planned as part of remedial works to be undertaken at the Site, irrespective as to whether they represent a potential risk.

7.3 Other Considerations

It is expected that any risks associated with permanent ground gas, and subsequent in-building mitigation measures required (e.g. building controls) would be the responsibility of the developer. As such, this linkage has not been assessed as part of this DQRA.

Pipe permeation in relation to new water supply pipes, if installed within the Made Ground, primarily in relation to organic contaminants would need to be considered as part of any redevelopment, in line with the requirements of Northumbrian Water.

- A risk to construction workers may be present in relation to potential contaminants in the subsurface during the redevelopment phase. However, these risks can be mitigated through best practice and employment of suitable mitigation measures which would be considered standard practice in brownfield site redevelopment alongside compliance with relevant legislation, such as the Control of Asbestos Regulations 2012.
- A preferential pathway could be created if piled foundations are included within the design which penetrate through the Glacial Till and Glaciolacustrine Deposits; a piling risk assessment may be required to inform pile design.
- If preferential pathways exist based on the presence of historical sub-surface features such as tunnels and relic pile foundations, they are considered unlikely to significantly increase the risk to water resource receptors given their localised nature. The contaminant distribution review supports the conclusion that such features, if present, are not measurably affecting contaminant transport across the Site.

8 References

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TABLES

Table 1: Water Resource Site Specific Assessment Criteria

Compound	Theoretical Solubility (µg/l)		Water Resources Site Specific Assessment Criteria (µg/l) - 50m	Water Resources Site Specific Assessment Criteria (µg/l) - 200m
Speciated Total Petroleum Hydrocarbons and Fuel Indicators				
>C5-C6 Aliphatics	36,000	¹	1,030	ND
>C6-C8 Aliphatics	5,400	¹	1,550	ND
>C8-C10 Aliphatics	430	¹	271	ND
>C10-C12 Aliphatics	34	¹	ND	ND
>C12-C16 Aliphatics	0.76	¹	ND	ND
>C16-C35 Aliphatics	1.30E-03	¹	ND	ND
>C21-C35 Aliphatics				
>EC8-EC10 Aromatics	65,000	¹	10,000	ND
>EC10-EC12 Aromatics	25,000	¹	1,910	ND
>EC12-EC16 Aromatics	5,800	¹	ND	ND
>EC16-EC21 Aromatics	510	¹	149	ND
>EC21-EC35 Aromatics	6.6	¹	ND	ND
Polycyclic Aromatic Hydrocarbons				
Naphthalene	19,000	²	231	ND
Fluoranthene	230	²	0.046	ND
Anthracene	70	³	0.68	33
Benzo(b)fluoranthene	2	²	ND	ND
Benzo(k)fluoranthene	0.8	²	ND	ND
Benzo(a)pyrene	3.8	²	ND	ND
Benzo(g,h,i)perylene	0.26	²	ND	ND
Indeno(1,2,3-c,d)pyrene	0.2	²	ND	ND
Metals & Inorganics				
Copper	1.38E+08	⁴	ND	ND
Iron	1.00E+09**	-	ND	ND
Manganese	9.30E+05	⁵	50	ND
Mercury	7.40E+07	⁶	ND	ND
Nickel	2.50E+09	⁷	ND	ND
Zinc	4.32E+09	⁴	ND	ND
Ammoniacal Nitrogen as N	1.00E+09**	-	50.7	405
Cyanide Total	1.00E+09**	-	1	1
Thiocyanate (as SCN)	1.00E+09**	-	9	9
Sulphate	1.00E+09**	-	250,000	250,000

Notes

- * Includes contaminants of concern identified following screening undertaken in Appendix E, Table 3.
- ** Theoretical solubility assumed to be $1 \times 10^9 \mu\text{g/l}$ in the absence of a readily available solubility limits
- ND Results of risk assessment demonstrate pathway does not present significant level of risk.

Sources

- 1 TPH CWG 1997. Total Petroleum Hydrocarbon Criteria Working Group series: Volumes 1-5.
- 2 EA 2008. Compilation of data for priority organic pollutants for derivation of Soil Guideline Values. Science Report SC050021/SR7
- 3 Montgomery 2007. Groundwater Chemicals Desk Reference, 4th Edition.
- 4 LQM 2015. The LQM/CIEH S4ULs for Human Health Risk Assessment.
- 5 ConSim 2000.
- 6 EA 2009. Soil Guideline Values for mercury in soil. Science Report SC050021/Mercury SGV
- 7 EA 2009. Soil Guideline Values for nickel in soil. Science Report SC050021/Nickel SGV

Table 2: Comparison of Measured Concentrations of CoC in Groundwater with SSAC

Chemical Group	Compound	Water Resource* Site Specific Assessment Criteria - 50m Compliance Point	Water Resource* Site Specific Assessment Criteria - 200m Compliance Point	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site			
				Location ID	MS\TP06**	12AB2	12BB1	13CB1	S1-BH04	S1-BH05	S1-BH05	S1-BH06	S1-BH06	S1-BH12	S1-BH14	S1-BH18	S1-BH18	S1-BH19	S2-BHA04	S2-BHA04	MS\BH03	MS\BH03	MS\BH07	MS\BH11		
				Well															S	S	S	S	S	S		
				Unit Screened	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG
				Unit	22/06/2021	29/04/2004	28/04/2004	29/04/2004	08/01/2018	08/01/2018	22/02/2018	08/01/2018	22/02/2018	09/01/2018	09/01/2018	09/01/2018	22/02/2018	09/01/2018	09/01/2018	23/02/2018	12/08/2021	17/11/2021	12/08/2021	12/08/2021		
Metals & Inorganics	Copper	ND	ND	µg/L	1.7	1	4	<1	3.7	0.8	6.2	0.8	1.6	0.8	0.5	1.5	<0.4	6.7	45	56	<0.4	<0.4	<0.4	<0.4		
	Iron	ND	ND	µg/L	1800	-	-	-	25	49	-	220	-	130	180	24	-	93	3600	-	14	86	41	12		
	Manganese	50	ND	µg/L	-	-	-	-	230	1.3	-	25	-	2.9	0.93	26	-	4.5	2.3	-	-	-	-	-		
	Mercury	ND	ND	µg/L	0.06	0.3	0.1	<0.1	0.02	0.05	<0.01	0.08	<0.01	<0.01	<0.01	0.05	<0.01	0.08	0.12	<0.01	0.07	0.07	0.33	0.05		
	Nickel	ND	ND	µg/L	7.5	3	2	4	3.9	4.7	4.1	5.1	9.7	2.9	2.2	1.6	1.3	3	14	12	1	<0.5	2.7	1.4		
	Zinc	ND	ND	µg/L	130	3	<2	7	3.2	<1.3	3.9	<1.3	7	7.5	10	1.7	3.1	3.5	2	5.9	1.7	3	3.7	220		
	Ammoniacal Nitrogen as N	0.0507	0.405	mg/L	0.22	-	-	-	0.51	9.6	-	8.6	-	6.8	8.3	1.8	-	3.7	2.7	-	0.19	0.09	0.47	0.16		
	Cyanide Total	1	1	µg/L	7.5	<100	1000	<100	<40	68	<40	310	42	230	340	<40	<40	210	7000	9900	<40	8.4	<40	-		
	Sulphate as SO4	250	250	mg/L	150	-	-	-	120	230	260	520	300	200	320	1000	1200	690	140	120	920	840	1100	770		
Thiocyanate (as SCN)	9	9	µg/L	<20	-	-	-	<40	9900	240	85,000	5100	800	1000	450	-	370	140	-	<20	<20	52	-			
Total Petroleum Hydrocarbon Criteria Working Group	>C5-C6 Aliphatics	1030	ND	µg/L	<0.1	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
	>C6-C8 Aliphatics	1550	ND	µg/L	<0.1	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
	>C8-C10 Aliphatics	271	ND	µg/L	<0.1	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
	>C10-C12 Aliphatics	ND	ND	µg/L	1900	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	110			
	>C12-C16 Aliphatics	ND	ND	µg/L	28,000	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	10			
	>C16-C21 Aliphatics	ND	ND	µg/L	180,000	-	-	-	1.7	<1	<1	<1	<1	8.9	7.5	<1	<1	<1	2.5	<1	<1	<1	4.9			
	>C21-C35 Aliphatics	ND	ND	µg/L	44,000	-	-	-	7.1	<1	<1	<1	<1	59	6.7	<1	<1	<1	18	<1	<1	<1	1.1			
	>EC8-EC10 Aromatics	10000	ND	µg/L	<0.1	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
	>EC10-EC12 Aromatics	1910	ND	µg/L	7000	-	-	-	<1	3.5	2.9	<1	<1	<1	<1	1.4	3.9	<1	<1	<1	<1	<1	<1			
	>EC12-EC16 Aromatics	ND	ND	µg/L	23,000	-	-	-	<1	3.2	11	<1	<1	<1	<1	1	<1	1.9	<1	<1	<1	<1	<1			
>EC16-EC21 Aromatics	149	ND	µg/L	120,000	-	-	-	<1	1.8	7.3	<1	<1	<1	2.8	<1	<1	<1	<1	<1	<1	<1	<1				
>EC21-EC35 Aromatics	ND	ND	µg/L	28,000	-	-	-	<1	1.9	<1	<1	<1	<1	21	<1	<1	<1	<1	<1	<1	<1	<1				
Polycyclic Aromatic Hydrocarbons	Naphthalene	231	ND	µg/L	<1	<0.01	<0.01	<0.01	<1 - 0.04	<1 - 2.8	0.05	<1 - 0.06	0.05	6.4 - 18	<1 - 0.1	2.7 - 13	9.1	<0.01	<1 - 0.05	0.59	<1	<1	0.12	<1		
	Fluoranthene	0.046	ND	µg/L	5400	<0.01	<0.01	<0.01	<1 - 0.59	<1 - 0.74	0.92	<1 - 0.03	0.08	<1 - 0.89	<1 - 0.11	<1 - 0.02	0.17	<1 - 0.36	<1 - 0.04	0.44	<1	<1	0.01	0.09		
	Anthracene	0.68	32.6	µg/L	<100	<0.01	<0.01	<0.01	<1 - 0.09	<1 - 0.24	0.13	<1 - 0.01	<0.01	<1 - 0.19	<1 - 0.03	<1 - 0.01	0.03	<1 - 0.09	<1 - 0.04	0.14	<1	<1	<1	0.02		
	Benzo(b)fluoranthene	ND	ND	µg/L	140	<0.01	<0.01	<0.01	<1 - 0.11	<1 - 0.07	0.03	<1 - 0.04	<0.01	<1 - 0.3	<1 - 0.07	<0.01	0.04	<0.01	<0.01	0.03	<1	<1	<1	<1		
	Benzo(k)fluoranthene	ND	ND	µg/L	<100	<0.01	<0.01	<0.01	<1 - 0.06	<1 - 0.03	0.01	<0.01	<0.01	<1 - 0.15	<1 - 0.02	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<0.01		
	Benzo(a)pyrene	ND	ND	µg/L	<100	<0.01	<0.01	<0.01	<1 - 0.08	<1 - 0.04	<0.01	<0.01	<0.01	<1 - 0.24	<1 - 0.05	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<1		
	Benzo(g,h,i)perylene	ND	ND	µg/L	<100	<0.01	<0.01	<0.01	<1 - 0.06	<1 - 0.03	<0.01	<0.01	<0.01	<1 - 0.12	<1 - 0.06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<0.01		
	Indeno(1,2,3-c,d)pyrene	ND	ND	µg/L	<100	<0.01	<0.01	<0.01	<1 - 0.06	<1 - 0.03	<0.01	<0.01	<0.01	<1 - 0.1	<1 - 0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<0.01		

Notes

- * Protective of both water resources and ecological receptors
- ** Grab sample from trial pit
- CoC Contaminants of Concern
- SSAC Site Specific Assessment Criteria
- MG Monitoring well screens Made Ground
- MTFD Monitoring well screens Tidal Flat Deposits
- GT Monitoring well screens Glacial Till
- RMS Monitoring well screens Redcar Mudstone
- Not analysed
- ND Results of modelling indicate contaminant not considered to present a significant risk

Measured concentration exceeds the SSAC based 50m compliance point only

Measured concentration exceeds the SSAC based 50m & 200m compliance point

Table 2: Comparison of Measured Concentrations of CoC in Groundwater with SSAC

Chemical Group	Compound	Water Resource* Site Specific Assessment Criteria - 50m Compliance Point	Water Resource* Site Specific Assessment Criteria - 200m Compliance Point	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site				
				Location ID	MS\BH15	MS\BH15	S1-BH07A	S1-BH13A	S1-BH13A	S2-BHA05	S2-BHA06	S2-BHA06	MS\BH04	MS\BH04	MS\BH05	MS\BH05	MS\BH05	MS\BH05	MS\BH07	MS\BH07	MS\BH07	MS\BH07	MS\BH08	MS\BH08	MS\BH08	MS\BH09	
				Well	S	S							S	S	S	S	S	D	D	D	D	D	D	D	D	S	
				Unit Screened	MG	MG	MG / TFD	MG / TFD	MG / TFD	MG / TFD	MG / TFD	MG / TFD	MG / TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD
				Unit	13/08/2021	16/11/2021	08/01/2018	09/01/2018	22/02/2018	09/01/2018	09/01/2018	23/02/2018	12/08/2021	16/11/2021	12/08/2021	12/10/2021	15/11/2021	12/08/2021	12/10/2021	15/11/2021	11/08/2021	12/10/2021	15/11/2021	13/08/2021			
Metals & Inorganics	Copper	ND	ND	µg/L	0.8	0.6	3	0.6	1.1	3.1	4.4	0.9	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	1	<0.4	<0.4	<0.4	<0.4				
	Iron	ND	ND	µg/L	14	22	57	160	-	350	120	-	870	1600	44	95	99	26	38	340	14	85	37	16			
	Manganese	50	ND	µg/L	-	-	1.7	0.58	-	1400	1200	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Mercury	ND	ND	µg/L	0.14	0.19	0.09	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.02	0.03	0.06	<0.01	0.06	0.04	0.05	0.05			
	Nickel	ND	ND	µg/L	0.9	0.9	3.5	1.8	2.1	1.4	6	6.3	0.6	0.7	2.9	4.3	3.7	0.7	1.3	0.5	1.5	0.7	0.6	1.6			
	Zinc	ND	ND	µg/L	9.2	<1.3	13	11	2.8	17	440	330	2.8	2.6	4.8	<1.3	1.3	5.1	11	<1.3	1.8	<1.3	1.7	4.4			
	Ammoniacal Nitrogen as N	0.0507	0.405	mg/L	0.57	1.5	1.2	8.2	-	1.1	2.8	-	0.015	0.1	10	10	19	1.2	0.91	1.5	1.2	1.9	2.5	1.9			
	Cyanide Total	1	1	µg/L	<40	8.2	<40	350	<40	<40	43	<40	43	<40	7.8	42	20	8.9	<40	13	4.9	<40	8.5	7.2	<40		
	Sulphate as SO4	250	250	mg/L	1100	970	370	260	440	1600	68	1300	1000	1500	96	85	100	840	820	85	710	730	380	160			
Thiocyanate (as SCN)	9	9	µg/L	230	220	1400	1000	2000	<40	<40	-	<20	<20	2300	4400	4300	<20	<20	54	44	43	31	150				
Total Petroleum Hydrocarbon Criteria Working Group	>C5-C6 Aliphatics	1030	ND	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				
	>C6-C8 Aliphatics	1550	ND	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				
	>C8-C10 Aliphatics	271	ND	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				
	>C10-C12 Aliphatics	ND	ND	µg/L	5	<1	<1	<1	<1	<1	<1	<1	14	<1	<1	4.8	<1	<1	<1	<1	33	<1	<1	2.8			
	>C12-C16 Aliphatics	ND	ND	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	5.4	<1	<1	4	<1	<1	<1	<1	8.6	<1	<1	1.5			
	>C16-C21 Aliphatics	ND	ND	µg/L	12	<1	<1	<1	<1	<1	<1	<1	8.2	<1	<1	120	<1	<1	<1	<1	8.2	<1	<1	30			
	>C21-C35 Aliphatics	ND	ND	µg/L	1.8	<1	<1	<1	<1	<1	<1	<1	1.5	<1	<1	70	<1	<1	<1	<1	<1	<1	<1	<1			
	>EC8-EC10 Aromatics	10000	ND	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
	>EC10-EC12 Aromatics	1910	ND	µg/L	<1	<1	<1	2	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	3.9	<1	<1	2.1	<1	<1			
	>EC12-EC16 Aromatics	ND	ND	µg/L	<1	<1	<1	5.2	19	<1	<1	<1	<1	<1	<1	7.6	<1	<1	11	<1	<1	4.1	<1	<1			
>EC16-EC21 Aromatics	149	ND	µg/L	<1	<1	<1	6.5	15	<1	<1	6.4	<1	<1	<1	59	<1	<1	74	<1	<1	43	<1	<1				
>EC21-EC35 Aromatics	ND	ND	µg/L	<1	<1	<1	<1	<1	<1	14	<1	<1	<1	<1	25	<1	<1	23	<1	<1	15	<1	<1				
Polycyclic Aromatic Hydrocarbons	Naphthalene	231	ND	µg/L	<1 - 0.6	<1	<1 - 0.14	6.9 - 14	25	<1 - 0.05	<1 - 0.01	0.04	<1	<1	<1	<1	-	<1	<1	-	0.42	<1	-	0.2			
	Fluoranthene	0.046	ND	µg/L	<1 - 0.03	<1	<1 - 0.5	2.3 - 6	6.4	<0.01	<1 - 0.02	0.16	<0.01	<1	<1	<1	-	<0.01	<5	-	<0.01	<1	-	<0.01			
	Anthracene	0.68	32.6	µg/L	<1 - 0.02	<1	<1 - 0.06	1.2 - 2.4	2.5	<0.01	<1 - 0.01	0.03	<1	<1	<0.01	<1	-	<1	<5	-	<0.01	<1	-	<0.01			
	Benzo(b)fluoranthene	ND	ND	µg/L	<0.01	<1	<1 - 0.15	<1 - 1.1	0.08	<0.01	<0.01	0.07	<0.01	<1	<0.01	<1	-	<1	<5	-	<0.01	<1	-	<0.01			
	Benzo(k)fluoranthene	ND	ND	µg/L	<0.01	<1	<1 - 0.06	<1 - 0.38	0.03	<0.01	<0.01	0.04	<1	<1	<1	<1	-	<1	<5	-	<0.01	<1	-	<0.01			
	Benzo(a)pyrene	ND	ND	µg/L	<0.01	<1	<1 - 0.08	<1 - 0.88	0.05	<0.01	<0.01	0.05	<1	<1	<1	<1	-	<0.01	<5	-	<0.01	<1	-	<1			
	Benzo(g,h,i)perylene	ND	ND	µg/L	<0.01	<1	<1 - 0.07	<1 - 0.36	0.03	<0.01	<0.01	<0.01	<0.01	<1	<0.01	<1	-	<0.01	<5	-	<0.01	<1	-	<0.01			
	Indeno(1,2,3-c,d)pyrene	ND	ND	µg/L	<0.01	<1	<1 - 0.07	<1 - 0.33	0.03	<0.01	<0.01	0.03	<0.01	<1	<0.01	<1	-	<0.01	<5	-	<0.01	<1	-	<0.01			

Notes

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Measured concentration exceeds the SSAC based 50m compliance point only

Measured concentration exceeds the SSAC based 50m & 200m compliance point

Table 2: Comparison of Measured Concentrations of CoC in Groundwater with SSAC

Chemical Group	Compound	Water Resource* Site Specific Assessment Criteria - 50m Compliance Point	Water Resource* Site Specific Assessment Criteria - 200m Compliance Point	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site			
				Location ID	MS\BH09	MS\BH09	MS\BH09	MS\BH11	MS\BH11	MS\BH13	MS\BH13	MS\BH13	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH15	MS\BH15	S2-BHA04	MS\BH12	MS\BH12	MS\BH12	MS\BH12	MS\BH04	MS\BH04	MS\BH03
				Well	S	S	S	D	D	S	S	S					D	D	D	S	S	S	D	D	D	
				Unit Screened	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD/GT	TFD/GT	TFD/GT	GT	GT	RMS
				Unit	12/10/2021	15/11/2021	15/11/2021	11/08/2021	17/11/2021	12/08/2021	12/10/2021	16/11/2021	10/08/2021	16/11/2021	16/11/2021	13/08/2021	16/11/2021	09/01/2018	11/08/2021	12/10/2021	17/11/2021	12/08/2021	16/11/2021	12/08/2021		
Metals & Inorganics	Copper	ND	ND	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	1.2	0.7	0.7	0.8	<0.4	<0.4	3.9	0.4	0.9	<0.4	<0.4	<0.4	2		
	Iron	ND	ND	µg/L	18	64	56	20	130	91	350	890	16	16	40	8.6	11	2700	16	23	15	510	430	70		
	Manganese	50	ND	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-		
	Mercury	ND	ND	µg/L	0.13	0.06	0.12	0.07	0.04	0.03	0.01	<0.01	0.41	0.36	<0.01	0.1	0.17	0.03	0.08	0.02	0.03	<0.01	0.01	0.03		
	Nickel	ND	ND	µg/L	1.3	0.9	1.2	2.3	1	0.9	1	1.3	5.2	5.5	<0.5	0.7	0.6	1.4	3.1	2.7	5.8	0.9	1.6	22		
	Zinc	ND	ND	µg/L	<1.3	3	2.1	1.8	3.4	6.3	3.8	8.8	<1.3	3.1	3	4.4	<1.3	2.8	3.2	1.9	<1.3	1.9	2.4	6		
	Ammoniacal Nitrogen as N	0.0507	0.405	mg/L	5.4	5.2	5.2	1.8	3.8	2	4.5	5.3	0.79	4.7	4.8	1.3	1.9	0.88	0.66	4.1	4.1	0.12	0.07	0.12		
	Cyanide Total	1	1	µg/L	5.1	5.3	12	<40	12	-	39	<0.1	<40	5.2	4.5	<40	11	4600	<40	9.9	5.5	<40	8.6	<40		
	Sulphate as SO4	250	250	mg/L	150	160	160	67	110	280	1100	350	540	420	400	130	1300	710	160	380	1100	2700	1400	1100		
Thiocyanate (as SCN)	9	9	µg/L	110	110	170	170	240	-	9300	7400	170	230	210	170	280	<40	<20	25	<20	<20	<20	26			
Total Petroleum Hydrocarbon Criteria Working Group	>C5-C6 Aliphatics	1030	ND	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	120		
	>C6-C8 Aliphatics	1550	ND	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	210		
	>C8-C10 Aliphatics	271	ND	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	<0.1	<0.1	15		
	>C10-C12 Aliphatics	ND	ND	µg/L	6.4	<1	<1	45	<1	<1	10	<1	<1	<1	<1	2.4	<1	<1	34	<1	<1	<1	<1	<1		
	>C12-C16 Aliphatics	ND	ND	µg/L	6.7	<1	<1	18	<1	<1	15	<1	<1	<1	<1	1.6	<1	<1	12	<1	<1	<1	<1	<1		
	>C16-C21 Aliphatics	ND	ND	µg/L	160	<1	<1	24	<1	<1	80	<1	<1	<1	<1	27	<1	<1	19	<1	<1	<1	<1	<1		
	>C21-C35 Aliphatics	ND	ND	µg/L	220	<1	<1	12	<1	<1	49	<1	<1	<1	<1	<1	<1	<1	5.8	<1	<1	<1	9.9	<1		
	>EC8-EC10 Aromatics	10000	ND	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	23	<0.1	<0.1	250	
	>EC10-EC12 Aromatics	1910	ND	µg/L	2.2	<1	<1	<1	<1	<1	2.7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	>EC12-EC16 Aromatics	ND	ND	µg/L	8.4	<1	<1	<1	2.5	<1	7.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	>EC16-EC21 Aromatics	149	ND	µg/L	110	<1	<1	<1	24	<1	33	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
>EC21-EC35 Aromatics	ND	ND	µg/L	110	<1	<1	<1	1.5	<1	7.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
Polycyclic Aromatic Hydrocarbons	Naphthalene	231	ND	µg/L	<1	<1	<1	0.17	<1	0.1	<1	<1	0.65	-	-	4.9	-	0.06	0.5	-	<1	0.46	<1	0.31		
	Fluoranthene	0.046	ND	µg/L	<1	<1	<1	0.01	<1	<0.01	<1	<1	0.24	-	-	<0.01	-	0.02	0.04	-	<1	0.02	<1	<0.01		
	Anthracene	0.68	32.6	µg/L	<1	<1	<1	<0.01	<1	<0.01	<1	<1	0.19	-	-	<0.01	-	0.01	<0.01	-	<1	<0.01	<1	<0.01		
	Benzo(b)fluoranthene	ND	ND	µg/L	<1	<1	<1	<0.01	<1	<0.01	<1	<1	<0.01	-	-	<0.01	-	<0.01	<0.01	-	<1	<0.01	<1	<0.01		
	Benzo(k)fluoranthene	ND	ND	µg/L	<1	<1	<1	<0.01	<1	<0.01	<1	<1	<0.01	-	-	<0.01	-	<0.01	<0.01	-	<1	<0.01	<1	<0.01		
	Benzo(a)pyrene	ND	ND	µg/L	<1	<1	<1	<0.01	<1	<0.01	<1	<1	<0.01	-	-	<0.01	-	<0.01	<0.01	-	<1	<0.01	<1	<0.01		
	Benzo(g,h,i)perylene	ND	ND	µg/L	<1	<1	<1	<0.01	<1	<0.01	<1	<1	<0.01	-	-	<0.01	-	<0.01	<0.01	-	<1	<0.01	<1	<0.01		
Indeno(1,2,3-c,d)pyrene	ND	ND	µg/L	<1	<1	<1	<0.01	<1	<0.01	<1	<1	<0.01	-	-	<0.01	-	<0.01	<0.01	-	<1	<0.01	<1	<0.01			

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Table 2: Comparison of Measured Concentrations of CoC in Groundwater with SSAC

Chemical Group	Compound	Water Resource* Site Specific Assessment Criteria - 50m Compliance Point	Water Resource* Site Specific Assessment Criteria - 200m Compliance Point	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site			
				Location ID	MS\BH03	MS\BH05	MS\BH05	MS\BH05	MS\BH12	MS\BH12	MS\BH12	MS\BH13	MS\BH13	MS\BH13	MS\BH17	MS\BH17	LF\BH01	LF\BH01	LF\BH01	LF\BH01	LF\BH01	LF\BH01	LF\BH01	
				Well	D	D	D	D	D	D	D	D	D	D	D	D	S	S	S	D	D	D	D	D
				Unit Screened	RMS	RMS	RMS	RMS	RMS	RMS	RMS	RMS	RMS	RMS	RMS	RMS	RMS	RMS	TFD	TFD	TFD	RMS	RMS	RMS
				Unit	16/11/2021	12/08/2021	12/10/2021	15/11/2021	13/08/2021	18/10/2021	17/11/2021	12/08/2021	12/10/2021	16/11/2021	10/08/2021	16/11/2021	13/08/2021	18/10/2021	17/11/2021	13/08/2021	18/10/2021	17/11/2021	13/08/2021	18/10/2021
Metals & Inorganics	Copper	ND	ND	µg/L	<0.4	<0.4	<0.4	<0.4	1.7	1.5	<0.4	<0.4	1.7	1.5	0.8	1.6	0.5	0.5	<0.4	<0.4	3.3	1.8		
	Iron	ND	ND	µg/L	360	13	24	51	11	4500	2700	1200	7.6	83	22	81	12	30	19	29	56	34		
	Manganese	50	ND	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Mercury	ND	ND	µg/L	0.09	0.72	0.05	0.05	<0.01	0.03	0.04	<0.01	<0.01	<0.01	0.19	<0.01	0.23	0.15	0.11	0.19	0.17	0.19		
	Nickel	ND	ND	µg/L	0.8	1	4.5	2.2	4.4	2.4	0.7	11	7.6	15	2.2	<0.5	4.4	1.5	0.9	6.5	6.2	4.4		
	Zinc	ND	ND	µg/L	1.5	6.2	1.4	5.7	3	8.5	1.6	8.7	22	18	<1.3	<1.3	1.6	4.9	2.5	2.8	10	6.2		
	Ammoniacal Nitrogen as N	0.0507	0.405	mg/L	2.8	0.27	5.5	13	0.13	6.5	5.6	2.6	4.8	5.3	0.28	2.7	0.062	0.08	0.08	0.23	0.39	0.15		
	Cyanide Total	1	1	µg/L	0.5	<40	19	6	<40	0.3	0.6	-	2.2	0.9	<40	76	6.3	5.7	<40	4.8	4.8	5.2		
	Sulphate as SO4	250	250	mg/L	2100	210	82	81	130	210	170	1300	3000	2600	890	920	690	900	840	390	820	7.5		
Thiocyanate (as SCN)	9	9	µg/L	<20	410	3900	2700	<20	32	<20	-	42	<20	110	120	100	<20	37	25	46	<20			
Total Petroleum Hydrocarbon Criteria Working Group	>C5-C6 Aliphatics	1030	ND	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	>C6-C8 Aliphatics	1550	ND	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	>C8-C10 Aliphatics	271	ND	µg/L	<0.1	<0.1	<0.1	<0.1	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	>C10-C12 Aliphatics	ND	ND	µg/L	<1	6	30	<1	<1	<1	<1	<1	6.1	<1	<1	<1	<1	<1	<1	6.4	<1	<1		
	>C12-C16 Aliphatics	ND	ND	µg/L	<1	13	5.5	<1	1.3	<1	<1	<1	4.3	<1	<1	<1	<1	<1	<1	4.6	<1	<1		
	>C16-C21 Aliphatics	ND	ND	µg/L	<1	13	21	<1	5.1	<1	<1	<1	79	<1	<1	<1	<1	<1	<1	20	<1	<1		
	>C21-C35 Aliphatics	ND	ND	µg/L	<1	14	1.4	<1	<1	<1	<1	<1	20	<1	<1	<1	<1	<1	<1	5.9	<1	<1		
	>EC8-EC10 Aromatics	10000	ND	µg/L	<0.1	<0.1	<0.1	<0.1	14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	>EC10-EC12 Aromatics	1910	ND	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	3.1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	>EC12-EC16 Aromatics	ND	ND	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	9.2	<1	<1	<1	<1	<1	<1	<1	<1	<1		
>EC16-EC21 Aromatics	149	ND	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	42	<1	<1	<1	<1	<1	<1	<1	<1	<1			
>EC21-EC35 Aromatics	ND	ND	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	6.2	<1	<1	<1	<1	<1	<1	<1	<1	<1			
Polycyclic Aromatic Hydrocarbons	Naphthalene	231	ND	µg/L	-	0.28	-	<1	<1 - 0.08	<1	<1	0.24	-	-	0.06	<1	<1	<1	<1	<1	-	<1		
	Fluoranthene	0.046	ND	µg/L	-	0.02	-	<1	<1 - 0.01	<1	<1	0.02	-	-	0.04	<1	0.01	<1	<1	<0.01	-	<1		
	Anthracene	0.68	32.6	µg/L	-	<0.01	-	<1	<0.01	<1	<1	<0.01	-	-	0.02	<1	<0.01	<1	<1	<0.01	-	<1		
	Benzo(b)fluoranthene	ND	ND	µg/L	-	<0.01	-	<1	<0.01	<1	<1	<0.01	-	-	<0.01	<1	<1	<1	<1	<1	-	<1		
	Benzo(k)fluoranthene	ND	ND	µg/L	-	<0.01	-	<1	<0.01	<1	<1	<0.01	-	-	<0.01	<1	<0.01	<1	<1	<0.01	-	<1		
	Benzo(a)pyrene	ND	ND	µg/L	-	<0.01	-	<1	<0.01	<1	<1	<0.01	-	-	<0.01	<1	<0.01	<1	<1	<1	-	<1		
	Benzo(g,h,i)perylene	ND	ND	µg/L	-	<0.01	-	<1	<0.01	<1	<1	<0.01	-	-	<0.01	<1	<0.01	<1	<1	<0.01	-	<1		
Indeno(1,2,3-c,d)pyrene	ND	ND	µg/L	-	<0.01	-	<1	<0.01	<1	<1	<0.01	-	-	<0.01	<1	<0.01	<1	<1	<0.01	-	<1			

Notes

- * Protective of both water resources and ecological receptors
- ** Grab sample from trial pit
- CoC Contaminants of Concern
- SSAC Site Specific Assessment Criteria
- MG Monitoring well screens Made Ground
- MTFD Monitoring well screens Tidal Flat Deposits
- GT Monitoring well screens Glacial Till
- RMS Monitoring well screens Redcar Mudstone
- Not analysed
- ND Results of modelling indicate contaminant not considered to present a significant risk

Measured concentration exceeds the SSAC based 50m compliance point only

Measured concentration exceeds the SSAC based 50m & 200m compliance point

Appendix A

NQMS Declaration Reference



NQMS SQP Declaration of Document Adequacy

Project

Project Name	Land west of Warrenby, Teesworks - Contaminated Land Generic Quantitative Risk Assessment and Detailed Quantitative Risk Assessment
Project Address	Teesworks site, off Trunk Road, Redcar TS10 5QW
NQMS Declaration Reference	0822-G3393

Summary Description of Project / Proposed development

Arcadis (UK) Limited (Arcadis) was commissioned by South Tees Development Corporation (STDC) to undertake a Detailed Quantitative Risk Assessment (DQRA) for the development plot known as Land west of Warrenby, Teesside (the "Site"). The Site is a land parcel situated within the wider Teesworks area located across the Redcar, Lackenby, Grangetown and South Bank conurbations of the Borough of Redcar & Cleveland, set in the industrial area generally known as 'South Tees'.

Activities historically undertaken on-Site included the production of steel, alongside ancillary activities associated with steelworks.

The site is under consideration as a potential location for the Teesside Net Zero carbon capture and storage facility, this facility is to be constructed by a third party under a Development Consent Order (DCO).

Outline planning for remediation of the site has been submitted under Planning application R/2021/1048/FFM. This document is intended to support the discharge of planning conditions associated with remediation at the plot, as defined under Outline Planning Approval.

Document

Document Title	LAND WEST OF WARRENBY, TEESWORKS, REDCAR - Contaminated Land Generic Quantitative Risk Assessment and Detailed Quantitative Risk Assessment
Document Type	Contaminated Land Generic Quantitative Risk Assessment and Detailed Quantitative Risk Assessment
Document Reference	10035117-AUK-XX-XX-RP-ZZ-0428-04-LWoW_DQRA
Document Date	August 2022

Document Author / Publishing
Organisation
Named Client

Arcadis Consulting (UK) Ltd
South Tees Development Corporation





Regulator's Contact Details

Local Authority Details

Local Authority Name	Redcar & Cleveland Borough Council
Contact Name	Mick Gent
Contact Telephone	01287 612249
Contact Email	Michael.Gent@redcar-cleveland.gov.uk
Contact Role	Contaminated Land Officer

Regulator Details

Regulator	Environment Agency
Contact Name	Lloyd Tyson
Contact Telephone	02084745145
Contact Email	Lloyd.Tyson@environment-agency.gov.uk
Contact Role	Land Contamination Technical Specialist (Groundwater, Hydrology and Contaminated Land Team)

SQP Details

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SQP Registration No.	SQP0041
Telephone	0758 453 8955
Email	ian.evans2@arcadis.com
Organisation	Arcadis Consulting (UK) Ltd
Address	16th Floor, 103 Colmore Row, Birmingham, B3 3AG
Chartered or Professional Institution	Chartered Institution of Water Environmental Management
Chartered or Professional Institution Membership Reference	18527



Declaration

I, Ian Evans, confirm that I am the person described in the SQP Details section and hold current valid registration as a Suitably Qualified and Experienced Person Registration No. SQP0041 with the NQMS.

I have reviewed the document described in the Document Details section, in relation to the project and site described in the Site Details section, and I am satisfied that:

1. The work has been carried out by appropriately capable people with reference to the Brownfield Skills Framework.
2. That the work carried out is, to the best of my knowledge, undertaken with reasonable skill and care, and the information and data reported:
 - i. describe an appropriate scope and objectives and
 - ii. accord with relevant good practice guidance and standards and
 - iii. are based upon appropriately robust science and
 - iv. are factually correct and
 - v. have been appropriately reviewed.
3. That all specialist aspects have been reviewed by an appropriately qualified/competent person with relevant skills and experience in that specialist area.
4. That the interpretation and conclusions are reasonable.
5. That proposals to mitigate actual potential or residual risks are appropriate.
6. I am competent to sign this Declaration and that
 - a. I am fully aware and comply with the Code of Conduct of Chartered Institution of Water Environmental Management through which I hold Chartership 18527.
 - b. The work of this review and Declaration are within the limits of my knowledge, competence and professional capacity.

Note: The document that has been reviewed was prepared by the organisation named for the benefit of the named Client who has reliance upon it. Any professional liability arising from any proven negligent act or omission by the Company carrying out the work and publishing the document rests with that Company and not with the SQP or the NQMS.

Signed: 

Date: 12 August 2022

Name: IAN EVANS
[Block capitals]



0822-G3393

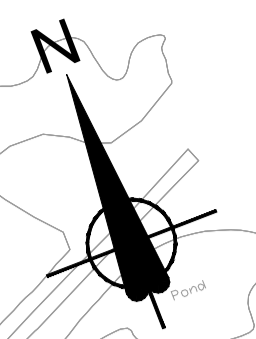
Figures

Appendix B

Figures

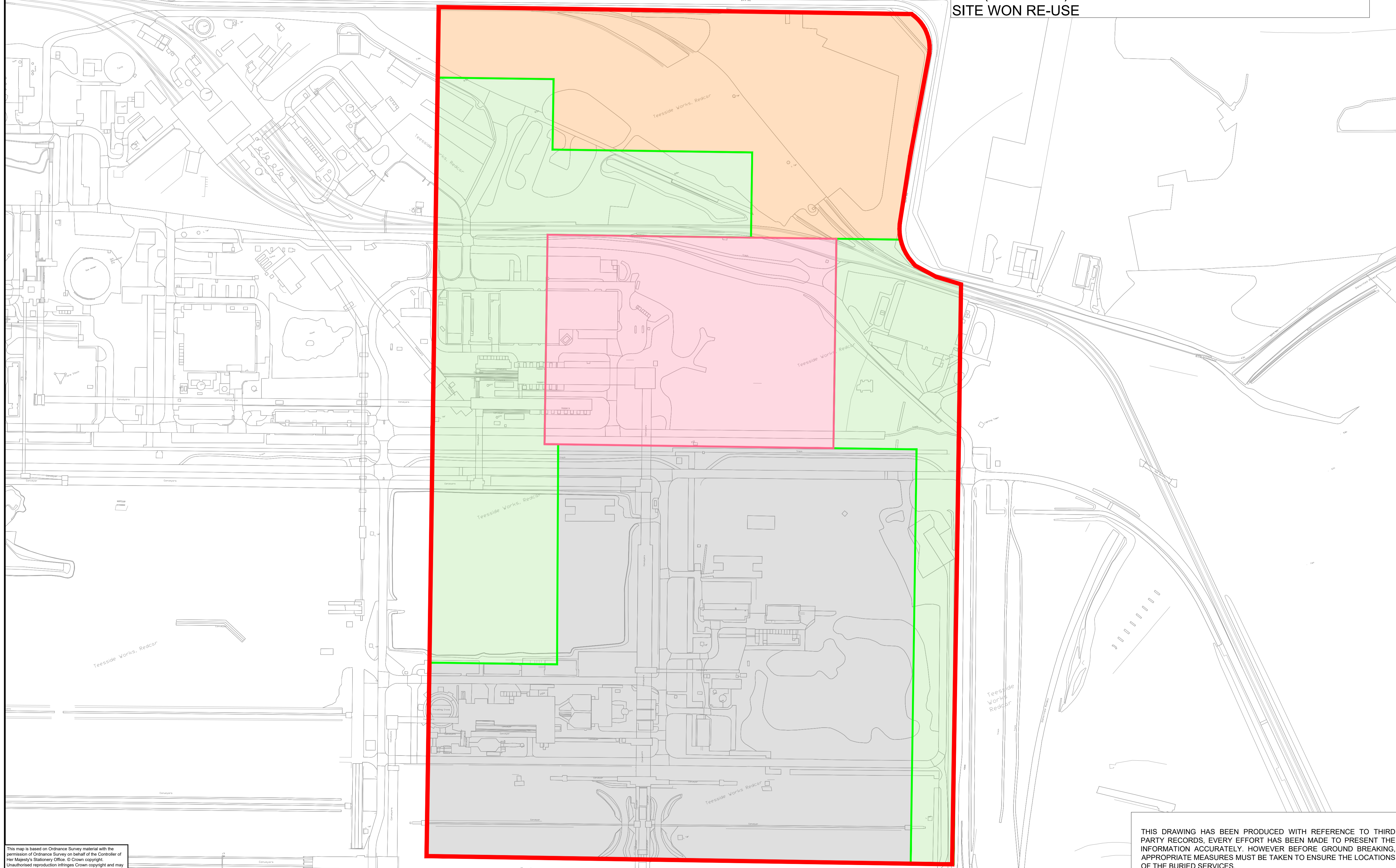
DO NOT SCALE

Millimetres



SITE AREA	PLOT REF	PLAN AREA (m2)	PLATFORM LEVEL (M AOD)	REMEDIATION DIG LEVEL (M AOD)	CUT FROM EXISTING GROUND TO REMEDIATION DIG LEVEL (M3)	FILL FROM EXISTING GROUND REMEDIATION DIG LEVEL (M3)	FILL FROM REMEDIATION DIG LEVEL TO PLATFORM LEVEL (M3)	NET (M3)	SURPLUS CUT/DEFICIT FILL	TOTAL (M3)	
Nzt OPTION 1 FGL 7.3M AOD	NET NZT GREEN	195,697	7.3	4.8	535,157	0	489,034	46,123	SURPLUS CUT	13,335	
	NZT ORANGE	110,979	7.3	4.8	215,895	2,458	278,250	-64,813	DEFICIT FILL		
	NET NZT PINK	92,296	7.3	3.8	355,060	0	323,035	32,025	SURPLUS CUT		
	VOID FILL ALLOWANCE				-	0	0	36,536	-36,536	DEFICIT FILL	-36,536
	NET TOTALS					1,106,112	2,458	1,090,319			
Nzt GREY		263,254	0.2m CUT FILL	0.2	52,651	0	52,651	0	BALANCED	0	
TOTALS					1,158,763	2,458	1,179,506	OVERALL TOTAL	DEFICIT FILL	-23,201	

TOTAL CUT VOLUMES INCLUDES 7% (GREEN AREA) AND 15% (PINK AREA) BRICK AND CONCRETE ARISING FOR SITE WON RE-USE



NOTES

- DO NOT SCALE FROM THIS DRAWING
- IN ALL AREAS, PARTICULARLY THE GREEN AND PINK SHADED AREAS, THERE IS A FIRM LIKELIHOOD THAT EXCAVATION WILL NEED TO BE ADVANCED TO GREATER DEPTHS LOCALLY TO REMOVE CERTAIN BURIED STRUCTURES/FEATURES AND/OR TO ADDRESS THE REMOVAL OF CONTAMINATED SOILS

KEY

- Nzt SITE DEVELOPMENT BOUNDARY, INCLUSIVE OF TEMPORARY CONSTRUCTION LAYDOWN AREA.
- THIS FORMS THE ENVELOPE OF THE REMEDIATION WORKS CONTRACT, EXCLUSIVE OF NOMINAL OVER DIG AT ONE OR MORE OF THE BOUNDARIES AND AREAS EXTERNAL TO THIS SITE THAT MAY BE ASSIGNED FOR MATERIALS PROCESSING
- THE PROPOSED FINISHED GROUND LEVEL FOR THE REMEDIATION WORKS IS 7.3 AOD
- REQUIRED MINIMUM EXCAVATION DEPTH IS 2.5m BELOW THE PROPOSED FINISHED REMEDIATION WORKS LEVEL, i.e., 4.8m AOD
- REQUIRED MINIMUM EXCAVATION DEPTH IS 3.5m BELOW THE PROPOSED FINISHED REMEDIATION WORKS LEVEL, i.e., 3.8m AOD
- REQUIRED GROUND REMEDIATION WORKS WILL TYPICALLY INVOLVE A LIMITED PROGRAMME OF EXCAVATION AND FILLING (TO SHALLOWER DEPTHS THAN THE AREAS SHADED GREEN AND PINK), WITH THE NEED TO REMOVE BURIED RELIC FOUNDATIONS AND SIMILAR BEING MORE SELECTIVE.
- WORKS TO THIS AREA MAY ALSO INCLUDE FILLING UTILISING RESIDUAL MATERIALS FROM THE GREEN, PINK AND GREY SHADED AREAS.
- THIS IS THE PROPOSED CONSTRUCTION LAYDOWN AREA FOR THE FOLLOW-ON Nzt PROJECT, THAT WILL BE ACCESSED, IN PART, POTENTIALLY FROM JULY 2023, WITH OCCUPANCY INCREASING TO THE END OF 2023.
- THE REQUIRED GROUND REMEDIATION WORKS WILL LARGELY BE CONTAINED TO SITE CLEARANCE, A SURFACE SCRAPER, AND A GENERAL, RELATIVELY MINOR CUT/FILL LEVELING OF THE AREA, FOLLOWING WHICH, THE AREA MAY BE CAPPED WITH GRANULAR FINISHING LAYER.

FOR INFORMATION

Rev.	Date	Description	By	Chk'd	App'd
D	03.08.22	VOLUMES UPDATED & BOUNDARIES	KW	LCD	JMC
C	29.04.22	VOLUMES UPDATED		LCD	JMC
B	21.02.22	VOLUMES UPDATED		LCD	JMC
A	15.02.22	FIRST ISSUE	KW	LCD	JMC

STDC
Teesside Management Offices,
Redcar, TS10 5QW
www.southteescdc.com

Project Title: **TEESWORKS**
The UK's largest industrial zone

Drawing Name: **NET ZERO TEESIDE OUTPUT FOR REMEDIATION STRATEGY/MMP**

Drawn by: KW Date: FEB 2022
Checked by: LCD Date: FEB 2022
Approved by: JMC Date: FEB 2022

Drawing Number: TSWK-STDC-NZT-ZZ-DR-C-0005 Revision: **D**

Drawing Scale: 1:2000 Page Size: A1

THIS DRAWING HAS BEEN PRODUCED WITH REFERENCE TO THIRD PARTY RECORDS, EVERY EFFORT HAS BEEN MADE TO PRESENT THE INFORMATION ACCURATELY. HOWEVER BEFORE GROUND BREAKING, APPROPRIATE MEASURES MUST BE TAKEN TO ENSURE THE LOCATIONS OF THE BURIED SERVICES.

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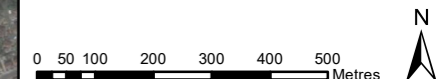


LEGEND

- SITE BOUNDARY-PROVIDED BY STDC/BP
- 50m
- 100m
- 300m
- 600m
- 1000m
- ➔ INFERRED GROUNDWATER FLOW DIRECTION

NOTES

SYMBOLS FOR BOREHOLES, TRIAL PITS AND OTHER SPECIFIC FEATURES ARE REPRESENTATIONS OF LOCATION ONLY AND UNLESS OTHERWISE SPECIFIED, DO NOT REPRESENT THE TRUE SIZE OF THE FEATURE.



TITLE: SITE LOCATION AND ENVIRONMENTAL SITE SETTING	
SITE: LAND WEST OF WARRENBY	
CLIENT: SOUTH TEES DEVELOPMENT CORPORATION	
PROJECT: 10035117	FIGURE 1
DATE: 03/05/22	DRAWN BY: AP
DRG No.: 10035117-AUK-XX-DR-ZZ-0454-P1 GIS	
SCALE: 1 : 13,000	PRINT: A3

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



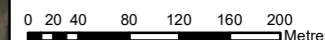


LEGEND

SITE BOUNDARY-PROVIDED BY STDC/BP

NOTES

- Area of former use as presented within CH2M2017a and CH2M2017b
 - A number of tanks and substations were present on site, although these have not been depicted.



TITLE: CURRENT AND HISTORICAL SITE LAYOUT	
SITE: LAND WEST OF WARRENBY	
CLIENT: SOUTH TEES DEVELOPMENT CORPORATION	
PROJECT: 10035117	FIGURE 2
DATE: 03/05/22	DRAWN BY: AP
DRG No.: 10035117-AUK-XX-XX-DR-ZZ-0455-P1 GIS	
SCALE: 1 : 6,000	PRINT: A3

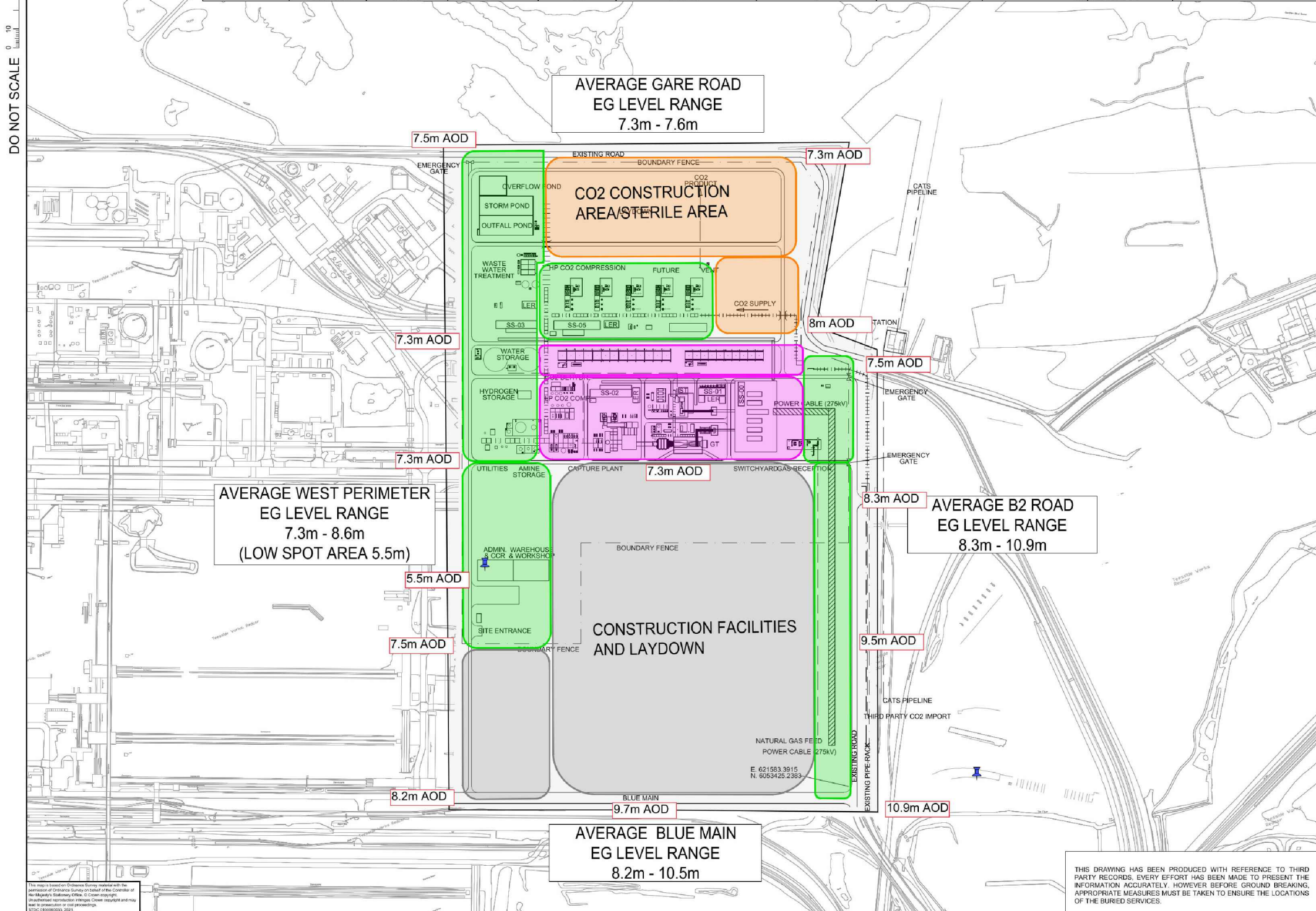
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



DO NOT SCALE

Millimetres
0 10 100

SITE AREA	PLOT REF	PLAN AREA (m ²)	PLATFORM LEVEL (M AOD)	REMEDIATION DIG LEVEL (M AOD)	CUT FROM EXISTING GROUND TO REMEDIATION DIG LEVEL (M3)	FILL FROM EXISTING GROUND REMEDIATION DIG LEVEL (M3)	FILL FROM REMEDIATION DIG LEVEL TO PLATFORM LEVEL (M3)	NET (M3)	SURPLUS CUT/DEFICIT FILL	TOTAL (M3)
NZT OPTION 1 FGL 7.3M AOD	NZT GREEN	199,586	7.3	4.8	548,423	0	498,965	49,458	SURPLUS CUT	32,413
	NZT ORANGE	87,049	7.3	4.8	161,031	2,458	217,622	-59,049	DEFICIT FILL	
	NZT PINK	84,383	7.3	3.8	337,344	0	295,341	42,004	SURPLUS CUT	
NZT OPTION 2 FGL 7.8M AOD	NZT GREEN	199,586	7.8	5.3	448,521	0	498,965	-50,444	DEFICIT FILL	-153,205
	NZT ORANGE	87,049	7.8	5.3	126,616	11,567	217,623	-102,574	DEFICIT FILL	
	NZT PINK	84,383	7.8	4.3	295,153	0	295,341	-188	DEFICIT FILL	



KEY

- GREEN AREAS - STDC PROPOSED REMEDIATION DEPTH OF 2.5m BELOW FGL
- PINK AREAS - BP PROPOSED REMEDIATION DEPTH OF 3.5m BELOW FGL
- ORANGE AREAS - NO DEFINED REMEDIATION/EXCAVATION DEPTH/TARGET - HOWEVER PROPOSED REMEDIATION DEPTH OF 2.5m BELOW FGL SO NO REQUIREMENT TO RETURN AT A LATER DATE
- GREY AREAS - NO DEFINED REMEDIATION/EXCAVATION DEPTH/TARGET - AREA SUITABLE FOR THE PROPOSED USE AS A CONSTRUCTION/LAYDOWN AREA

NOTES

BASED ON DRAWING BY STDC/BP
DRAWING No: TSWK-STDC-NZT-ZZ-DR-C-0004
DATE: NOV 2021

REV	DATE	COMMENT	CAD

TITLE: PROPOSED SITE LAYOUT

SITE: LAND WEST OF WARRENBY

CLIENT: SOUTH TEES DEVELOPMENT CORPORATION

PROJECT: 10035117 **FIGURE 3**

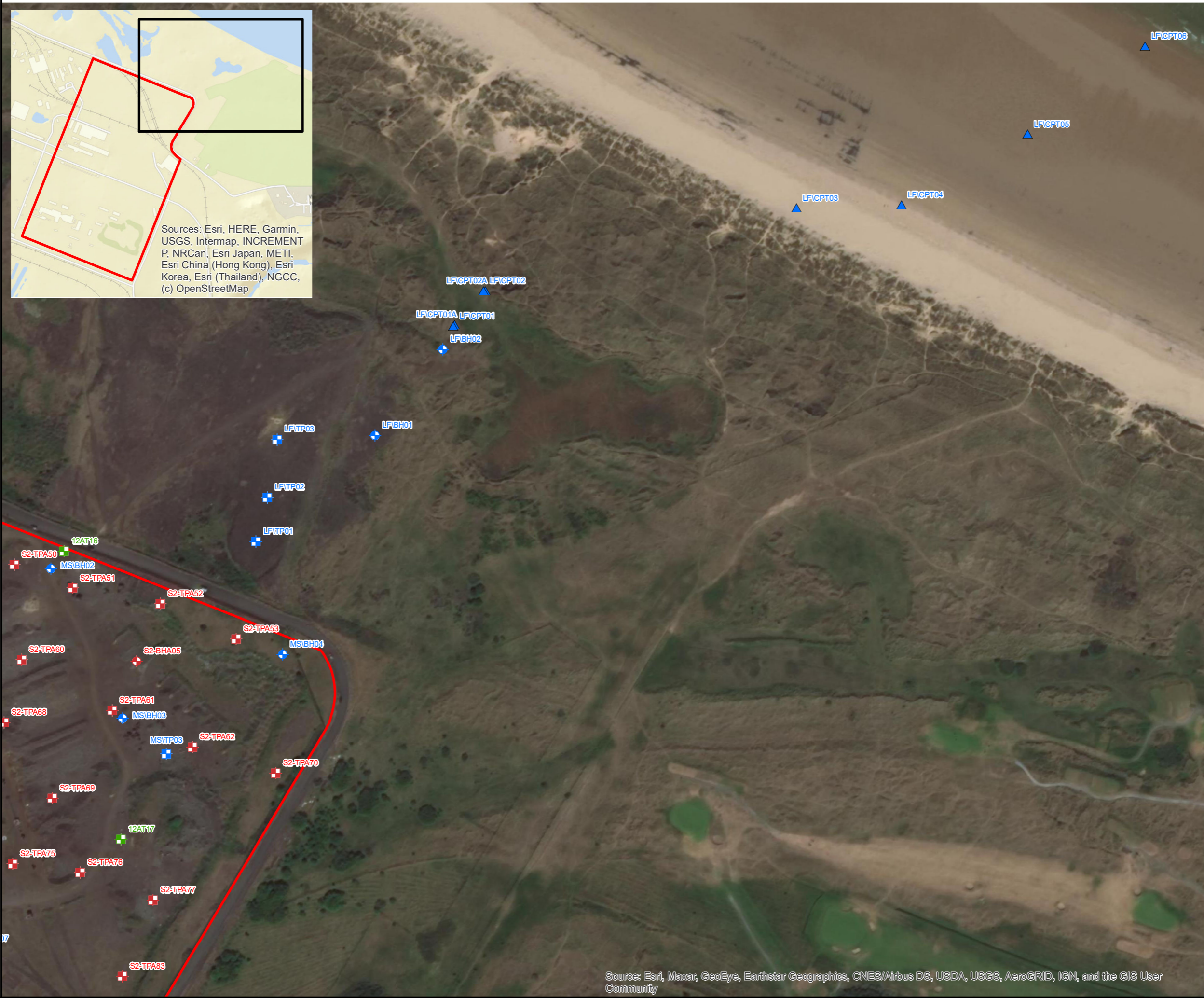
DATE: 12/11/21 **DRAWN:** AP **REV:** -

DRG.No.: 10035117-AUK-XX-XX-DR-ZZ-0456-P1 **PRINT:** A3

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NOTE: ALL ENTITIES SHOWN ON THIS DRAWING ARE TO BE REGARDED AS APPROXIMATE AND ARE INDICATIVE ONLY. NO MEASUREMENTS TAKEN FROM THIS DRAWING SHOULD BE USED FOR THE LOCATION OF INTRUSIVE INVESTIGATION WORKS ON SITE. SYMBOLS FOR BOREHOLES, TRIAL PITS AND OTHER SPECIFIC FEATURES ARE REPRESENTATIONS OF LOCATION ONLY AND UNLESS OTHERWISE SPECIFIED, DO NOT REPRESENT THE TRUE SIZE OF THE FEATURE. - CONTACT ARCADIS UK IN CASE OF ANY QUERY



LEGEND

- ◆ BOREHOLE (Enviros 2004)
- TRIAL PIT (Enviros 2004)
- ◆ BOREHOLE (AEG 2018)
- TRIAL PIT (AEG 2018)
- ◆ BOREHOLE (AEG 2021)
- ▲ CPT (AEG 2021)
- TRIAL PIT (AEG 2021)
- SITE BOUNDARY-PROVIDED BY STDC/BP

NOTES

0 5 10 20 30 40 50 Metres

N

TITLE: INTRUSIVE INVESTIGATION LOCATION PLAN	
SITE: LAND WEST OF WARRENBY	
CLIENT: SOUTH TEES DEVELOPMENT CORPORATION	
PROJECT: 10035117	FIGURE 4a
DATE: 03/05/22	DRAWN BY: AP
DRG No.: 10035117-AUK-XX-XX-DR-ZZ-0457-P1 GIS	
SCALE: 1 : 2,500	PRINT: A3

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





LEGEND

- ◆ BOREHOLE (Enviros 2004)
- TRIAL PIT (Enviros 2004)
- ◆ BOREHOLE (AEG 2018)
- TRIAL PIT (AEG 2018)
- ◆ BOREHOLE (AEG 2021)
- ▲ CPT (AEG 2021)
- TRIAL PIT (AEG 2021)
- SITE BOUNDARY-PROVIDED BY STDC/BP

NOTES

0 5 10 20 30 40 50 Metres

N









TITLE: INTRUSIVE INVESTIGATION LOCATION PLAN	
SITE: LAND WEST OF WARRENBY	
CLIENT: SOUTH TEES DEVELOPMENT CORPORATION	
PROJECT: 10035117	FIGURE 4b
DATE: 03/05/22	DRAWN BY: AP
DRG No.: 10035117-AUK-XX-XX-DR-ZZ-0457-P1 GIS	
SCALE: 1 : 2,500	PRINT: A3

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

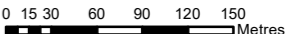





LEGEND

-  SCREENS MADE GROUND OR MADE GROUND/SUPERFICIAL DEPOSITS
-  DUAL SCREEN: MADE GROUND AND BEDROCK
-  DUAL SCREEN: MADE GROUND AND SUPERFICIAL DEPOSITS
-  SCREENS SUPERFICIAL ONLY
-  DUAL SCREEN: SUPERFICIAL AND BEDROCK
-  SCREEN UNKNOWN
-  DUAL SCREEN: SUPERFICIAL ONLY
-  SITE BOUNDARY-PROVIDED BY STDC/BP

NOTES

 	
TITLE:	
MONITORING WELL LOCATION PLAN	
SITE:	
LAND WEST OF WARRENBY	
CLIENT:	
SOUTH TEES DEVELOPMENT CORPORATION	
PROJECT:	10035117
FIGURE 5	
DATE:	03/05/22
DRAWN BY:	AP
DRG No.:	10035117-AUK-XX-DR-ZZ-0460-P1 GIS
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Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





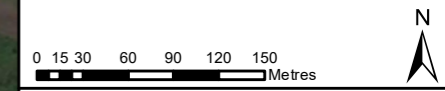
LEGEND

- ◆ BOREHOLE LOCATION
- GROUNDWATER CONTOUR
- SITE BOUNDARY

Groundwater elevation contours are based on groundwater elevation measurements taken from the following monitoring wells in December 2017:

- S1-BH06A
- S1-BH07AA
- S1-BH13AA
- S1-BH14A
- S1-BH05A
- S1-BH12A
- S2-BHA04D
- S2-BHA04S
- S2-BHA05A

NOTES



TITLE: GROUNDWATER CONTOUR PLAN DECEMBER 2017	
SITE: LAND WEST OF WARRENBY	
CLIENT: SOUTH TEES DEVELOPMENT CORPORATION	
PROJECT: 10035117	FIGURE 6a
DATE: 18/07/22	DRAWN BY: AP
DRG No.: 10035117-AUK-XX-XX-DR-ZZ-0467-P1 GIS	
SCALE: 1 : 5,000	PRINT: A3

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

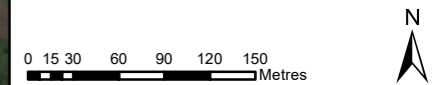




LEGEND

- ◆ BOREHOLE LOCATION
- GROUNDWATER CONTOUR
- SITE BOUNDARY

NOTES



TITLE: GROUNDWATER CONTOUR PLAN FEBRUAR 2018	
SITE: LAND WEST OF WARRENBY	
CLIENT: SOUTH TEES DEVELOPMENT CORPORATION	
PROJECT: 10035117	FIGURE 6b
DATE: 03/05/22	DRAWN BY: AP
DRG No.: 10035117-AUK-XX-DR-ZZ-0466-P1 GIS	
SCALE: 1 : 5,000	PRINT: A3

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





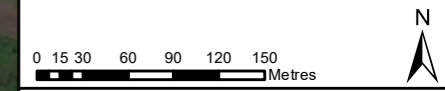
LEGEND

- ◆ BOREHOLE LOCATION
- GROUNDWATER CONTOUR
- SITE BOUNDARY

Groundwater elevation contours are based on groundwater elevation measurements taken from the following monitoring wells in February 2018:

- S1-BH04A
- S1-BH05A
- S1-BH06A
- S1-BH07AA
- S1-BH12A
- S1-BH13AA
- S1-BH14A
- S1-BH18A
- S1-BH19A
- S2-BHA06A
- S2-BHA04D
- S2-BHA04S
- S2-BHA05A

NOTES



TITLE: GROUNDWATER CONTOUR PLAN FEBRUAR 2018	
SITE: LAND WEST OF WARRENBY	
CLIENT: SOUTH TEES DEVELOPMENT CORPORATION	
PROJECT: 10035117	FIGURE 6b
DATE: 18/07/22	DRAWN BY: AP
DRG No.: 10035117-AUK-XX-DR-ZZ-0466-P1 GIS	
SCALE: 1 : 5,000	PRINT: A3

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

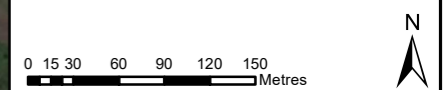




LEGEND

- ◆ BOREHOLE LOCATION
- GROUNDWATER CONTOUR
- SITE BOUNDARY

NOTES



TITLE: GROUNDWATER CONTOUR PLAN APRIL 2018	
SITE: LAND WEST OF WARRENBY	
CLIENT: SOUTH TEES DEVELOPMENT CORPORATION	
PROJECT: 10035117	FIGURE 6c
DATE: 03/05/22	DRAWN BY: AP
DRG No.: 10035117-AUK-XX-XX-DR-ZZ-0465-P1 GIS	
SCALE: 1 : 5,000	PRINT: A3

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





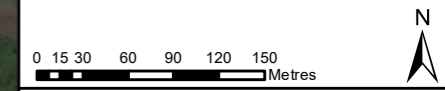
LEGEND

- ◆ BOREHOLE LOCATION
- GROUNDWATER CONTOUR
- SITE BOUNDARY

Groundwater elevation contours are based on groundwater elevation measurements taken from the following monitoring wells in April 2018:

- S2-BHA04D
- S2-BHA04S
- S2-BHA05A
- S2-BHA06A
- S1-BH04A
- S1-BH05A
- S1-BH06A
- S1-BH07AA
- S1-BH12A
- S1-BH13AA
- S1-BH14A
- S1-BH18A
- S1-BH19A

NOTES



TITLE: GROUNDWATER CONTOUR PLAN APRIL 2018	
SITE: LAND WEST OF WARRENBY	
CLIENT: SOUTH TEES DEVELOPMENT CORPORATION	
PROJECT: 10035117	FIGURE 6c
DATE: 18/07/22	DRAWN BY: AP
DRG No.: 10035117-AUK-XX-DR-ZZ-0465-P1 GIS	
SCALE: 1 : 5,000	PRINT: A3

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





LEGEND

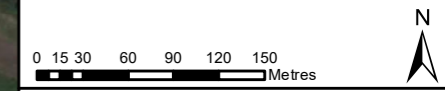
- ◆ BOREHOLE LOCATION
- GROUNDWATER CONTOUR
- SITE BOUNDARY

Groundwater elevation contours are based on groundwater elevation measurements taken from the following monitoring wells on 9th August 2021:

- LFBH01S
- MSIBH03S
- MSIBH04D
- MSIBH04S
- MSIBH05S
- MSIBH07D
- MSIBH07S
- MSIBH08D
- MSIBH09D
- MSIBH11D
- MSIBH11S
- MSIBH12S
- MSIBH13S
- MSIBH14A
- MSIBH15D
- MSIBH15S

NOTES

Where multiple groundwater elevation measurements have been taken in the Made Ground/Superficial at the same location, the contours have been drawn using an average of the measurements.



TITLE
GROUNDWATER CONTOUR PLAN
MADE GROUND AND SUPERFICIAL
9 AUGUST 2021

SITE :
LAND WEST OF WARRENBY

CLIENT :
SOUTH TEES
DEVELOPMENT CORPORATION

PROJECT : 10035117 **FIGURE 6d**

DATE : 18/07/22 **DRAWN BY :** BNB

DRG No. : 10035117-AUK-XX-DR-ZZ-0468-P1 GIS

SCALE : 1 : 5,000 **PRINT :** A3

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





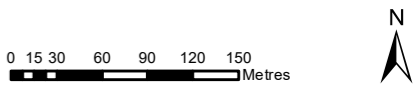
LEGEND

- ◆ BOREHOLE LOCATION
- GROUNDWATER CONTOUR
- SITE BOUNDARY

Groundwater elevation contours are based on groundwater elevation measurements taken from the following monitoring wells on 9th August 2021:

- LFBH01D
- MS/BH03D
- MS/BH05D
- MS/BH12D
- MS/BH13D
- MS/BH17D

NOTES



TITLE
**GROUNDWATER CONTOUR PLAN
 BEDROCK
 9 AUGUST 2021**

SITE :
LAND WEST OF WARRENBY

CLIENT :
**SOUTH TEES
 DEVELOPMENT CORPORATION**

PROJECT : **10035117** **FIGURE 6e**

DATE : 18/07/22 DRAWN BY : BNB

DRG No. : 10035117-AUK-XX-DR-ZZ-0469-P1 GIS

SCALE : **1 : 5,000** PRINT : **A3**

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





LEGEND

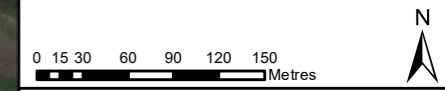
- ◆ BOREHOLE LOCATION
- GROUNDWATER CONTOUR
- SITE BOUNDARY

Groundwater elevation contours are based on groundwater elevation measurements taken from the following monitoring wells on 12th October 2021:

- LFBH01S
- MSIBH03S
- MSIBH04D
- MSIBH04S
- MSIBH05S
- MSIBH07D
- MSIBH08D
- MSIBH09D
- MSIBH11D
- MSIBH12S
- MSIBH13S
- MSIBH14A
- MSIBH15D
- MSIBH15S

NOTES

Where multiple groundwater elevation measurements have been taken in the Made Ground/Superficial at the same location, the contours have been drawn using an average of the measurements.



TITLE GROUNDWATER CONTOUR PLAN MADE GROUND AND SUPERFICIAL 12 OCTOBER 2021	
SITE : LAND WEST OF WARRENBY	
CLIENT : SOUTH TEES DEVELOPMENT CORPORATION	
PROJECT : 10035117	FIGURE 6f
DATE : 18/07/22	DRAWN BY : BNB
DRG No. : 10035117-AUK-XX-DR-ZZ-0470-P1 GIS	
SCALE : 1 : 5,000	PRINT : A3

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





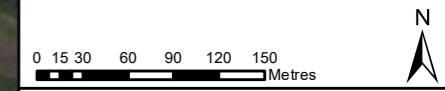
LEGEND

- ◆ BOREHOLE LOCATION
- GROUNDWATER CONTOUR
- SITE BOUNDARY

Groundwater elevation contours are based on groundwater elevation measurements taken from the following monitoring wells on 12th October 2021:

- LFBH01D
- MSBH03D
- MSBH05D
- MSBH12D
- MSBH13D
- MSBH17D

NOTES



TITLE GROUNDWATER CONTOUR PLAN BEDROCK 12 OCTOBER 2021	
SITE : LAND WEST OF WARRENBY	
CLIENT : SOUTH TEES DEVELOPMENT CORPORATION	
PROJECT : 10035117	FIGURE 6g
DATE : 18/07/22	DRAWN BY : BNB
DRG No. : 10035117-AUK-XX-DR-ZZ-0471-P1 GIS	
SCALE : 1 : 5,000	PRINT : A3

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





LEGEND

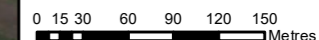
- ◆ BOREHOLE LOCATION
- GROUNDWATER CONTOUR
- SITE BOUNDARY

Groundwater elevation contours are based on groundwater elevation measurements taken from the following monitoring wells on 15th November 2021:

- LF/BH01S
- MS/BH03S
- MS/BH04D
- MS/BH04S
- MS/BH05S
- MS/BH07D
- MS/BH07S
- MS/BH08D
- MS/BH09D
- MS/BH11D
- MS/BH12S
- MS/BH13S
- MS/BH14A
- MS/BH15D
- MS/BH15S

NOTES

Where multiple groundwater elevation measurements have been taken in the Made Ground/Superficial at the same location, the contours have been drawn using an average of the measurements.



TITLE: **GROUNDWATER CONTOUR PLAN
MADE GROUND AND SUPERFICIAL
15 NOVEMBER 2021**

SITE: **LAND WEST OF WARRENBY**

CLIENT: **SOUTH TEES
DEVELOPMENT CORPORATION**

PROJECT: **10035117** **FIGURE 6h**

DATE: 18/07/22 DRAWN BY: BNB

DRG No.: 10035117-AUK-XX-DR-ZZ-0472-P1 GIS

SCALE: **1 : 5,000** PRINT: **A3**

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





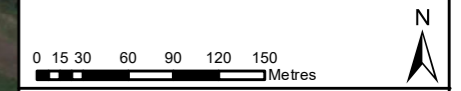
LEGEND

- ◆ BOREHOLE LOCATION
- GROUNDWATER CONTOUR
- SITE BOUNDARY

Groundwater elevation contours are based on groundwater elevation measurements taken from the following monitoring wells on 15th November 2021:

- LFBH01D
- MSBH03D
- MSBH05D
- MSBH12D
- MSBH13D
- MSBH17D

NOTES



TITLE	
GROUNDWATER CONTOUR PLAN BEDROCK 15 NOVEMBER 2021	
SITE :	
LAND WEST OF WARRENBY	
CLIENT :	
SOUTH TEES DEVELOPMENT CORPORATION	
PROJECT :	FIGURE 6i
DATE :	DRAWN BY :
18/07/22	BNB
DRG No. :	
10035117-AUK-XX-DR-ZZ-0473-P1 GIS	
SCALE :	PRINT :
1 : 5,000	A3

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





Legend

GI Layers

Visual Observation

- Sheen
- Tar
- Hydrocarbon Staining
- Hydrocarbon Staining and Sheen
- NAPL

Drawings

- STDC_Remediation_Boundary

Bing

Land West of Warrenby

Notes:

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CONTACT ARCADIS IN CASE OF ANY QUERIES.

Not all utilities shown

Title: Visual Evidence of Contamination

Site: Teesworks - Potential Net Zero Site

Client: South Tees Development Corporation

Project: 37774100


Figure 7

Date: 14/07/2022
 Drawn By: JALM
 DRG No: 10035117-AUK-XX-XX-DR-ZZ-0512-02-Net_Zero_Viz_Contam





Legend

 Red Line

Notes:
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 Label - Monitoring Well_Geology_Maximum Concentration.
 MG - Made Ground
 TFD - Tidal Flat Deposit
 GT - Clacial Till
 CONTACT ARCADIS IN CASE OF ANY QUERIES.

Title: Total Petroleum Hydrocarbons in Groundwater 2017-2021 - Superficial Deposits	
Site: Teesworks - Land West of Warrenby	
Client: South Tees Development Corporation	
Project: 37774100	Figure 8a
Date: 28/04/2022 Drawn By: JALM DRG No: 10035117-AUK-XX-XX-DR-ZZ-0529-01-TPH_Superficial	





Legend

 Red Line

Notes:

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Label - Monitoring Well_Geology_Maximum Concentration.

RMF - Redcar Mudstone Formation

CONTACT ARCADIS IN CASE OF ANY QUERIES.

Title: Total Petroleum Hydrocarbons in Groundwater 2021 - Bedrock

Site: Teesworks - Land West of Warrenby

Client: South Tees Development Corporation

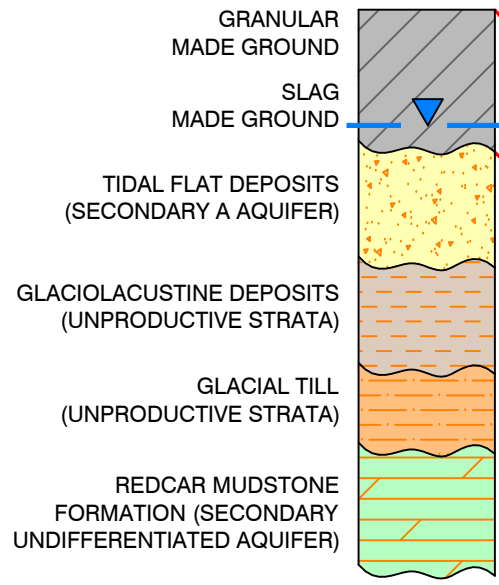
Project: 37774100

Figure 8b

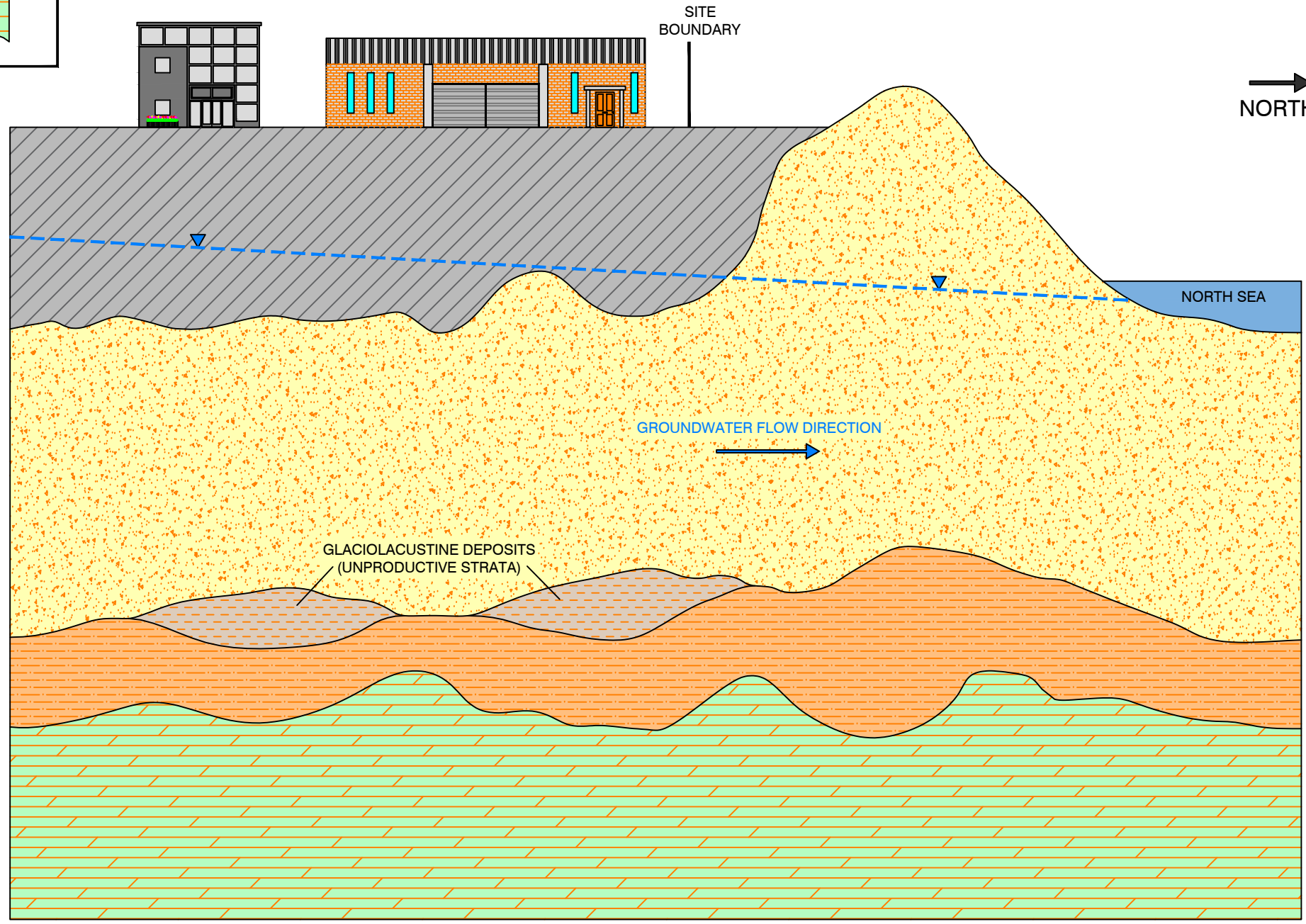
Date: 28/04/2022
 Drawn By: JALM
 DRG No: 10035117-AUK-XX-XX-DR-ZZ-0530-01-TPH_Bedrock



COMMERCIAL / INDUSTRIAL END USE CSM



CONCEPTUAL ZONE	PHYSICAL CHARACTERISTICS	JUSTIFICATION
SOURCE ZONE	MADE GROUND	REPRESENTATIVE OF DEPOSITS WITHIN WHICH THE MAJORITY OF IMPACTS ARE LOCATED
AQUIFER	SLIGHTLY SILTY SLIGHTLY GRAVELLY CLAY	REPRESENTATIVE OF THE DEPOSITS ENCOUNTERED BENEATH THE SITE, THROUGH WHICH OFF-SITE MIGRATION OF GROUNDWATER IS ANTICIPATED TO TAKE PLACE



KEY
 GROUNDWATER ELEVATION

NOTES

INDICATIVE - NOT TO SCALE
 MADE GROUND IS CONSIDERED A SOURCE OF DIFFUSE CONTAMINANTS - NOT DEPICTED FOR SIMPLICITY.

REV	DATE	COMMENT	CAD

TITLE: CONCEPTUAL SITE MODEL CROSS SECTION
 SITE: LAND WEST OF WARRENBY
 CLIENT: SOUTH TEES DEVELOPMENT CORPORATION
 PROJECT: 10035117 FIGURE 9
 DATE: 07/01/22 DRAWN: BNB REV: -
 DRG.No.: 10035117-AUK-XX-XX-DR-ZZ-0461-P1 PRINT: A3



Appendix C

Study Limitations

Study Limitations

IMPORTANT. This appendix should be read before reliance is placed on any of the information, opinions, advice, recommendations or conclusions contained in this report.

1 This report has been prepared by Arcadis (UK) Limited ('Arcadis'), with all reasonable skill, care and diligence within the terms of the Appointment and with the resources and manpower agreed with South Tees Development Corporation (UK) Limited (the 'Client'). Arcadis does not accept responsibility for any matters outside the agreed scope.

2 This report has been prepared for the sole benefit of the Client unless agreed otherwise in writing. otherwise in writing. The contents of this report may not be used or relied upon by any person other than this party without the express written consent and authorisation of Arcadis.

3 Unless stated otherwise, no consultations with authorities or funders or other interested third parties have been carried out. Arcadis is unable to give categorical assurance that the findings will be accepted by these third parties as such bodies may have unpublished, more stringent objectives. Further work may be required by these parties.

4 All work carried out in preparing this report has used, and is based on, Arcadis' professional knowledge and understanding of current relevant legislation. Changes in legislation or regulatory guidance may cause the opinion or advice contained in this report to become inappropriate or incorrect. In giving opinions and advice, pending changes in legislation, of which Arcadis is aware, have been considered. Following delivery of the report, Arcadis has no obligation to advise the Client or any other party of such changes or their repercussions.

5 This report is only valid when used in its entirety. Any information or advice included in the report should not be relied upon until considered in the context of the whole report.

6 Whilst this report and the opinions made are correct to the best of Arcadis' belief, Arcadis cannot guarantee the accuracy or completeness of any information provided by third parties. provided by third parties. Arcadis has taken reasonable steps to ensure that the information sources used for this assessment provided accurate information, and has therefore assumed this to be the case.

7 This report has been prepared based on the information reasonably available during the project programme. All information relevant to the scope may not have been received.

8 This report refers, within the limitations stated, to the condition of the site at the time of the inspection. No warranty is given as to the possibility of changes in the condition of the site since the time of the investigation.

9 The content of this report represents the professional opinion of experienced environmental consultants. Arcadis

does not provide specialist legal or other professional advice. The advice of other professionals may be required.

10 Where intrusive investigation techniques have been employed they have been designed to provide a reasonable level of assurance on the conditions. Given the discrete nature of sampling, no investigation technique is capable of identifying all conditions present in all areas. In some cases the investigation is further limited by site operations, underground obstructions and above ground structures. Unless otherwise stated, areas beyond the boundary of the site have not been investigated.

11 If below ground intrusive investigations have been conducted as part of the scope, safe location of exploratory holes has been carried out with reference to the Arcadis ground disturbances procedure. No guarantee can be given that all services have been identified. Additional services, structures or other below ground obstructions, not indicated on the drawing, may be present on site.

12 Unless otherwise stated the report provides no comment on the nature of building materials, operational integrity of the facility or on any regulatory compliance issues.

13 Unless otherwise stated, an inspection of the site has not been undertaken and there may be conditions present at the site which have not been identified within the scope of this assessment.

14 Unless otherwise stated, samples from the site (soil, groundwater, building fabric or other samples) have not been obtained.

15 Arcadis has relied upon the accuracy of documents, oral information and other material and information provided by the Client and others, and Arcadis assumes no liability for the accuracy of such data, although in the event of apparent conflicts in information, Arcadis would highlight this and seek to resolve.

16 Unless otherwise stated, the scope of works has not included an environmental compliance review, health and safety compliance review, hazardous building materials assessment, interviews or contacting Local Authority, requests for information to the petroleum officer, sampling or analyses of soil, ground water, surface water, air or hazardous building materials or a chain of title review.

17 Unless otherwise stated, this assessment has considered the ongoing use of the site and has not been prepared for the purposes of redevelopment which may act as a trigger for site investigation and remediation works not needed for ongoing use

Appendix D

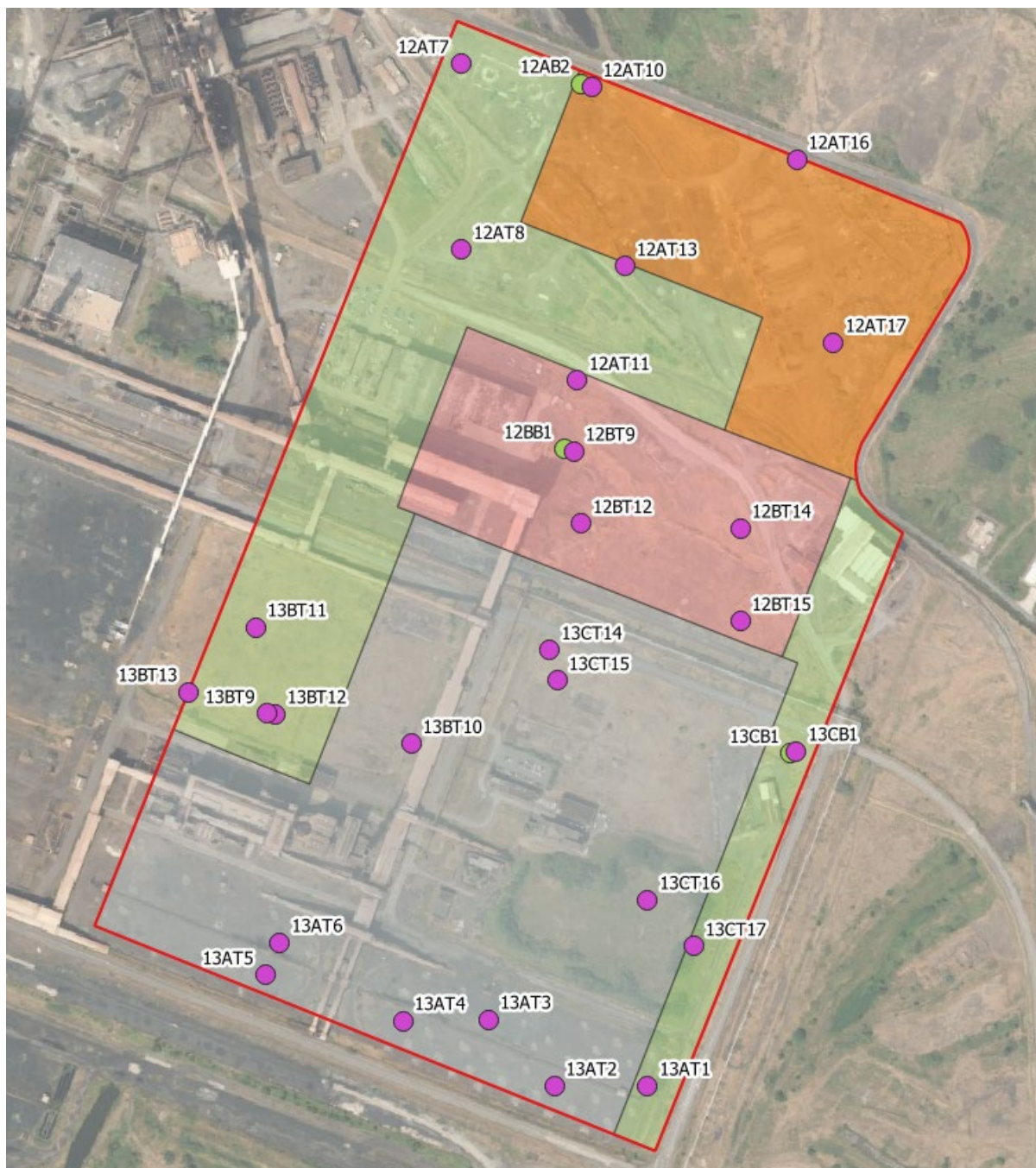
Summary of Previous Site Investigation Data

Appendix D.1 - Report Reference:

- Soil and Groundwater Baseline Characterisation Study, Teesside Works, prepared by Enviros for Corus UK Ltd

Information Summarised: Exploratory Hole Location Plan, Trial Pit Logs, Borehole Logs, Groundwater Contour Plan, Soil Summary, Groundwater Summary

Historic locations planning boundary overlay



Soils Summary

1. Soils analytical results screened to current risk based criteria as part of Appendix J
2. Soil sampling analytical results and certificates presented in Appendix 6 of the report

Soil Leachate

No testing

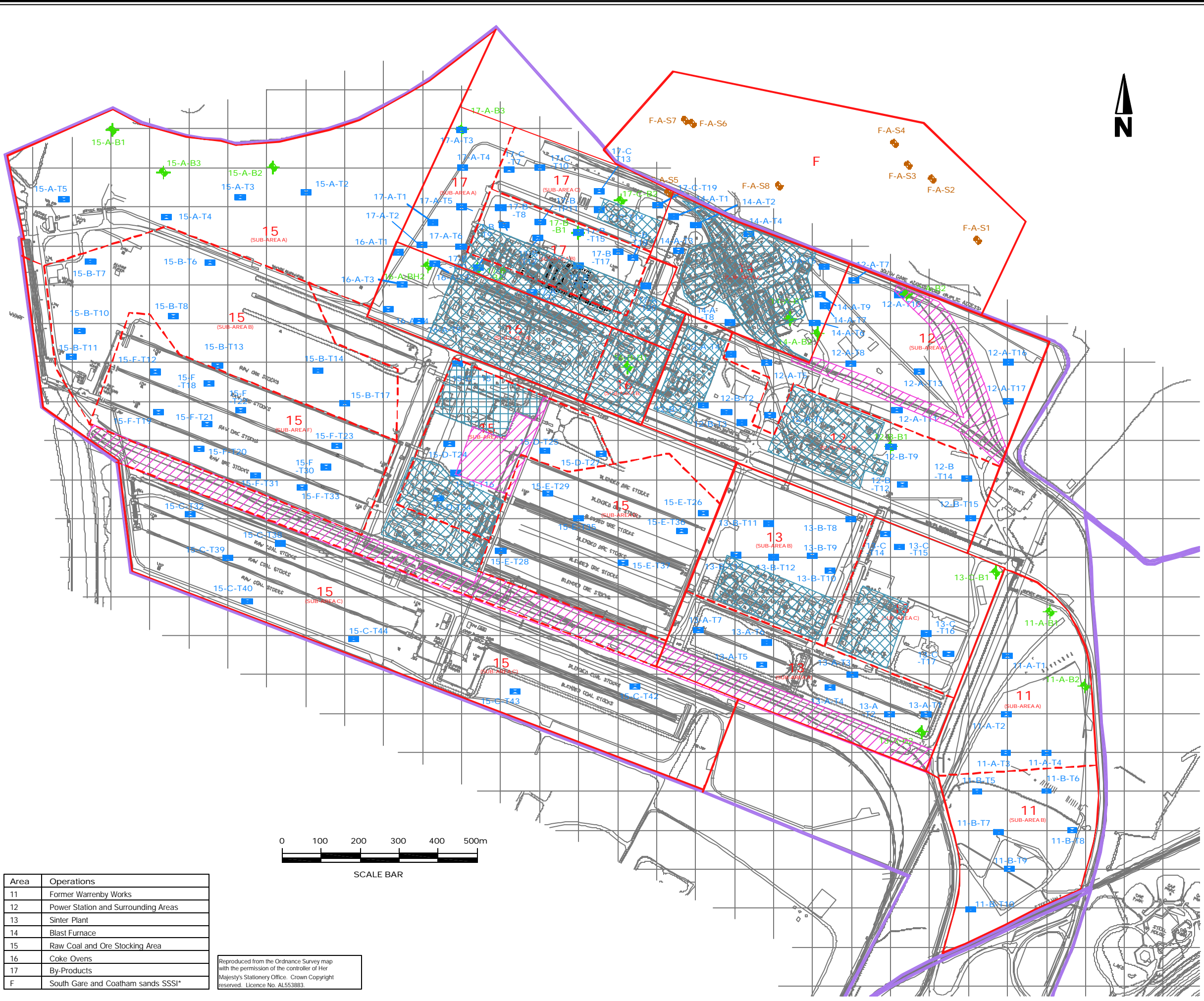
Groundwater Summary

1. Number of monitoring visits – 1 (April 2004)
2. Number of sampling visits - 1 (April 2004)
3. Groundwater sampling results and certificates presented in Appendix 9 of the report
4. Analytes tested
 - a. Metals (Ni, Cr, Cd, Cu, Pb, Zn, As, B, Hg, Se, V)
 - b. pH
 - c. Total TPH
 - d. Gasoline Range Organics
 - e. Benzene, toluene, ethylbenzene, and xylene
 - f. Phenol index
 - g. Cyanide (total and free)
 - h. Sulphate and sulphide
5. Groundwater analytical results screened to current risk based criteria as part of the Appendix K
6. Groundwater Elevation from Table 6 of the report is reproduced below, relevant wells are highlighted blue.

Table 6 Groundwater Monitoring Results – Redcar Site

Location	Groundwater (mAOD)	Groundwater (mbgl)	Borehole Depth (mAOD)	Borehole Depth (mbgl)	pH	EC (µS)
11AB1	4.13	3.13	0.49	6.67	8.82	826.2
11AB2	3.28	1.92	-0.50	5.70	6.68	1,125
12AB2	3.73	3.65	2.28	5.10	6.35	1,310
12BB1	3.79	3.87	2.29	5.37	-	2,330
13AB2	4.79	2.55	1.14	6.20	10.12	1,919
13CB1	4.15	3.66	1.75	6.06	8.32	985.1
14AB1	3.85	3.70	2.07	5.48	-	-
14AB2	3.93	3.90	2.09	5.74	-	1,330
15AB1	0.96	3.30	0.01	4.25	-	-
15AB2	2.27	5.08	0.35	7.00	7.82	613
15AB3	2.21	4.90	-1.79	8.90	-	820
16AB2	2.56	4.70	0.23	7.03	11.18	1,665
16BB1	4.07	3.35	1.90	5.52	9.75	1,390
17BB1	3.78	3.50	2.98	4.30	7.42	1,385
17CB2	3.64	3.80	1.13	6.31	7.56	902
17AB3	2.88	4.30	1.16	6.02	7.38	1,215
17AB4	3.66	3.61	3.33	3.94	-	-

File name: JSF1823.dwg
 Plot date: Jun 22, 2004, 10:46am
 Ref: I:\G\CAD\TEAM\Projects\CO0520017A



- KEY:**
- Proposed Teesco Boundaries
 - Enviro Sampling Boundaries
 - ◆ Borehole
 - Surface Water
 - Trial Pit
 - Area of Plant
 - Area of Mobile Tools

NOTES:

1. Shaded zones indicate larger areas not accessible for sampling. Selected locations chosen on the basis on Enviro sampling criteria and Corus health and safety considerations.

REV.	DESCRIPTION	DATE



REDCAR

FIGURE 3
EXPLORATORY HOLE
LOCATION PLAN

SCALE	1:6,500	CAW	CO0520017A
CONTENT	RLP	DRAWN	JSF
CHECKED		DATE	JUNE 2004

Area	Operations
11	Former Warrenby Works
12	Power Station and Surrounding Areas
13	Sinter Plant
14	Blast Furnace
15	Raw Coal and Ore Stocking Area
16	Coke Ovens
17	By-Products
F	South Gare and Coatham sands SSSI*

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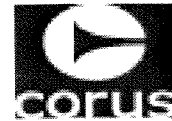




2. TRIAL PIT AND BOREHOLE LOGS, REDCAR



Enviros Consulting Ltd
 Sanderson House, Station Road
 Horsforth, Leeds
 LS18 5NT
 Tel: 0113 239 5600



Trialpit No
12AT7
 Sheet 1 of 1

Project Name Baseline site investigation	Project No. CO05200017	Co-ords: 56900E - 25800N Level: -	Date 16/04/2004
Location: Teesside	Dimensions: 3.00m Depth 4.00m		Scale 1:25
Client: Corus Plc			Logged By LaQ

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.02			TOPSOIL: grass, rootlets and brown gravelly topsoil.		
			MADE GROUND: Loose gravel to boulder sized fragments of slag, and occasional brick fragments, in a loose brown slag matrix.	0.25	
1.0					
2.0					
3.0					
4.0	4.00		Trialpit Complete at 4.00 m	4.00	

Remarks:

Project Name
 Baseline Site Investigation

Project No.
 CO0520017E

Co-ords: 56900E - 25600N
 Level: -

Date
 16/04/2004

Location: Teesside

Dimensions: 3.00m


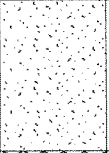

Scale
 1:25

Client: Corus Plc

Depth
 4.20m

1.00m

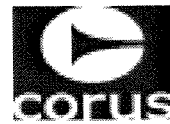
Logged By
 KAB

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.20			MADE GROUND. Slag stone cobbles in a compacted dust matrix with metal waste		
			CONCRETE - reinforced		
0.70			MADE GROUND. Rubble, brick furnace bricks, concrete, and slaf and metallic scrap in a sandy rubble matrix		
4.20			Trialpit Complete at 4.20 m	4.20	

Remarks:



Enviros Consulting Ltd
 Sanderson House, Station Road
 Horsforth, Leeds
 LS18 5NT
 Tel: 0113 239 5600




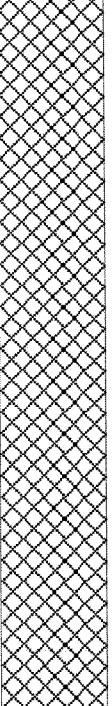
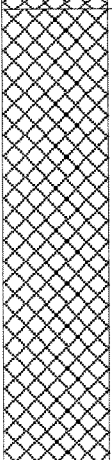
Trialpit No
12AT10
 Sheet 1 of 1

Project Name Baseline site investigation	Project No. CO05200017	Co-ords: 57040E - 25775N Level: -	Date 16/04/2004
Location: Teesside	Dimensions: 3.00m Depth 4.00m		Scale 1:25
Client: Corus Plc			Logged By LaQ

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.15			TOPSOIL: grass, rootlets and gravelly topsoil.		
			MADE GROUND: Loose gravel to boulder sized fragments of slag in a loose grey slag matrix	0.30	
4.0	4.00		Trialpit Complete at 4.00 m	4.00	

Remarks:

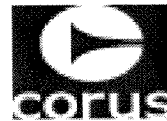
Project Name Baseline Site Report	Project No. CO0520017B	Co-ords: 57025E - 25459N Level: -	Date 16/04/2004
Location: Teesside	Dimensions: 4.00m Depth 4.00m		Scale 1:25
Client: Corus Plc			Logged By GAD

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.10			Brown moist topsoil with many rootlets(MADE GROUND)		
			Brown orange cream angular cobbles of brick and slag with much fine gravel of slag ash and brick(MADE GROUND)	0.30	
2.50			Brown red grey orange cobbles and boulders of brick and slag with much gravel. Gravel is fine to medium.(MADE GROUND)		
4.00			Trialpit Complete at 4.00 m	4.00	

Remarks: Lumps of metal piping from 3.4m bgl



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Trialpit No
12AT13
 Sheet 1 of 1

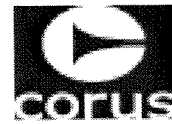
Project Name Baseline Site Report	Project No. CO0520017B	Co-ords: 57076E - 25582N Level: -	Date 16/04/2004
Location: Teesside	Dimensions: 3.00m Depth 4.00m		Scale 1:25
Client: Corus Plc			Logged By GAD

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
			Grey white black angular and rounded cobbles and boulders of slag and concrete slabs(MADE GROUND)	0.20	
1.0					
2.0					
3.0					
4.0	4.00		Trialpit Complete at 4.00 m	4.00	

Remarks:



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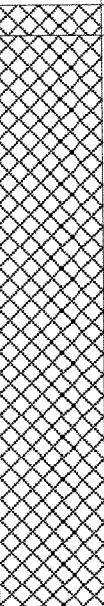
Trialpit No
12AT16
 Sheet 1 of 1

Project Name Baseline Site Report		Project No. CO0520017B	Co-ords: 57261E - 25697N Level: -	Date 16/04/2004
Location: Teesside		Dimensions: 3.00m Depth 2.20m		Scale 1:25
Client: Corus Plc				Logged By GAD

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.10			Brown loose topsoil with fine rootlets(MADE GROUND)		
			Grey white angular boulders of slag with much golden medium to coarse sand and gravel(MADE GROUND)	0.30	
2.20				2.20	▼
Trialpit Complete at 2.20 m					

Remarks: Groundwater strike - 2m
 Water strike at 2.0m filling hole up rapidly

Project Name Baseline Site Report	Project No. CO0520017B	Co-ords: 57300E - 25500N Level: -	Date 16/04/2004
Location: Teesside	Dimensions: 3.50m Depth 2.00m		Scale 1:25
Client: Corus Plc			Logged By GAD

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.10			Brown loose topsoil with many rootlets(MADE GROUND) Brown grey angular cobbles and coarse sandy gravel of ash brick and clinker(MADE GROUND)	0.25	
2.00			Trialpit Complete at 2.00 m		▼

Remarks: Groundwater strike - 1.2m
 Hole filled with water.Oily odour from 1.5-2m bgl but no visual evidence

Project Name
 Baseline site investigation

Project No.
 CO05200017

Co-ords: 57021E - 25383N
 Level: -

Date
 20/04/2004

Location: Teesside

Dimensions: 3.50m


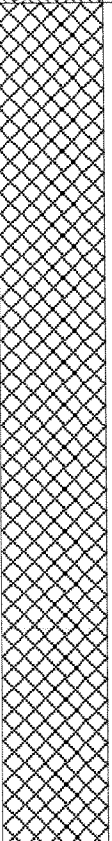
Scale
 1:25

Client: Corus Plc

Depth
 4.00m


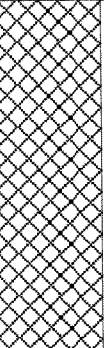
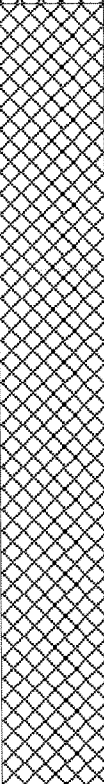
1.50m

Logged By
 GAD

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.20			Loose brown topsoil with many rootlets (TOPSOIL)		
			Brown orange yellow grey angular cobbles and boulders of slag and furnace brick (MADE GROUND)	0.50	
3.00			Orange red very sandy gravel of brick and slag with many cobbles (MADE GROUND)	3.20	
4.00			Trialpit Complete at 4.00 m		

Remarks:

Project Name Baseline site investigation	Project No. CO05200017	Co-ords: 57029E - 25305N Level: -	Date 20/04/2004
Location: Teesside	Dimensions: 4.00m Depth 4.00m		Scale 1:25
Client: Corus Plc			Logged By GAD

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.20			Loose brown topsoil with many rootlets (TOPSOIL)		
			Orange grey white yellow angular coarse sandy gravel of brick and slag with many cobbles and ferrous metal debris (MADE GROUND)	0.40	
1.40			Bright orange brown angular fine to medium sandy gravel of brick and slag with rare cobbles and boulders. Sand is medium to coarse. (MADE GROUND)		
4.00			Trialpit Complete at 4.00 m	4.00	

Remarks:

Project Name
 Baseline site investigation

Project No.
 CO05200017

Co-ords: 57200E - 25300N
 Level: -

Date
 20/04/2004

Location: Teesside

Dimensions: 3.50m


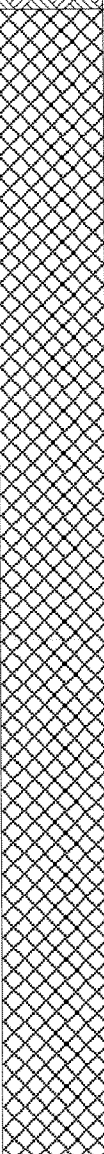
Scale
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Client: Corus Plc

Depth
 4.00m

1.50m

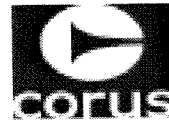
Logged By
 GAD

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.20			Loose brown moist topsoil with many rootlets (TOPSOIL)		
			Black orange angular cobbles and boulders of brick and slag with much ferrous metal debris. (MADE GROUND)	0.30	
4.00			Trialpit Complete at 4.00 m	3.90	

Remarks:



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Trialpit No
12BT15
 Sheet 1 of 2

Project Name
 Baseline Site Investigation

Project No.
 CO0520017E

Co-ords: 57200E - 25200N
 Level: -

Date
 21/04/2004

Location: Teesside

Dimensions: 3.00m

Scale
 1:25

Client: Corus Plc

Depth
 5.70m

1.00m

Logged By
 KAB

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.20			TOPSOIL grass and roots		
			MADE GROUND. Steel making bi-products in a black gravelly matrix	1.00	
1.0					
2.0					
3.0					
4.0					▼

Continued next sheet

Remarks: Groundwater strike - 4m
 Sample slightly mixed with fall in from overlying groun



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Trialpit No
12BT15
 Sheet 2 of 2

Project Name Baseline Site Investigation	Project No. CO0520017E	Co-ords: 57200E - 25200N Level: -	Date 21/04/2004
Location: Teesside	Dimensions: 3.00m Depth 5.70m		Scale 1:25
Client: Corus Plc			Logged By KAB

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
			MADE GROUND. Steel making bi-products in a black gravelly matrix		
5.50			Wet yellow SAND	5.60	
5.70			Trialpit Complete at 5.70 m		

Remarks: Groundwater strike - 4m
 Sample slightly mixed with fall in from overlying ground

Project Name
 Baseline Site Report

Project No.
 CO0520017B

Co-ords: 57100E - 24700N
 Level: -

Date
 13/04/2004

Location: Teesside

Dimensions: 3.50m

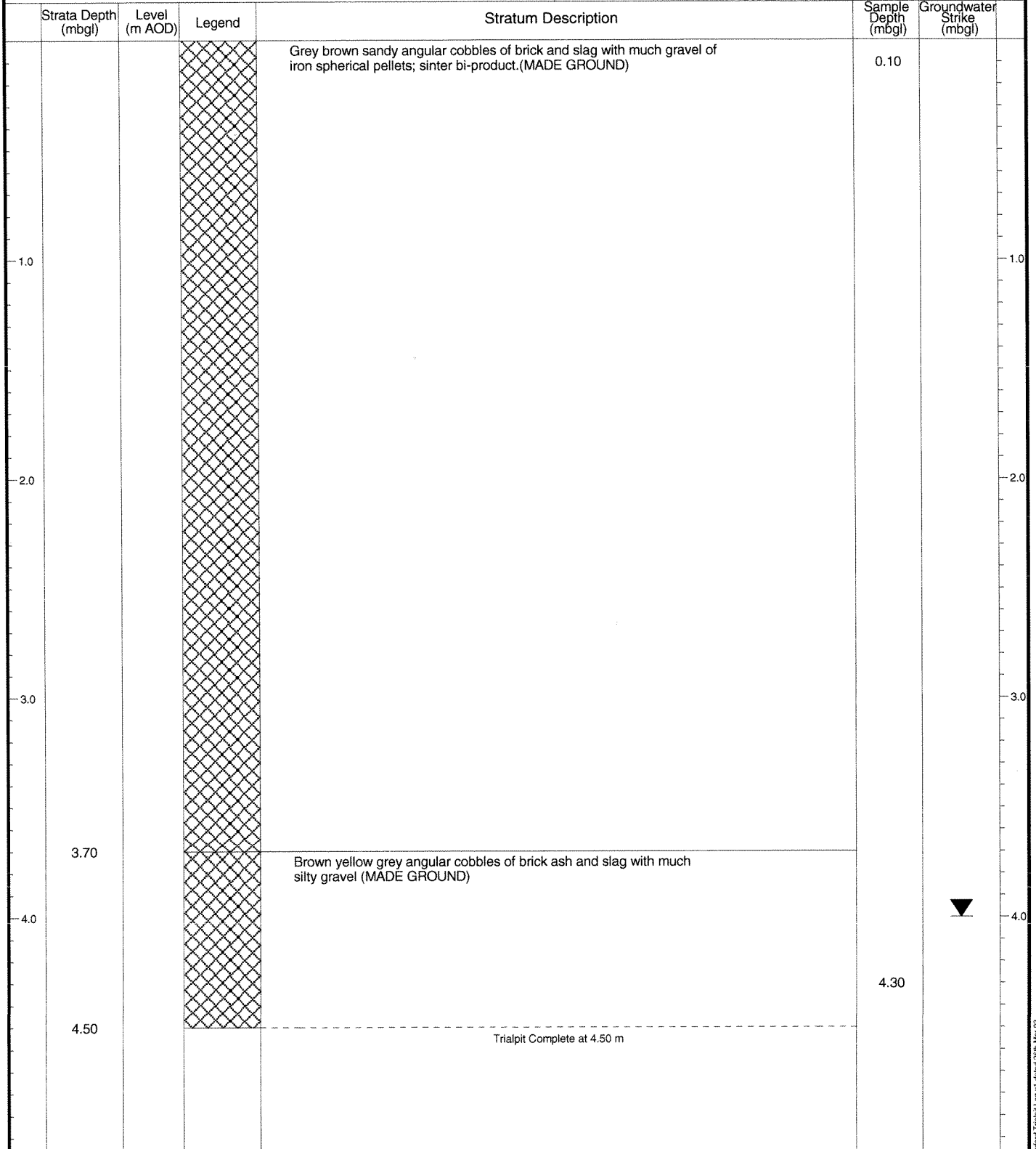
Scale
 1:25

Client: Corus Plc

Depth
 4.50m

1.50m

Logged By
 GAD



Remarks: Groundwater strike - 4m
 Stale organic odour at 4.0-4.5



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Trialpit No
13AT2
 Sheet 1 of 1

Project Name
 Baseline Site Report

Project No.
 CO0520017B

Co-ords: 57000E - 24700N
 Level: -

Date
 13/04/2004

Location: Teesside

Dimensions: 3.50m

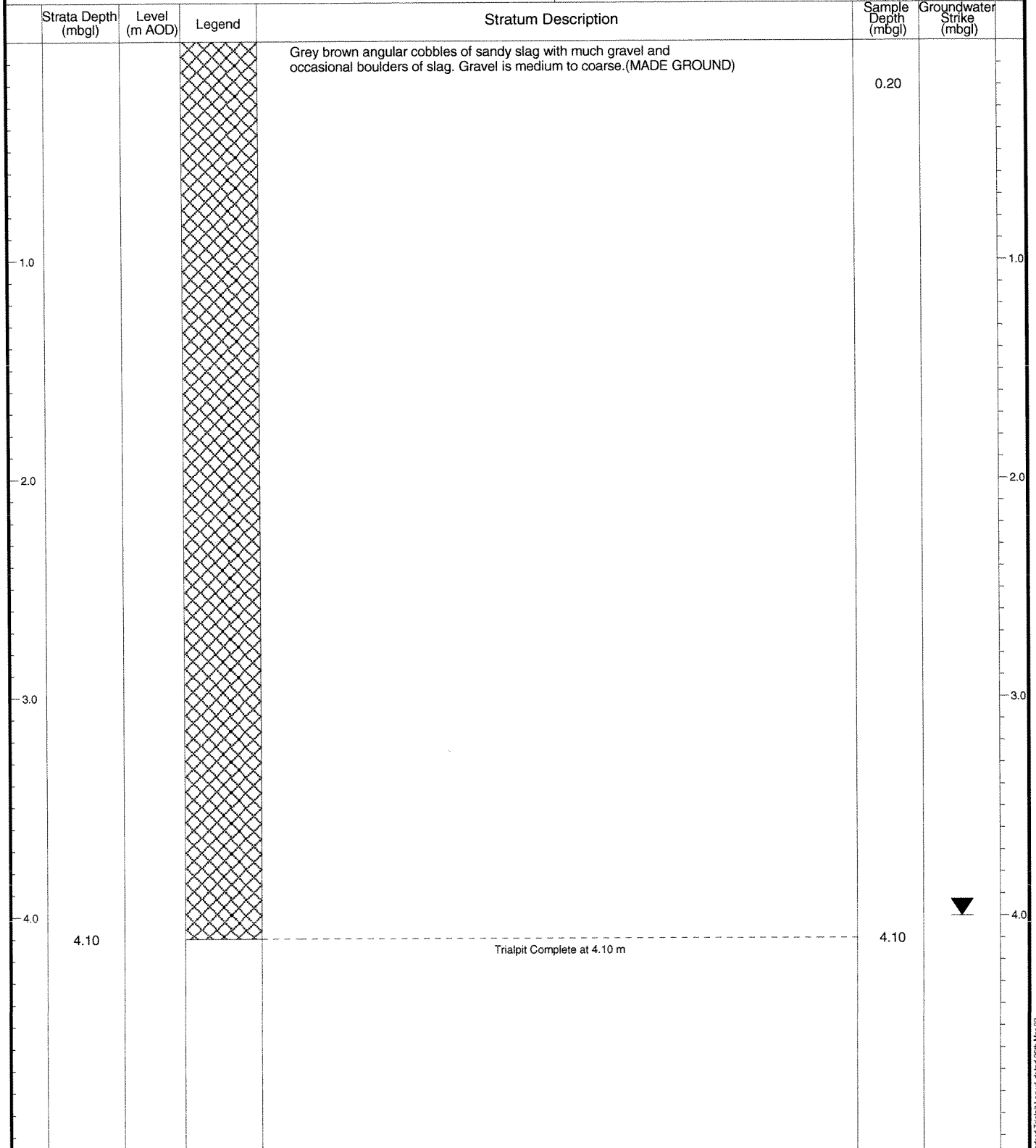
Scale
 1:25

Client: Corus Plc

Depth
 4.10m

1.50m

Logged By
 GAD



Remarks: Groundwater strike - 4m
 V damp at 3.5 - 4.0m. Water seeping at 4.0m (~base)



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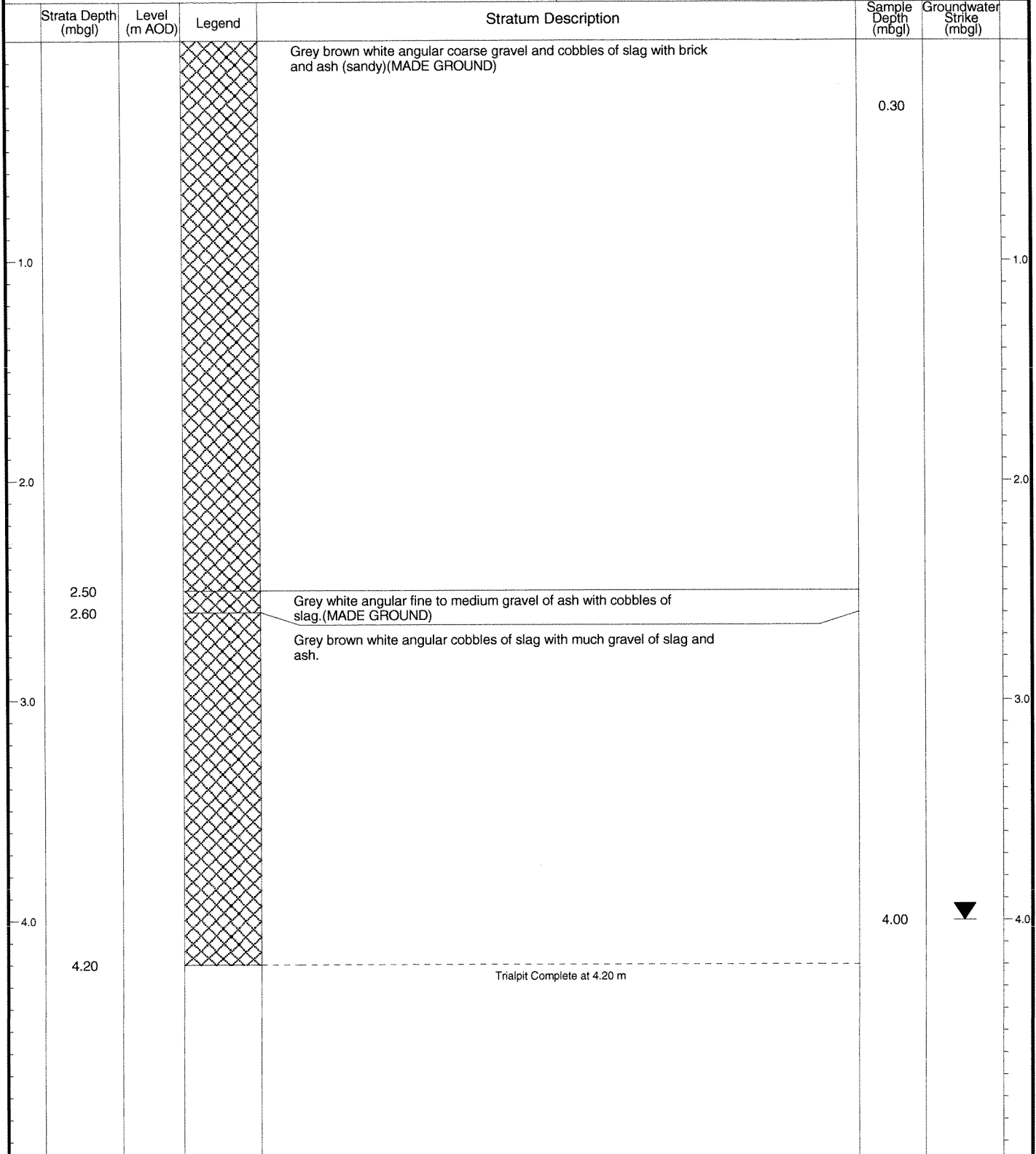
Trialpit No
13AT3
 Sheet 1 of 1

Project Name Baseline Site Report	Project No. CO0520017B	Co-ords: 56929E - 24771N Level: -	Date 14/04/2004
Location: Teesside	Dimensions: 4.00m Depth 4.00m		Scale 1:25
Client: Corus Plc			Logged By GAD

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
			White yellow orange gey brown angular cobbles of brick slag and ash with much gravel. Gravel is medium to coarse occasional cobbles of slag.(MADE GROUND)	0.20	
			Brown red very sandy angular cobbles and boulders of slag and brick with much fine gravel(MADE GROUND)		
4.00			Trialpit Complete at 4.00 m	4.00	

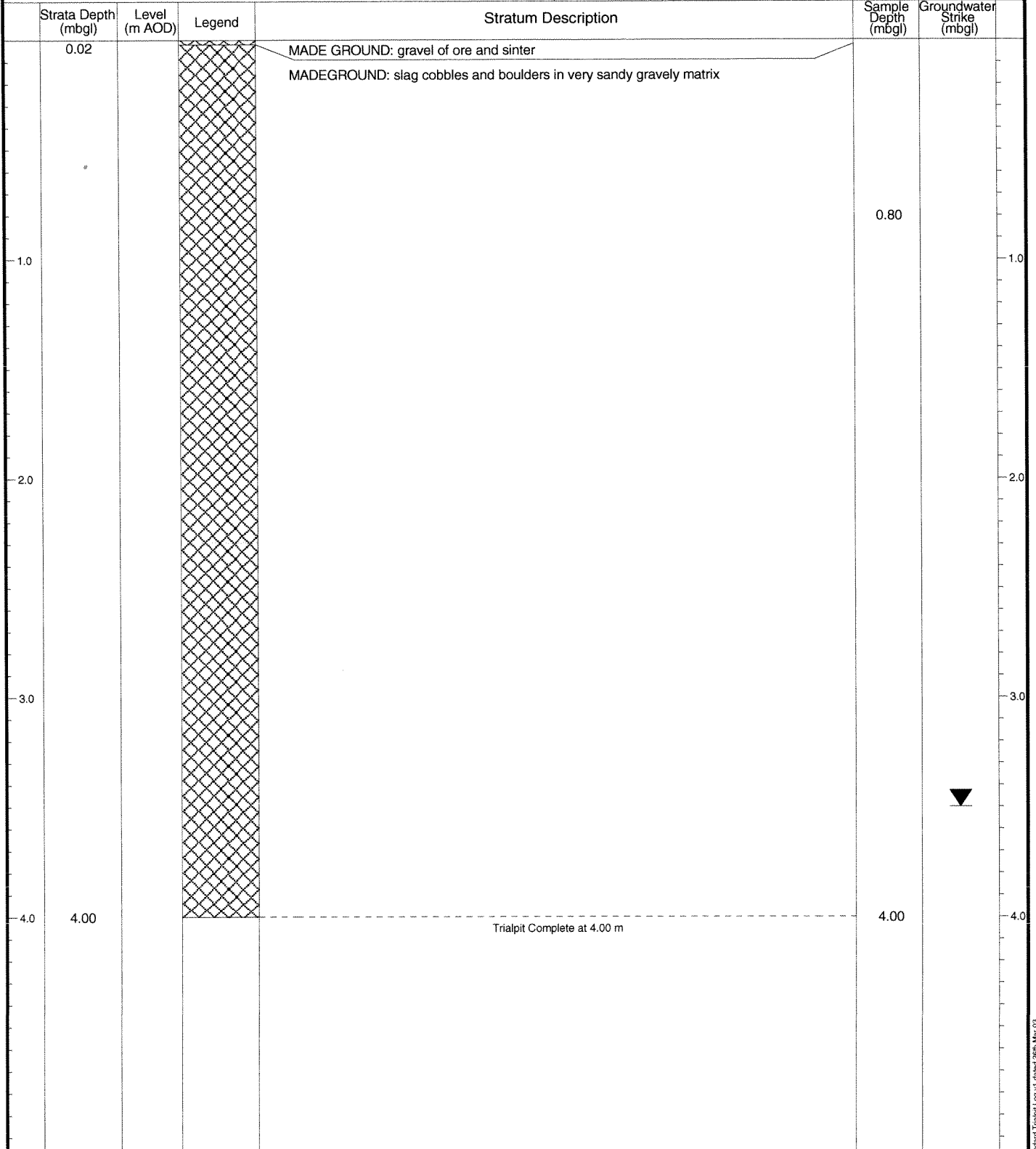
Remarks: Moist between 2.8 and 4.0m bgl

Project Name Baseline Site Report	Project No. CO0520017B	Co-ords: 56837E - 24769N Level: -	Date 14/04/2004
Location: Teesside	Dimensions: 3.50m Depth 4.20m		Scale 1:25
Client: Corus Plc			Logged By GAD



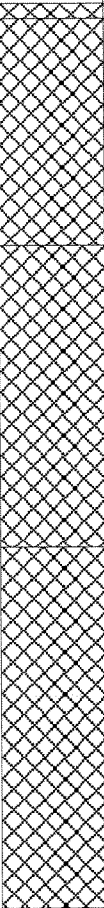
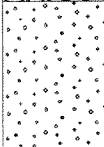
Remarks: Groundwater strike - 4m
 Hard slag at 3.0m - peckerWater seeping in at 4.0m; wet from approximately 3.8mOily / organic odour at base, no oil present and no oilyt sheen.

Project Name Baseline site investigation	Project No. CO05200017	Co-ords: 46689E - 24819N Level: -	Date 15/04/2004
Location: Teesside	Dimensions: 3.00m Depth 4.00m		Scale 1:25
Client: Corus Plc			Logged By KaB



Remarks:

Project Name Baseline Site Investigation	Project No. CO0520017E	Co-ords: 56705E - 24854N Level: -	Date 13/04/2004
Location: Teesside	Dimensions: 3.00m Depth 3.50m		Scale 1:25
Client: Corus Plc			Logged By KAB

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.05			MADE GROUND. Gravel of coal and sinter MADE GROUND. Slag and coal gravel and cobbles and slag boulders in a coal dust matrix		
0.80			MADE GROUND. Cobbles and boulders of slag in a loose slag dust		
1.80			MADE GROUND. Cobbles and boulders of slag in a very sandy/gravelly matrix	1.80	
3.00			Slightly sandy mixed GRAVEL with frequent mixed cobbles	3.30	
3.50			Trialpit Complete at 3.50 m		

Remarks:

Project Name
Baseline Site Investigation

Project No.
CO0520017H

Co-ords: 56690E - 25100N
Level: -

Date
14/04/2004

Location: Teesside

Dimensions: 3.00m




Scale
1:25

Client: Corus Plc

Depth
0.60m

1.00m

Logged By
KAB

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.05			Grass topsoil and rootlets	0.10	
			Slag gravel and cobbles in a sandy gravelly ash		
0.35			Firm cohesive red brown mottled grey gravelly sandy CLAY with occasional rootlets stained black with H.C	0.40	
0.60			Trialpit Complete at 0.60 m		

Remarks:



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Trialpit No
13BT10
 Sheet 1 of 1

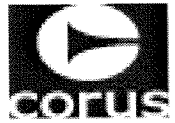
Project Name Baseline Site Report	Project No. CO0520017B	Co-ords: 56846E - 25068N Level: -	Date 14/04/2004
Location: Teesside	Dimensions: 4.00m Depth 1.80m		Scale 1:25
Client: Corus Plc			Logged By GAD

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.10			Brown moist gravelly topsoil with rootlets(MADE GROUND)	0.20	
			Grey brown angular cobbles of slag(MADE GROUND)		
0.50			Firm brown slightly gravelly peaty CLAY		
1.80			Trialpit Complete at 1.80 m	1.80	

Remarks:



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Trialpit No
13BT11
 Sheet 1 of 1

Project Name Baseline Site Investigation	Project No. CO0520017E	Co-ords: 56679E - 25194N Level: -	Date 14/04/2004
Location: Teesside	Dimensions: 3.00m Depth 0.60m		Scale 1:25
Client: Corus Plc			Logged By KAB

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.05			TOPSOIL grass and rootlets		
0.20			MADE GROUND. Coal cobbles in a loose topsoil	0.20	
			MADE GROUND. Cobbles of slag in a sandy matrix		
0.40			Firm friable brown very gravelly very sandy mottled grey CLAY	0.50	
0.60			Trialpit Complete at 0.60 m		
1.0					
2.0					
3.0					
4.0					

Remarks:



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Trialpit No
13BT12
 Sheet 1 of 1

Project Name: Baseline Site Report
 Project No.: CO0520017B
 Co-ords: 56700E - 25100N
 Level: -
 Date: 14/04/2004

Location: Teesside
 Dimensions: 3.50m
 Depth: 2.00m
 Scale: 1:25

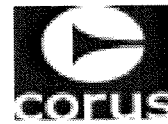
Client: Corus Plc
 Logged By: GAD

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.10			Brown moist topsoil with many rootlets		
			Grey brown angular and rounded fine to medium gravel of ash and slag(MADE GROUND)	0.30	
1.10			Dark brown firm moist very gravelly CLAY		
2.00			Trialpit Complete at 2.00 m	2.00	1.70

Remarks: Groundwater strike - 1.7m
 Water infilling hole at 1.7m bgl.Oily / diesel skim on surfaceVery oily and black at 2m bgl, strong oily odour



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Trialpit No
13BT13
 Sheet 1 of 1

Project Name Baseline Site Report	Project No. CO0520017B	Co-ords: 56607E - 25124N Level: -	Date 14/04/2004
Location: Teesside	Dimensions: 4.00m Depth 3.50m		Scale 1:25
Client: Corus Plc		1.00m	Logged By GAD

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.10			Brown moist topsoil with many rootlets(MADE GROUND)		
			Brown red grey cream angular and rounded cobbles and boulders of slag with much very sandy gravel of slag ash and brick(MADE GROUND)	0.40	
1.0					
2.0					
3.0					
3.50				3.50	
4.0					

Trialpit Complete at 3.50 m

Remarks: Groundwater strike - 2.5m

Project Name
 Baseline site investigation

Project No.
 CO05200017

Co-ords: 57260E - 25060N
 Level: -

Date
 14/04/2004

Location: Teesside

Dimensions: 3.00m

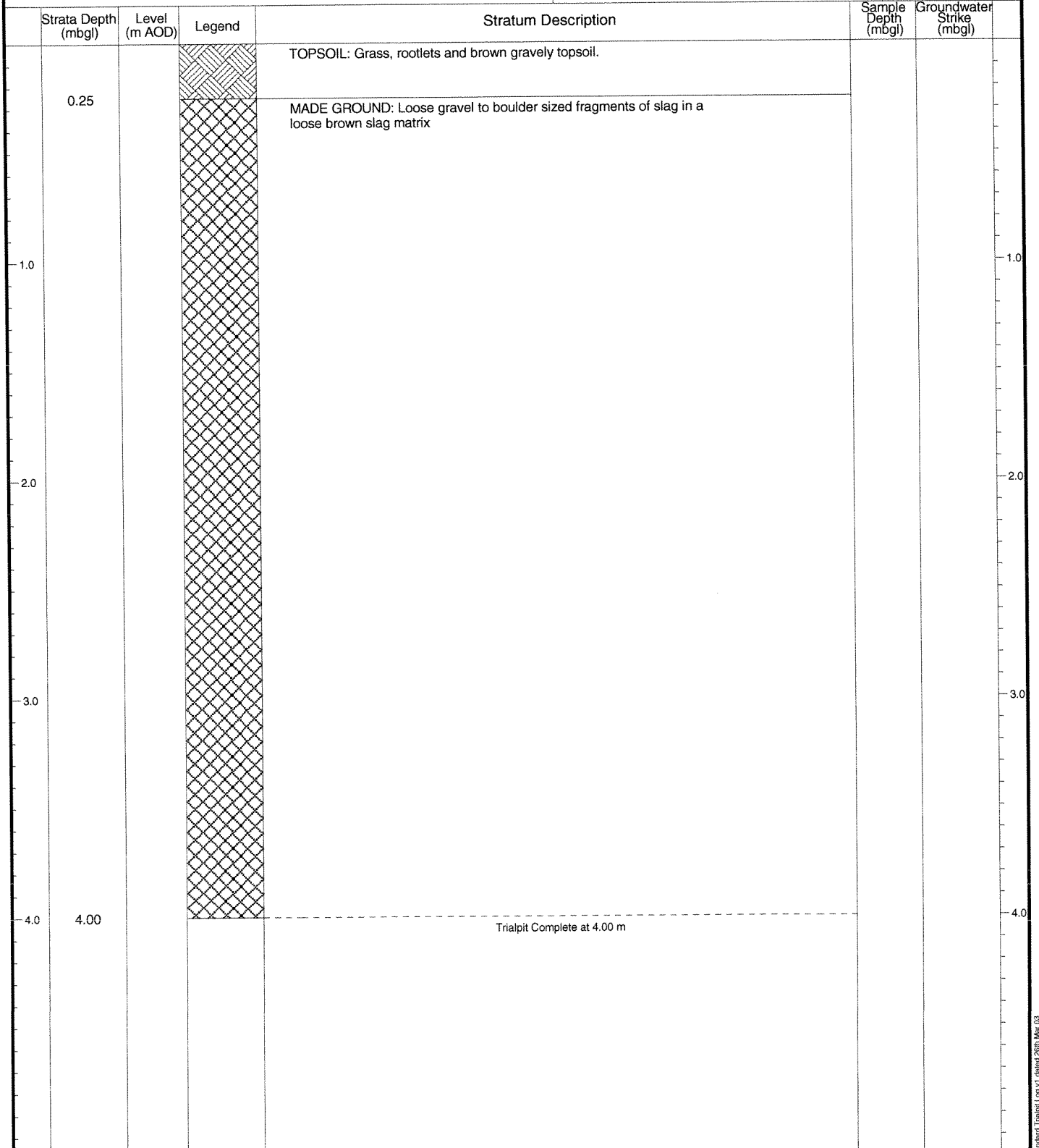
Scale
 1:25

Client: Corus Plc

Depth
 4.00m

1.00m

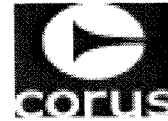
Logged By
 LaQ



Remarks:



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Trialpit No
13CT14
 Sheet 1 of 1

Project Name
 Baseline Site Investigation

Project No.
 CO0520017H

Co-ords: 56995E - 25169N
 Level: -

Date
 14/04/2004

Location: Teesside

Dimensions: 3.00m

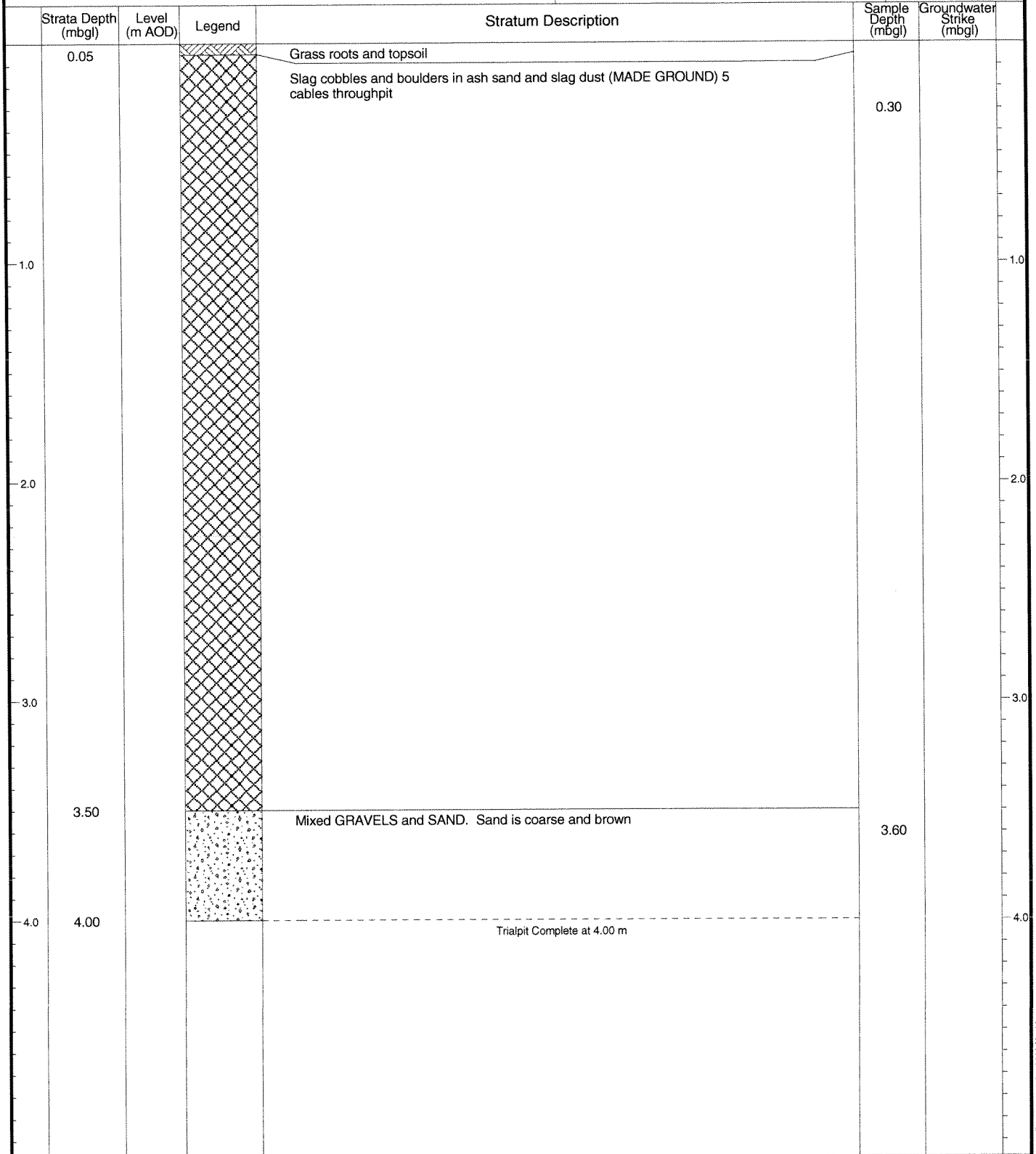
Scale
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Client: Corus Plc

Depth
 4.00m

1.00m

Logged By
 KAB



Remarks:

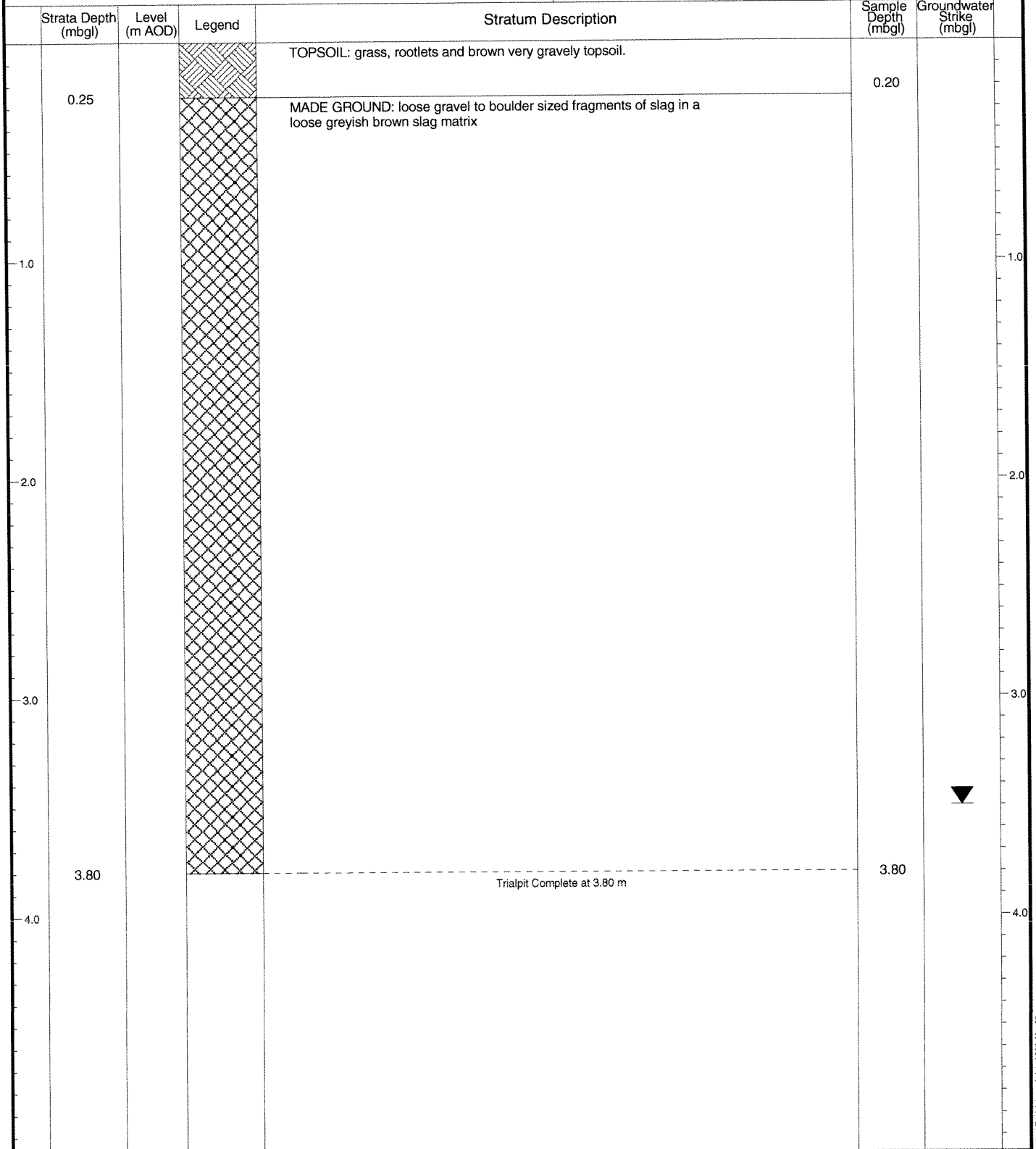


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Trialpit No
13CT15
 Sheet 1 of 1

Project Name Baseline site investigation	Project No. CO05200017	Co-ords: 57003E - 25136N Level: -	Date 14/04/2004
Location: Teesside	Dimensions: 3.00m Depth 3.80m		Scale 1:25
Client: Corus Plc			Logged By LaQ



Remarks:



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Trialpit No
13CT16
 Sheet 1 of 1

Project Name
 Baseline Site Report

Project No.
 CO0520017B

Co-ords: 57100E - 24900N
 Level: -

Date
 14/04/2004

Location: Teesside

Dimensions: 3.50m

Scale
 1:25

Client: Corus Plc

Depth
 4.00m

1.00m



Logged By
 GAD

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
			Brown moist clayey topsoil with many rootlets(MADE GROUND)		
0.20			Purple brown grey cobbles and angular gravel of slag with metal reinforcing bars and metal debris(MADE GROUND)	0.30	
0.50			Reinforced concrete		
0.70			Brown grey white cobbles and coarse angular gravel of slag(MADE GROUND)		
1.0					
2.0					
3.0					
4.0	4.00				

Trialpit Complete at 4.00 m

Remarks:

Project Name
Baseline site investigation

Project No.
CO05200017

Co-ords: 57150E - 24850N
Level: -

Date
15/04/2004

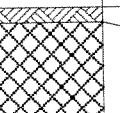


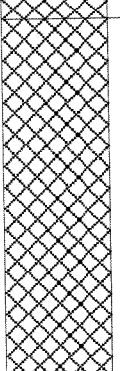

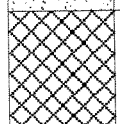


Location: Teesside

Dimensions: 3.00m
Depth 3.20m
1.00m

Scale
1:25

Client: Corus Plc

Logged By
KAB

Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Sample Depth (mbgl)	Groundwater Strike (mbgl)
0.05			TOPSOIL: grass, rootlets and topsoil.		
0.40			Yellow sandy MADE GROUND containing slightly clayey slag cobbles and rubble.		
0.80			MADE GROUND: red brown cobbles of ore in a silty ore matrix.	0.50	
1.00			CONCRETE - reinforced		
2.20			MADEGROUND: slag cobbles and boulders in a slag dust.		
2.50			CONCRETE - reinforced		
2.90			MADEGROUND: slag cobbles and boulders		
3.20			CLAY: Soft damp very sandy very gravelly brown mottled green clay	3.10	
			Trialpit Complete at 3.20 m		

Remarks:

Borehole Log



Soil Mechanics

Drilled GB Logged RW Checked JT		Start 21/04/2004 End 22/04/2004		Equipment, Methods and Remarks Dando 2000		Depth from 0.00m to 8.00m Diameter 150mm Casing Depth 4.15m		Ground Level Coordinates National Grid Chainage				
								+7.38 mOD E 57029.28 N 25778.83				
Samples and Tests					Strata							
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level / (Thickness)	Legend	Backfill/ Instruments				
1.00-1.50	B 1				MADE GROUND: Grey gravelly angular to subangular COBBLE size fragments of slag. Gravel is angular to subangular fine to coarse fragments of slag.	(5.50)						
			21/04/2004 4.15	4.00								
6.00-6.50	B 2				MADE GROUND: Dark brown grey fine to coarse SAND. With occasional shell fragments. Slight hydrocarbon odour noted.	5.50 +1.88 (2.00)						
7.50-8.00	B 3				Brown grey medium and coarse SAND. With occasional shell fragments.	7.50 -0.12 (0.50)						
			22/04/2004 4.15	3.60								
					EXPLORATORY HOLE ENDS AT 8.00 m	8.00 -0.62		SP				
Depth	Type & No	Records	Date Casing	Time Water	Groundwater Entries		Depth Related Remarks *					
					No. Struck (m)	Post strike behaviour	Depth sealed (m)	From	to (m)	Chiselling Depths (m)	Time	Tools used
					1	-	-			4.00 -5.00	60 mins	
										5.00 -5.50	60 mins	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project CORUS TEESSIDE			Borehole 12AB2 Sheet 1 of 1				
Scale 1:50 (c) MESO 298 v1.1528/05/2004 08:32:04					Project No. B4009 Carried out for Enviros Consulting Limited			AGS				

Borehole Log



Soil Mechanics

Drilled GB Logged RW Checked JT	Start 21/04/2004 End 21/04/2004	Equipment, Methods and Remarks Dando 2000	Depth from 0.00m to 8.00m Diameter 150mm Casing Depth 7.80m	Ground Level +7.66 mOD Coordinates E 57011.00 National Grid N 25385.42 Chainage
---------------------------------------	------------------------------------	--	---	--

Samples and Tests				Strata				
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level / (Thickness)	Legend	Backfill / Instruments
1.50-2.00	B 1				MADE GROUND: Dark brown grey slightly silty sandy angular to subrounded fine to coarse GRAVEL size fragments of slag. With occasional angular to subrounded cobbles of slag.	(5.40)		
5.50-6.00	B 2				Dark brown grey fine to coarse SAND. With occasional shell fragments. (Possible Made Ground).	5.40 +2.26 (1.90)		
7.50-8.00	B 3		21/04/2004 7.80	5.50	Brown grey slightly gravelly fine to coarse SAND. Gravel is subangular fine coal. With occasional shell fragments.	7.30 +0.36 (0.70)		
					EXPLORATORY HOLE ENDS AT 8.00 m	8.00 -0.34		SP

Groundwater Entries No. Struck Post strike behaviour 1 4.00 -	Depth sealed (m) -	Depth Related Remarks * From to (m)	Chiselling Depths (m) Time Tools used
--	-----------------------	--	---------------------------------------

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

(c) MESH 298 v1.1526/05/2004 08:30:08

Project CORUS TEESIDE

Project No. B4009

Carried out for Enviro Consulting Limited

Borehole

12BB1

Sheet 1 of 1

Borehole Log



Soil Mechanics

Drilled TQ Logged RW Checked JT	Start 19/04/2004 End 19/04/2004	Equipment, Methods and Remarks Dando 175	Depth from 0.00m	to 7.70m	Diameter 150mm	Casing Depth 7.70m	Ground Level +7.81 mOD Coordinates E 57254.65 National Grid N 25057.82 Chainage
---------------------------------------	--	---	---------------------	-------------	-------------------	-----------------------	---

Samples and Tests				Strata			Depth, Level (Thickness)	Legend	Backfill/ Instruments
Depth	Type & No	Records	Date Casing	Time Water	Description				
1.40-2.20	B 1				MADE GROUND: Grey brown silty sandy angular to subrounded fine to coarse GRAVEL size fragments of slag. With some angular to subrounded cobbles of slag.	(5.50)			
5.50-6.00	B 2				MADE GROUND: Grey very sandy angular to subangular fine to coarse GRAVEL size fragments of slag. With occasional angular to subangular cobbles of slag. Slight sulphurous odour noted.	5.50 +2.31 (0.70)			
6.20-6.70	B 3				MADE GROUND: Grey gravelly medium and coarse SAND. Gravel is angular to subangular fine and medium fragments of quartz and limestone. With many shell fragments.	6.20 +1.61 (0.80)			
7.00-7.70	B 4		19/04/2004 7.70	4.60	Grey brown slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine quartz and coal. With occasional shell fragments. (Possible Made Ground).	7.00 +0.81 (0.70)			
					EXPLORATORY HOLE ENDS AT 7.70 m	7.70 +0.11		SP	

Depth	Type & No	Records	Date Casing	Time Water	Groundwater Entries No. Struck Post strike behaviour	Depth sealed (m)	Depth Related Remarks * From to (m)	Chiselling Depths (m) Time Tools used
					1 4.00 -	-		2.20 -4.60 300 mins 5.00 -5.25 30 mins

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

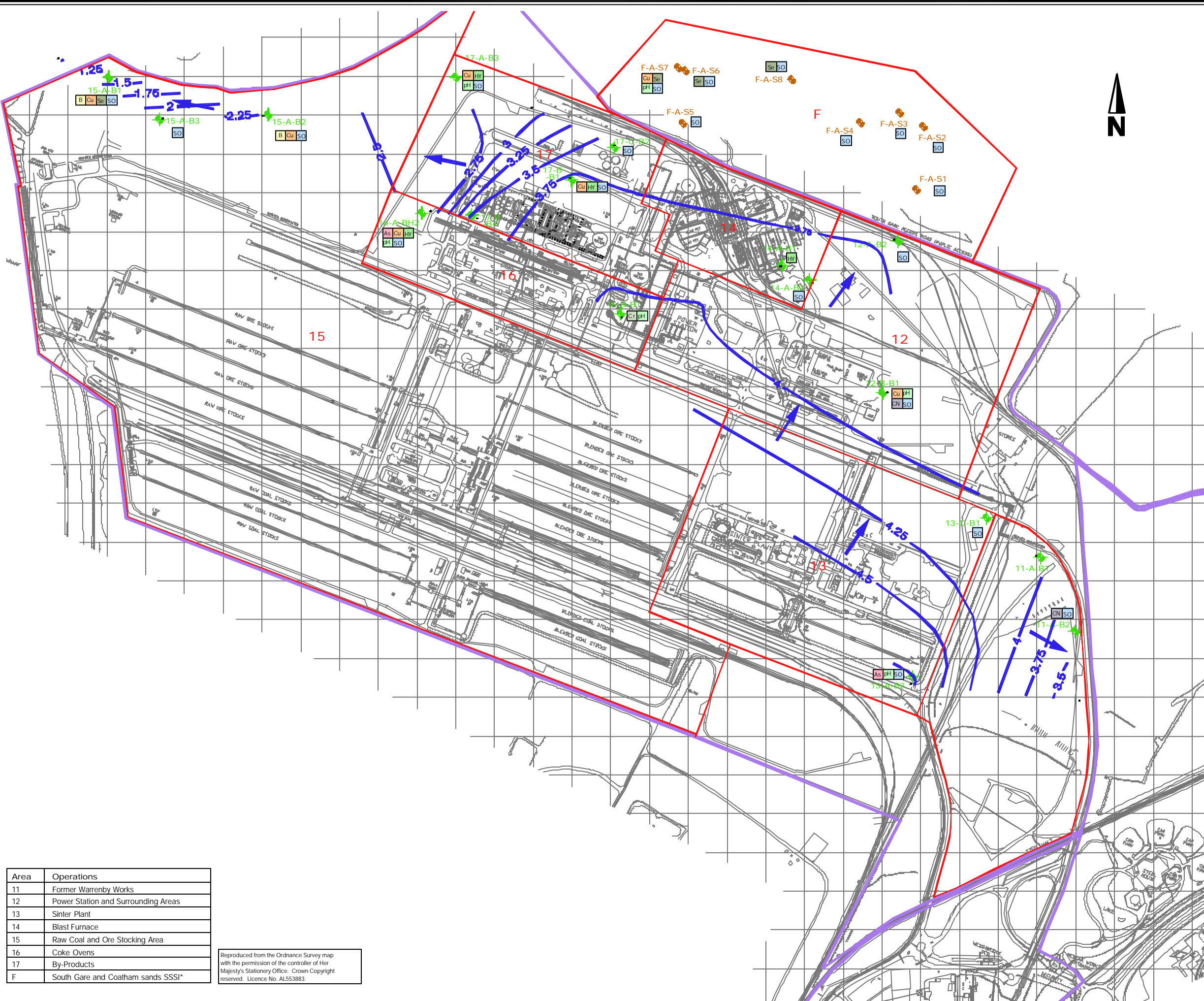
(c) MESC 298 v1.1526/05/2004 08:36:02



Project CORUS TEESSIDE
Project No. B4009
Carried out for Enviro Consulting Limited

Borehole
13CB1
Sheet 1 of 1

File name: JSF1825.dwg Plot date: Jun 22, 2004, 10:51am Ref: R01/CAD/TEAM/Reviews/CO0520017A Copyright Enviro Ltd.



KEY:

- Proposed Teesco Boundaries
- Enviro Sampling Boundaries
- Groundwater Contour
- Direction of Groundwater
- + Borehole
- Surface Water

As	Arsenic	UKDWS 0.01mg/l
B	Boron	UKDWS 1mg/l
CN	Total Cyanide	UKDWS 0.05mg/l
Cu	Copper	UKDWS 0.002mg/l
Cr	Chromium	UKDWS 0.002mg/l
HY	Total Petroleum Hydrocarbons GC	DIV 0.6mg/l
pH	pH	UKDWS <6.5 or >10
Se	Selenium	UKDWS 0.01mg/l
SO	Total Sulphur as SO ₄	UKDWS 250mg/l

DIV - Dutch Intervention Value
 UKDWS - United Kingdom Drinking Water Standard

NOTES:
 1. Locations only shown where exceedance has occurred.

REV.	DESCRIPTION	DATE

CORUS

REDCAR

FIGURE 9
 EXCEEDANCE OF TIER 1 WATER SCREENING CRITERIA AND GROUNDWATER FLOW DIRECTION

SCALE	1:6,500	CAW	CO0520017A
CONTENT	RLP	DRAWN	JSF
CHECKED		DATE	JUNE 2004

Area	Operations
11	Former Warrenby Works
12	Power Station and Surrounding Areas
13	Sinter Plant
14	Blast Furnace
15	Raw Coal and Ore Stocking Area
16	Coke Ovens
17	By-Products
F	South Gare and Coatham sands SSSI*

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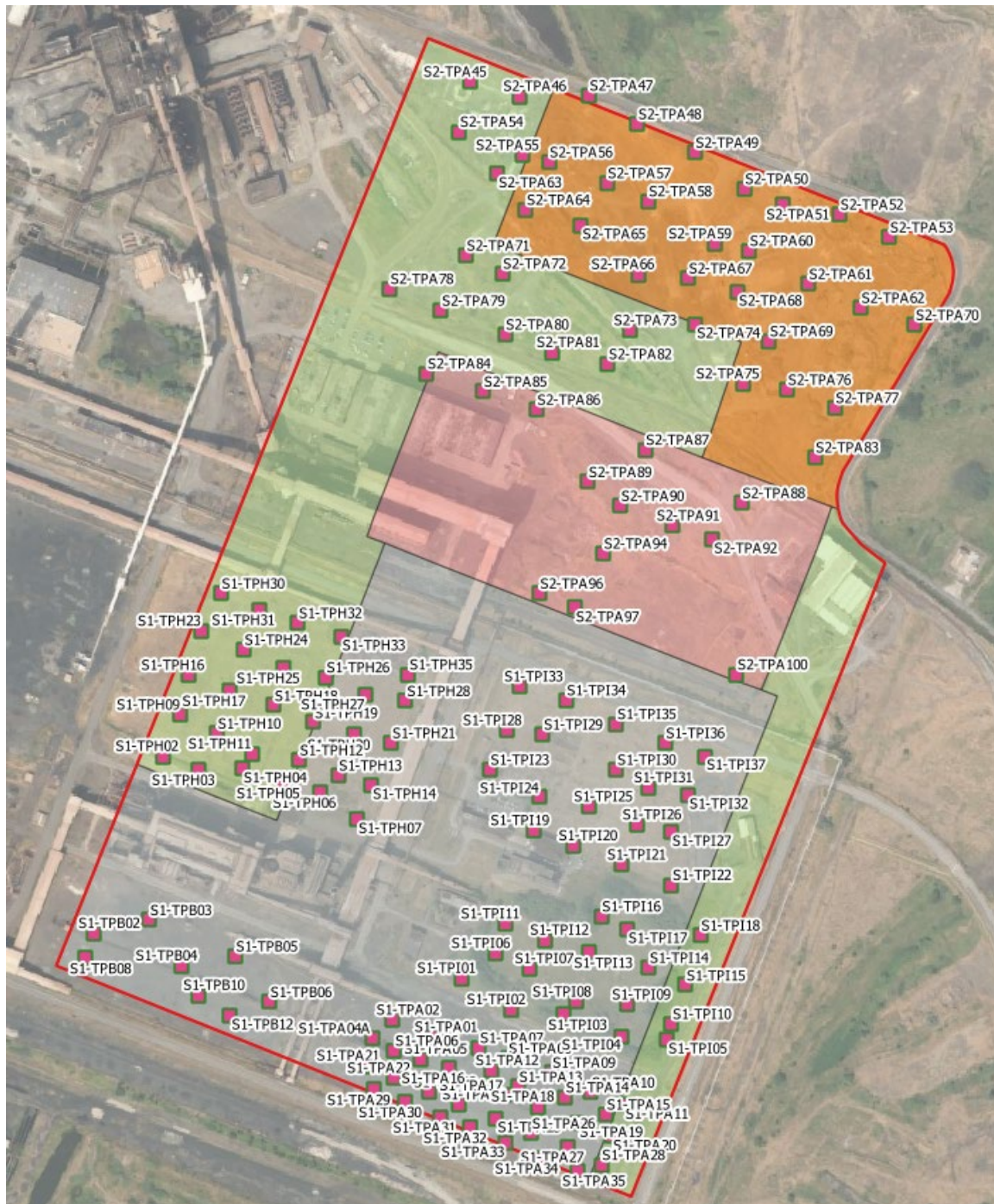


Appendix D.2 - Report Reference(s):

- Factual Report – Initial Trial Pitting - SSI Redcar – SSI1, prepared by CH2M and dated November 2017
- Factual Report – Initial Trial Pitting - SSI Redcar – SSI2, prepared by CH2M and dated November 2017
- Former SSI Steelworks, Redcar – Initial Ground Investigation Works, Geoenvironmental Summary, prepared by CH2M for South Tees Site Company Ltd, dated May 2018.

Information Summarised: Site Plans, Trial Pit and Borehole Logs

Location to planning boundary overlay



Soils Summary

1. Soils analytical results screened to current risk based criteria as part of the Appendix J

Summary of Previous Site Investigation Data

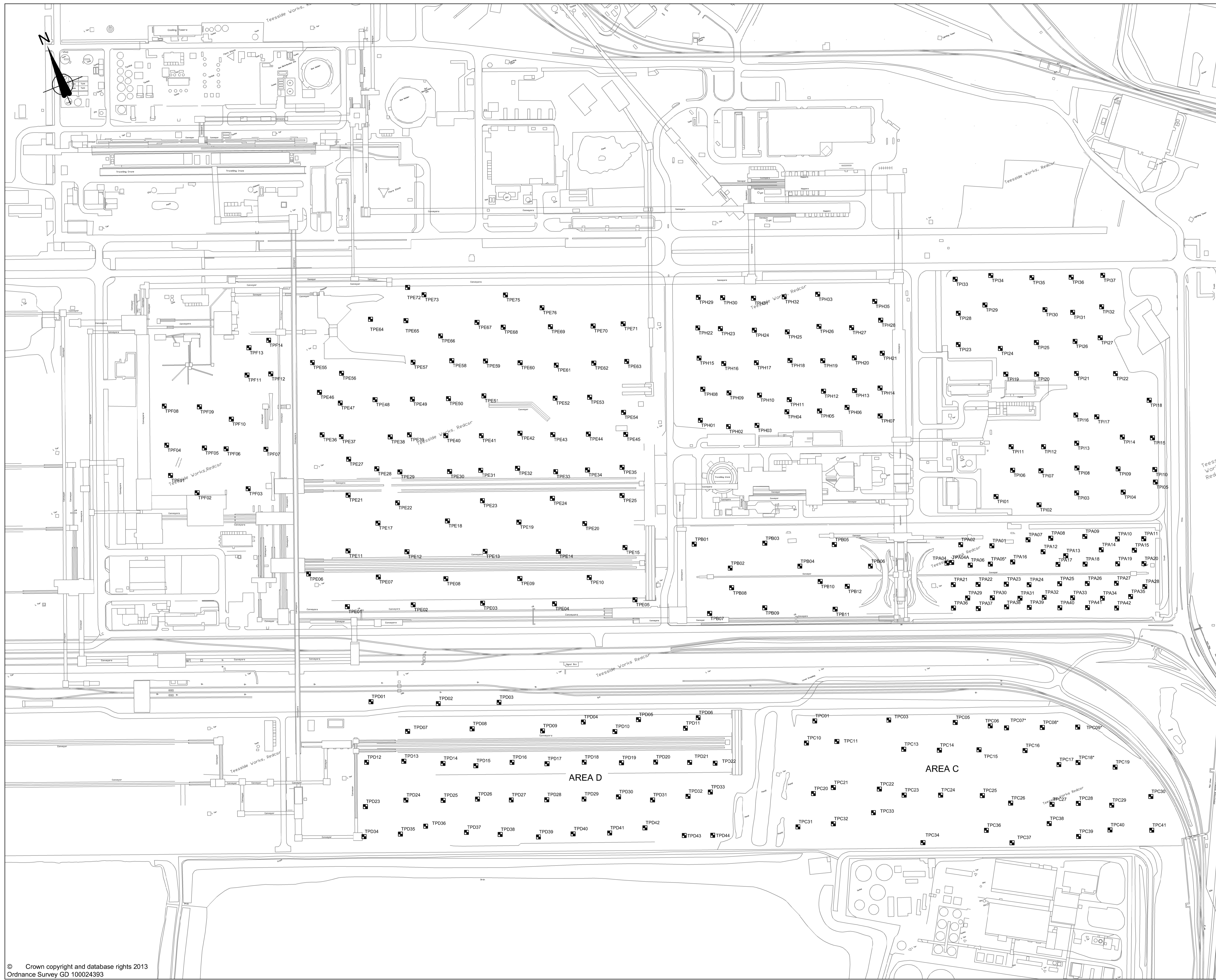
2. Soil sampling analytical results and certificates presented in Appendix 6 of the report

Soil Leachate Summary

1. Soil Leachate analytical results screened to current risk based criteria as part of the Appendix M

Groundwater Summary

1. No monitoring wells installed.



NOTES

1. POSITIONS SUBJECT TO CHANGE ON SITE, INDICATIVE ONLY.

KEY

- TRIAL PIT MAXIMUM 4.5M DEEP, 4M LONG, 1.5M WIDE TOTAL = 328 HOLES
- BOREHOLES
- SSI 1 BOUNDARY
- AREAS CURRENTLY EXCLUDED DUE TO PLANT, BUILDINGS AND UTILITIES

TESTING

GEOTECHNICAL TESTS = ?? NO.
 CHEMICAL TESTS = ?? NO.
 SLAG TESTING = ?? NO.

Rev	By	Chkd	Apprvd	Date	Description
01	FM	-	-	07/06/17	Updated to reflect correct south-south positions of trial pits

Client
 Homes & Communities Agency

CH2M
 Durdin House, Riverside, Stockton-on-Tees
 Tel +44 (0)1642 632800
 www.CH2M.com



Project
 SSI REDCAR

Drawing
**Ground Investigation
 As Dug Exploratory
 Hole Location Plan - SSI 1**

Drawn by: LC Date: 26/07/2016
 Checked by: IDK Date: 26/07/2016
 Approved by: IDK Date: 26/07/2016

Drawing No.	Revision
678079_600_003	-

Drawing Scale: 1:2500 @ A1; 1:5000 @ A3



NOTES

1. POSITIONS SUBJECT TO CHANGE ON SITE, INDICATIVE ONLY.
2. DIMENSIONS SHOWN IN METRES.
3. TRIAL PIT DIMENSIONS SUBJECT TO GROUND CONDITIONS ENCOUNTERED.

KEY

- AS DUG TRIAL PITS MAXIMUM 4.5M DEEP, 4M LONG, 1.5M WIDE
TOTAL = 68 HOLES

Rev	By	Chkd	Apprvd	Date	Description

Client

Homes & Communities Agency

CH2M
 Dunedin House, Riverside, Stockton-on-Tees
 Tel +44 (0)1642 632800
 www.CH2M.com

Project
 SSI REDCAR

Drawing
 Ground Investigation
 As Dug Exploratory
 Hole Location Plan - SSI 2

Drawn by: KW Date: 2/08/2017
 Checked by: IDK Date: 2/08/2017
 Approved by: IDK Date: 2/08/2017

Drawing No. 678079_600_011
 Revision -

Drawing Scale: 1:2500 @ A1; 1:5000 @A3



Trial Pit Log

Trialpit No

TPA01

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079Co-ords: 456898.00 - 524797.00
Level:Date
11/01/2017

Location: SSI Redcar

Dimensions
(m):

4.4

Scale
1:25

Client: Homes and Communities Agency

Depth
2.80

2.2

Logged
MW

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.05						MADE GROUND: Dark grey black fine to coarse GRAVEL of sinter MGR
	0.60	ES					MADE GROUND: Dark brown very gravelly SAND with occasional to frequent cobbles of grey & yellow slag. Gravel is fine to coarse slag & red brick fragments rebar. MGR
	1.70	B					From 1.5: Gravelly becoming slightly clayey.
							From 1.8: Hard slag layer approx 0.30m thick.
				2.80			End of pit at 2.80 m

1

2

3

4

5

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456858.00 - 524815.00 Date 30/11/2016
Level:

Location: SSI Redcar Dimensions (m): Scale 1:25

Client: Homes and Communities Agency Depth 2.95 Logged

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	1.00 - 1.40	B		0.10		MADE GROUND: Sinter MGR	MADE GROUND: Sinter MGR
	1.00 - 1.40	D		0.50			MADE GROUND: Dense grey slightly sandy slightly gravelly COBBLES and BOULDERS. Gravel is fine to coarse, angular to sub-angular of slag and occasional brick. Cobbles and boulders of slag, occasionally concrete. Sand is of ash. MGR
						MADE GROUND: Yellow brown gravelly cobbly SAND with medium boulder content. Gravel is fine to coarse, angular to sub-angular of slag and occasional red brick. Cobbles and boulders are of slag and concrete. MGR	MADE GROUND: Yellow brown gravelly cobbly SAND with medium boulder content. Gravel is fine to coarse, angular to sub-angular of slag and occasional red brick. Cobbles and boulders are of slag and concrete. MGR
							<u>Becoming brown</u>
							<u>Large boulder of slag in north face of pit</u> <u>Sulphur odour</u>
						<u>Increasing number of boulders</u>	
				2.95		----- End of pit at 2.95 m	

Remarks:

Stability:





Trial Pit Log

Trialpit No

TPA04

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079Co-ords: 456830.00 - 524798.00
Level:Date
01/12/2016

Location: SSI Redcar

Dimensions
(m):Scale
1:25

Client: Homes and Communities Agency

Depth
1.10

Logged

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.10 - 1.10	ES					

1

2

3

4

5

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456837.00 - 524796.00 Level:	Date 12/01/2017
Location: SSI Redcar	Dimensions (m): Depth 3.30		Scale 1:25 Logged MW
Client: Homes and Communities Agency		2.6	4.9

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.10 - 1.10	ES		0.05		[Cross-hatched pattern]	MADE GROUND: Dark grey black fine to coarse GRAVEL of sinter. MGR
				0.35			MADE GROUND: Grey sandy gravelly COBBLES of slag with occasional boulders. MGR MADE GROUND: Dark orangeish brown sandy GRAVEL. Gravel is fine to coarse of slag with frequent cobbles & occasional boulders of slag. MGR
	1.10	ES		1.00		[Cross-hatched pattern]	MADE GROUND: Light to dark grey fine to coarse gravelly SAND. Gravel is of slag. Occasional cobbles of slag. MGR
							From 2m: Layer of refractory bricks; fragments and whole bricks.
							From 2.5m: Bricks becoming abundant, Red + refractor. Becoming slightly clayey. Demolition Rubble?
				3.30			From 3.2m: Groundwater in flow, Slightly discoloured. End of pit at 3.30 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456887.00 - 524774.00 Level:	Date 30/11/2016
Location: SSI Redcar	Dimensions (m): Depth 3.40		Scale 1:25 Logged FLM
Client: Homes and Communities Agency		3.9	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.08			MADE GROUND: Sinter MGR
	1.10 - 1.50	B		1.10			MADE GROUND: Grey slightly sandy slightly gravelly COBBLES with medium boulder content. Sand locally white ash. Gravel, cobbles and boulders of slag. Occasional cobbles of yellow refractory brick - approx. 5%. MGR <i>From 0.4m: Sandy. Orange on south side of pit. From 0.4m to 1.2m: Orange layer, sandy cobbles of slag.</i>
							MADE GROUND: Dark grey gravelly SAND with low cobble content. Occasional cobble sized fragments of metal tube/pipe. Gravel is fine to coarse, angular to sub-angular of refractory brick fragments, slag and occasional red brick fragments. Cobbles are of brick and slag. MGR <i>At 1.2m: Hard layer. Identified as slag. Below 1.5m: Red brick content increasing to approx. 10%</i>
							<i>At 2.1m: Slight seepage.</i>
							<i>Below 2.5m: Hard dig. Occasional timber and fabric.</i>
	3.10 - 3.40	B		3.40			<i>Below 3.1m: Grey sand and gravel with ash, slag and occasionally brick, wire and pipe.</i>
							End of pit at 3.40 m

Remarks: Position Approximate

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456860.00 - 524783.00 Level:	Date 12/01/2017
Location: SSI Redcar		Dimensions (m): Depth 3.80	Scale 1:25 Logged MW
Client: Homes and Communities Agency		4.6 2.1	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			MADE GROUND: Dark grey black fine to coarse GRAVEL of sinter. MGR
				0.40			MADE GROUND: Dark grey sandy fine to coarse GRAVEL of slag with occasional boulders and frequent cobbles of slag. MGR
	0.70	ES					MADE GROUND: Orangeish brown gravelly SAND with frequent cobbles and rare boulders of slag. MGR
							<i>From 0.9m: Fine to medium yellow sand.</i>
	1.10	B		1.20			MADE GROUND: Dark grey gravelly SAND with frequent cobbles & occasional boulders of slag, Cobbles include slag and red brick. MGR
	2.00	ES		1.90			MADE GROUND: Black/grey slightly sandy fine to medium, some coarse GRAVEL of porous slag. Occasional cobbles of slag. MGR
	2.10	B					<i>From 2.1m: Slightly ashy looking.</i>
				2.50			MADE GROUND: Dark brown slightly clayey gravelly SAND with frequent cobbles of brick, some wood & slag shoes & steel. MGR
							<i>From 2.5m: Possible wall section.</i>
							<i>From 3.5m: Faint hydrocarbon?</i>
	3.70	ES		3.80			End of pit at 3.80 m

Remarks:

Stability:





Trial Pit Log

Trialpit No

TPA07

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079Co-ords: 456949.00 - 524786.00
Level:Date
11/01/2017

Location: SSI Redcar

Dimensions
(m):

4.5

Depth
3.20

2.5

Scale
1:25Logged
MW

Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			<p>MADE GROUND: Dark grey black medium to coarse GRAVEL sinter. MGR</p> <p>MADE GROUND: Grey sandy fine to coarse GRAVEL with abundant cobbles & frequent boulders. Cobbles include slag, fragments of brick & refractory brick. MGR</p> <p><i>From 0.5m: Hard dig, ashy?</i></p>
							<p><i>From 1.5m: Becoming brown.</i></p> <p><i>From 1.5m: Becoming cobbly.</i></p>
				3.20			<p>End of pit at 3.20 m</p>

1

2

3

4

5

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456979.00 - 524775.00 Level:	Date 29/11/2016
Location: SSI Redcar		Dimensions (m): Depth 3.40	Scale 1:25 Logged AC
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			MADE GROUND: Black to dark grey medium to coarse GRAVEL of sinter. MGR
	1.20 1.20	B D					MADE GROUND: Grey brown sandy gravelly COBBLES AND BOULDERS of slag. Occasional fragments of brick. Gravel is fine to coarse, subangular and angular of slag. MGR
							<i>Below 1.3m: Red brown slag.</i>
				1.70			MADE GROUND: Red brown very sandy very gravelly COBBLES AND BOULDERS. Gravel is fine to coarse, subangular and angular. Cobbles are subangular and angular of slag. MGR
							<i>Below 2.2m: Slightly silty</i>
	2.80	B					
▼				3.40			End of pit at 3.40 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457025.00 - 524760.00 Date 10/01/2017

Location: SSI Redcar Dimensions (m): 2.4 x 5 Scale 1:25

Client: Homes and Communities Agency Depth 3.50 Logged MW

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			MADE GROUND: Dark grey black sinter. MGR
	1.50	B					MADE GROUND: Dark yellowish brown gravelly SAND with frequent cobbles and rare boulders of light grey slag. MGR
▼							<i>From 1.0m: Becoming brown.</i>
	3.10	ES					<i>From 2.5m: Very gravelly occasional cobbles.</i>
▼							<i>From 3.2m: Seepage.</i>
				3.50			End of pit at 3.50 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457066.00 - 524739.00 Date 28/11/2016

Location: SSI Redcar Dimensions (m): 4.2 Scale 1:25

Client: Homes and Communities Agency Depth 3.25 Logged AC

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			MADE GROUND: Black fine GRAVEL of Sinter MGR
	0.90 0.90	B D		0.90			MADE GROUND: Light grey sandy gravelly COBBLES and BOULDERS of slag. Gravel is fine to coarse, sub-angular to angular of slag. Cobbles are sub-angular and angular of slag. MGR
							MADE GROUND: Orange brown gravelly SAND with cobbles. Gravel is fine to coarse of sandstone and grey/dark orange-brown slag. Cobbles are sub-angular and angular of slag. MGR
							<i>Below 1.9m: Becoming very sandy gravelly Cobbles and Boulders</i>
							<i>Below 3.0m: Becoming slightly clayey</i>
							<i>Below 3.0m: Becoming damp</i>
▼	3.00 - 3.10 3.00 - 3.10	B D		3.25			End of pit at 3.25 m

Remarks: Sulphur odour during excavation

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457101.00 - 524726.00 Date 25/11/2016
 Level: _____


Location: SSI Redcar Dimensions (m): Scale 1:25

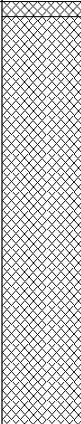
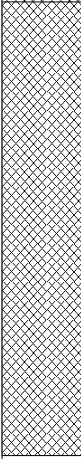
Client: Homes and Communities Agency Depth 3.60 Logged FLM

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.10 - 0.50 0.10 - 0.50	B D		0.10		[Pattern]	MADE GROUND: Sinter MGR MADE GROUND: Very dense grey sandy GRAVEL and COBBLES with low boulder content. Gravel and cobbles are fine to coarse angular and subangular predominantly of slag, occasional brick. Boulders are sub-angular of slag up to 400x250x170mm. Sand is fine to coarse of ash. Brick are mostly refractory. MGR <i>From 0.5 to 1m: Higher proportion of bricks.</i> <i>Below 0.8m: Darker in colour</i> <i>Below 1.1m: Increasing proportion of cobbles are yellow brick.</i>
				1.70			MADE GROUND: Medium dense dark grey-black gravelly SAND with low to medium cobble content. Gravel is fine to coarse angular and subangular predominately slag occasional brick. Cobbles are slag and brick. MGR
▼				3.60			End of pit at 3.60 m

Remarks: _____
 Stability: _____



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456962.00 - 524762.00 Level:	Date 11/01/2017
Location: SSI Redcar		Dimensions (m): Depth 2.90	Scale 1:25 Logged MW
Client: Homes and Communities Agency		2.1 	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			MADE GROUND: Dark grey black GRAVEL of sinter. MGR MADE GROUND: Dark brown very sandy GRAVEL of fine to coarse slag with abundant cobble & occasional boulders of slag. MGR
	1.80	ES		1.40			MADE GROUND: Dark brown slightly clayey very sandy fine to coarse GRAVEL of slag with occasional cobbles of slag. MGR <u>From 1.4m: Sulphur odour.</u>
				2.90			End of pit at 2.90 m

Remarks:

Stability:





Trial Pit Log

Trialpit No

TPA13

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079Co-ords: 456990.00 - 524745.00
Level:Date
29/11/2016

Location: SSI Redcar

Dimensions
(m):

3.8

Scale

1:25

Client: Homes and Communities Agency

Depth
3.30

2.2

Logged
AC

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			MADE GROUND: Black fine and medium GRAVEL of sinter MGR
	0.60 - 1.00	B					MADE GROUND: Grey brown sandy gravelly COBBLES and BOULDERS. Occasional fragments of brick (Red & Refractory) rarely intact bricks. Gravel is fine to coarse, subangular and angular of slag. Cobbles and boulders are subangular and angular of slag. MGR <u>Below 0.6m: Dark grey brown</u>
				1.70			MADE GROUND: Red brown slightly clayey very sandy GRAVEL with cobbles and boulders of grey and orange brown slag. Gravel is subangular and angular, fine to coarse of slag. MGR
	2.40 2.40	B D					<u>Below 2.5m: Slightly clayey/silty</u>
▼				3.20			End of pit at 3.30 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457039.00 - 524734.00 Level:	Date 10/01/2017
Location: SSI Redcar		Dimensions (m): Depth 2.90	Scale 1:25 Logged MW
Client: Homes and Communities Agency		4.4	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.05			MADE GROUND: Greyish black sinter. MGR
				0.35			MADE GROUND: Light grey sandy fine to coarse GRAVEL of slag with occasional cobbles. MGR <i>From 0.05m: Reddish brown cobbles.</i>
	0.80	ES					MADE GROUND: Dark yellowish brown slightly clayey gravelly SAND. Gravel includes slag, concrete, occasional refuse & cobbles. MGR <i>From 0.9m: Reinforced concrete slab.</i>
				1.10			MADE GROUND: Dark brown gravelly SAND. Gravel is fine to coarse includes slag & brick. Occasional slag cobbles. MGR
	2.00	B					MADE GROUND: Very soft white CLAY. MGR <i>From 2.1m: Highly plastic odour. Lime?</i>
	2.30 2.30	D ES					MADE GROUND: Dark brown speckled white sandy GRAVEL with cobbles. MGR
				2.90		End of pit at 2.90 m	

Remarks:

Stability:





Trial Pit Log

Trialpit No

TPA15

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079Co-ords: 457082.00 - 524716.00
Level:Date
10/01/2017

Location: SSI Redcar

Dimensions
(m):

5.6

Scale
1:25

Client: Homes and Communities Agency

Depth
0.90

2.7

Logged
MW

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.45	ES		0.05			MADE GROUND: Dark blackish grey sinter. MGR
				0.40			MADE GROUND: Light grey sandy fine to coarse GRAVEL with frequent cobbles & occasional boulders of slag. MGR
				0.90			MADE GROUND: Dark brownish grey gravelly SAND with some ash. Gravel is fine to coarse and includes slag. MGR <i>From 0.6m: Becoming cobbly.</i>
							End of pit at 0.90 m

1
2
3
4
5

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456917.00 - 524765.00 Level:	Date 29/11/2016
Location: SSI Redcar	Dimensions (m): Depth 3.10		Scale 1:25 Logged AC
Client: Homes and Communities Agency		3.7 1.9	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			MADE GROUND: Black/brown fine and medium GRAVEL of Sinter MGR
				0.40			MADE GROUND: Grass over; firm orangeish brown very sandy CLAY; locally very clayey gravelly sand with low cobble content. Gravel is subangular to angular fine to coarse of mixed lithologies. Cobbles are mixed, some slag, some red brick fragments. MGR
	1.00 1.00	B D		0.90			MADE GROUND: Grey reddish brown sandy very gravelly COBBLES and BOULDERS of slag. Cobbles and boulders are angular to subangular. Gravel is fine to coarse, angular to subangular. Fragments of red and yellow refractory brick. MGR <i>Below 0.7m: Becoming red brown/grey.</i> <i>Below 1.1m: Light grey.</i>
				1.60			MADE GROUND: Medium dense dark grey slightly gravelly SAND with low cobble content. Gravel is fine to coarse angular to rounded of slag pellets, red brick frags, iron ore, yellow brick. Assorted metal scrap including steel plate, tin sheet, conveyor rollers and re-bar. MGR <i>Below 0.7m: Becoming red brown/grey.</i>
							MADE GROUND: Medium dense grey gravelly SAND with low cobble and boulder content. Gravel is fine to coarse, angular to subangular of slag, iron ore, brick frags. Cobbles are slag, iron ore and brick. Boulders are slag. Assorted metal scrap, see above (large electrical motor x2 approx. 2.0m depth.) MGR <i>Below 1.1m: Light grey.</i>
▼	3.10 3.10	B D		3.10			
				4.40			MADE GROUND: Reddish brown very sandy gravelly COBBLES and BOULDERS. Gravel is fine to coarse angular to subangular of red-brown/grey slag. Cobbles and boulders are angular to subangular of slag. MGR End of pit at 3.10 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456975.00 - 524737.00 Date 11/01/2017
 Level: _____

Location: SSI Redcar Dimensions (m): 5 Scale 1:25
 Depth 3.20 1.8 Logged MW

Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			MADE GROUND: Dark grey black sinter. MGR MADE GROUND: Light grey sandy GRAVEL of slag with frequent cobbles and rare boulders of slag. MGR
				0.80			MADE GROUND: Dark brown very gravelly SAND with frequent cobbles & rare boulders. Cobbles include slag & brick fragments. Boulders are slag. MGR
	2.20 2.20	B ES					From 2.3m: Sulphur odour.
				2.70			MADE GROUND: Brown slightly clayey sandy GRAVEL of fine to coarse slag. Rare cobbles of slag. MGR From 2.7m: Sulphur odour.
				3.20			End of pit at 3.20 m

Remarks:
Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457011.00 - 524724.00 Date 29/11/2016
Level:

Location: SSI Redcar Dimensions (m): 2.7 x 4.3 Scale 1:25

Client: Homes and Communities Agency Depth 3.10 Logged AC

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			MADE GROUND: Black fine and medium GRAVEL of sinter MGR MADE GROUND: Light grey sandy gravelly COBBLES and BOULDERS of slag. Gravel is fine to coarse, subangular to angular of slag. Occasional fragments of red brick. MGR
	1.50 - 1.70 1.50 - 1.70	B D					<i>Below 0.8m: Becoming dark grey brown, very sandy, no brick fragments.</i>
▼	3.10	LB		3.10			End of pit at 3.10 m

Remarks:
Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457053.00 - 524707.00 Date 28/11/2016
Level:

Location: SSI Redcar Dimensions (m): 3.8 Scale 1:25
Depth 3.20 2.8

Client: Homes and Communities Agency Logged AC

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			MADE GROUND: Black fine GRAVEL of Sinter MGR
	0.50 - 0.90 0.50 - 0.90	B D					MADE GROUND: Grey/brown sandy gravelly COBBLES and BOULDERS of slag with occasional fragments of brick. Gravel is fine to coarse, subangular and angular of slag. MGR
							<i>Below 1.0m: Becoming very sandy and no brick fragments.</i>
▼	3.10 - 3.20 3.10 - 3.20	B D		3.20			End of pit at 3.20 m

Remarks: Sulphur odour during excavation

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457088.00 - 524693.00 Level:	Date 09/01/2017
Location: SSI Redcar		Dimensions (m): Depth 3.40	Scale 1:25 Logged MW
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			MADE GROUND: Loose dark grey black GRAVEL of sinter MGR MADE GROUND: Light grey sandy fine to coarse GRAVEL. Gravel of slag includes fragments of brick & refractory brick. MGR
	1.10 - 1.40	B		0.80			MADE GROUND: Brown very sandy cobbly fine to coarse GRAVEL of slag. Gravel includes brick, refractory brick, rare boulders of slag. Rare wood fragments. MGR <i>From 0.8m: Sulphur odour, becoming gravelly SAND.</i> <i>From 1.0m: Ashy (black fine).</i>
	1.30	ES					
▼	3.30	B		3.30 3.40			MADE GROUND: Dark reddish brown gravelly SAND with cobbles of brick. MGR End of pit at 3.40 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456828.00 - 524767.00 Level:	Date 12/02/2016
Location: SSI Redcar		Dimensions (m): Depth 3.50	Scale 1:25 Logged AC
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.05			MADE GROUND: Black fine and medium GRAVEL of sinter MGR
	0.90 - 1.10	B		0.50	MADE GROUND: Red brown fine to coarse GRAVEL with cobbles and boulders of grey/brown slag. Gravel is subangular and angular. Cobbles are subangular and angular of slag with occasional fragments of red brick. MGR		
	0.90 - 1.10	D		1.40	MADE GROUND: Dark grey brown sandy gravelly COBBLES and BOULDERS. Subangular medium and coarse. Gravels are subangular and angular of slag. MGR		
	1.70 - 2.20	B		3.50	MADE GROUND: Light grey very sandy gravelly COBBLES with boulders of grey slag. Gravel is fine to coarse, subangular and angular of slag. Some red/brown gravels. Cobbles of slag. MGR		
							<i>Below 1.7m: Becoming dark grey with occasional orange-brown sand. Slightly cobble very sandy gravel. Occasional refractory brick fragments.</i>
							<i>From 2.4 to 2.7m: Greyish brown layer of fine sandy gravel.</i>
							<i>From 2.7 to 3.5m: As from 1.7m with more frequent fragments of brick. Dark grey colouration possibly ash.</i>
							End of pit at 3.50 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456860.00 - 524754.00 Level:	Date 15/12/2016
Location: SSI Redcar		Dimensions (m): Depth 3.40	Scale 1:25 Logged TL
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.20	ES		0.02			MADE GROUND: Loose dark grey/black sinter MGR
				0.50			MADE GROUND: Loose grey very gravelly SAND with low cobble content. Gravel is fine to coarse, angular to subangular of slag and clinker. Cobbles are slag and clinker. MGR
	0.70 - 1.10	B		1.20			MADE GROUND: Medium dense light grey very gravelly SAND with medium cobble and boulder content. Gravel is fine medium and coarse, subangular and angular of slag, clinker and rare brick fragments. Cobbles and boulders are slag, clinker and brick. MGR
	1.50 - 2.00	LB		2.10			MADE GROUND: Medium dense dark grey gravelly SAND with medium cobble content and low boulder content. Cobbles and boulders are slag. MGR
	2.30	ES		3.40			MADE GROUND: Loose to medium dense grey gravelly SAND with low cobble and low boulder content and fine sand-sized white 'ash'. Cobbles are slag and occasional yellow brick. Boulders are slag. MGR
							<p>At 2.0m: Large boulder. 1050 x 900 x 400mm.</p> <p>At 2.4m: Partially decomposed timber. Soaked in creosote. Strong odour.</p> <p>Below 2.5m: Low ash content.</p>
							End of pit at 3.40 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456897.00 - 524739.00 Level:	Date 05/12/2016
Location: SSI Redcar		Dimensions (m): Depth 3.30	Scale 1:25 Logged FLM
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.20 - 0.70	LB		0.02			MADE GROUND: Sinter MGR MADE GROUND: Loose to medium dense grey sandy GRAVEL with medium cobble content and occasional boulders. Gravel is fine to coarse, angular and subangular of slag and clinker, occasional white ash. Cobbles are subangular of slag and clinker. Slight sulphur odour. Occasional coarse gravel-sized/small cobble sized metal. MGR
	0.80 - 1.20	B		0.70			From 0.5 to 0.7m: Slightly darker colouration. MADE GROUND: Loose to medium dense slightly clayey SAND and GRAVEL with low cobble content and occasional cobble-sized fragments of reworked brown grey firm laminated clay with coarse subangular gravel (possible slag). Locally reddish brown. MGR
	2.10 - 2.30	B		2.30			Below 1.5m: Sidewalls unstable.
	2.50 - 2.80	LB		2.90			MADE GROUND: Medium dense grey slightly sandy slightly gravelly COBBLES and BOULDERS of slag and clinker. MGR
				3.30			MADE GROUND: Loose to medium dense slightly clayey SAND and GRAVEL with low cobble content and occasional cobble-sized fragments of reworked brown grey firm laminated clay with coarse subangular gravel (possible slag). Sand is probable ash. Locally reddish brown. MGR
						End of pit at 3.30 m	

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456927.00 - 524726.00 Date 06/12/2016
Level:

Location: SSI Redcar Dimensions (m): 4.2 Scale 1:25
Depth 3.40 Logged TL

Client: Homes and Communities Agency

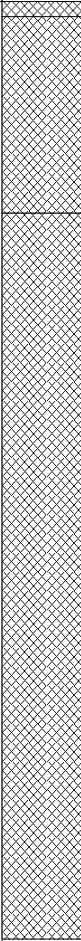
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			
	0.50 - 0.80	B					<p>MADE GROUND: Dark grey to black fine and medium gravel-sized sinter MGR</p> <p>MADE GROUND: Loose dark grey slightly sandy GRAVEL with medium cobble content and low boulder content. Gravel is subangular to angular, fine to coarse of slag, clinker and rare burnt lime. Rare red brick fragments less than 50mmx30mmx20mm. MGR</p> <p><i>Between 0.1 and 0.7m: Discontinuous layer of loose brownish grey slightly sandy GRAVEL with occasional yellow refractory bricks approx 5-10% content.</i></p> <p><i>Between 0.7 and 2.4m: Medium boulder content. Very slightly sandy.</i></p>
	2.70 - 3.00	B					<p><i>Below 2.0m: Brownish grey.</i></p>
▼				3.40			<p>End of pit at 3.40 m</p>

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456967.00 - 524712.00 Level:	Date 14/12/2016
Location: SSI Redcar		Dimensions (m): Depth 3.10	Scale 1:25 Logged TL
Client: Homes and Communities Agency		4.3	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.40	ES		0.05			MADE GROUND: Loose dark grey to black fine and medium gravel-sized sinter MGR
				0.70			MADE GROUND: Loose reddish brown gravelly SAND with medium cobble and low boulder content. Gravel is fine medium and coarse, subangular and angular of slag, clinker and yellow brick fragments. Cobbles are slag and occasional yellow brick. Boulders are slag. MGR
				2.20 - 2.50	B		MADE GROUND: Loose becoming medium dense grey sandy GRAVEL with medium cobble and low to medium boulder content. Gravel and cobbles are slag and clinker. Boulders are slag, up to 500 x 250 x 200mm. Some slag boulders have white crystallisation on outer surface. MGR <i>Between 0.7 and 2.0m: Rare yellow 'refractory' brick.</i>
							<i>Below 2.5m: Medium dense</i>
				3.10			End of pit at 3.10 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457003.00 - 524697.00 Level:	Date 13/12/2016
Location: SSI Redcar	Dimensions (m): Depth 3.20		Scale 1:25 Logged TL
Client: Homes and Communities Agency		4.4	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			MADE GROUND: Dense dark grey fine grained sinter MGR
	0.80	ES		0.80			MADE GROUND: Loose light grey very sandy GRAVEL with medium cobble and low boulder content. Gravel is fine medium and coarse, angular and subangular of slag, clinker and rare yellow brick. Cobbles and boulders are slag. MGR <i>Between 0.3 and 0.5m: Medium boulder content.</i>
	2.00	LB					MADE GROUND: Loose becoming medium dense very sandy GRAVEL with medium cobble and boulder content. Gravel is fine to coarse, subangular and angular of slag, clinker and burnt lime. Cobbles and boulders are slag and rare yellow brick (<5% content). Some slag fragments have white crystallisation on outer surface. MGR <i>Between 1.1 and 1.4m: High boulder content.</i>
	2.20 - 2.50	B					<i>Below 2.0m: Boulder size increasing.</i>
▼				3.20			End of pit at 3.20 m

Remarks:

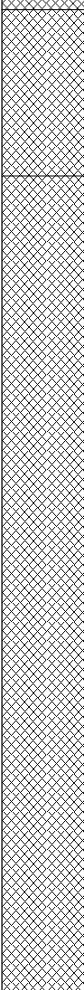
Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457042.00 - 524682.00 Date 08/12/2016

Location: SSI Redcar Dimensions (m): 4.6 Scale 1:25

Client: Homes and Communities Agency Depth 3.30 Logged TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.30 - 0.60	B		0.05			MADE GROUND: Dark grey to black fine gravel-sized sinter MGR MADE GROUND: Loose dark greyish brown very gravelly SAND with low cobble content. Gravel is fine and medium rarely coarse of slag and clinker. Cobbles are slag and red and yellow brick. MGR <i>Note: Yellow 'Refractory' bricks are approx. 5 - 10% of total content.</i> MADE GROUND: Loose grey very sandy becoming sandy GRAVEL with medium cobble and boulder content. Gravel is fine medium and coarse of slag and some clinker. Cobbles and boulders are slag. MGR
				0.60			
				3.30			End of pit at 3.30 m

Remarks:
Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457077.00 - 524663.00 Level:	Date 12/12/2016
Location: SSI Redcar	Dimensions (m): Depth 3.40		Scale 1:25 Logged TL
Client: Homes and Communities Agency		3.7	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.20 - 0.50	B		0.05			MADE GROUND: Medium dense dark grey fine and medium gravel-sized sinter MGR
	0.50	ES					MADE GROUND: Loose dark grey gravelly SAND with low cobble and low boulder content. Gravel is fine medium and coarse, subangular and angular of slag, clinker and red/yellow brick fragments. Cobbles and boulders are slag and red/yellow brick, rare clinker. MGR
							<i>Greyish yellow gravelly SAND with low cobble content. Gravel is fine to coarse subrounded to subangular of slag. Cobbles are subangular of slag.</i>
							<i>Below 1.0m: Pit unstable, undermined on 3 sides.</i>
					1.10		
				1.70			MADE GROUND: Loose light grey with light brown patches sandy GRAVEL and COBBLES with medium boulder content. Gravel is fine medium and coarse, subangular of slag, rare clinker. Boulders are slag. MGR
	2.70 - 3.00	B		2.30			MADE GROUND: Loose to medium dense light brownish grey sandy GRAVEL with low cobble and low boulder content. Gravel is fine and medium rarely coarse, subangular and angular of slag and clinker. Cobbles and boulders are slag. MGR
				3.40			End of pit at 3.40 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456839.00 - 524742.00 Date 05/12/2016
Level:

Location: SSI Redcar Dimensions (m): 4.5 Scale 1:25
Client: Homes and Communities Agency Depth 3.30 Logged FLM

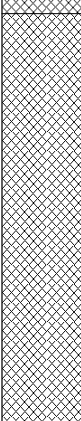
Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			MADE GROUND: Sinter MGR <i>Top 0.5m: Occasional patches of white dust/sand. Possibly burnt lime ash on surface of slag.</i>
	0.50 - 0.80	LB					MADE GROUND: Medium dense dark grey sandy GRAVEL and COBBLES with low boulder content. Gravel is fine to coarse, angular to subrounded of slag, clinker and occasional refractory brick/tile. Cobbles of slag and clinker. Sand portion possibly ash with slag and clinker, all grey. Slight sulphur odour. MGR <i>Below 0.8m: Slight lightening in colour.</i>
	0.80 - 1.00	B					
	1.50 - 1.70	ES		1.50			MADE GROUND: Loose white and grey gravelly SAND with low cobble content and white ash of burnt lime. Gravel is fine to coarse, angular and subangular of slag, clinker and occasional lime/burnt lime. Cobbles are subangular and angular of clinker, slag and occasional red brick. MGR <i>Below 1.7m: Medium dense.</i>
				2.20			<i>From 1.7 to 1.85m: Pockets of red brick, approximately 40% of total volume.</i> <i>Below 2m: Becoming locally black & brown.</i> <i>Below 2.1m: Refractory bricks approximately 5-10% of total volume.</i>
				2.70			MADE GROUND: Dense dark orange brown sandy GRAVEL with low cobble content. Gravel is slag and clinker. Cobbles are slag and clinker. MGR <i>Below 2.2m: Very dense/dense</i> <i>Below 2.6m: Occasional wood/timber cobbles.</i>
▼	3.10 - 3.30	B		3.30			MADE GROUND: Medium dense grey black white sandy GRAVEL. Gravel is fine to coarse, subangular and angular of clinker and slag occasionally lime and yellow brick/tile. MGR
				3.30			End of pit at 3.30 m

Remarks:
Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456872.00 - 524729.00 Level:	Date 06/12/2016
Location: SSI Redcar	Dimensions (m): Depth 3.00		Scale 1:25 Logged TL
Client: Homes and Communities Agency		4.3	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.50 - 0.90	B		0.05			<p>MADE GROUND: Dark grey to black fine and medium gravel-sized sinter MGR</p> <p>MADE GROUND: Loose to medium dense dark grey sandy GRAVEL with low cobble content. Gravel and cobbles are slag, clinker, yellow/red brick and rare burnt lime. MGR</p> <p>At 0.4m: Metal debris. Sheet approx. 500 x 300mm. Bar approx 20mm diameter 500mm long.</p> <p>Below 0.5m: Grey</p> <p>Below 0.9m: Low boulder content. Slag.</p>
	2.10 - 2.30	B		1.40			<p>MADE GROUND: Loose to medium dense light grey slightly sandy gravelly COBBLES with medium boulder content. Gravel and cobbles are subangular of slag, clinker and burnt lime. Boulders are mostly slag rarely clinker, up to 380 x 380 x 280mm. MGR</p> <p>Below 2.3m: Red brick and tile approx. 1-2% of total volume.</p> <p>Below 2.6m: Sandy.</p>
▼				3.00			<p>End of pit at 3.00 m</p>

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456908.00 - 524713.00 Date 15/12/2016

Location: SSI Redcar Dimensions (m): 4.4 Scale 1:25

Client: Homes and Communities Agency Depth 3.20 Logged TL

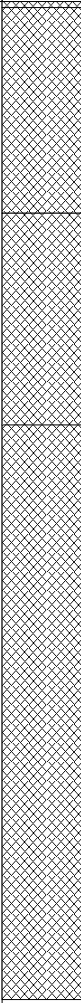
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.02			MADE GROUND: Medium dense dark grey/black sinter MGR
	0.60	ES		0.60			MADE GROUND: Loose light brownish grey sandy GRAVEL with low to medium cobble content. Gravel is fine medium and coarse, subangular of slag occasionally clinker. Cobbles are slag and rare yellow brick fragments. MGR <i>Between 0.1 and 1.0m: Strong ammonia odour.</i> <i>At 0.5m: Large boulder. 1150 x 800 x 850mm. 'Conglomerate' of slag boulders.</i>
	2.30 - 2.60	B					MADE GROUND: Loose becoming medium dense grey very sandy GRAVEL with low to medium cobble content and low boulder content. Gravel is fine medium and coarse, subangular and angular of slag, clinker and lime. Cobbles and boulders are slag and clinker, rare lime. MGR <i>Below 1.5m: Low cobble content.</i> <i>Between 1.5 and 2.7m: Medium boulder content.</i>
				3.20			<i>Below 2.7m: Low boulder content.</i> End of pit at 3.20 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456940.00 - 524702.00 Level:	Date 07/12/2016
Location: SSI Redcar	Dimensions (m): Depth 3.30		Scale 1:25 Logged TL
Client: Homes and Communities Agency		4.8	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.70 - 1.00	B		0.02			MADE GROUND: Dark grey to black fine and medium gravel-sized sinter MGR MADE GROUND: Loose greyish brown and grey sandy GRAVEL with low cobble content. Gravel is fine medium and coarse, sub angular and angular of clinker, rare slag. MGR
				0.70			MADE GROUND: Loose becoming medium dense grey very sandy GRAVEL with low to medium cobble and low boulder content. Gravel is fine, medium and coarse, subangular rare angular of slag, clinker and possible iron ore. Coarse gravels are mixed grey and reddish brown. MGR <i>Below 1.0m: No reddish brown iron ore.</i> <i>Between 1.2 and 1.4m: Dark grey.</i>
				1.40			MADE GROUND: Loose locally dense grey slightly sandy GRAVEL with low cobble content and medium boulder content. Gravel is angular and subangular, fine medium and coarse of slag, rare clinker. Boulders are slag. MGR
	2.60 - 3.00	B		3.30			At 3.1m: <i>Hard layer of compacted slag. Slowed excavation.</i> End of pit at 3.30 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456977.00 - 524686.00 Level:	Date 07/12/2016
Location: SSI Redcar	Dimensions (m): 4.3 Depth 3.10		Scale 1:25 Logged TL
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.10 - 0.40	B		0.05		[Cross-hatched pattern]	MADE GROUND: Dark grey to black fine and medium gravel-sized sinter MGR
				0.70			MADE GROUND: Loose grey locally brownish grey sandy GRAVEL with low cobble and low boulder content. Gravels are clinker and slag, rare red/yellow brick. MGR <i>Between 0.5 and 0.7m: Greyish brown with approx. 5% yellow/red brick content.</i>
	1.80 - 2.10	B					MADE GROUND: Loose to medium dense grey becoming dark grey with depth sandy GRAVEL with medium cobble and boulder content. Gravel, cobbles and boulders are clinker and slag with some ferrous staining and white staining on edges. MGR <i>At 0.7m: Large boulder. Conglomerate of slag. 950 x 600 x 500mm.</i> <i>Between 0.7 and 1.1m: Medium grey.</i>
							<i>Below 2.5m: No red/yellow brick.</i>
				3.10			End of pit at 3.10 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457015.00 - 524670.00 Level:	Date 13/12/2016
Location: SSI Redcar	Dimensions (m): Depth 3.10		Scale 1:25 Logged TL
Client: Homes and Communities Agency		4.5	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.05			0.05			MADE GROUND: Dark grey/black sinter MGR
	0.30	ES					MADE GROUND: Loose grey very sandy GRAVEL with medium cobble content. Gravel is fine medium and coarse, angular and subangular of clinker, slag and burnt lime. Cobbles are slag and clinker, rare red/yellow brick. MGR
	0.60			0.60			At 0.2m: <i>Fragment of iron ore. 400 x 200 x 100mm.</i>
	0.70 - 1.00	B					MADE GROUND: Medium dense dark brownish grey gravelly SAND with low cobble and low boulder content. Gravel is fine medium and coarse, subangular of slag and occasional yellow brick fragments. Cobbles and boulders are slag and red/yellow brick. MGR
				1.20			MADE GROUND: Loose locally medium dense grey very sandy GRAVEL and COBBLES with medium boulder content. Cobbles and boulders are slag. Gravel is fine medium and coarse, subangular and angular of slag, clinker and rare yellow brick fragments. MGR
				3.10			End of pit at 3.10 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457053.00 - 524657.00 Level:	Date 09/12/2016
Location: SSI Redcar	Dimensions (m): Depth 3.10		Scale 1:25 Logged TL
Client: Homes and Communities Agency		4.1	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.05			MADE GROUND: Dark grey to black fine and medium gravel-sized sinter MGR
				0.60			MADE GROUND: Loose brownish grey very sandy GRAVEL with high cobble content and low boulder content. Gravel is fine medium and coarse, subangular, rarely angular mostly slag some clinker. Cobbles are slag, clinker and yellow brick. Boulders are slag. MGR
	1.70 - 2.00	B		1.40			MADE GROUND: Loose dark brownish grey very sandy GRAVEL with medium cobble content and medium boulder content. Gravel is fine medium and coarse, subangular of slag and clinker. Cobbles and boulders are slag and clinker. MGR <i>Below 0.7m: Boulder size increasing with depth.</i> <i>At 1.0m: Two large boulders. 1150 x 900 x 550mm and 1800 x 1400 x 800mm.</i>
	2.40 - 2.70	B		2.30			MADE GROUND: Loose light grey very sandy GRAVEL with low to medium cobble content and low boulder content. MGR
				3.10			MADE GROUND: Loose to medium dense light orangeish brown very sandy GRAVEL/gravelly SAND with medium cobble content and low boulder content. Sand is medium to coarse. Gravel is fine medium and coarse, angular and subangular of slag and clinker. Cobbles are slag and clinker. Boulders are slag. MGR
							End of pit at 3.10 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456545.00 - 524906.00 Level:	Date 19/01/2017
Location: SSI Redcar	Dimensions (m): Depth 3.10		Scale 1:25 Logged TL
Client: Homes and Communities Agency		4.5	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.30 - 0.60	B		0.05			MADE GROUND: Loose grey/black fine to medium SAND AND GRAVEL (Sinter) MGR
				0.20			MADE GROUND: Medium dense dark grey sandy GRAVEL with low cobble content. Gravel is fine to medium, occasionally coarse, angular to subangular and includes slag, clinker, yellow brick fragments and burnt lime. Cobbles are assorted types of slag and clinker with some white staining. MGR
				0.80			<i>Below 0.1m: Sulphur odour @ 0.5m: iron ~ 400 x 400 x 100mm</i> MADE GROUND: Loose light grey gravelly SAND with some white ash. MGR <i>Below 0.1m: Sulphur odour @ 0.5m: iron ~ 400 x 400 x 100mm</i> MADE GROUND: Medium dense light grey sandy GRAVEL AND COBBLES with low boulder content and abundant white ash/possible crystallisation. Gravel and cobbles are poorly sorted, angular to subangular of slag, clinker and occasional yellow brick fragments. Boulders are slag. MGR <i>Below 1.5m: Ammonia odour</i> <i>At 1.7m: Hard compacted slag layer</i>
				2.40			MADE GROUND: Medium dense brownish grey sandy GRAVEL with low cobble content and fragments of red and yellow brick. MGR
	2.60	ES		3.10			End of pit at 3.10 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456603.00 - 524920.00 Date 23/01/2017

Location: SSI Redcar Dimensions (m): 2.4 x 4.6 Scale 1:25

Client: Homes and Communities Agency Depth 3.40 Logged TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.40	ES		0.50		[Cross-hatched pattern]	MADE GROUND: Loose to medium dense dark grey/black coarse sand to medium gravel sized SINTER MGR <i>Below 0.2m: Sulphur odour</i>
				0.60			MADE GROUND: Loose dark grey very gravelly SAND with low cobble content. Gravel is slag, clinker and occasionally yellow brick fragments, angular to subangular fine to coarse. Cobble content is angular to subangular of slag, clinker and rare yellow brick MGR
	2.60	ES				[Cross-hatched pattern]	MADE GROUND: Loose grey very sandy GRAVEL with low to medium cobble content. Gravel is slag, clinker and rare yellow brick fragments and lime. Cobbles are mostly slag, rare yellow brick fragments and clinker. Boulders are slag. Some slag has white crystallisation on outer surface. Locally sandy gravel. MGR <i>Below 1.5m: Dark grey. Refractory brick content < 5% of total volume.</i>
	2.80 - 3.10	B					<i>Below 2m: Ammonia odour, slight</i>
				3.40			End of pit at 3.40 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456637.00 - 524872.00 Level:	Date 19/01/2017
Location: SSI Redcar		Dimensions (m): 4.3 Depth 3.50	Scale 1:25 Logged TL
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.50	ES		0.10			<p>MADE GROUND: Loose dark grey/black coarse sand to medium gravel - sized SINTER MGR</p> <p>MADE GROUND: Medium dense light brownish grey very gravelly SAND with medium cobble content and low boulder content. Gravel is fine to coarse, angular to subangular of slag and clinker. Cobbles and boulders are slag, clinker, yellow brick and weak white tufa. Fragments of tufa throughout MGR</p> <p><i>At 0.9m: Hard layer of compacted slag - Took 15 mins to get through. From 0.9m to 1.4m: Medium to high boulder</i></p>
	2.00 - 2.30	B		1.40			<p>MADE GROUND: Medium dense grey very sandy GRAVEL with medium cobble content and low to medium boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker rare burnt lime, rare red and yellow brick fragments. Cobbles are slag, clinker, re & yellow brick fragments and rare burnt lime. Boulders are mostly slag and some clinker. MGR</p>
				3.50			<p>End of pit at 3.50 m</p>

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456693.00 - 524882.00 Level:	Date 23/01/2017
Location: SSI Redcar	Dimensions (m): Depth 3.40		Scale 1:25 Logged TL
Client: Homes and Communities Agency		2.2	5

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.70	ES		0.50 0.60			MADE GROUND: Dense dark grey / black coarse sand to fine gravel - sized SINTER MGR <i>At Om: Dense material. Pit located on an area used by heavy plant.</i>
	1.70 - 2.00	B		1.10			MADE GROUND: Loose to medium dense light grey sandy GRAVEL with very low cobble content. Gravel is fine to coarse, angular to subangular of slag, sinter concrete fragments. MGR MADE GROUND: Medium dense dark grey slightly gravelly SAND with low cobble content and rare (very low) boulders. Gravel and cobbles are of subangular slag MGR MADE GROUND: Loose grey very sandy GRAVEL with medium cobble and low boulder content. Gravel and cobbles are slag, clinker occasionally. Yellow brick and fragments and burnt lime. Boulders are slag. MGR <i>From 1.5: medium boulder content</i>
				3.40			<i>Below 2.1m: Dark grey, very sandy.</i> End of pit at 3.40 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456729.00 - 524834.00 Date 20/01/2017

Location: SSI Redcar Dimensions (m): 4.5 Scale 1:25

Client: Homes and Communities Agency Depth 3.20 Logged TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20	ES		0.05			MADE GROUND: Loose dark grey/black coarse sand to medium gravel - sized SINTER MGR
				0.40			MADE GROUND: Medium dense greyish brown gravelly SAND with low to medium cobble content and low boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker rarely burnt lime and brick fragments. Cobbles and boulders are slag & clinker occasionally yellow brick fragments. MGR
	1.00 - 1.30	B					MADE GROUND: Medium dense grey very gravelly SAND AND GRAVEL with medium cobble content and low to medium boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker rarely burnt lime. Cobbles are slag, clinker and occasional red brick fragments. Boulders are slag. MGR <i>Below 0.4m: Light grey with white ash tufa</i>
							<i>Below 2.0m: Low boulder content</i>
	2.50	ES					<i>Below 2.5m: Boulder size increasing</i>
				3.20			End of pit at 3.20 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456536.00 - 524880.00 Level:	Date 18/01/2017
Location: SSI Redcar	Dimensions (m): Depth 3.40		Scale 1:25 Logged TL
Client: Homes and Communities Agency		3.7	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.30	ES		0.02			MADE GROUND: Loose dark grey black SINTER MGR
				0.80			MADE GROUND: Medium dense grey gravelly SAND with low cobble content and occasional boulders. Gravel is fine to coarse, angular to subangular of slag, clinker, brick fragments. Cobbles are slag and clinker occasional yellow brick. Boulders are slag. Some gravel and sand is white possibly ash or tufa. MGR
	1.70 - 2.00	B		2.20			MADE GROUND: Medium dense light grey gravelly SAND with medium locally high cobble and low medium boulder content. Gravel is slag, clinker burnt lime and yellow brick fragments, cobbles and boulders are slag, clinker and brick fragments. No intact bricks seen. White staining on some slag. MGR <i>Below 1.0m: compacted slag, very dense, slow dig</i> <i>Below 1.5m: Medium boulder content. Suspected not natural possible hydraulic fill.</i>
	3.00	ES		3.40			MADE GROUND: Loose to medium dense yellowish brown slightly gravelly SAND with occasionally pockets > 300 x 200 x 200 of soft brown clay. Gravel is fine to medium, occasionally coarse, subangular to rounded of mixed lithologies. Some gravel not natural possible drop down. MGR
							End of pit at 3.40 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456655.00 - 524841.00 Date 16/01/2017
Level:

Location: SSI Redcar Dimensions (m): 4.5 Scale 1:25
Depth 3.20 Logged TL

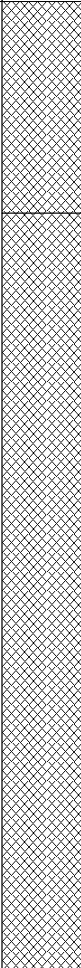
Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			MADE GROUND: Dark grey black gravel-sized SINTER MGR
	0.70 - 1.00	B					<i>Below 0.5m: Becoming medium dense</i> MADE GROUND: Loose light yellowish grey very sandy GRAVEL with low becoming medium cobble content and low boulder content. Locally very gravelly sand. Gravel is fine to coarse, angular to subangular of slag, clinker, burnt lime and some yellow brick. Cobbles are slag, clinker burnt lime and yellow brick. Boulders are slag. MGR
	1.70 - 2.00	B		1.50			MADE GROUND: Loose to medium, dense grey sandy fine to coarse, angular to subangular of GRAVEL with medium cobble content and low boulder Gravel is of clinker and occasional burnt lime. Cobbles are subangular of Slag, clinker rare yellow brick. Boulders are slag. White staining tufa on some slag boulders. MGR <i>Below 2.0m: Tending to travel and cobbles</i>
				3.20			End of pit at 3.20 m

Remarks:
Stability:




Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456688.00 - 524820.00 Level:	Date 16/01/2017
Location: SSI Redcar	Dimensions (m): Depth 3.20		Scale 1:25 Logged TL
Client: Homes and Communities Agency		4.5	

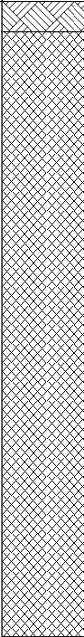
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.30	ES		0.70			MADE GROUND: Loose dark grey black gravelly SAND with low cobble content and rare boulders. Gravel is fine to coarse, angular to subangular of slag and clinker and brick fragments. Cobbles and boulders are slag, clinker and yellow and red brick fragments MGR <i>At OM: TPB12 moved 10m west due to drain shown on service plan.</i>
	1.00 - 1.30	B					MADE GROUND: Loose light brownish grey very sandy fine to coarse, angular to subangular GRAVEL with medium cobble content and low boulder content. Gravel is mostly slag with clinker, cobbles and boulders are slag. MGR <i>Below 1.0m: Gravelly sand.</i> <i>Below 1.0m: Ammonia odour</i>
				3.20			<i>Below 2.0m: Grey, less sandy.</i> End of pit at 3.20 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456617.00 - 525092.00 Level:	Date 14/02/2017
Location: SSI Redcar	Dimensions (m): Depth 2.10		Scale 1:25 Logged TL
Client: Homes and Communities Agency		2.4 	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.70	ES		0.10		 <p>MADE GROUND: Grass over TOPSOIL: medium dense dark brown/black slightly gravelly sandy SILT with numerous rootlets. TPS</p> <p>MADE GROUND: Medium dense grey gravelly SAND with medium cobble and low boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker, red brick and concrete. Cobbles and boulders are mostly of slag, rarely clinker, occasional intact red and yellow brick. Rare wire and metal waste. Rare pockets of brownish grey and dark grey - possibly ash/sinter and sand content. Some slag has white crystallisation on the edges. MGR</p> <p><i>Very dense</i> <i>Sulfur odour</i> <i>Very gravelly</i> <i>Steel H-Beam ~1m long</i></p>	1
				2.10		<p>End of pit at 2.10 m</p>	2
							3
							4
							5

Remarks:

Stability:





Trial Pit Log

Trialpit No

TPH03

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation


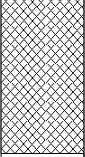
Project No.
678079Co-ords: 456655.00 - 525078.00
Level:Date
14/02/2017

Location: SSI Redcar

Dimensions
(m):Scale
1:25

Client: Homes and Communities Agency

Depth
0.80Logged
TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			MADE GROUND: Grass over TOPSOIL: Medium dense dark brown/black slightly gravelly sandy SILT with rare cobbles and abundant rootlets. TPS
				0.80			MADE GROUND: Medium dense grey very gravelly SAND with medium to high cobble content and low to medium boulder content. Gavel is fine to coarse, angular to subangular and includes slag, clinker and some brick fragments. Cobbles and boulders are mostly slag with some clinker and red/refractory brick. Occasional pockets (<500x200x400mm) of greyish brown clayey sand. Some slag pieces have white crystallisation on the outer edge. MGR <i>Very dense, compacted</i>
							End of pit at 0.80 m

1

2

3

4

5

Remarks:

Stability:




Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456701.00 - 525080.00 Level:	Date 25/04/2017
Location: SSI Redcar	Dimensions (m): Depth 2.50		Scale 1:25 Logged AC
Client: Homes and Communities Agency		3.6	


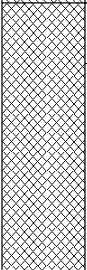
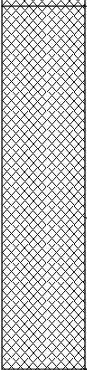
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.10			0.10		MADE GROUND: Grass over dark brown/black silty TOPSOIL. TPS	
	0.90	ES				MADE GROUND: Light grey and dark greyish brown very sandy medium to coarse, angular to subangular GRAVEL of slag and red brick with cobbles and boulders. Occasional whole refractory and red bricks. MGR	
						Occasional metal bars.	
						Yellowish	
▼						Slightly clayey	
	2.40	ES		2.50		End of pit at 2.50 m	

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456744.00 - 525064.00 Level:	Date 25/04/2017
Location: SSI Redcar	Dimensions (m): Depth 2.30		Scale 1:25 Logged JNB
Client: Homes and Communities Agency		2.1 	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.20			TOPSOIL TPS
	0.40 - 1.10	ES					MADE GROUND: Loose greyish brown slightly clayey very gravelly fine to coarse SAND with low cobble and boulder content. Gravel is of slag, red and refractory brick and lime (?). MGR <u>Grey very sandy gravel.</u>
	1.10 - 1.80 1.10 - 1.80	D ES		1.10			MADE GROUND: Soft to firm brown and white slightly sandy slightly gravelly CLAY with a low cobble content. Gravel is of red and refractory brick and slag. MGR <u>Increased sand and gravel content</u>
				2.30			End of pit at 2.30 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456782.00 - 525054.00 Level:	Date 25/04/2017
Location: SSI Redcar		Dimensions (m): Depth 2.80	Scale 1:25 Logged AC
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			MADE GROUND: Grass over dark brown slightly gravelly sandy silty TOPSOIL. TPS
	0.50	ES					MADE GROUND: Grey brown clayey gravelly SAND with cobbles. Gravel is fine to coarse grey slag. Fragments and whole red and refractory brick. Occasional fragments of cloth. Occasional cobble sized lumps of black clayey material and decomposed wood. MGR
				1.10			MADE GROUND: Greyish brown clayey gravelly SAND with occasional fragments of brick concrete and black organic matter. MGR
				1.90			<i>Slightly gravelly sand, occasional intact yellow brick</i>
	2.50	ES					MADE GROUND: soft to firm grey gravelly very sandy CLAY. Gravel is fine to coarse, angular to subangular and includes slag, whole and fragmented red brick and concrete. Fragments of wood. MGR
▼	3.00	D		3.10			End of pit at 2.80 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456821.00 - 525026.00 Level:	Date 16/02/2017
Location: SSI Redcar		Dimensions (m): Depth 2.10	Scale 1:25 Logged LK
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.50	ES		0.20			MADE GROUND: Grass over brown and very dark grey slightly gravelly silty SAND with abundant rootlets. Gravel is fine to coarse subrounded to subangular of slag and coke. TPS
	2.00	ES		2.10			MADE GROUND: Greyish brown very sandy GRAVEL with abundant cobbles and occasional boulders. Some pockets of firm brown clay in the upper metre. Gravel is fine to coarse subrounded to subangular of slag, some whitish slag. Cobbles and boulders of slag. Occasional brick fragments (red, refractory) Rare scrap metal, small wood, plastic and glass fragments. Lump of tufa at around 0.5m. Rope of wire at the side looking at excavation at around 0.3m going around the side. Frequent bricks towards bottom, broken and whole (red, refractory) slightly clayey at the bottom 0.5m. Evidence of Oil on bricks. MGR
----- End of pit at 2.10 m -----							

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456636.00 - 525136.00 Date 14/02/2017

Location: SSI Redcar Dimensions (m): 3.9 Scale 1:25

Client: Homes and Communities Agency Depth 0.60 Logged LK

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.40	ES		0.20			MADE GROUND: Grass over dark brown gravelly silty SAND with abundant rootlets. Gravel is fine to coarse subrounded to subangular of predominately slag and some coke. Rare brick fragments. MGR
				0.60			MADE GROUND: Grey slightly sandy GRAVEL with abundant cobbles and rare boulders. Gravel is fine to coarse subrounded to subangular of slag. Rare scrap metal fragments. 2 cables/pipes at 0.6m. Yellow slightly gravelly SAND around them. Gravel is fine to coarse of slag. TP terminated due to pipes/cables. MGR <i>TP Terminated at 0.6m due to pipes / cables being discovered</i> End of pit at 0.60 m

Remarks:

Stability:





Trial Pit Log

Trialpit No
TPH10
Sheet 1 of 1

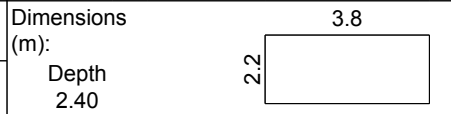
Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079

Co-ords: 456674.00 - 525116.00
Level:

Date
14/02/2017

Location: SSI Redcar



Scale
1:25
Logged
LK

Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			MADE GROUND: Grass over dark brown slightly gravelly silty SAND. Gravel is fine to coarse subrounded to subangular of slag. TPS
				0.70			MADE GROUND: Grey slightly sandy GRAVEL with frequent cobbles and rare boulders. Gravel is fine to coarse subrounded to subangular of slag, whitish slag. Rare brick fragments (red, refractory). MGR
	1.50	ES					
	1.70 - 2.00	B					
				2.40			End of pit at 2.40 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456711.00 - 525095.00 Level:	Date 16/02/2017
Location: SSI Redcar		Dimensions (m): Depth 2.10	Scale 1:25 Logged LK
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	1.70	ES		0.20			<p>MADE GROUND: Grass over dark greyish brown gravelly silty SAND with abundant cobbles. Gravel is fine to coarse subrounded to subangular of slag and coke. TPS</p> <p>MADE GROUND: Brown very sandy gravel to very gravelly SAND with abundant cobbles and frequent boulders. Some firm brown and light brown clay pockets. Gravel is fine to coarse subrounded to subangular slag, some whitish slag. Cobbles and boulders of slag, whitish slag. Rare wood fragments, one is up to 1.5m long. Rare glass fragments, railway line, wood sleepers, frequent bricks (mostly broken, red 50% and 50% refractory) occasional scrap metal, wood fragments at the bottom of TP (associated with railway line) slightly clayey towards bottom, slight hydrocarbon odour. MGR</p>
				2.10			<p>End of pit at 2.10 m</p>

Remarks:


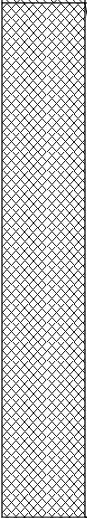
Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456760.00 - 525088.00 Date 15/02/2017

Location: SSI Redcar Dimensions (m): 4.7 Scale 1:25

Client: Homes and Communities Agency Depth 1.90 Logged LK


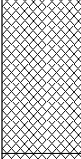
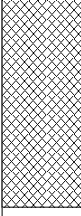
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	1.00 - 1.30	B		0.20			MADE GROUND: Grass over dark brown gravelly silty SAND with abundant rootlets. Gravel is fine to coarse subrounded to subangular of slag. Rare gravel size brick fragments. TPS
				1.90			MADE GROUND: Brownish grey very sandy GRAVEL with frequent cobbles, occasional boulders and rare large boulders. Gravel is fine to coarse subrounded to subangular of slag, whitish slag. Cobbles and boulders of slag, whitish slag. Occasional bricks, both whole and broken (red, refractory). Layer of abundant red bricks with black material underneath, between 0.8-1.2m at the side looking at excavator. MGR <i>TP Terminated at 1.9m due to groundwater</i>
							End of pit at 1.90 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456801.00 - 525072.00 Level:	Date 16/02/2017
Location: SSI Redcar	Dimensions (m): Depth 2.00		Scale 1:25 Logged TL
Client: Homes and Communities Agency		3.8	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.10			MADE GROUND: Grass over TOPSOIL: Loose dark brown slightly gravelly silty SAND with numerous rootlets. TPS
	0.50	ES		0.80			MADE GROUND: Medium dense brownish grey very gravelly SAND with medium cobble and low boulder content and numerous pockets (<100x50x50mm) of stiff brown sandy clay. Gravel is fine to coarse, angular to subangular of slag, clinker and red/refractory brick. Cobbles are mostly slag with some brick. Boulders are slag, rarely intact brick. MGR
				1.50			MADE GROUND: Stiff greyish brown sandy gravelly CLAY with pockets of very gravelly sand throughout. MGR
							End of pit at 2.00 m

Remarks:

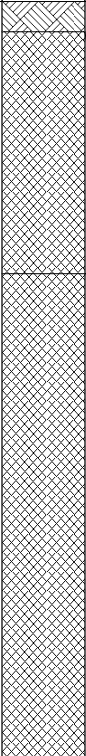
Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456836.00 - 525062.00 Date 16/02/2017

Location: SSI Redcar Dimensions (m): 3.8 Scale 1:25

Client: Homes and Communities Agency Depth 2.50 Logged LK

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼ 2.00 2.10 - 2.30				0.10			MADE GROUND: Grass over dark brown silty gravelly SAND with abundant rootlets. Gravel is fine to coarse subrounded to subangular of slag. TPS
				0.90			MADE GROUND: Grey sandy GRAVEL with abundant cobbles and occasional boulders. Gravel is fine to coarse subrounded to subangular of slag, whitish slag. Cobbles and boulders of slag. 1 large boulder 1m long. Occasional brick fragments (red, refractory). MGR
		ES B		2.50			MADE GROUND: Firm brown sandy gravelly CLAY with occasional cobbles. Gravel is fine to coarse subrounded to subangular of slag. Cobbles are of slag. Pockets of firm clay, rare small wood fragments. MGR <i>TP Terminated at 2.5m due to groundwater - fast inflow</i>
							End of pit at 2.50 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456644.00 - 525177.00 Level:	Date 14/02/2017
Location: SSI Redcar	Dimensions (m): Depth 2.60		Scale 1:25 Logged TL
Client: Homes and Communities Agency		4.2	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			MADE GROUND: Grass over TOPSOIL: Loose dark brown/black silty sand with abundant fine to coarse subangular gravel of coke and numerous rootlets. TPS
	0.70	ES		0.90			MADE GROUND: Medium dense brownish grey gravelly SAND with medium cobble content and rare pockets (<500x300x300mm) of stiff brown sandy clay. Gravel is fine to coarse, angular to subangular of slag, clinker, occasional brick fragments. Cobbles are mostly slag, lesser red and yellow brick (silica and refractory) MGR
▼	1.40 - 1.70	B					MADE GROUND: Medium dense grey gravelly clayey SAND with medium cobble content and rare boulders. Gravel is fine to coarse, angular to subangular of slag, clinker and brick fragments. Cobbles are slag and brick. Boulders are slag rarely intact yellow and red brick with occasional wire casing. Locally very clayey to sandy clay. MGR
▼	2.20	ES		2.60			End of pit at 2.60 m

Remarks:

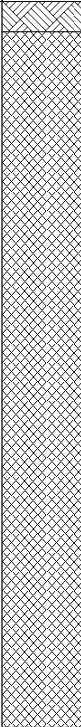
Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456687.00 - 525161.00 Date 14/02/2017

Location: SSI Redcar Dimensions (m): 2.7 x 4.3 Scale 1:25

Client: Homes and Communities Agency Depth 2.40 Logged TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.10			<p>MADE GROUND: Grass over TOPSOIL: Medium dense dark grey/black slightly gravelly sandy SILT. Gravel is medium to coarse of coke. TPS</p> <p>MADE GROUND: Loose yellowish grey slightly gravelly SAND with rare cobbles. Gravel is subangular to rounded. Cobbles include occasional red brick fragments and some intact. Occasional linear bands of dark grey to black sand. Rare wood fragments, plastic waste and concrete fragments. MGR</p>
				2.40			<p>2m wide piece of reinforced concrete</p> <p>End of pit at 2.40 m</p>

Remarks:


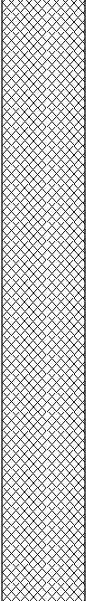
Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456733.00 - 525146.00 Date 15/02/2017

Location: SSI Redcar Dimensions (m): 2.4 x 3.7 Scale 1:25

Client: Homes and Communities Agency Depth 2.20 Logged LK

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.20			MADE GROUND: Grass over dark grey silty sandy gravel with abundant rootlets. Gravel is fine to medium of coke (predominately) and slag. TPS
	1.30	ES					MADE GROUND: Greyish brown very gravelly SAND with frequent cobbles, occasional boulders, rare large boulders and occasional clay pockets. Gravel is fine to coarse subrounded to subangular of slag, cobbles and boulders of clay, some whitish slag, occasional bricks, 50/50 broken/whole (red, refractory) frequent towards the bottom of TP. Rare wood and scrap metal fragments. Occasional clay pockets, greyish brown with light brown and black patches. Rare slate, glass and pottery fragments. Very sandy slightly clayey/silty gravel at the bottom of the TP. MGR <i>TP Terminated at 2.2m due to groundwater</i>
				2.20			End of pit at 2.20 m

Remarks:

Stability:





Trial Pit Log

Trialpit No
TPH19
Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079

Co-ords: 456775.00 - 525128.00
Level:

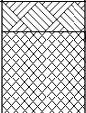
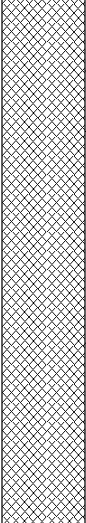
Date
15/02/2017

Location: SSI Redcar

Dimensions (m):
Depth 2.10 3.6

Scale
1:25
Logged
TL

Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.80	ES		0.10			MADE GROUND: Grass over TOPSOIL: loose very dark brown/black slightly gravelly sandy SILT with abundant rootlets. Gravel is medium to coarse, some fine, subangular of coke and assorted lithologies TPS
				2.10			MADE GROUND: Medium dense dark grey gravelly SAND with low to medium cobble and low boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker, some brick fragments and concrete. Cobbles are slag, some brick fragments and clinker. Boulders are slag and occasional intact refractory brick. Bricks ~5-10% of total volume. Rare scrap metal waste. MGR <u>Very dense</u> <u>Numerous intact refractory bricks</u> <u>Rare partially decomposed wood waste</u>
							End of pit at 2.10 m

Remarks:


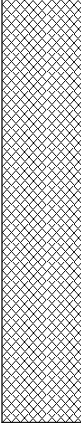
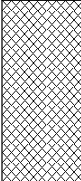
Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456818.00 - 525115.00 Date 15/02/2017

Location: SSI Redcar Dimensions (m): 4.2 Scale 1:25

Client: Homes and Communities Agency Depth 2.20 Logged LK

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	2.00	ES		0.20			MADE GROUND: Grass over dark brown silty gravelly SAND with abundant rootlets. Gravel is fine to coarse subrounded to subangular of slag. Rare brick fragments (red). TPS
				1.60			MADE GROUND: Brown very gravelly sand to very sandy GRAVEL with abundant cobbles, occasional boulders and rare large boulders. Rare clay pockets. Gravel is fine to coarse subrounded to subangular of slag. Cobbles and boulders are of slag. Frequent bricks, mostly broken (red, refractory). Rare tile fragments (pipe?), wood and pottery fragments. MGR
				2.20			MADE GROUND: Stiff greyish brown mottled black, slightly gravelly CLAY. Gravel is fine to coarse subrounded of sandstone and possibly slag. MGR
							End of pit at 2.20 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456857.00 - 525106.00 Level:	Date 16/02/2017
Location: SSI Redcar	Dimensions (m): Depth 2.40		Scale 1:25 Logged TL
Client: Homes and Communities Agency		3.6	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.20			MADE GROUND: Grass over TOPSOIL: Dark brown silty SAND with gravel and rootlets. TPS
	1.60	ES					MADE GROUND: Medium dense, locally dense, dark grey very gravelly SAND with low to medium cobble and low boulder content with occasional pockets (500x300x400mm) of brown sand clay. Gravel is fine to coarse, angular to subangular of slag, clinker, brick (red/yellow), concrete. Cobble are slag, concrete, brick. Boulders are slag, rare intact brick. MGR <u>Dense</u> <u>Dark grey black possible ash in eastern wall of pit.</u> <u>Disused pipe, discontinuous.</u>
				2.40			End of pit at 2.40 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456658.00 - 525224.00 Level:	Date 14/02/2017
Location: SSI Redcar	Dimensions (m): Depth 3.60		Scale 1:25 Logged LK
Client: Homes and Communities Agency		2.7	4.3


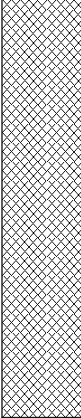
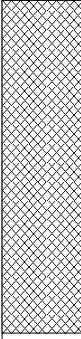
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			MADE GROUND: Grass over very dark grey slightly silty very gravelly SAND with abundant rootlets. Gravel is fine to coarse subrounded of coke and slag.
				0.30			TPS MADE GROUND: Layer of grey slag. MGR
	1.50	ES					MADE GROUND: Stiff brown / orangish brown slightly gravelly to gravelly CLAY. Gravel is fine to coarse subrounded of various lithologies, including sandstone, coal. Slight hydrocarbon odour. Two blocks of concrete 0.9 x 0.2m. Small layers of brown slightly sandy gravel within. Gravel is fine to coarse subrounded to subangular of slag. Rare glass fragments MGR
	2.50 - 2.80	B					
	3.40	ES					
				3.50			TP Terminated at 3.6m due to groundwater
				3.60			MADE GROUND: Dark grey gravelly clayey SAND to very sandy CLAY at the bottom of the trial pit. Gravel is fine to coarse of slag, sandstone. Hydrocarbon odour. Occasional shell fragments, rare scrap metal fragments, rare gravel size brick fragments (red). MGR TP Terminated at 3.6m due to groundwater End of pit at 3.60 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456702.00 - 525204.00 Level:	Date 14/02/2017
Location: SSI Redcar	Dimensions (m): Depth 2.70		Scale 1:25 Logged LK
Client: Homes and Communities Agency		4.3	


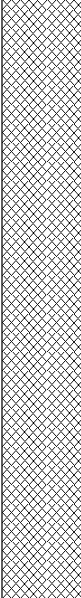
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.20			MADE GROUND: Grass over dark brown slightly clayey gravelly SAND with frequent cobbles and abundant rootlets. Gravel is fine to coarse subrounded to subangular of slag and coke. Rare brick fragments (red, refractory). TPS
				1.60			MADE GROUND: Brown very gravelly to gravelly SAND with frequent cobbles and occasional boulders both of slag. Greyish brown from around 1m. Gravel is fine to coarse subrounded to subangular of slag. Occasional bricks, both broken and whole (red, refractory). Rare scrap metal fragments up to 1m long. MGR
	2.30	ES		2.70			MADE GROUND: Dense brownish grey slightly gravelly SAND. Gravel is fine to coarse subrounded to subangular of various lithologies (difficult to tell due to sand). Some beach pebbles, possibly slag. Rare shell fragments. Occasional rootlets and black patches. Slight hydrocarbon odour. MGR
							End of pit at 2.70 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456744.00 - 525185.00 Level:	Date 15/02/2017
Location: SSI Redcar	Dimensions (m): Depth 2.20		Scale 1:25 Logged TL
Client: Homes and Communities Agency		3.4	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
▼	1.20	ES		0.10		 <p>MADE GROUND: Grass over TOPSOIL: loose very dark brown/black slightly silty gravelly SAND. TPS</p>	1	
					2.20			 <p>MADE GROUND: Medium dense brownish grey gravelly SAND with low to medium cobble and low boulder content with pockets (<500x400x300mm) of stiff brown sandy clay. Gravel is fine to coarse subangular to angular of slag, clinker, possibly mortar or some concrete. Cobble and boulders are mostly slag with some clinker and possible lime material. Occasional wood pieces, partially decomposed up to 500mm long. Some small pockets of black possibly ashy material. MGR</p> <p><u>25mm dia. cable</u> <u>Hydrocarbon odour</u></p> <p><u>Three cables tied together, redundant.</u></p> <p>End of pit at 2.20 m</p>
								3
								4
								5

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456788.00 - 525175.00 Level:	Date 15/02/2017
Location: SSI Redcar	Dimensions (m): Depth 2.20		Scale 1:25 Logged TL
Client: Homes and Communities Agency		2.2	3.5

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.10			MADE GROUND: Grass over TOPSOIL: Loose dark brown/black slightly gravelly slightly silty SAND with numerous rootlets with abundant coke, ash and gravel. TPS
	0.60	ES					MADE GROUND: Medium dense brownish grey very gravelly SAND with medium cobble content and low boulder content. Gravel is fine to coarse, angular to subangular of slag and clinker with some yellows brick fragments. Cobbles are slag and some brick fragments. Boulders are slag with occasional intact yellow brick. Occasional pockets (<200x100x100mm) of stiff greyish brown clay. Rare scrap metal waste. MGR <u>Very dense.</u> <u>Dark grey, possible ash content</u>
	1.50	ES					<u>Boulder, slag 650x400x200mm</u> <u>Greyish brown, clayey</u>
				2.20			End of pit at 2.20 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456830.00 - 525156.00 Date 15/02/2017

Location: SSI Redcar Dimensions (m): 3.5 Scale 1:25


Client: Homes and Communities Agency Depth 2.00 Logged TL

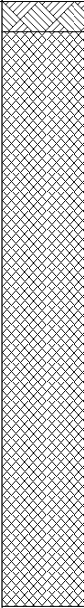
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
▼	0.10	ES		0.20	0.20		MADE GROUND: Grass over TOPSOIL: Loose dark brown/black slightly gravelly silty SAND with abundant medium to coarse, subangular gravel of coke at the base, numerous rootlets throughout.	
	1.20	ES					TPS	MADE GROUND: Dense very gravelly SAND with medium cobble content and rare boulders. Gravel is fine to coarse, angular to subangular of slag, clinker and brick fragments. Cobbles are slag and brick fragments. Boulders are slag and intact yellow bricks. Rare partially decomposed wood fragments.
	1.50 - 1.80	B					MGR	
							<p><i>Dark grey</i></p> <p><i>Pockets of stiff brown clay up to 500x300x200mm.</i></p>	
				2.00			End of pit at 2.00 m	

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456872.00 - 525151.00 Level:	Date 16/02/2017
Location: SSI Redcar	Dimensions (m): Depth 2.00		Scale 1:25 Logged TL
Client: Homes and Communities Agency		2.5 	


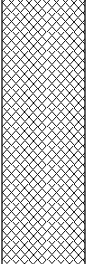
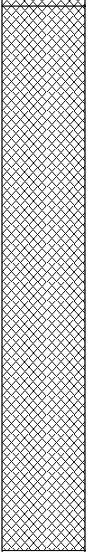
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.10			MADE GROUND: Grass over TOPSOIL: loose dark brown slightly gravelly silty SAND with numerous rootlets. TPS
	1.50	ES					MADE GROUND: Dense brownish grey, very gravelly SAND with medium cobble and low boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker and red/yellow brick fragments. Cobbles are slag, clinker and mostly yellow, some red brick. Boulders are slag and intact brick. Some wood fragments, metal waste. MGR <i>Very dense</i> <i>Dark grey</i>
							<i>Stiff brown sandy clay in north wall</i>
							<i>Stiff brown sandy clay in west wall.</i>
				2.00			End of pit at 2.00 m

Remarks:

Stability:




Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456678.00 - 525263.00 Level:	Date 14/02/2017
Location: SSI Redcar	Dimensions (m): Depth 2.90		Scale 1:25 Logged LK
Client: Homes and Communities Agency		2.90	5



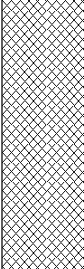
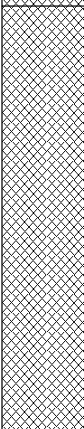
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			MADE GROUND: Dark grey silty sandy GRAVEL with abundant rootlets. Gravel is fine to coarse subrounded to subangular of coke and slag. MGR
				1.10			MADE GROUND: Grey very sandy GRAVEL with frequent cobbles and occasional boulders. Gravel is fine to coarse subrounded to subangular of slag, some whitish slag. Rare brick fragments (red, refractory). Cobbles and boulders of slag MGR
	1.80 1.80 - 2.10	ES B					MADE GROUND: Yellowish brown / greyish brown slightly gravelly SAND with rare cobbles. Gravel is fine to coarse subrounded of slag. Cobbles of slag. Rare pockets of clay. Rare wood fragments, some very dark grey patches. MGR <i>TP Terminated at 2.9m due to groundwater and collapsing</i>
				2.90			End of pit at 2.90 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456718.00 - 525246.00 Level:	Date 15/02/2017
Location: SSI Redcar	Dimensions (m): Depth 2.90		Scale 1:25 Logged LK
Client: Homes and Communities Agency		2.5 	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.10			MADE GROUND: Grass over dark brown gravelly silty SAND with abundant rootlets. Gravel is fine to coarse subrounded of predominately coke and some slag. MGR
				0.30			MADE GROUND: Dark brown sandy silty GRAVEL. Gravel is fine to coarse subrounded of coke (predominately) and slag. MGR
				1.50			MADE GROUND: Brownish grey very gravelly sand with frequent cobbles, occasional boulders and rare large boulders (up to 0.8m long) Rare brick fragments (red, refractory) MGR
	2.00	ES		2.90			MADE GROUND: Greyish light brown/yellow slightly gravelly SAND. Gravel is fine to coarse subrounded of possibly slag. Rare shell fragments. MGR <i>TP Terminated at 2.9m due to groundwater and collapsing</i>
							End of pit at 2.90 m

Remarks:

Stability:





Trial Pit Log

Trialpit No
TPH32
Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079

Co-ords: 456759.00 - 525232.00
Level:

Date
15/02/2017

Location: SSI Redcar

Dimensions (m):
3.4
Depth 2.50

Scale
1:25
Logged
TL

Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.10			MADE GROUND: Thin grass cover over TOPSOIL: loose dark brown/black slightly gravelly silty SAND with frequent rootlets. TPS
	1.50	ES					MADE GROUND: Medium dense light brownish grey gravelly SAND with low to medium cobble and low boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker and yellow brick fragments. Cobbles are mostly slag with some yellow brick fragments and clinker. Boulders are slag. Some slag pieces have white mineralisation on outer edge. MGR
				2.50			End of pit at 2.50 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456804.00 - 525218.00 Level:	Date 15/02/2017
Location: SSI Redcar		Dimensions (m): Depth 2.30	Scale 1:25 Logged LK
Client: Homes and Communities Agency			

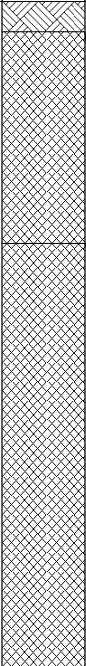
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			MADE GROUND: Occasional grass over brown gravelly silty SAND with occasional rootlets. Gravel is fine to coarse subrounded of slag and coke. MGR
	2.00	ES		2.30			MADE GROUND: Brownish grey very gravelly sand to very sandy gravel with abundant cobbles and occasional boulders. Gravel is fine coarse subrounded to subangular of slag. Whitish slag in the upper metre. Cobbles and boulders of slag (with whitish slag in the upper metre). Occasional bricks, frequent towards bottom of trial pit, both broken and whole (red, refractory). Rare wood fragments up to 0.4m long. Rare fragments of plastic material, fragment of metal pipe 0.4m long. Rare scrap metal and glass fragments. Slight hydrocarbon odour from around 2m. MGR <i>TP Terminated at 2.3m due to groundwater</i>
							End of pit at 2.30 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456875.00 - 525178.00 Level:	Date 16/02/2017
Location: SSI Redcar	Dimensions (m): Depth 2.20 3.8		Scale 1:25
Client: Homes and Communities Agency			Logged LK

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.50	ES		0.10			MADE GROUND: Grass over brown gravelly silty sand with abundant rootlets. Gravel is fine to coarse subrounded to subangular of slag. Rare small brick fragments (red). TPS
				0.80			MADE GROUND: Brownish grey very sandy gravel with frequent cobbles and occasional boulders. Gravel is fine to coarse, subrounded to subangular of slag and whitish slag. Cobbles and boulders of slag, whitish slag. Occasional brick both whole and broken (red, refractory). Rare scrap metal and wood fragments. MGR
				2.20			MADE GROUND: Firm to stiff brown slightly sandy gravelly clay. Gravel is fine to coarse subrounded to subangular of slag and possibly sandstone. Occasional brick fragments (red, refractory). Rare scrap metal, pottery and glass fragments. Some very dark grey layers. Gravel of grey slag at the bottom of the trial pit. MGR <i>TP Terminated at 2.2m due to groundwater - fast inflow from 2m</i>
							End of pit at 2.20 m

Remarks:

Stability:





Trial Pit Log

Trialpit No

TPI01

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079Co-ords: 456930.00 - 524859.00
Level:Date
31/01/2017

Location: SSI Redcar

Dimensions
(m):Scale
1:25

Client: Homes and Communities Agency

Depth
1.20Logged
TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.80	ES		0.50			MADE GROUND: Grass over loose orangeish brown gravelly clayey SAND with numerous roots and rootlets, large pieces of red brickwork intact, up to 800x400x200mm. Occasional pieces of rebar <1000mm. MGR
				1.20			MADE GROUND: Loose dark brown slightly gravelly SAND with very low cobble content of slag and brick. Locally clayey. Gravel is fine to coarse, angular to subangular of slag, red/yellow brick, clinker. At 1.2m solid concrete base covering full extent of hole. Hole abandoned. MGR
							----- End of pit at 1.20 m

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Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456982.00 - 524826.00 Level:	Date 31/01/2017
Location: SSI Redcar	Dimensions (m): 4.3 Depth 5.00		Scale 1:25 Logged TL
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	ES		0.50		MADE GROUND: Grass over loose slightly gravelly clayey SAND with low cobble content. Gravel is fine to medium, occasionally coarse. Numerous roots and rootlets. TPS <i>From 0.3m: Sulphur odour.</i>		
				1.50		MADE GROUND: Medium dense grey sandy GRAVEL with low cobble and low boulder content. Cobble are slag, red brick frags, and concrete frags. Boulders same as cobbles. MGR <i>From 0.6m: Concrete, fractured rebar in place.</i>		
	2.70 - 3.00	B		3.50		MADE GROUND: Medium dense brownish grey gravelly SAND with low cobble content and rare boulders both of slag and brick. Gravel is fine to coarse, angular to subangular of slag, clinker, brick fragments and burnt lime. MGR		
	4.00	ES		5.00		MADE GROUND: Soft to firm dark brownish grey sandy gravelly CLAY with low cobble content of slag, occasionally brick and concrete. Gravel is fine to coarse, angular to subangular of slag, occasionally brick fragments. MGR <i>From 3.9m: No water seen until hole reached depth and stopped. Strong inflow of water after 10 mins.</i>		
							End of pit at 5.00 m	

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457037.00 - 524821.00 Level:	Date 30/01/2017
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Location: SSI Redcar	Dimensions (m): 4.5	Scale 1:25
Client: Homes and Communities Agency	Depth 4.30	Logged TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.30 0.40 - 0.70	ES B		1.40		[Cross-hatched pattern]	MADE GROUND: Grass over loose orangeish brown clayey SAND with low gravel, cobble and boulder content. Locally sandy clay. Occasional red brick and white tile. MGR
							MADE GROUND: Loose dark grey gravelly SAND with medium cobble and low boulder content both of slag with occasional red/yellow brick, yellow brick content ~5%, some intact. Occasional areas of high white/grey ash content. Gravel is fine to coarse, angular to subangular of slag, slate, sinter, yellow and red brick fragments with rare glass fragments. MGR
	3.40 - 3.70	B					From 3.0m: Hydrocarbon odour. Example taken. No groundwater encountered.
	4.00	ES		4.30			End of pit at 4.30 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457099.00 - 524798.00 Level:	Date 30/01/2017
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Location: SSI Redcar	Dimensions (m): 4.2 Depth 5.00	Scale 1:25 Logged TL
Client: Homes and Communities Agency		

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.50			MADE GROuND: Grass over soft to firm orangish brown sightly sandy CLAT with occasional fine gravels and rare cobbles with numerous rootlets. MGR
	2.20 - 2.50	B					MADE GROuND: Loose dark grey gravelly SAND with low cobble and low boulder content. High scrap metal content throughout, lots of rebar, corrugated plate, cable trays, tread boards and some concrete with rebar in place. Boulders are slag and concrete. Rebar ~30mm dia <2.5m long. Gravel includes pellets. MGR <i>From 0.5m: More like demolition than trial pitting.</i>
	3.00	ES					
				4.50			MADE GROuND: Firm to stiff grey and reddish grey v.sandy gravelly CLAY with low boulder content. Boulders are slag. Numerous pieces of rebar, 30mm diameter up to 1.5m long. Rare yellow brick. Some clay is yellowish brown. MGR
				5.00			

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457146.00 - 524794.00 Date 02/02/2017

Location: SSI Redcar Dimensions (m): 4.8 Scale 1:25

Client: Homes and Communities Agency Depth 4.20 Logged TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.60			MADE GROUND: Grass over; loose orangeish brown slightly clayey SAND with occasional fine to medium gravel. Pockets of firm sandy CLAY <80x50x50mm. MGR <i>From 0.3m: Sulphur odour.</i>
	1.40	ES					MADE GROUND: Medium dense grey gravelly SAND with medium cobble and medium boulder content of slag. Gravel is fine to coarse, angular to subangular of slag and clinker and abundant rounded iron ore pellets. Gravel includes abundant rounded iron ore pellets. Boulders up to 600x300x300mm, rare metal waste. MGR <i>From 0.6m: Dark purplish grey, possible iron ore.</i> <i>From 1.2m: Reddish grey, iron ore rich.</i>
	3.00 - 3.30	B		2.70			<i>From 2.4m: Reddish grey, iron ore rich.</i>
	3.50	ES					MADE GROUND: Medium dense dark grey gravelly SAND with medium cobble & low boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker, red & yellow brick fragments and rounded pellets. Cobbles are slag & red/yellow brick. Boulders are slag. Refractory brick content 5-10% of total volume. MGR <i>From 4.0m: Groundwater settled after 10 mins at 4.0m.</i>
				4.20			End of pit at 4.20 m

Remarks:
Stability:





Trial Pit Log

Trialpit No

TPI06

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079Co-ords: 456966.00 - 524885.00
Level:Date
26/01/2017

Location: SSI Redcar

Dimensions (m):

Scale
1:25

Client: Homes and Communities Agency

Depth
1.00Logged
TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			MADE GROUND: Grass over; soft brown sandy CLAY with occasional fine to medium gravels and numerous rootlets. MGR
				1.00			MADE GROUND: Medium dense brownish grey gravelly SAND with low boulder & low cobble content. Gravel is fine to coarse, rounded to subrounded of slag, pellets (iron ore), clinker and red/yellow brick. Boulders are slag. Cobbles are slag & brick frags. Lots of debris: rebar up to 1m long ~30mm diameter. Tin sheeting, cable trays, yellow brick ~10% of total volume. MGR
	3.50	ES					End of pit at 1.00 m

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4
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Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457002.00 - 524869.00 Date 25/01/2017
Level:

Location: SSI Redcar Dimensions (m): 4 Scale 1:25
Depth 4.30 Logged TL

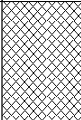
Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.30			MADE GROUND: Grass over soft to firm orangeish brown sandy CLAY with occasional fine to medium gravels. MGR
	1.50	ES					MADE GROUND: Medium dense dark grey gravelly SAND with medium cobble content and rare boulders. Gravel is fine to coarse, angular to subangular of slag, clinker, occasional red/yellow brick. Cobbles are mostly slag, occasional red/yellow brick frags. Boulders are slag, Wood fragments, iron wire, cable casing, rebar noted. Wood is partially decomposed without creosote. MGR <i>From 0.3m: Very dense. Excavation slowed.</i> <i>From 0.3m: Light grey, ~5-10% yellow brick.</i> <i>From 0.3m: Cable casing is yellow plastic with inner aluminium core removed.</i> <i>From 0.5m: On south side of pit, reinforced concrete approx 300mm thick with wire ~20mm diameter. Noted by excavation controller and cleared to proceed.</i>
	2.70 - 3.00	B					<i>From 2m: Boulder of concrete, 1000x400x400mm.</i>
				4.30			End of pit at 4.30 m

Remarks:
Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457051.00 - 524834.00 Level:	Date 25/01/2017
Location: SSI Redcar	Dimensions (m): 4.1 Depth 4.40		Scale 1:25 Logged TL
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20	ES		0.40			MADE GROUND: Grass over; firm orangeish brown very sandy CLAY with rare fine to medium gravels. Clay is reworked, low plasticity, red brick frag and piece of rusted metal recovered. MGR
							MADE GROUND: Loose dark grey gravelly SAND with medium cobble and low boulder content. Gravel is fine to coarse, subangular of slag, clinker, lesser yellow brick frags. Cobbles are mostly slag, lesser clinker and yellow/red brick. Boulders are slag. Silica bricks noted. MGR <i>From 0.4m: Very dense layer approximately 0.3m thick compacted slag.</i> <i>From 0.6m: Eastern face of pit: concrete, not reinforced, approximately 0.2m thick.</i>
	1.80 - 2.10	B					
	3.00	ES					
							<i>From 3.5m: Numerous pieces of timber. Partially decomposed. No Creosote noted.</i>
							<i>From 4.0m: Clayey locally very clayey. Low cobble content.</i>
				4.40			End of pit at 4.40 m

Remarks:

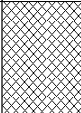
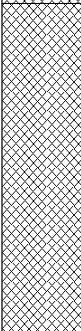
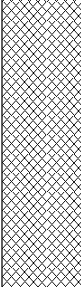
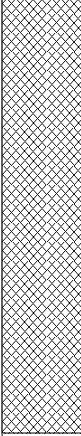
Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457104.00 - 524831.00 Date 25/01/2017

Location: SSI Redcar Dimensions (m): 3.6 Scale 1:25

Client: Homes and Communities Agency Depth 3.90 Logged TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20	ES		0.40			MADE GROUND: Grass over soft to firm brown slightly sandy CLAY with occasional fine to medium gravel and rare subangular cobbles. MGR
				1.50			MADE GROUND: Medium dense becoming loose grey gravelly SAND with low to medium cobble content and low boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker and rare brick. Cobbles and boulders are slag. MGR <i>From 0.4m: Sharp contact with layer below.</i> <i>From 0.5m: Very dense.</i> <i>From 1.0m: Boulder of slag with white and ferrous stain ~500x500x300mm.</i>
	2.50 - 2.80	B					MADE GROUND: Loose dark grey gravelly SAND with low cobble content and rare boulders. Gravel is fine to medium, rarely coarse, subangular of slag, clinker and red/yellow brick. Cobbles are slag and fragments/rarely intact yellow refractory brick. Boulders are slag. Yellow bricks are approximately 5% of the total volume. MGR <i>From 2.4m: Approximately 10% yellow refractory brick.</i>
	3.00	ES		3.90			End of pit at 3.90 m

Remarks:
Stability:





Trial Pit Log

Trialpit No

TPI10

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079Co-ords: 457151.00 - 524811.00
Level:Date
02/02/2017

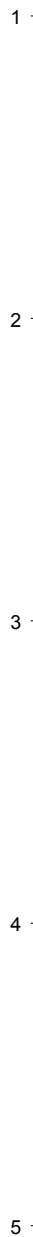
Location: SSI Redcar

Dimensions
(m):Scale
1:25

Client: Homes and Communities Agency

Depth
3.80Logged
TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.80			MADE GROUND: Grass over; loose yellowish brown clayey SAND with occasional fine to medium gravel and occasional pockets of firm sandy clay (<60x30x30mm). MGR
	1.50	ES					MADE GROUND: Very dense grey gravelly SAND with medium cobble and medium boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker, red iron ore, yellow brick frags, pellets. Cobbles are slag, brick frags and red iron ore. Boulders are mostly slag occasionally red iron ore. Occasional layers approximately 150mm thick of high red ore content. MGR <i>From 0.8m: Purplish grey, ore rich.</i> <i>From 0.8m: Very dense material, very slow excavation.</i>
	2.70 - 3.00	B					
				3.80			End of pit at 3.80 m



Remarks:

Stability:





Trial Pit Log

Trialpit No

TPI11

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079Co-ords: 456976.00 - 524916.00
Level:Date
26/01/2017

Location: SSI Redcar

Dimensions
(m):

5

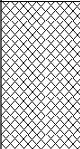
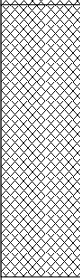
Scale
1:25

Client: Homes and Communities Agency

Depth
1.40

2.2

Logged
TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	1.00	ES		0.50			MADE GROUND: Grass over; Loose orangeish brown clayey SAND with occasional fine to medium gravels. MGR
				1.40			MADE GROUND: Loose dark grey/black gravelly SAND with low cobble content and medium boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker, red/yellow brick frags. Cobbles are slag, concrete, red/yellow brick. Abundant waste including cable tray, rebar, assorted steelwork, red/yellow brick, lead and tin sheeting. Boulders of slag up to 750x600x400mm. MGR
							End of pit at 1.40 m

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Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457018.00 - 524899.00 Date 26/01/2017
Level: _____

Location: SSI Redcar Dimensions (m): Scale 1:25
Client: Homes and Communities Agency Depth 4.60 Logged TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.60	ES		0.40			MADE GROUND: Grass over; loose orangeish brown clayey SAND with rare fine to medium gravels. With numerous rootlets and roots. MGR
							MADE GROUND: Loose dark grey slightly gravelly SAND with low cobble content and low boulder content. Yellow bricks (look like building, not refractory) abundant throughout - approx 10% total. Volume of cobbles & gravels are SA of slag and red/yellow brick. Boulders are slag. Lots of tin sheet, rebar, metalwork throughout. MGR <i>From 0.5m: Sulphur odour.</i> <i>From 0.7m: Approx 70% yellow brick.</i>
							<i>From 2.0m: Hydrocarbon odour, creosote?</i>
							<i>From 2.2m: Light grey</i>
	2.70 - 3.00	B		2.40			MADE GROUND: Orangeish brown clayey SAND (as above.) No roots. MGR
							MADE GROUND: Medium dense dark grey gravelly SAND with low cobble content. Gravel is slag and clinker. Cobbles are slag and yellow brick. Wood frags, some soaked in creosote. HC odour. MGR <i>From 3.0m: Occasional frags of timber partially decomposed.</i> <i>From 3.5m: Slightly gravelly.</i>
	3.80	ES		3.00			
				4.60			End of pit at 4.60 m

Remarks: _____
Stability: _____





Trial Pit Log

Trialpit No

TPI13

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079Co-ords: 457064.00 - 524886.00
Level:Date
31/01/2017

Location: SSI Redcar

Dimensions
(m):

4.6

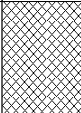
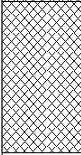
Scale
1:25

Client: Homes and Communities Agency

Depth
0.90

2.2

Logged
TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.70	ES		0.40			MADE GROUND: Grass over; firm orangeish brown sandy CLAY with occasional fine gravels and rootlets. MGR
				0.90			MADE GROUND: Medium dense dark grey gravelly SAND with rebar, metalwork, wood, red and yellow brick, slate (roofing), low cobble content. Gravel is fine to medium, rarely coarse, angular to rounded of pellets (round) slag. Red/yellow brick. Concrete base at 0.9m unable to break out. Covers full length and width of pit, hole aborted. MGR
							End of pit at 0.90 m

1

2

3

4

5

Remarks:

Stability:





Trial Pit Log

Trialpit No

TPI14

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079Co-ords: 457127.00 - 524870.00
Level:Date
31/01/2017

Location: SSI Redcar

Dimensions (m):

4.7

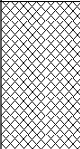

Scale
1:25

Client: Homes and Communities Agency

Depth
0.70

2.1

Logged
TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.60	ES		0.50			MADE GROUND: Grass over; firm orangeish brown slightly sandy CLAY with rare fine to medium gravels and rootlets throughout. MGR
				0.70			MADE GROUND: Medium dense dark grey gravelly SAND with low cobble content and rare boulders. Metalwork, gravel is fine to coarse, angular to subangular of slag, red/yellow brick frags, pellets. Cobbles and boulders are slag, concrete frags and red/yellow bricks. Concrete base at 0.7m, full length and width covered, unable to break out, hole abandoned. MGR
							End of pit at 0.70 m

1

2

3

4

5

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation

Project No. 678079

Co-ords: 457165.00 - 524853.00
Level:

Date 02/02/2017

Location: SSI Redcar

Dimensions (m):



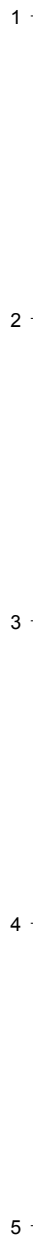
Scale 1:25

Client: Homes and Communities Agency

Depth 5.00

Logged TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.60			MADE GROUND: Grass over; firm brownish grey slightly gravelly sandy CLAY. Gravel is fine to medium, subangular. Numerous rootlets. MGR
	0.80	ES					MADE GROUND: Dense dark grey gravelly SAND with low to medium cobble content and low boulder content. With occasional partially decomposed timber frags. Gravel is fine to medium, subangular to angular of slag, clinker, cement. Cobbles are slag and clinker. Boulders are slag up to 300x200x300mm. Waste includes cables <20mm and rebar <20mm. Rare red brick. MGR
	1.50 - 1.80	B					<i>From 0.6m: Dark purplish grey high iron ore content. Approx 10% red brick frags.</i>
	2.00	ES		2.50			MADE GROUND: Medium dense yellowish brown and grey slightly gravelly SAND. Gravel is fine to coarse, angular to subangular of slag rare red brick frags. Rare cobbles of slag. MGR
	4.00 - 4.30	B		5.00			



Remarks:

Stability:



End of pit at 5.00 m



Trial Pit Log

Trialpit No

TPI16

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079Co-ords: 457077.00 - 524924.00
Level:Date
01/02/2017

Location: SSI Redcar

Dimensions
(m):

5.6

2.7

Scale
1:25

Client: Homes and Communities Agency

Depth
4.40Logged
TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.70	ES					
	3.20 - 3.50	B					
	4.00	ES					

1

2

3

4

5

Remarks:

Stability:





Trial Pit Log

Trialpit No

TPI17

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079Co-ords: 457104.00 - 524910.00
Level:Date
01/02/2017

Location: SSI Redcar

Dimensions
(m):

4.3

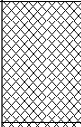
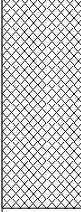
Scale
1:25

Client: Homes and Communities Agency

Depth
1.10

2.4

Logged
TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20	ES		0.40			MADE GROUND: Grass over; medium dense brown slightly gravelly clayey SAND with occasional cobbles and numerous rootlets. Gravel is fine to medium, subangular of mixed lithologies. Cobbles are slag. Locally sandy CLAY. MGR
	0.60 - 0.90	B					MADE GROUND: Medium dense dark grey gravelly SAND with low cobble content and low boulder content. Gravel is fine to coarse, angular to subangular of slag, red/yellow brick, concrete, pellets. Cobbles are slag, yellow/red brick, concrete. Boulders are brick, concrete, slag. Waste in pit includes metalwork, rebar, cable tray, conveyor rollers. Conveyor belts, misc. Rubber waste. Concrete base at 1.1m. Hole terminated. MGR
	1.00	ES		1.10			From 0.8m: Polythene sheet, waste. End of pit at 1.10 m

1

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4

5

Remarks:

Stability:





Trial Pit Log

Trialpit No

TPI18

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079Co-ords: 457181.00 - 524904.00
Level:Date
03/02/2017

Location: SSI Redcar

Dimensions
(m):Scale
1:25

Client: Homes and Communities Agency

Depth
1.50Logged
TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.50			MADE GROUND: Firm yellowish brown slightly gravelly sandy CLAY with rare subangular cobbles. Gravel is fine to coarse, angular to subangular with abundant rootlets. MGR
				1.50			MADE GROUND: Medium dense, locally loose grey gravelly SAND with low to medium cobble content and low boulder content with occasional timber fragments and metal waste. Gravel is fine to coarse, angular to subangular of slag, clinker and yellow brick fragments. Boulders are slag, rarely intact brick. Gravel includes iron ore pellets. MGR
							End of pit at 1.50 m

1

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4

5

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457007.00 - 525014.00 Level:	Date 08/02/2017
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Location: SSI Redcar	Dimensions (m): Depth 4.20	Scale 1:25 Logged LK
Client: Homes and Communities Agency		

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			MADE GROUND: Grass over dark brown slightly gravelly silty SAND with frequent rootlets. Gravel is fine to coarse subrounded to subangular of slag. Occasional gravel size red brick fragments. MGR
	1.00	ES					MADE GROUND: Grey whitish grey slightly sandy to sandy GRAVEL with abundant cobbles and frequent boulders. Rare large boulders (up to 0.8m). Gravel is fine to coarse subrounded to subangular of whitish slag, slag, possibly some clinker. Cobbles and boulders subrounded of whitish grey slag, slag. Occasional brick fragments (gravel - small cobble sized) both yellow (refractory) and red. Frequent bricks from around 2m, both whole and broken, mostly broken, from gravel size to cobble size - 65% refractory, 35% red. Rare scrap metal fragments, wood fragments. N.B, between 1-2m occasional cobble size lumps of grey white speckled material, crumbles easily. It was suggested it is refractory brick being affected by water. MGR
	3.40 - 3.70	B					
▼				3.90			MADE GROUND: Yellow slightly gravelly SAND. Gravel is fine to coarse difficult to describe gravel due to material being mixed. MGR
				4.20			End of pit at 4.20 m

Remarks:

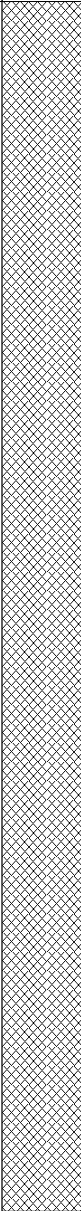
Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457048.00 - 524998.00 Date 08/02/2017

Location: SSI Redcar Dimensions (m): 3.9 Scale 1:25

Client: Homes and Communities Agency Depth 4.00 Logged TL


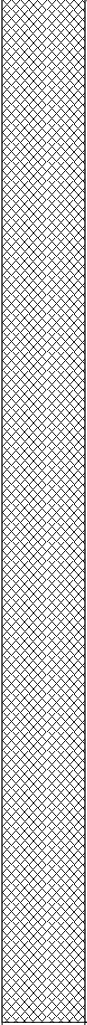
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	1.00	ES				 <p>MADE GROUND: Medium dense dark grey SAND & GRAVEL with medium cobble and low boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker, rare brick fragments. Cobbles are slag, lesser clinker and brick fragments. Boulders are slag. Rare intact refractory brick. Occasional bands approximately 150mm thick, light grey, white mineralisation on slag (possible ash). MGR <i>Slight sulfur odour</i></p> <p><i>Gravelly sand</i></p>	
				4.00			End of pit at 4.00 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457099.00 - 524978.00 Level:	Date 06/02/2017
Location: SSI Redcar	Dimensions (m): Depth 3.60		Scale 1:25 Logged LK
Client: Homes and Communities Agency		5.1	

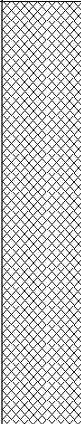
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.90	ES		0.20		 <p>MADE GROUND: Grass over dark brown gravelly silty SAND with frequent rootlets. Gravel is fine to coarse of slag, possibly sandstone. TPS</p>		
	1.90 - 2.10	B				 <p>MADE GROUND: Dark grey sandy GRAVEL with occasional cobbles and coke boulders. Sand is medium to coarse. Gravel is fine to coarse subrounded to subangular of slag, clinker. Cobbles and boulders of slag. Occasional brick, both broken and whole, bricks are red, silica, refractory with similar proportions. Occasional wood fragments. Some white staining on slag. MGR <i>TP Terminated at 3.6m due to groundwater</i></p>	1 2 3 4 5	
				3.60			End of pit at 3.60 m	

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457151.00 - 524957.00 Level:	Date 06/02/2017
Location: SSI Redcar		Dimensions (m): Depth 4.00	Scale 1:25 Logged TL
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	1.00	ES		1.40			MADE GROUND: Grass over medium dense dark grey gravelly SAND with low to medium cobble content. Gravel is angular to subangular fine to coarse of slag, yellow brick (silica and refractory) fragments, clinker and concrete fragments. Occasional tile fragments. MGR <u>Some light grey ash.</u> <u>Very dense</u>
	1.60	ES					MADE GROUND: Loose yellow fine to medium SAND with rare rounded to angular, fine to coarse gravel. MGR <u>200mm dia clayware pipe</u>
				4.00			End of pit at 4.00 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456960.00 - 525078.00 Date 08/02/2017

Location: SSI Redcar Dimensions (m): 4.9 Scale 1:25

Client: Homes and Communities Agency Depth 3.80 Logged TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	2.20	ES B		1.90			MADE GROUND: Medium dense dark grey gravelly SAND with medium cobble and low boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker, occasional brick and burnt lime. Boulders are of slag. Locally very gravelly. MGR
	2.30 - 2.60						MADE GROUND: Medium dense brownish grey very gravelly SAND with numerous pockets (up to 100x100x100mm) of firm brownish grey clay. Low to medium cobble content and low boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker, rare brick fragments. Cobbles are slag rarely clinker and brick fragments. Boulders are slag, rare intact yellow brick. Some wood fragments and clayware tile/pipe. MGR <i>Very clayey on east edge of pit.</i>
				3.80			End of pit at 3.80 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457013.00 - 525050.00 Date 08/02/2017
Level:

Location: SSI Redcar Dimensions (m): 5.5 Scale 1:25
Client: Homes and Communities Agency Depth 3.80 Logged TL

Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			TOPSOIL: Grass over dark brown sandy SILT. TPS MADE GROUND: Medium dense brownish grey gravelly SAND with low to medium cobble and low boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker and occasional brick fragments. Cobbles are slag, clinker, occasional yellow brick fragments. Boulders are slag. MGR <i>Light grey (slag mineralisation?). Intact red brick wall in east of pit.</i>
	1.50	ES					
	2.60	ES		2.40			MADE GROUND: Medium dense dark grey gravelly SAND with low cobble and low boulder content and occasional intact yellow and red brick. Gravel and cobbles are mostly slag, rarely clinker and brick fragments. Boulders are slag. MGR
				3.80			End of pit at 3.80 m

Remarks:


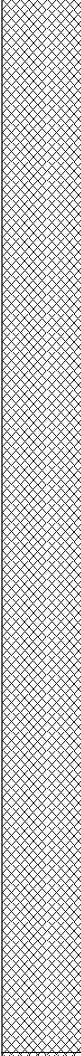

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457064.00 - 525039.00 Date 09/02/2017

Location: SSI Redcar Dimensions (m): 4.4 Scale 1:25


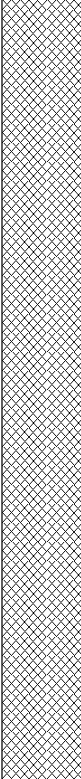
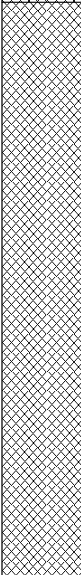
Client: Homes and Communities Agency Depth 3.80 Logged LK

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			MADE GROUND: Grass over dark brown slightly gravelly silty SAND. Gravel is fine to coarse subrounded to subangular of slag. TPS
	1.50	ES					MADE GROUND: Grey slightly sandy to sandy GRAVEL with abundant cobbles, frequent boulders and rare large boulders. Gravel is fine to coarse subrounded to subangular of slag/whitish slag. Cobbles and boulders of slag/whitish slag. Some whitish staining. Light grey in colour between 0.2-0.6m. Orangish red in colour between 0.4-0.6m. Rare yellow and red brick fragments (gravel - small cobble size). More sandy, frequent cobbles and occasional boulders towards base. Rare wood fragments 200mm long. MGR
	2.70 - 3.00	B					
▼	3.70	ES		3.70	3.80		MADE GROUND: Yellow slightly gravelly SAND . Gravel is fine to coarse of slag(?). Frequent bricks, mostly broken (red, refractory, silica) at the bottom of the trial pit. Rare tiny shell fragments. Pocket of dark grey/black slightly sandy silt. Beach odour. MGR
							TP Terminated at 3.8m due to groundwater. End of pit at 3.80 m

Remarks:
Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457115.00 - 525020.00 Level:	Date 06/02/2017
Location: SSI Redcar		Dimensions (m): Depth 4.70	Scale 1:25 Logged LK
Client: Homes and Communities Agency		2.6 4.3	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			MADE GROUND: Grass over dark brown slightly sandy slightly gravelly silt with frequent rootlets. TPS
	2.60	ES		2.80			MADE GROUND: Dark grey very sandy GRAVEL with frequent cobbles and occasional boulders. Gravel is fine to coarse subrounded to subangular of slag, clinker. Cobbles and boulders of slag. Frequent bricks both whole and broken of silica, red and refractory. Most bricks are yellow, occasional wood fragments. MGR
				4.70			MADE GROUND: Light brown/grey slightly gravelly SAND. Gravel is fine to coarse subrounded to subangular of sandstone or slag. Occasional shell fragments, rare ceramic fragments, occasional large wood fragments, damp. MGR <i>TP Terminated at 4.7m due to reaching limit of excavator</i>
	4.50 - 4.70	B					End of pit at 4.70 m

Remarks:

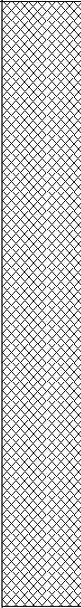
Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457150.00 - 525012.00 Date 09/02/2017

Location: SSI Redcar Dimensions (m): 3.6 Scale 1:25

Client: Homes and Communities Agency Depth 2.00 Logged TL


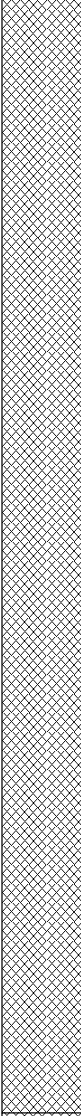

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.70 - 1.00	B					MADE GROUND: Grass over loose to medium dense and dark grey gravelly SAND with low cobble and low boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker, brick and rare burnt lime. Cobbles are of slag, clinker, brick fragments and rare burnt lime. Boulders are slag rarely clinker and intact/ large brick fragments. Occasional yellow refractory bricks in upper meter. MGR <i>800x300x300mm concrete beam in north face,</i>
	1.30	ES					<i>Below 1.1 light grey ashy coloured sand</i>
				2.00			End of pit at 2.00 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456978.00 - 525119.00 Level:	Date 08/02/2017
Location: SSI Redcar		Dimensions (m): 4.1 Depth 4.10	Scale 1:25 Logged LK
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			MADE GROUND: Grass over dark brown slightly gravelly silty sand with frequent rootlets. Gravel is fine to coarse. Subrounded to subangular of slag. TPS
							MADE GROUND: Dark grey sandy GRAVEL with abundant cobbles and frequent boulders. Gravel is fine to coarse subrounded to subangular of slag, whitish slag, possibly some clinker. Cobbles and boulders of slag, whitish slag. Rare large boulders. Occasional bricks, broken, mostly gravel sized (red, refractory). From 3m frequent cobbles and occasional boulders, more sandy. Rare pockets of clay. MGR
	3.50	ES					
				3.90			MADE GROUND: Dark grey sandy GRAVEL with abundant cobbles and frequent boulders. Gravel is fine to coarse subrounded to subangular of slag, whitish slag, possibly some clinker. Cobbles and boulders of slag, whitish slag. Rare large boulders. Frequent bricks at base, broken, mostly gravel sized (red, refractory). Rare pockets of clay. Occasional wood fragments up to 0.5m in length. Rare scrap metal fragments. Solid metal bar 1.5m long at the base of pit. MGR
				4.10			TP Terminated at 4.1m due to groundwater End of pit at 4.10 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457016.00 - 525115.00 Level:	Date 08/02/2017
Location: SSI Redcar	Dimensions (m): Depth 3.60		Scale 1:25 Logged LK
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.60	ES		0.20			MADE GROUND: Grass over dark brown slightly gravelly silty SAND with frequent rootlets. Gravel is fine to coarse subrounded to subangular of slag. Rare gravel-size red brick fragments TPS
				0.80			MADE GROUND: Dark brown very gravelly SAND with frequent cobbles and occasional boulders. Gravel is fine to coarse subrounded to subangular of slag, possibly some clinker. Cobbles and boulders are subrounded of slag. Rare gravel-cobble size brick fragments (red, refractory). Some bright red material, possibly an ore in the excavator end of trial pit. Has coloured the soli and slag around it. MGR
				1.60			MADE GROUND: Greyish white slightly sandy GRAVEL with abundant cobbles of frequent boulders. Gravel is fine to coarse subrounded to subangular of whitish slag, slag. Cobbles and boulders of whitish slag, slag. Rare gravel-cobble size brick fragments (refractory, red) >5%. MGR
				3.60			MADE GROUND: Dark brown slightly sandy GRAVEL with abundant cobbles and frequent boulders. Gravel is fine to coarse subrounded to subangular of slag, some whitish slag. Cobbles and boulders of slag, some whitish slag. Some pieces of slag have holes in it. Rare gravel-cobble size brick fragments, mostly red, some refractory (total <5%) MGR
							End of pit at 3.60 m

Remarks:

Stability:





Trial Pit Log

Trialpit No

TPI30

Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079Co-ords: 457093.00 - 525078.00
Level:Date
26/04/2017

Location: SSI Redcar

Dimensions
(m):

3.7


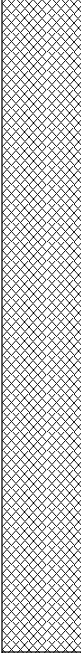

Scale
1:25

Client: Homes and Communities Agency

Depth
2.40

2.7

Logged
JNB

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			TOPSOIL TPS
	1.00 - 1.50	ES					MADE GROUND: Medium dense grey very gravelly SAND with medium cobble and low boulder content of slag, red and refractory brick. Gravel is fine to coarse, angular to subangular of slag, red and refractory brick. MGR
				2.30 2.40			MADE GROUND: Loose yellowish brown slightly gravelly SAND. MGR
							End of pit at 2.40 m


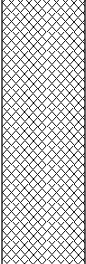
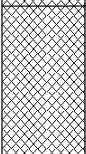
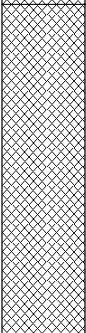
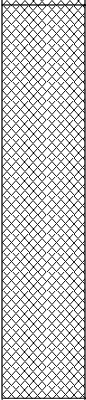
1
2
3
4
5

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457127.00 - 525059.00 Level:	Date 07/02/2017
Location: SSI Redcar	Dimensions (m): Depth 4.00		Scale 1:25 Logged LK
Client: Homes and Communities Agency		2.7	4.3

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.30	ES		0.20			MADE GROUND: Grass over dark brown slightly sandy slightly gravelly silt with frequent rootlets. Gravel is fine to coarse of slag. TPS
	1.30	ES		1.10			MADE GROUND: Dark grey very sandy GRAVEL with occasional cobbles and boulders. Sand is fine to coarse. Gravel is fine to coarse subrounded to subangular of slag, some clinker. Cobbles and boulders of slag. Occasional scrap metal fragments up to 0.5m, occasional bricks, mostly brown with red, refractory. Rare tile fragments. MGR
				1.60			MADE GROUND: Light grey slightly sandy to sandy GRAVEL. Gravel is fine to coarse subrounded to subangular of slag. Slag is whitish grey in colour (lime and dolomite mix suggested). Rare wood fragments. MGR
				2.70			MADE GROUND: Dark grey very sandy GRAVEL with occasional cobbles and boulders. Sand is fine to coarse. Gravel is fine to coarse subrounded to subangular of slag, some clinker. Cobbles and boulders of slag. Occasional scrap metal fragments up to 0.5m, occasional bricks, mostly brown with red, refractory. Rare tile fragments. MGR
				4.00			MADE GROUND: Light brown/grey slightly gravelly SAND. Gravel is fine to coarse of slag. Occasional brick, mostly whole of red and refractory. Some Gravel sized red brick fragments. Rare ceramic fragments. MGR <i>TP Terminated at 4m due to groundwater</i>
							End of pit at 4.00 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457168.00 - 525051.00 Date 09/02/2017

Location: SSI Redcar Dimensions (m): 4.4 Scale 1:25

Client: Homes and Communities Agency Depth 2.10 Logged TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10			0.10		<p>TOPSOIL: Dark brown sandy gravelly silt. TPS</p> <p><i>Roots/rootlets</i></p> <p>MADE GROUND: Very dense grey and brownish grey sandy GRAVEL AND COBBLES with medium to high boulder content. Gravel is fine to coarse, angular to subangular of mostly slag with clinker. Cobbles are slag, rare red brick fragments. Boulders are slag up to 600x500x500mm. Numerous fragments of pig iron. 30mm thick up to 1000x800mm. Locally dark grey/black. MGR</p> <p><i>Large section of dark brickwork, not in-situ, north face of pit, 1000x800x800mm piece of pig iron (possible bottom of ladle)</i></p> <p><i>Yellow sand on east wall of pit.</i></p>	1	
	0.80	ES						
	1.40	ES						
	1.70 - 2.00	B						
				2.10			End of pit at 2.10 m	2
								3
								4
								5

Remarks:


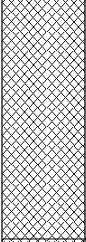
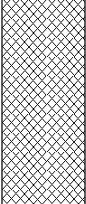
Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 456991.00 - 525165.00 Date 07/02/2017

Location: SSI Redcar Dimensions (m): Scale 1:25

Client: Homes and Communities Agency Depth 3.70 Logged LK

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			MADE GROUND: Grass over slightly gravelly very sandy SILT with frequent rootlets. Gravel is fine to coarse of slag. TPS
				1.00			MADE GROUND: Whitish grey slightly sandy GRAVEL with frequent cobbles and occasional boulders. Gravel is fine to coarse subrounded to subangular of whitish slag (white mineral ingrow), rare clinker. Rare bricks, both broken and whole (red, refractory). Broken; gravel-cobble sized. MGR
							MADE GROUND: Dark greyish brown SAND AND GRAVEL with frequent cobbles and occasional boulders. Gravel is fine to coarse subrounded to subangular of slag, rare clinker?. Cobbles and boulders of slag (whitish), less cobbly towards base. Rare refractory and red brick fragments (gravel-cobble sized). Solid slag at the bottom of the trial pit. MGR <i>TP Terminated at 3.7m due to groundwater</i>
	2.80	ES					
	3.30 - 3.60	B					
				3.70			End of pit at 3.70 m

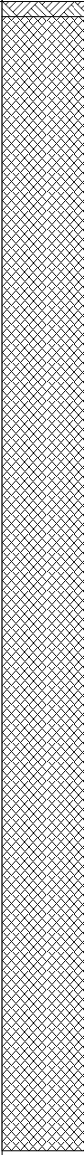
Remarks:
Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457040.00 - 525151.00 Date 07/02/2017
Level:

Location: SSI Redcar Dimensions (m): 2.5 x 4.5 Scale 1:25

Client: Homes and Communities Agency Depth 3.80 Logged TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			TOPSOIL: Grass and dark brown silt. TPS MADE GROUND: Medium dense dark grey very gravelly SAND with low to medium cobble content and low boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker, brick fragments and concrete. Boulders are slag. Ref content 5-10%. MGR <i>Dense compacted slag</i> <hr/> <i>Up to 20% refractory brick, fragments and intact.</i>
				3.80			End of pit at 3.80 m

Remarks:
Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457093.00 - 525126.00 Date 07/02/2017

Location: SSI Redcar Dimensions (m): 4.6 Scale 1:25

Client: Homes and Communities Agency Depth 2.40 Logged LK

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			MADE GROUND: Grass over dark brown slightly gravelly sandy silt with frequent rootlets. Gravel is fine to coarse of slag. TPS
				1.00			MADE GROUND: Dark grey very gravelly SAND with occasional cobbles and rare boulders. Sand is fine to coarse. Gravel is fine to coarse subrounded to subangular of slag, clinker. Cobbles and boulders of slag. Rare bricks mostly broken red and refractory. MGR
	1.40 - 1.60 1.50	B ES		1.90			MADE GROUND: whitish grey slightly sandy gravel with occasional cobbles. Gravel is fine to coarse subrounded to subangular of slag (white mineral ingrow). MGR
				2.40			MADE GROUND: Greyish yellow slightly gravelly SAND. Gravel is fine to coarse subrounded to subangular of slag. Rare gravel-cobble sized broken brick fragments (red and refractory). MGR <i>TP Terminated at 2.4m due to suspected services.</i>
							End of pit at 2.40 m

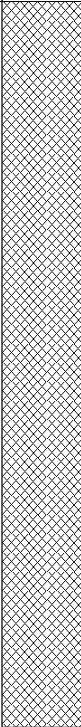
Remarks:
Stability:



Project Name: Redcar DVA Initial Ground Investigation Project No. 678079 Co-ords: 457144.00 - 525106.00 Date 07/02/2017

Location: SSI Redcar Dimensions (m): 4.6 Scale 1:25

Client: Homes and Communities Agency Depth 4.20 Logged TL

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	1.50	ES		2.40		<p>MADE GROUND: Grass over medium dense dark grey gravelly SAND with low to medium cobble and low boulder content. Gravel is fine to coarse, angular to subangular of slag, clinker, brick and burnt lime. Cobbles are slag, clinker and brick. Abundant white straining on slag pieces. MGR</p> <p><i>Strong sulfur odour noted</i></p> <p><i>Railways sleeper in east wall</i></p>	1
	2.00 - 2.40	LB					2
	3.50	ES					3
				4.20		<p>MADE GROUND: Loose greyish yellow slightly gravelly SAND with occasional shells. Gravel is rounded, fine to coarse of mixed lithologies. Occasional horizontal dark grey bands ~50mm thick. Occasional interbeds of light grey sandy gravel dipping west. (POSSIBLE NATURAL) MGR</p> <p>End of pit at 4.20 m</p>	4
							5

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457186.00 - 525092.00 Level:	Date 09/02/2017
Location: SSI Redcar	Dimensions (m): Depth 4.20		Scale 1:25 Logged LK
Client: Homes and Communities Agency		2.7	4.6

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	1.00	ES		0.20			MADE GROUND: Grass over dark brown slightly gravelly silty sand with frequent rootlets and rare cobbles. Gravel is fine to coarse subrounded to subangular of slag. TPS
				1.20			MADE GROUND: Greyish brown gravelly SAND with occasional cobbles and boulders. Gravel is fine to coarse subrounded to subangular of slag, possibly some clinker. Occasional bricks, mostly broken gravel - cobble size (70% red, 30% refractory) total <5%. Rare gravel size pieces of white weak material (looks like shale). Patches of orangish red material. Patches of light yellow sand, yellow sand, black gravelly sand around the pipes. 2 cast iron pipes @0.6m (possibly waste). Rare roof tiles/slate. Red brick wall with a coating on the right side looking at excavator, from around 0.8m to the bottom of the trial pit, dipping slightly away from excavator. MGR
				2.20			MADE GROUND: Whitish grey slightly sandy GRAVEL with frequent cobbles and rare boulders. Gravel is fine to coarse subrounded to subangular of whitish slag, slag. Cobbles and boulders of whitish slag, slag. Reddish on the left side looking at the excavator, more sandy. MGR
				2.90			MADE GROUND: Layer of abundant silica, red and refractory bricks on the left hand side looking at excavator 50/50 broken/whole MGR
				4.20			MADE GROUND: Greyish yellow slightly gravelly SAND. Sand is fine to coarse subangular to subrounded of slag. Occasional gravel size brick fragments (red and possibly refractory. Rare glass fragments, occasional small shell fragments. MGR <i>TP Terminated at 2.4m due to groundwater</i>
							End of pit at 4.20 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456940.00 - 525800.00 Level:	Date 11/05/2017
Location: SSI Redcar		Dimensions (m): Depth 3.30	Scale 1:25 Logged LK
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			TOPSOIL TPS MADE GROUND: Medium dense, brown very gravelly SAND with medium cobble content of slag. Gravel is angular to subrounded. Slight hydrocarbon odour. MGR
				0.70			MADE GROUND: Medium dense becoming dense with depth, brown sandy to very sandy fine to coarse, angular to subangular GRAVEL of slag with high cobble and low boulder content of slag. MGR
				3.30			End of pit at 3.30 m

Remarks:

Stability:





Trial Pit Log

Trialpit No
S2-TP46
Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079

Co-ords: 456991.00 - 525785.00
Level:

Date
11/05/2017

Location: SSI Redcar

Dimensions (m):
Depth 4.50
2.4 3.5

Scale
1:25
Logged
AC

Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.70 - 1.00	B					MADE GROUND: Greyish brown very sandy fine to coarse, angular to subangular GRAVEL of slag with high cobble content and medium boulder content with a slight Sulfur odour. MGR <i>Occasional fine to medium, angular to subangular fragments of red brick</i>
	2.00	ES					
				4.50			End of pit at 4.50 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457064.00 - 525786.00 Level:	Date 11/05/2017
Location: SSI Redcar	Dimensions (m): Depth 4.30		Scale 1:25 Logged LK
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			TOPSOIL TPS
	0.50	ES					MADE GROUND: Medium dense brown very gravelly SAND with medium cobble, medium boulder and low large boulder content, all of slag. Gravel is fine to coarse, angular to subangular of slag. Rare brick fragments and scrap metal. MGR
				2.20			MADE GROUND: Medium dense greyish brown sandy fine to coarse, angular to subangular GRAVEL with high cobble and medium boulder content, both of slag. With rare small red and refractory brick fragments and rare scrap metal. Sulfur odour. MGR
	4.00	ES					
				4.30			End of pit at 4.30 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457115.00 - 525756.00 Level:	Date 12/05/2017
Location: SSI Redcar	Dimensions (m): Depth 4.20		Scale 1:25 Logged AC
Client: Homes and Communities Agency		2.5	4.3

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			TOPSOIL TPS
	0.80 0.80 - 1.10	ES B		0.50			MADE GROUND: Light greyish brown silty very sandy fine to coarse, angular to subrounded GRAVEL of slag and clinker. MGR
				3.30			MADE GROUND: Dark grey/black slightly clayey, sandy fine to coarse angular to subangular GRAVEL of slag, clinker, red brick with large half brick/fragments of refractory brick, plastic, cloth, red brick and occasional wood fragments. Slight hydrocarbon odour. MGR
	4.20	ES		4.40			MADE GROUND: Dark grey very sandy fine to coarse, angular to subangular GRAVEL of slag and aerated slag with cobbles of slag. MGR
							End of pit at 4.20 m

Remarks:

Stability:





Trial Pit Log

Trialpit No
S2-TP49
Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457175.00 - 525726.00 Level:	Date 12/05/2017
Location: SSI Redcar		Dimensions (m): Depth 4.00	Scale 1:25 Logged LK
Client: Homes and Communities Agency			

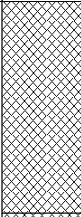
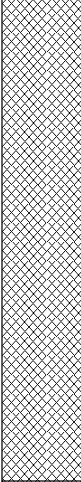
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			TOPSOIL TPS
	0.40	ES					MADE GROUND: Loose brown very gravelly SAND with medium cobble and boulder content with low boulder content, all of slag. Gravel is fine to coarse, angular to subrounded of slag. MGR
				0.90			MADE GROUND: Layer of solid slag with frequent refractory whole/fragmented refractory brick. MGR
	2.00	ES		1.30			MADE GROUND: Loose slightly reddish dark grey slightly gravelly SAND with low cobble content of slag. Gravel is fine to coarse, subangular to subrounded of slag. Occasional refractory brick/brick fragments. Rare scrap metal, plastic bags and wood fragments. MGR
				4.00			End of pit at 4.00 m

Remarks:

Stability:




Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457227.00 - 525688.00 Level:	Date 15/05/2017
Location: SSI Redcar		Dimensions (m): Depth 2.40	Scale 1:25 Logged FM
Client: Homes and Communities Agency			



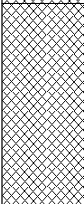

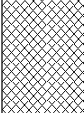
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
	Depth	Type	Results							
	0.30 - 0.70	ES		0.70			MADE GROUND: Loose brown slightly gravelly SAND with low cobble content of slag. Gravel is fine to coarse, angular of slag, aerate slag and iron. MGR			
							<i>Localised pockets of gravels and cobbles of slag.</i>			
	1.20 - 1.40 1.20 - 1.40	B ES		2.30 2.40			MADE GROUND: Loose yellow SAND with occasional gravel of slag. Gravel is fine to coarse, angular to subangular of slag (Possible hydraulic fill). MGR			
										Loose dark yellow slightly gravelly SAND. Gravel is of shell and occasional coal. MGR
							End of pit at 2.40 m			

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457267.00 - 525672.00 Level:	Date 16/05/2017
Location: SSI Redcar	Dimensions (m): Depth 2.20		Scale 1:25 Logged LK
Client: Homes and Communities Agency		2.5 	


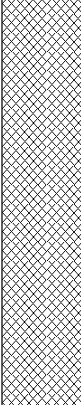
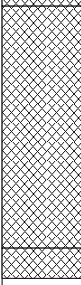

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.10			MADE GROUND: Topsoil TPS
				0.40			MADE GROUND: Loose brown very gravelly SAND with medium cobble and medium boulder content. Gravel is fine to coarse subangular to angular of slag. Cobbles and boulders of slag. Rare brick fragments (refractory) Rare plastic bag, wood fragments. MGR
	1.40 - 1.50	ES					MADE GROUND: Loose brown very sandy fine to coarse, angular to subangular GRAVEL of slag with medium cobble and medium boulder content, both of slag. Occasional brick fragments (red, refractory 50/50). MGR
	1.90 - 2.30	LB		1.80			Animal bone
				2.20			MADE GROUND: Medium dense brownish grey slightly sandy fine to coarse, angular to subangular GRAVEL of slag with high cobble and medium boulder content both of slag. MGR
End of pit at 2.20 m							

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457327.00 - 525661.00 Level:	Date 15/05/2017
Location: SSI Redcar	Dimensions (m): Depth 2.40		Scale 1:25 Logged LK
Client: Homes and Communities Agency		2.4	3.9

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
▼	0.50	ES		0.10		 MADE GROUND: Topsoil TPS	1	
	1.70 - 1.80	D		1.50		 MADE GROUND: Loose greyish brown very sandy fine to coarse, angular to subangular GRAVEL of slag with medium to high cobble, medium boulder and low large boulder content, all of slag. MGR		2
				2.30 2.40		 MADE GROUND: Soft brown mottled orange slightly sandy gravelly CLAY. Gravel is fine to coarse subrounded to angular of various lithologies including slag, sandstone, grey rock (igneous) Occasional brick fragments (red) MGR		
						 MADE GROUND: Medium dense dark grey slightly clayey slightly sandy fine to coarse, angular to subangular GRAVEL of slag with rare fabric. MGR End of pit at 2.40 m	3	
								4
								5

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457379.00 - 525637.00 Level:	Date 15/05/2017
Location: SSI Redcar	Dimensions (m): Depth 2.30		Scale 1:25 Logged JNB
Client: Homes and Communities Agency		4.1	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			MADE GROUND: TOPSOIL TPS MADE GROUND: Loose to medium dense slightly silty very gravelly SAND with low cobble and boulder content (<2%) both of slag. MGR
							<i>From 1m: Medium boulder content</i>
				2.30			<i>From 2.2m: Rare pockets of soft black sandy CLAY with the appearance of tar.</i> End of pit at 2.30 m

Remarks:

Stability:





Trial Pit Log

Trialpit No
S2-TP54
Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079

Co-ords: 456928.00 - 525748.00
Level:

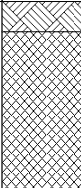
Date
12/05/2017

Location: SSI Redcar

Dimensions (m):
3.4
2.2
2.10

Scale
1:25
Logged
LK

Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20 - 0.30	ES		0.10			<p>TOPSOIL TPS</p> <p>MADE GROUND: Dense to very dense brownish grey slightly sandy to sandy gravelly to very gravelly COBBLES AND BOULDERS of slag. Gravel is fine to coarse, angular to subangular of slag. Rare red brick fragments. MGR</p>
				2.10			<p>End of pit at 2.10 m</p>

Remarks: Hydrocarbon odour in area of pit

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456995.00 - 525723.00 Level:	Date 23/05/2017
Location: SSI Redcar		Dimensions (m): Depth 4.60	Scale 1:25 Logged JNB
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.50	LB					MADE GROUND: Medium dense light grey sandy fine to coarse, angular to subangular GRAVEL AND COBBLES with medium to high boulder content. Sulfur odour noted. MGR
				1.80			MADE GROUND: Medium dense light grey sandy fine to coarse, angular to subangular GRAVEL AND COBBLES with low boulder content of aerated slag. Sulfur odour noted. MGR
				3.80			MADE GROUND: Loose yellowish brown slightly gravelly, fine to coarse SAND with rare interbeds of black medium to coarse sand. (Possible Natural). MGR
	4.40	ES		4.60			End of pit at 4.60 m

Remarks:

Stability:





Trial Pit Log

Trialpit No
S2-TP56
Sheet 1 of 1

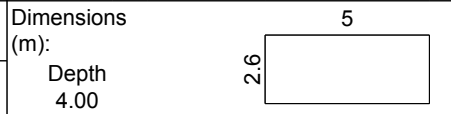
Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079

Co-ords: 457022.00 - 525716.00
Level:

Date
12/05/2017

Location: SSI Redcar



Scale
1:25
Logged
AC

Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.10 - 0.60	LB					MADE GROUND: Greyish brown sandy gravelly COBBLES AND BOULDERS of subangular grey slag. Gravel is fine to coarse, angular to subangular of grey slag. MGR
	2.60	ES		2.80			MADE GROUND: Dark grey very sandy very gravelly COBBLES with medium boulder content both of slag. Gravel is fine to coarse, angular to subangular of slag. MGR
				4.00			End of pit at 4.00 m

Remarks:

Stability:





Trial Pit Log

Trialpit No
S2-TP57
Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079

Co-ords: 457083.00 - 525694.00
Level:

Date
17/05/2017

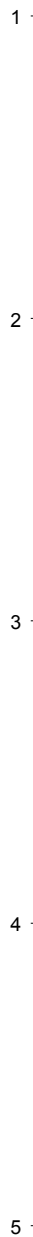
Location: SSI Redcar

Dimensions (m):
Depth 4.30
2.8
4.5

Scale
1:25
Logged
JNB

Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.30	ES		0.40			MADE GROUND: Loose brown very sandy fine to coarse, angular to subangular GRAVEL of slag. MGR
							MADE GROUND: Loose to medium dense blueish grey sandy fine to coarse angular to subangular GRAVEL AND COBBLES of slag with slight Sulfur odour. MGR
	4.00 - 4.30	LB		4.30			End of pit at 4.30 m


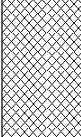
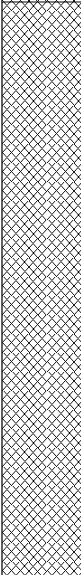
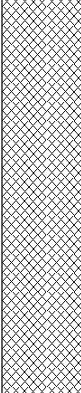
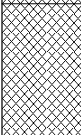


Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457126.00 - 525675.00 Level:	Date 17/05/2017
Location: SSI Redcar		Dimensions (m): Depth 4.30	Scale 1:25 Logged LK
Client: Homes and Communities Agency			





Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.10			MADE GROUND: Topsoil TPS
				0.60			MADE GROUND: Medium dense greyish brown very gravelly SAND with medium cobble and low boulder content both of slag. Gravel is fine to coarse, subangular to angular of slag. Rare brick fragments (refractory). MGR <i>Layer of grey slag.</i>
	1.20	ES					MADE GROUND: Loose dark grey slightly silty gravelly SAND with low cobble content of slag. Gravel is fine to coarse, subrounded to angular of slag. Occasional brick fragments (refractory/red 80/20%). MGR <i>Occasional pockets of soft dark grey silty clay (hydrocarbon odour).</i>
							<i>From 2.5: Turning reddish brown with more frequent red brick fragments</i>
				3.80			MADE GROUND: Medium dense yellow SAND with pockets of grey silty sand (Possible Natural). MGR
				4.30			End of pit at 4.30 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457197.00 - 525630.00 Level:	Date 16/05/2017
Location: SSI Redcar	Dimensions (m): Depth 3.10		Scale 1:25 Logged JNB
Client: Homes and Communities Agency		2.4	3.6

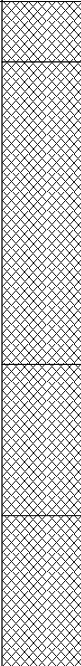
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			MADE GROUND: Loose brown gravelly SAND. Gravel is fine to coarse, angular to subangular of slag. MGR
				0.70			MADE GROUND: Medium dense to dense very gravelly SAND with low cobble content of slag and rare fragments of refractory brick. Gravel is fine to coarse angular to subangular. MGR
				1.80			MADE GROUND: Loose orangish brown gravelly SAND. Gravel is fine to coarse, angular to rounded of slag, flint (?) and aerated slag. MGR
							<i>Becoming very gravelly with low cobble content of slag.</i>
	2.50 - 3.00	B		1.80			MADE GROUND: Loose black and grey and orangish brown, medium to coarse gravelly SAND. Gravel is fine to coarse of slag with rare cobbles. Strong hydrocarbon odour and black layer of coal dust/coal tar fragments. MGR
▼	3.00	ES		3.10			End of pit at 3.10 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457232.00 - 525623.00 Level:	Date 16/05/2017
Location: SSI Redcar		Dimensions (m): Depth 2.20	Scale 1:25 Logged LK
Client: Homes and Communities Agency			

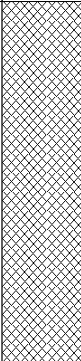

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.70 - 1.00	B		0.20			MADE GROUND: Slag and building rubble (gravel, cobbles, boulders, bricks, scrap metal, plastic fragments) over dark brown gravelly sand. Gravel is fine to coarse, subrounded to angular of slag. Rare small brick fragments (red). MGR
				1.20			MADE GROUND: Loose to medium dense greyish brown very gravelly SAND with medium cobble and low boulder content, both of slag. Gravel is fine to coarse subangular to angular of slag. MGR
				1.70			MADE GROUND: Medium dense brownish grey very sandy fine to coarse, angular to subangular GRAVEL of slag with low cobble content of slag. MGR
	2.00	ES		2.20			MADE GROUND: Dense grey slightly sandy fine to coarse, angular to subangular GRAVEL of slag with medium cobble and medium boulder content, both of slag. MGR
							----- End of pit at 2.20 m -----

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457294.00 - 525588.00 Level:	Date 16/05/2017
Location: SSI Redcar	Dimensions (m): 2.4 Depth 2.20		Scale 1:25 Logged JNB
Client: Homes and Communities Agency			

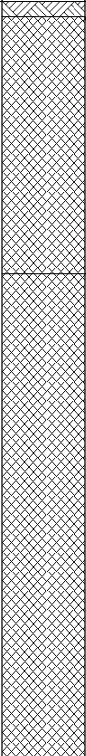
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.20	ES		1.20			MADE GROUND: Loose dark brown slightly silty gravelly SAND. Gravel is fine to coarse angular to subangular of slag, iron and rare small lumps of coal tar(?). MGR <i>Becoming greyish brown and very gravelly with medium cobble content.</i>
							MADE GROUND: Medium dense, greyish brown very sandy fine to coarse, angular to subangular GRAVEL with medium to high cobble content of aerated slag and slag. MGR
	2.10	ES		2.10 2.20			MADE GROUND: Loose dark blackish grey gravelly SAND with low boulder content and rare wood. Gravel is fine to coarse, angular to subangular of slag. Slight hydrocarbon sheen on samples. MGR <i>End of pit at 2.20 m</i>

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457349.00 - 525563.00 Level:	Date 16/05/2017
Location: SSI Redcar		Dimensions (m): Depth 2.50	Scale 1:25 Logged LK
Client: Homes and Communities Agency			


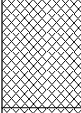
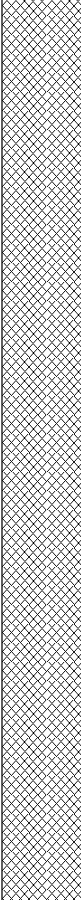
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.05			0.05			MADE GROUND: Topsoil TPS
	0.50	ES					MADE GROUND: Medium dense light brownish grey sandy fine to coarse, angular to subangular GRAVEL of slag with high cobble and high boulder content, both of slag and occasional red brick fragments. MGR
	0.90			0.90			MADE GROUND: Dense brownish grey slightly sandy very gravelly COBBLES AND BOULDERS of slag with occasional large boulders. Gravel is fine to coarse subangular to angular of slag. MGR <i>Slight oil sheen at water level. Cannot sample due to soil too coarse.</i>
	2.00 - 2.50	LB					
				2.50			End of pit at 2.50 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456968.00 - 525704.00 Level:	Date 10/05/2017
Location: SSI Redcar		Dimensions (m): Depth 3.50	Scale 1:25 Logged LK
Client: Homes and Communities Agency		2.7	5

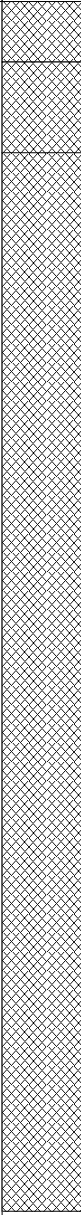
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.10			MADE GROUND: Topsoil TPS
				0.50			MADE GROUND: Medium dense greyish brown very sandy gravel to very gravelly SAND with medium cobble and boulder content, both of slag with small red brick fragments. Gravel is fine to coarse subangular to angular of slag. Cobbles and boulders of slag. MGR
	1.90	ES		3.50			MADE GROUND: Dense to very dense grey slightly sandy fine to coarse, angular to subangular GRAVEL of slag with high cobble, medium boulder and low to medium large boulder content all of slag with rare scrap metal fragments. MGR <i>Occasional red brick fragments.</i>
							End of pit at 3.50 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456998.00 - 525666.00 Level:	Date 17/05/2017
Location: SSI Redcar	Dimensions (m): Depth 4.00		Scale 1:25 Logged
Client: Homes and Communities Agency		4.8	

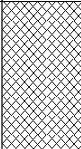
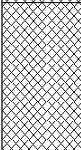
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.30	ES		0.20			MADE GROUND: TOPSOIL with rubble including timber, scrap metal and plastics. MGR
				0.50			MADE GROUND: Medium dense to very dense light grey slightly silty fine to coarse angular to subangular SAND AND GRAVEL with medium cobble content and low boulder content of slag. MGR
							MADE GROUND: Dense to very dense greyish brown sandy fine to coarse, angular to subangular GRAVEL with high cobble content and low to medium boulder content of slag. MGR
	3.50 - 4.00	LB		4.00			End of pit at 4.00 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457056.00 - 525650.00 Level:	Date 17/05/2017
Location: SSI Redcar		Dimensions (m): Depth 3.20	Scale 1:25 Logged LK
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.50			MADE GROUND: Slag rubble over medium dense brownish grey sandy fine to coarse, angular to subrounded GRAVEL of slag with medium cobble and low boulder content, both of slag. MGR
							MADE GROUND: Dense slightly brownish grey slightly sandy fine to coarse, angular to subangular GRAVEL of slag with high cobble and low boulder content, both of slag. MGR
	2.00	ES					<i>Very dense with medium boulder content</i>
				2.50			MADE GROUND: Medium dense orangish yellow SAND (Possible Natural). MGR
2.70	ES						
				3.20			End of pit at 3.20 m

Remarks:

Stability:





Trial Pit Log

Trialpit No
S2-TP66
Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079

Co-ords: 457116.00 - 525598.00
Level:

Date
18/05/2017

Location: SSI Redcar

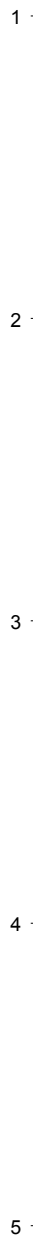
Dimensions (m):
Depth
2.90



Scale
1:25
Logged
LK

Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.10			MADE GROUND: Topsoil TPS
				2.90			MADE GROUND: Medium dense to very dense brownish grey sandy fine to coarse, angular to subangular GRAVEL of slag with high cobble and low boulder content, both of slag and rare refractory brick fragments. Sulfur odour. MGR
							End of pit at 2.90 m



Remarks:

Stability:



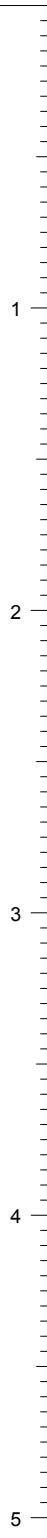


Trial Pit Log

Trialpit No
S2-TP67
Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457168.00 - 525594.00 Level:	Date 18/05/2017
Location: SSI Redcar		Dimensions (m): Depth 1.90	Scale 1:25 Logged
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	1.50	ES		0.30			MADE GROUND: Loose dark brown slightly silty gravelly fine to coarse SAND. Gravel is fine to coarse, angular to subangular of slag. MGR
				1.90			MADE GROUND: Loose dark brown slightly silty gravelly fine to coarse SAND with low cobble content, timber, occasional plastics and dead pieces of cable. Gravel is fine to coarse, angular to subangular of slag, rare brick. MGR
End of pit at 1.90 m							

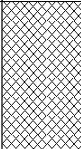
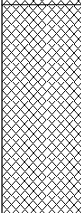
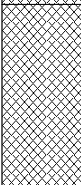


Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457220.00 - 525580.00 Level:	Date 18/05/2017
Location: SSI Redcar		Dimensions (m): Depth 1.80	Scale 1:25 Logged LK
Client: Homes and Communities Agency			


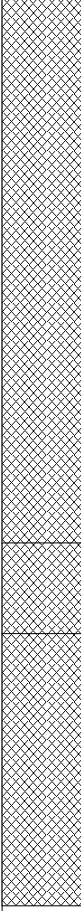
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.70 - 1.00	B		0.50			MADE GROUND: Loose yellowish brown gravelly SAND with low cobble content of slag. Gravel is fine to coarse subangular to angular of slag and some iron pieces. MGR
				1.20			MADE GROUND: Medium dense to dense grey very gravelly SAND with medium cobble and low boulder content, both of slag. Gravel is subrounded to angular of slag. MGR
	1.50	ES		1.80			MADE GROUND: Dense to very dense grey very sandy fine to coarse, angular to subangular GRAVEL of slag with medium cobble and low boulder content of slag. Hydrocarbon odour. MGR
							End of pit at 1.80 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457253.00 - 525528.00 Level:	Date 16/05/2017
Location: SSI Redcar	Dimensions (m): Depth 3.00		Scale 1:25 Logged JNB
Client: Homes and Communities Agency		2.5	4.1

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	2.00	ES		1.80			MADE GROUND: Medium dense dark brown slightly silty gravelly SAND with low cobble content and rare refractory brick fragments. Gravel is fine to coarse, angular to subrounded of slag, dark blue dense slag. MGR
				2.10			MADE GROUND: Medium dense to dense black very sandy GRAVEL with low cobble content of slag. Tar odour and appearance. MGR
				3.00			MADE GROUND: Loose black and grey gravelly SAND with low cobble content. Gravel of slag. Slight hydrocarbon odour. MGR
							<p><i>Becoming medium dense to dense, blueish grey/brown very gravelly SAND with medium cobble content of slag.</i></p> <p><i>Becoming dense to very dense.</i></p> <p>End of pit at 3.00 m</p>

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457406.00 - 525545.00 Level:	Date 22/05/2017
Location: SSI Redcar		Dimensions (m): Depth 2.70	Scale 1:25 Logged JNB
Client: Homes and Communities Agency			

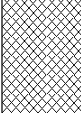
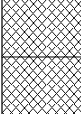
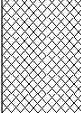
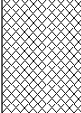
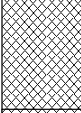
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.60	ES		0.40			MADE GROUND/TOPSOIL: Loose brown slightly silty very gravelly SAND with low cobble content. Gravel is fine to coarse, angular to subangular of slag and rare brick. MGR
	2.60 2.60 - 2.70	ES B		2.60 2.70			MADE GROUND: Loose red slightly silty gravelly fine to coarse SAND with medium cobble and low boulder content. Gravel is fine to coarse, angular to subangular of slag and brick. MGR
							MADE GROUND: Loose yellowish dark brown slightly gravelly medium to coarse SAND with pockets of loose black fibrous highly organic silty sand. Gravel is fine to coarse of shell fragments (POSSIBLE NATURAL). MGR
							End of pit at 2.70 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456973.00 - 525599.00 Level:	Date 10/05/2017
Location: SSI Redcar	Dimensions (m): Depth 2.80		Scale 1:25 Logged JNB
Client: Homes and Communities Agency		4.5	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.40			MADE GROUND: Loose grey sandy angular to subangular fine to coarse GRAVEL of slag with rootlets and grass on top. MGR
				0.60			Concrete slab with rebar and pipes. MGR
				2.00			MADE GROUND: Loose to medium dense sandy gravelly COBBLES AND BOULDERS of steel, brick and wires. Large >2m sheets, pipes and beams. MGR
	2.30	ES		2.20			MADE GROUND: Relict refractory brick floor. MGR
				2.80			MADE GROUND: Loose grey sandy medium to coarse GRAVEL of slag with high cobble content of brick. MGR
							End of pit at 2.80 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457107.00 - 525539.00 Level:	Date 10/05/2017
Location: SSI Redcar	Dimensions (m): Depth 2.50		Scale 1:25 Logged LK
Client: Homes and Communities Agency		4.5	

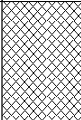
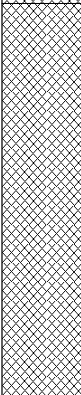
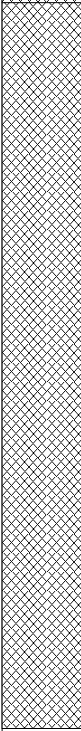
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.30	ES		0.10			TOPSOIL: Brown silty gravelly SAND with frequent rootlets. Gravel is fine to coarse subrounded to angular of slag. TPS
				0.50			MADE GROUND: Medium dense brown very sandy fine to coarse, angular to subangular GRAVEL of slag with high cobble and medium boulder content, both of slag and occasional brick fragments (red/refractory 90%/10%). MGR
							MADE GROUND: Very dense grey slightly sandy angular to subangular GRAVEL of with high cobble, high boulder and low to medium large boulder content, all of slag. MGR
	1.70 - 2.00	LB		2.50			End of pit at 2.50 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457176.00 - 525546.00 Level:	Date 18/05/2017
Location: SSI Redcar	Dimensions (m): Depth 4.10		Scale 1:25 Logged JNB
Client: Homes and Communities Agency		3.6	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	1.00 1.00 - 1.50	ES ES		0.40			MADE GROUND: Loose dark brown silty gravelly fine to coarse SAND with low cobble content. Gravel is angular to subangular, fine to coarse of slag, iron rich slag and aerated slag. MGR
				1.70			MADE GROUND: Interbeds dark and light gravels dipping at 30° to the north. Loose black and grey slightly silty very sandy fine to coarse, angular to subrounded GRAVEL of highly aerated slag, clinker, coke and coal fragments (darker layers). MGR
	2.50 - 3.00	B		4.10			MADE GROUND: Loose to very loose, yellowish brown slightly gravelly fine to coarse SAND. Gravel is fine to coarse of slag. MGR
End of pit at 4.10 m							

Remarks:

Stability:



Trial Pit Log

Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457226.00 - 525483.00 Level:	Date 18/05/2017
Location: SSI Redcar		Dimensions (m): Depth 3.70	Scale 1:25 Logged LK
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.10		TOPSOIL TPS	
	0.50	ES		0.50		MADE GROUND: Dense to very dense brownish grey very gravelly SAND with medium cobble and medium boulder content, both of slag. Gravel is fine to coarse, subrounded to angular of slag. MGR	
				1.30		MADE GROUND: Dense brownish grey sandy GRAVEL with high cobble and medium boulder content. MGR	
				3.70		End of pit at 3.70 m	

Remarks:

Stability:





Trial Pit Log

Trialpit No
S2-TP76
Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079

Co-ords: 457272.00 - 525477.00
Level:

Date
19/05/2017

Location: SSI Redcar

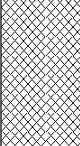
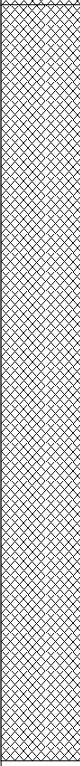
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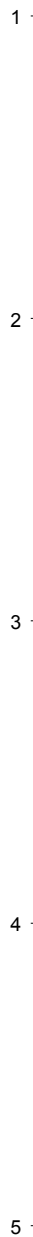
Scale
1:25

Client: Homes and Communities Agency

Depth
3.00

Logged
JNB

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.50			MADE GROUND: Loose to medium dense, dark brown silty gravelly SAND. Gravel is fine to coarse, angular to subangular of slag. MGR
							MADE GROUND: Dense greyish brown very sandy GRAVEL with medium cobble content and very low boulder content of slag and lightweight metalliferous slag. MGR
	2.80	ES		3.00			End of pit at 3.00 m



Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457322.00 - 525458.00 Level:	Date 19/05/2017
Location: SSI Redcar		Dimensions (m): Depth 2.70	Scale 1:25 Logged LK
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.60 - 0.80	ES					MADE GROUND: Dense to very dense brownish grey very sandy fine to coarse, subangular to angular GRAVEL of slag with cobbles and boulders of slag and rare brick fragments. MGR
	1.00 - 1.50	LB					From 0.7: becoming sandy gravel, high cobble and low large boulder content.
				2.10			MADE GROUND: Grey solid SLAG MGR
				2.70			End of pit at 2.70 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456855.00 - 525583.00 Level:	Date 09/05/2017
Location: SSI Redcar		Dimensions (m): Depth 1.40	Scale 1:25 Logged LK
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	1.20	ES		0.30			TOPSOIL: Loose brownish grey silty very gravelly sand. Gravel is fine to coarse subrounded to subangular of slag. Asphalt at base. TPS
				0.40			MADE GROUND: Grey medium to coarse, subangular to angular GRAVEL of railway ballast. MGR
				1.40			MADE GROUND: Loose dark brown very gravelly SAND with medium cobble, low boulder and low large boulder content, all of slag. Gravel is fine to coarse, subrounded to angular of slag. Occasional bricks/brick fragments (red). Occasional scrap metal fragments. Rare wood, plastic bag fragments. MGR
			----- End of pit at 1.40 m -----				

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456909.00 - 525560.00 Level:	Date 09/05/2017
Location: SSI Redcar	Dimensions (m): 3.5 Depth 1.05		Scale 1:25 Logged JNB
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.02	ES		0.05			<p>MADE GROUND: Loose to medium dense light grey slightly silty very gravelly SAND with rare nails. Gravel is fin to coarse, angular to subrounded white slag, aerated slag. MGR</p> <p>MADE GROUND: Medium dense to dense, sandy fine to coarse well cemented GRAVEL. Recovered as large slabs of asphalt gravel. MGR</p> <p>MADE GROUND: Loose to medium dense, dark brown slightly silty very gravelly SAND with medium cobble and low boulder content of slag, coke, iron rich slag, Occasional rebar. MGR</p> <p><i>Three sides of excavation surrounded by concrete walls. Concrete floor slab at base.</i></p> <p><i>Becoming oily.</i></p> <p style="text-align: right;">End of pit at 1.05 m</p>
	1.00	ES		1.05			

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456976.00 - 525535.00 Level:	Date 09/05/2017
Location: SSI Redcar		Dimensions (m): Depth 3.80	Scale 1:25 Logged LK
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.10			<p>TOPSOIL: Glass/railway ballast over loose brown silty very gravelly SAND. Gravel is fine to coarse subrounded to angular of slag and railway ballast. TPS</p> <p>MADE GROUND: Loose to medium dense, greyish brown very gravelly SAND with medium cobble and low boulder content of slag. Gravel is fine to coarse, subangular to angular of slag and rare coke. Frequent bricks/brick fragments (red/refractory 60%/40%). Occasional scrap metal fragments (including railway plates) and rare plastic bag fragments. MGR</p> <p><i>Pocket of grey sandy gravel.</i></p> <p><i>Concrete foundations on right hand side of pit.</i></p>
	2.50	ES		3.90			<p>End of pit at 3.80 m</p>

Remarks:

Stability:




Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457026.00 - 525516.00 Level:	Date 09/05/2017
Location: SSI Redcar		Dimensions (m): Depth 1.60	Scale 1:25 Logged JNB
Client: Homes and Communities Agency			

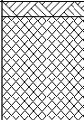
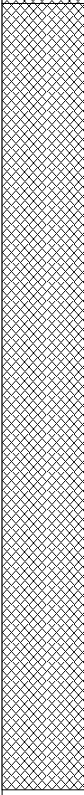
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.10			0.10			TOPSOIL: Grass over loose dark brown silty gravelly SAND with abundant rootlets. TPS
	0.50	ES		0.50			MADE GROUND: Medium dense brownish red and yellow very gravelly SAND with high cobble, low boulder content, rare metal plates (1900x900mm) and bars with pockets of coal and coke and black sand. Gravel consists of red and refractory bricks and slag. MGR
				1.60			End of pit at 1.60 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457084.00 - 525504.00 Level:	Date 10/05/2017
Location: SSI Redcar		Dimensions (m): Depth 3.00	Scale 1:25 Logged JNB
Client: Homes and Communities Agency		1.9 	


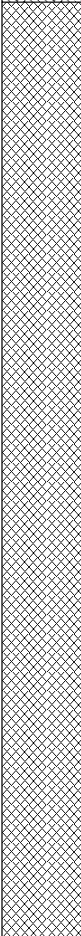
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.30	ES		0.05 0.40		 <p>TOPSOIL TPS <i>Concrete wall running perpendicular to railway (?)</i> MADE GROUND: Loose black silty gravelly SAND. Gravel is fine to coarse, angular to subrounded of cemented coal dust and various lithologies. MGR</p>		
	2.50	B		3.00		 <p>MADE GROUND: Loose to medium dense, greyish brown sandy gravelly COBBLES AND BOULDERS of limestone. MGR</p>		
							End of pit at 3.00 m	

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457301.00 - 525406.00 Level:	Date 22/05/2017
Location: SSI Redcar	Dimensions (m): Depth 3.40		Scale 1:25 Logged JNB
Client: Homes and Communities Agency		2.4	4.9

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20	ES		0.30			TOPSOIL: Loose brown slightly silty very gravelly SAND with medium cobble and low boulder content. TPS
	3.00	ES		3.40			MADE GROUND: Loose dark brown slightly silty very sandy fine to coarse, angular to subangular GRAVEL with medium cobble and low boulder content of red and refractory brick, timber, slag rare glassy black crystallised tar, rare steel wire and iron sheet with tar odour. Rare cobbles of lime. MGR
End of pit at 3.40 m							

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456894.00 - 525494.00 Level:	Date 08/05/2017
Location: SSI Redcar		Dimensions (m): Depth 3.90	Scale 1:25 Logged JNB
Client: Homes and Communities Agency			

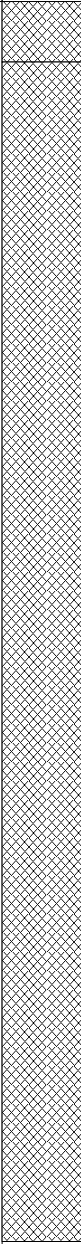
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.50	ES		0.20 0.40			MADE GROUND: Loose blackish brown, slightly silty gravelly SAND. Gravel is fine to coarse, angular to subangular. MGR MADE GROUND: Very dense, light grey continuous layer of slag. Recovered as fine to coarse angular GRAVEL. MGR MADE GROUND: Loose to medium dense dark brown to black slightly silty very gravelly fine to coarse SAND with medium cobble and low boulder content. Gravel, cobbles and boulders are of brick, slag, iron rich slag and rare concrete. Steel RSJ. MGR
	1.00 - 1.50	B		3.90			End of pit at 3.90 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 456953.00 - 525475.00 Level:	Date 08/05/2017
Location: SSI Redcar	Dimensions (m): Depth 4.10		Scale 1:25 Logged LK
Client: Homes and Communities Agency		3.8	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.10	ES		0.20			<p>MADE GROUND: Brownish grey silty sandy fine to coarse, rounded to angular GRAVEL of slag and iron pellets with low cobble content. Rare small brick fragments (red/refractory 50%/50%). MGR</p> <p>MADE GROUND: Medium dense greyish brown very gravelly SAND with medium cobble and low large boulder content, both of slag. Gravel is fine to coarse, subrounded to angular of slag. Frequent bricks/brick fragments (red/refractory 70%/30%). Rare plastic bag fragments. MGR</p>
	4.00	ES		4.10			<p>Layer of whitish slag.</p> <p>End of pit at 4.10 m</p>

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457009.00 - 525456.00 Level:	Date 08/05/2017
Location: SSI Redcar	Dimensions (m): Depth 3.10		Scale 1:25 Logged LK
Client: Homes and Communities Agency		2.2 3.9	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.40	ES		0.10			TOPSOIL: Grass over brown slightly silty slightly gravelly SAND with abundant rootlets. Gravel is fine to medium subangular of slag. TPS
				0.60			MADE GROUND: Medium dense dark brown silty gravelly SAND with low cobble and medium boulder content of slag. Gravel is fine to coarse, rounded to subangular of slag, iron pellets. Occasional red and refractory brick fragments (red/refractory 70%/30%). MGR
	2.50 - 2.80 2.50 - 3.00	ES B		3.10			MADE GROUND: Dense dark brownish grey, slightly clayey slightly sandy fine to coarse, angular to subangular of GRAVEL of slag with high cobble, medium boulder and medium large boulder content, all of slag. Abundant bricks/brick fragments (red/refractory 25%/75%). Pockets/layers of grey cobbles and boulders and pockets/layers of firm brown slightly sandy gravelly clay. MGR
							Concrete foundations at the bottom and at side.
							End of pit at 3.10 m

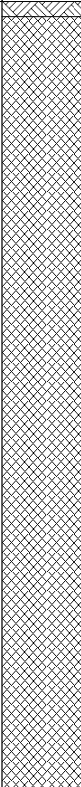
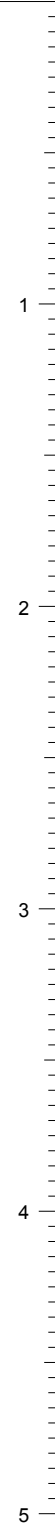
Remarks:

Stability:



Trial Pit Log

Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457123.00 - 525414.00 Level:	Date 08/05/2017
Location: SSI Redcar		Dimensions (m): Depth 2.60	Scale 1:25 Logged JNB
Client: Homes and Communities Agency			


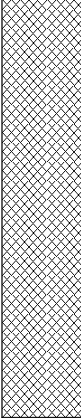
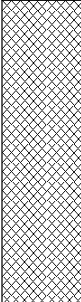
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.30 - 0.80	ES		0.05		 <p>TOPSOIL TPS</p> <p>MADE GROUND: Loose to medium dense, sandy fine to coarse GRAVEL of slag with high cobble and low boulder content of aerated slag and two iron railway sleepers. MGR</p> <p><i>Becoming grey and more iron rich slag</i></p>	
	1.20 - 1.50	LB					
				2.60			End of pit at 2.60 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457224.00 - 525358.00 Level:	Date 09/05/2017
Location: SSI Redcar		Dimensions (m): Depth 2.60	Scale 1:25 Logged LK
Client: Homes and Communities Agency			

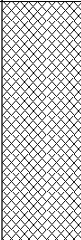
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
▼	1.00	ES		0.20		 <p>TOPSOIL: Grass over brown silty slightly gravelly sand with abundant rootlets. Gravel is fine to coarse rounded to subangular of slag and iron pellets. TPS</p>	1	
	2.00 2.00 - 2.50	ES LB		1.60		 <p>MADE GROUND: Medium dense brown very sandy fine to coarse, angular to subrounded GRAVEL of slag with high cobble, medium boulder and low large boulder content, all of slag with abundant bricks/brick fragments (red/refractory 10%/90%). MGR</p>		2
				2.60		 <p>MADE GROUND: Very dense grey slightly sandy fine to coarse, angular to subrounded GRAVEL of slag with high cobble and low boulder content, both of slag and occasional refractory brick fragments. MGR</p>		
End of pit at 2.60 m							4	
							5	

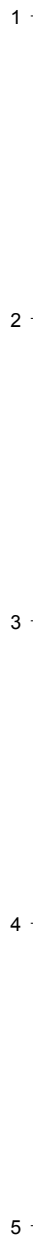
Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457063.00 - 525380.00 Level:	Date 04/05/2017
Location: SSI Redcar		Dimensions (m): Depth 1.60	Scale 1:25 Logged JNB
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.30 - 0.80	LB					MADE GROUND: Grass and rootlets over: Loose grey sandy fine to coarse, angular to subrounded GRAVEL of slag, possibly railway ballast at base of unit with low to medium cobble and boulder content. MGR
	1.20 1.20 - 1.60	ES B					MADE GROUND: Loose to medium dense red and grey very sandy fine to coarse, angular to subangular GRAVEL of slag, red brick and rare yellow brick with pockets of loose black sand and gravel of coal dust. MGR <i>Dead service cable. Underneath reinforced concrete tiles with 'ELECTRICITY' markings. NW/SE trend.</i>
				1.60			End of pit at 1.60 m



Remarks:

Stability:





Trial Pit Log

Trialpit No
S2-TP90
Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079

Co-ords: 457097.00 - 525355.00
Level:

Date
04/05/2017

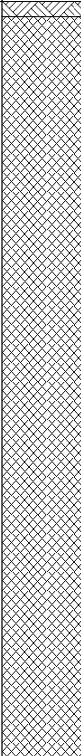

Location: SSI Redcar

Dimensions (m):
Depth 2.60



Scale
1:25
Logged
JNB

Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.50 - 1.00 0.50 - 1.00	B ES		0.05			<p>TOPSOIL TPS</p> <p>MADE GROUND: Loose brown slightly silty very gravelly fine to coarse SAND with low to medium cobble and boulder content. Gravel is fine to coarse, angular to subrounded of various lithologies including coke, slag and brick. Multiple 20mm diameter copper and 100mm diameter steel pipes observed. Concrete blocks and rebar thought to be relict foundations. MGR</p>
				2.50 2.60			<p>MADE GROUND: SLAG MGR</p> <p>End of pit at 2.60 m</p>

1
2
3
4
5

Remarks:

Stability:





Trial Pit Log

Trialpit No
S2-TP91
Sheet 1 of 1

Project Name: Redcar DVA Initial Ground Investigation

Project No.
678079

Co-ords: 457152.00 - 525334.00
Level:

Date
05/05/2017

Location: SSI Redcar

Dimensions (m):
Depth 2.80

Scale
1:25
Logged
JNB


Client: Homes and Communities Agency

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.05	ES		0.05			TOPSOIL TPS
	0.50 - 1.00	B					MADE GROUND: Loose to medium dense brownish grey, very sandy fine to coarse, angular to subangular GRAVEL of slag, aerated slag and possibly railway ballast with medium cobble and low boulder content of the same. MGR
				2.80			End of pit at 2.80 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457194.00 - 525320.00 Level:	Date 08/05/2017
Location: SSI Redcar		Dimensions (m): Depth 3.80	Scale 1:25 Logged LK
Client: Homes and Communities Agency		2.1 	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	0.40 0.50 - 0.80	ES B		0.10			TOPSOIL: Grass over brown slightly silty sandy gravel with frequent rootlets. Gravel is fine to coarse subangular of slag. MGR MADE GROUND: Medium dense brown very sandy fine to coarse, angular to subangular GRAVEL of slag with medium cobble and medium boulder content, both of slag and rare scrap metal fragments. MGR
				1.00			
	3.00 - 3.50	LB		3.80			End of pit at 3.80 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457079.00 - 525305.00 Level:	Date 04/05/2017
Location: SSI Redcar	Dimensions (m): Depth 4.40		Scale 1:25 Logged JNB
Client: Homes and Communities Agency		4.4	

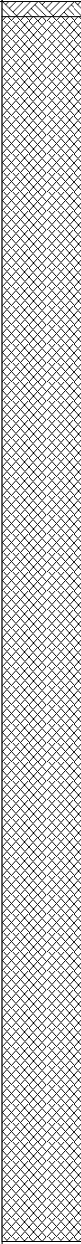
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.05	ES		0.05			<p>TOPSOIL: Loose dark brown silty very gravelly fine to coarse SAND. Gravel is fine to coarse, angular to subangular predominantly of slag.</p> <p>TPS</p> <p>MADE GROUND: Medium dense to dense, grey sandy fine to coarse, angular to subangular GRAVEL AND COBBLES with low to medium boulder content. Gravel to boulders are of slag and rare brick, rare slabs of iron/steel (500x400x60mm), rare iron pipe.</p> <p>MGR</p> <p><i>Becoming sandy fine to coarse, angular to subangular GRAVEL with medium to high cobble content.</i></p>
	3.50 - 4.00	B					
				4.40			End of pit at 4.40 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457012.00 - 525263.00 Level:	Date 03/05/2017
Location: SSI Redcar		Dimensions (m): Depth 4.10	Scale 1:25 Logged JNB
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			TOPSOIL TPS MADE GROUND: Dense to very dense light grey sandy fine to coarse, angular to subangular GRAVEL of slag with high cobble content and occasional layers/sheets of metallic slag/iron (hard digging). MGR
	3.00 - 4.00	LB					
				4.10			End of pit at 4.10 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457049.00 - 525248.00 Level:	Date 03/05/2017
Location: SSI Redcar	Dimensions (m): Depth 4.10		Scale 1:25 Logged JNB
Client: Homes and Communities Agency		4.3	


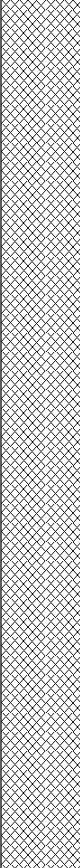
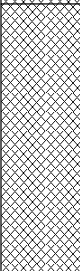

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			TOPSOIL TPS
	0.50	ES					MADE GROUND: Loose light brownish grey fine to coarse SAND AND GRAVEL with medium cobble to low boulder content. Gravel is fine to coarse, angular to subangular of slag, aerated slag, coke, refractory brick, polished iron rich slag. MGR
	1.50 - 2.00	B		1.00			MADE GROUND: Loose to medium dense, red very sandy fine to coarse, angular to subangular GRAVEL of red brick and slag. MGR
				1.50			MADE GROUND: Loose to medium dense white slightly sandy GRAVEL AND COBBLES with low boulder content. Gravel to boulders are of white slag. MGR
				2.00			MADE GROUND: Loose to medium dense red slightly sandy GRAVEL AND COBBLES with low boulder content. Gravel to boulders are of white slag. MGR
				2.50			MADE GROUND: Loose to medium dense white slightly sandy GRAVEL AND COBBLES with low boulder content. Gravel to boulders are of white slag. MGR
				3.10			MADE GROUND: Loose to medium dense red slightly sandy GRAVEL AND COBBLES with low boulder content. Gravel to boulders are of white slag. MGR
				3.80			MADE GROUND: Loose to medium dense, dark brown sandy fine to coarse, angular to subangular GRAVEL of slag and brick with low cobble content. MGR
▼	4.00	ES		4.10			End of pit at 4.10 m

Remarks:

Stability:



Project Name: Redcar DVA Initial Ground Investigation	Project No. 678079	Co-ords: 457219.00 - 525178.00 Level:	Date 02/05/2017
Location: SSI Redcar		Dimensions (m): Depth 4.10	Scale 1:25 Logged JNB
Client: Homes and Communities Agency			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20 - 0.50 0.20 - 0.50	B ES		0.20		 TOPSOIL: Grass over loose black slightly silty gravelly SAND with low cobble content and abundant rootlets. TPS  MADE GROUND: Loose black slightly silty very gravelly SAND with low cobble and boulder content. Gravel is angular to subrounded, fine to coarse of clinker, red and refractory brick, aerated slag, slag and lumps of steel. MGR	1
	3.10 - 4.00	B		3.10		 MADE GROUND: Loose yellowish brown gravelly medium to coarse SAND. Gravel is fine to coarse of cemented coal dust. MGR	3
▼	4.00 - 4.10	ES		4.00 4.10		 MADE GROUND: Loose blackish brown sandy fine to coarse GRAVEL of clinker with low to medium cobble content. MGR End of pit at 4.10 m	4
							5

Remarks:

Stability:

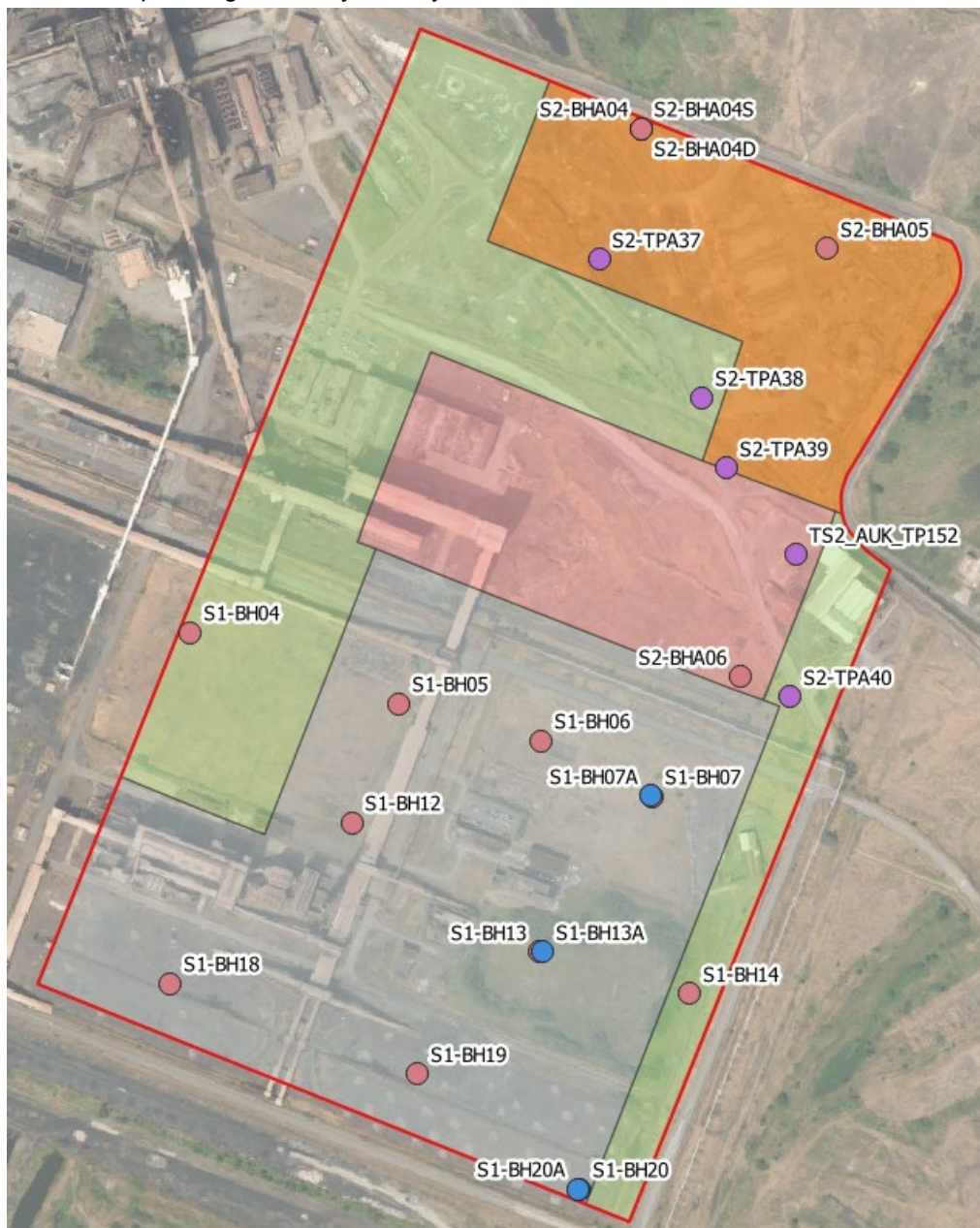


Appendix D.3 - Report Reference(s):

- 4153 & 4154 Area A Former Steelworks Redcar Contract 1 & 2 (Area A) (Final report), prepared by Allied Exploration and Geotechnics Limited (AEG) for South Tees Site Company Ltd, dated June 2018.
- The Former SSI Steelworks, Redcar: Priority Areas within SSI Landholdings Contract 1 and 2A: Site Condition Report, Redcar Steelworks-AUK-XX-XX-RP-GE-0001-02-SSI1_SSI2A_GI_SCR, prepared by Arcadis and dated August 2018
- TS2_AUK_TP152 – Single trial pit conducted as part of a ground investigation of the adjacent Long Acres Teesworks landholding.

Information Summarised: Site Plan, Trial Pit and Borehole Logs, Permeability Tests Tidal Monitoring Results, (trial pit log and laboratory data for TS2_AUK_TP152)

Location to planning boundary overlay



Soils Summary

1. Soils analytical results screened to current risk based criteria as part of the Appendix J
2. Soil sampling analytical results and certificates presented in report 4153 & 4154 Area A Former Steelworks Redcar Contract 1 & 2 (Area A) (Final report)

Soil Leachate

1. Soil Leachate analytical results screened to current risk based criteria as part of the Appendix M
2. Soil leachate sampling analytical results and certificates presented in report 4153 & 4154 Area A Former Steelworks Redcar Contract 1 & 2 (Area A) (Final report)

Groundwater Summary

1. Number of monitoring visits – 2 (January and February 2018)
2. Groundwater analytical results screened to current risk based criteria as part of the Appendix K
3. Summary of groundwater elevation monitoring and analysis is presented Appendix F.



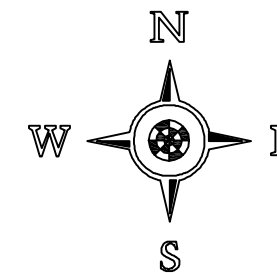
Allied Exporation and Geotechnics Limited

Unit 25 Stella Gill Industrial Estate
Pelton Fell
Chester - Le - Street
Co Durham
DH2 2RG
(Tel): 0191 387 4700
(Fax): 0191 387 4710
(Email): enquiries@aeguk.net

KEY:



BOREHOLE



Base Plan Supplied by Consulting Engineer

Drawing Title:

ENC 01 : Exploratory Hole Location Plan

Drawing No.:

AEG/4153/01

Contract Title:

The Former SSI Steelworks, Redcar –
Ground Investigation Contract –
Priority Areas Within SSI Landholdings Contract 1

Client:

South Tees Site Company Ltd
1 Victoria Street
London, SW1H 0ET

Consultant:

Arcadis
1 Whitehall Riverside
Leeds, LS1 4BN

Contract No.:

4153

Scale:

1:2500 @ A3

Date:

30/01/2018



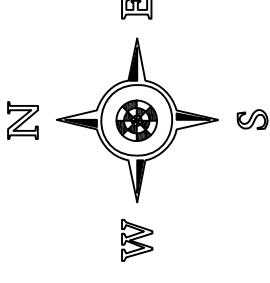


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DH2 2RG
(Tel): 0191 387 4700
(Fax): 0191 387 4710
(Email): enquiries@aeg.uk.net

KEY:



BOREHOLE



Base Plan Supplied by Consulting Engineer

Drawing Title: ENC 01 : Exploratory Hole Location Plan

Drawing No.: AEG4153/02

Contract Title: The Former SSI Steelworks, Redcar –
Ground Investigation Contract –
Priority Areas Within SSI Landholdings Contract 1

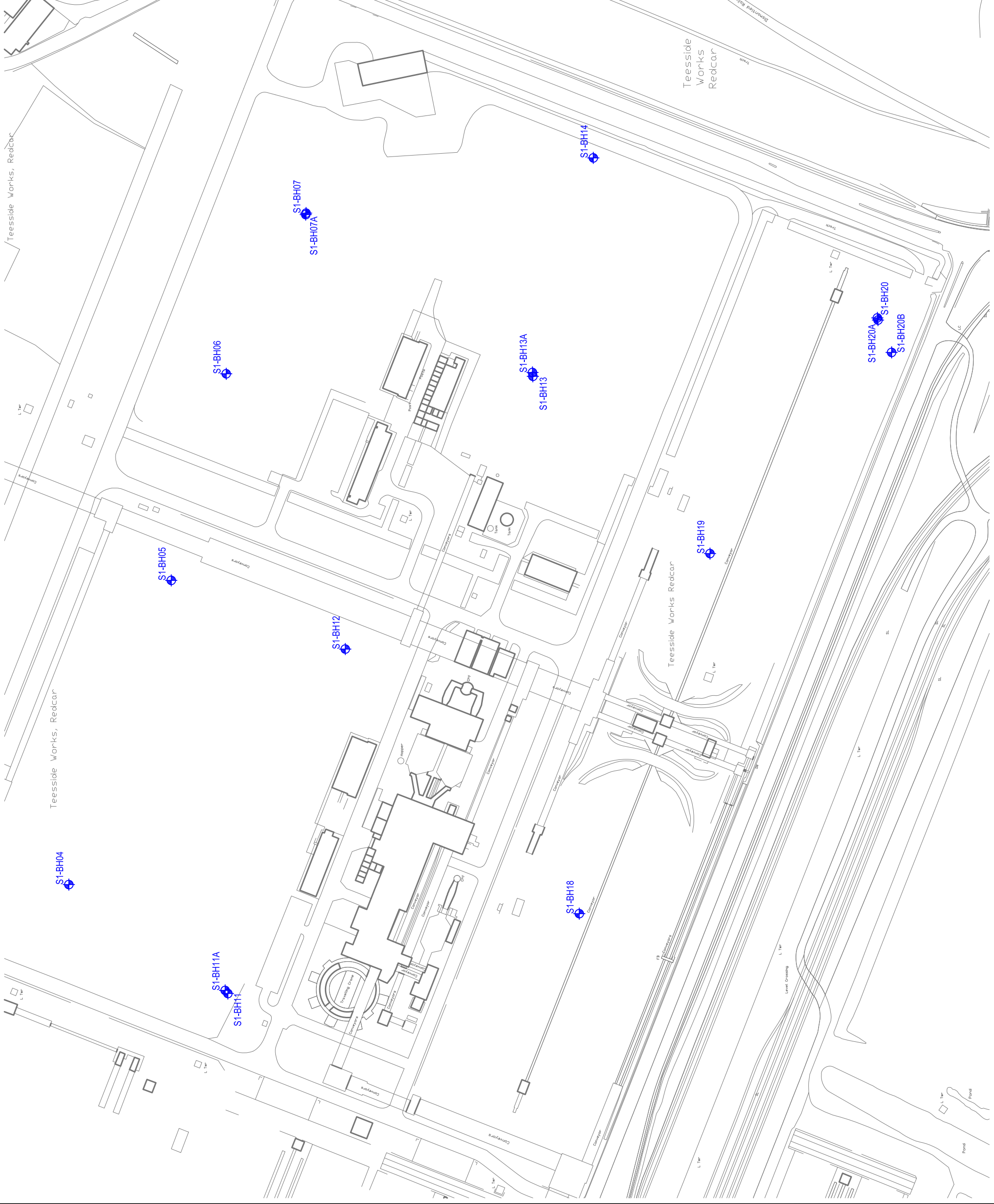
Client: South Tees Site Company Ltd
1 Victoria Street
London, SW1H 0ET

Consultant: Arcadis
1 Whitehall Riverside
Leeds, LS1 4BN

Contract No.: 4153

Scale: 1:2500 @ A3

Date: 30/01/2018





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 Pelton Fall
 Chester - Le - Street
 Co Durham
 DH2 2RG
 (Tel): 0191 387 4700
 (Fax): 0191 387 4710
 (Email): enquiries@aeg.uk.net

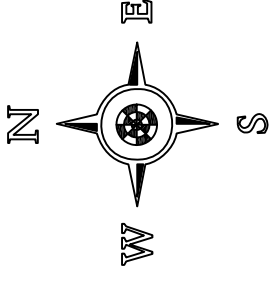
KEY:



BOREHOLE



TRIAL PIT



Base Plan Supplied by Consulting Engineer

Drawing Title:

ENC 01 : Exploratory Hole Location Plan

Drawing No.:

AEG4154 - Area A/02

Contract Title:

The Former SSI Steelworks, Redcar –
 Ground Investigation Contract –
 Priority Areas Within SSI Landholdings Contract 2

Client:

South Tees Site Company Ltd
 1 Victoria Street
 London, SW1H 0ET

Consultant:

Arcadis
 1 Whitehall Riverside
 Leeds, LS1 4BN

Contract No.:

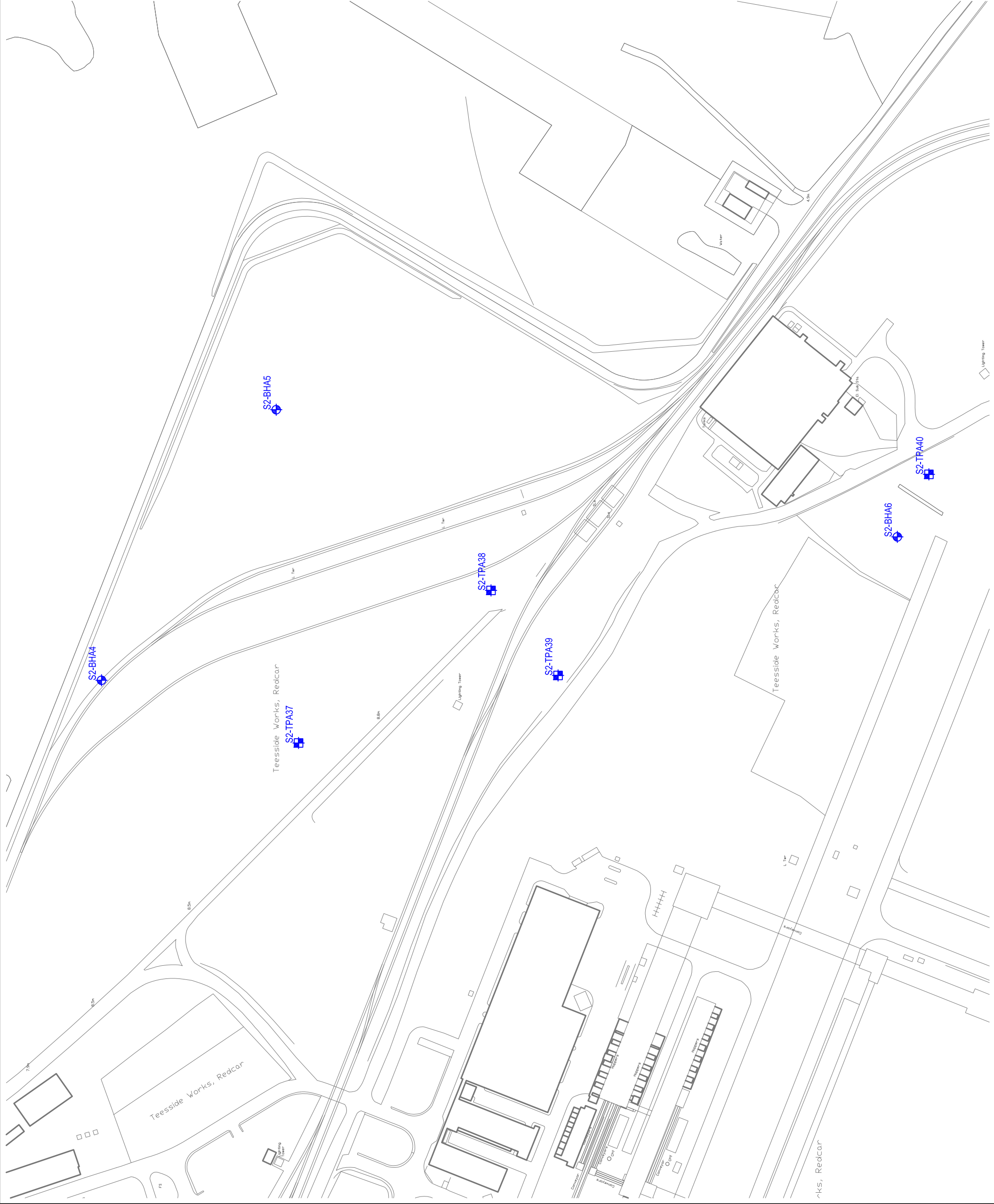
4154

Scale:

1:2500 @ A3

Date:

25/05/2018





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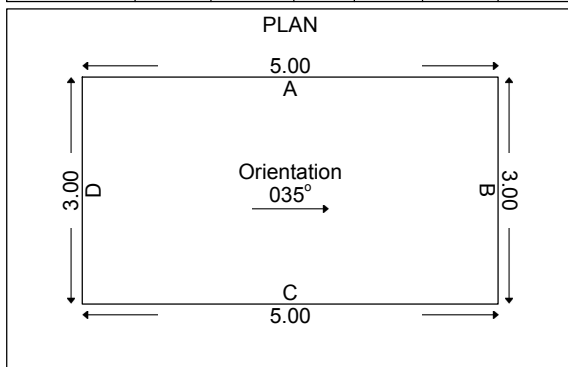
Tel: 0191 387 4700 Fax: 0191 387 4710
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TRIAL PIT RECORD

Status:-
PRELIM3

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-TPA37	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457076.658 N:525606.108	
Method (Equipment): Machine Excavated (JCB 3CX)	Ground Level (m(AOD)): 7.186	Start Date: 04/10/2017	Sheet: 1 of 3

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION
0.50	J1						MADE GROUND (Dark brown grey slightly clayey sandy gravel with high cobble and boulder content with some fragments of metal. Sand includes ash. Gravel is fine to coarse angular to subangular and includes slag, clinker and concrete. Cobbles and boulders are angular and include clinker and slag) (Engineer notes thick layers of slag throughout approx. c.20cm thick).
1.00	ES2						
1.20	PID B3	0.8ppm				(2.40)	
1.20	B3						
1.50	J4						
2.00	ES5						Trial pit terminated at 2.40m BGL - due to obstruction.
2.20	PID B6	2.4ppm		4.786	2.40		
2.20	B6						
2.40	J7						



GROUNDWATER
 No groundwater inflow observed.

STABILITY
 Pit sides moderately unstable throughout excavation.

GENERAL REMARKS

ADDITIONAL INFORMATION	
Sketch Diagram:	No Sketch Taken
Photographs:	Yes See additional sheets.

UNDERGROUND SERVICES				
Depth	Orientation	Type	Diameter (mm)	Condition

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by:	Logged by: S. Duncan	Contract No. 4154
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TRIAL PIT RECORD

Status:-

PRELIM3

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No.	
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:457076.658 N:525606.108	S2-TPA37	
Method (Equipment): Machine Excavated (JCB 3CX)	Ground Level (m(AOD)): 7.186	Start Date: 04/10/2017	Sheet: 2 of 3



Figure S2-TPA37.1
S3-TPA37 Before investigation works.



Figure S2-TPA37.2
S3-TPA37.



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TRIAL PIT RECORD

Status:-

PRELIM3

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No.	
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:457076.658 N:525606.108	S2-TPA37	
Method (Equipment): Machine Excavated (JCB 3CX)	Ground Level (m(AOD)): 7.186	Start Date: 04/10/2017	Sheet: 3 of 3



Figure S2-TPA37.3
S3-TPA37 (2).



Figure S2-TPA37.4
S3-TPA37 Spoil.



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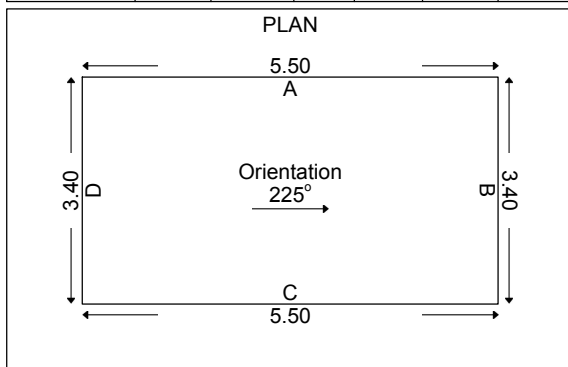
Tel: 0191 387 4700 Fax: 0191 387 4710
 Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-
PRELIM3

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-TPA38	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457183.831 N:525470.907	
Method (Equipment): Machine Excavated (JCB 3CX)		Ground Level (m(AOD)): 7.220	Start Date: 04/10/2017
		Sheet: 1 of 3	

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION
0.50	J1					(1.80)	MADE GROUND (Dark brown grey slightly clayey sandy gravelly cobbles and boulders with fragments of metal. Sand includes ash. Gravel is fine to coarse angular to subangular and includes slag, clinker and concrete. Cobbles are angular and include clinker and slag). (Engineer notes sulphurous odour throughout and possible ammonia odour).
1.00	ES2						
1.20	PID	0.3ppm					
1.20	B3						
1.50	ES4						
1.80	PID	10.0ppm		5.420		1.80	Trial pit terminated at 1.80m BGL - due to obstruction.
1.80	B5						



GROUNDWATER
 No groundwater inflow observed.

STABILITY
 Pit sides unstable throughout excavation.

GENERAL REMARKS

ADDITIONAL INFORMATION	
Sketch Diagram:	No Sketch Taken
Photographs:	Yes See additional sheets.

UNDERGROUND SERVICES				
Depth	Orientation	Type	Diameter (mm)	Condition

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by:	Logged by: S. Duncan	Contract No. 4154
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TRIAL PIT RECORD

Status:-
PRELIM3

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No.	
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:457183.831 N:525470.907	S2-TPA38	
Method (Equipment): Machine Excavated (JCB 3CX)	Ground Level (m(AOD)): 7.220	Start Date: 04/10/2017	Sheet: 2 of 3



Figure S2-TPA38.1
S3-TPA38 Before investigation works.



Figure S2-TPA38.2
S3-TPA38.



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TRIAL PIT RECORD

Status:-

PRELIM3

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No.	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457183.831 N:525470.907	
Method (Equipment): Machine Excavated (JCB 3CX)		Ground Level (m(AOD)): 7.220	Start Date: 04/10/2017
		Sheet: 3 of 3	



Figure S2-TPA38.3
S3-TPA38 (2).



Figure S2-TPA38.4
S3-TPA38 Spoil.



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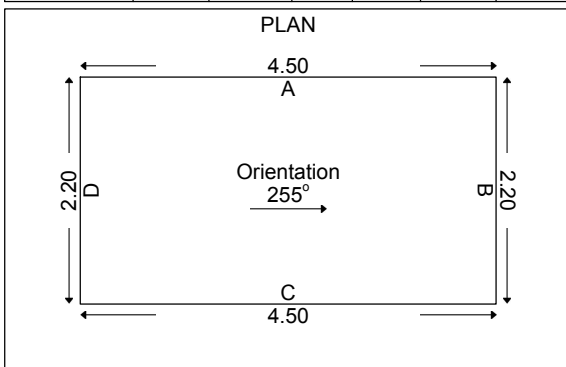
Tel: 0191 387 4700 Fax: 0191 387 4710
 Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-
PRELIM3

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-TPA39	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457124.084 N:525423.823	
Method (Equipment): Machine Excavated (JCB 3CX)		Ground Level (m(AOD)): 7.731	Start Date: 04/10/2017 Sheet: 1 of 4

SAMPLES & TESTS			STRATA					
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
0.50	J1			7.631		0.10	MADE GROUND (Compacted gravel).	
1.00	ES2							MADE GROUND (Dark brown grey slightly clayey sandy gravel and cobbles and boulders. Sand includes ash. Gravel is fine to coarse angular to subangular and includes slag, clinker and concrete. Cobbles and boulders are angular and include clinker and slag.
1.20	PID B3	7.0ppm						at 0.70 to 1.80 m BGL ... high boulder content (up to 2.00m).
1.20								
1.50	J4							between c.1.80-2.00m BGL ... locally red.
2.00	ES5							
2.20	PID B6	9.0ppm					(4.10)	from c. 2.50m BGL ... high boulder content (up to 2.00m).
2.20								
2.50	J7							at c.2.80m BGL ... engineer notes sulphurous odour and possible ammonia odour.
3.00	ES8							
3.20	PID B9	8.5ppm						
3.20								
3.50	J10							
4.00	ES11			3.531		4.20		
4.20	PID B12	10.0ppm					Trial pit terminated at 4.20m BGL - unable to progress due to reach of bucket.	
4.20								



GROUNDWATER
 No groundwater inflow observed.

STABILITY
 Pit sides unstable throughout excavation.

GENERAL REMARKS

ADDITIONAL INFORMATION	
Sketch Diagram:	No Sketch Taken
Photographs:	Yes See additional sheets.

UNDERGROUND SERVICES				
Depth	Orientation	Type	Diameter (mm)	Condition

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by:	Logged by: S. Duncan	Contract No. 4154
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Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-

PRELIM3

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No.	
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:457124.084 N:525423.823	S2-TPA39	
Method (Equipment): Machine Excavated (JCB 3CX)	Ground Level (m(AOD)): 7.731	Start Date: 04/10/2017	Sheet: 2 of 4



Figure S2-TPA39.1
S3-TPA39 Before investigation works.



Figure S2-TPA39.2
S3-TPA39.



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Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-
PRELIM3

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No.	
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:457124.084 N:525423.823	S2-TPA39	
Method (Equipment): Machine Excavated (JCB 3CX)	Ground Level (m(AOD)): 7.731	Start Date: 04/10/2017	Sheet: 3 of 4



Figure S2-TPA39.3
S3-TPA39 (2).



Figure S2-TPA39.4
S3-TPA39 (3).



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Regional Office: Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL

Tel: 0191 387 4700 Fax: 0191 387 4710
Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-

PRELIM3

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No.	
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:457124.084 N:525423.823	S2-TPA39	
Method (Equipment): Machine Excavated (JCB 3CX)	Ground Level (m(AOD)): 7.731	Start Date: 04/10/2017	Sheet: 4 of 4



Figure S2-TPA39.5
S3-TPA39 Spoil.



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 Regional Office: Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL

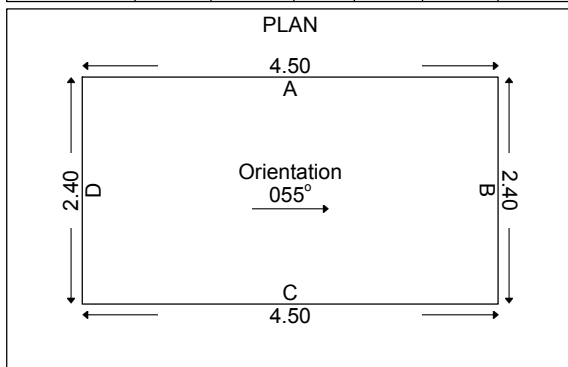
Tel: 0191 387 4700 Fax: 0191 387 4710
 Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-
PRELIM3

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-TPA40	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457265.341 N:525163.315	
Method (Equipment): Machine Excavated (JCB 3CX)	Ground Level (m(AOD)): 8.059	Start Date: 03/10/2017	Sheet: 1 of 3

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION
0.20	J1			7.959	[Cross-hatched pattern]	(0.10) 0.10	MADE GROUND (Grass over soft brown topsoil). (Engineer notes sulphurous odour).
0.30	ES2					(0.75)	MADE GROUND (Light grey with some light brown slightly clayey gravelly sand with medium cobble content and boulders. Sand includes ash. Gravel is fine to coarse angular to subangular and includes clinker and slag. Cobbles are angular to subangular and include clinker). (Engineer notes sulphurous odour).
0.50	PID B3	3.0ppm					
0.50-0.70				7.209		0.85	MADE GROUND (Grey and brown slightly clayey sandy gravelly cobbles and boulders. Sand includes ash. Gravel is fine to coarse angular to subangular and includes clinker and slag. Cobbles and boulders are angular and include clinker). (Engineer notes sulphurous odour).
0.80	PID B4	8.0ppm					
0.80	B4						
1.00	J5						
1.20	ES6						
1.70	PID B7	12.0ppm					
1.70							
2.20	J8						
2.50	ES9					(3.35)	
2.99	PID B10	85.0ppm					
3.00							
3.30	ES11						
3.70	J12						
4.20	J13	95.0ppm		3.859		4.20	MADE GROUND (Grey and brown gravelly sand. Sand includes ash. Gravel is fine to coarse angular to subangular and includes clinker and slag). (Engineer notes sulphurous odour). Trial pit complete at 4.30m BGL.
4.25	ES14			3.759		(0.10) 4.30	
4.30	PID B15						
4.30	B15						



GROUNDWATER
 No groundwater inflow observed.

STABILITY
 Pit sides unstable throughout excavation.

GENERAL REMARKS

ADDITIONAL INFORMATION	
Sketch Diagram:	No Sketch Taken
Photographs:	Yes See additional sheets.

UNDERGROUND SERVICES				
Depth	Orientation	Type	Diameter (mm)	Condition

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by:	Logged by: S. Duncan	Contract No. 4154
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TRIAL PIT RECORD

Status:-

PRELIM3

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No.	
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:457265.341 N:525163.315	S2-TPA40	
Method (Equipment): Machine Excavated (JCB 3CX)	Ground Level (m(AOD)): 8.059	Start Date: 03/10/2017	Sheet: 2 of 3

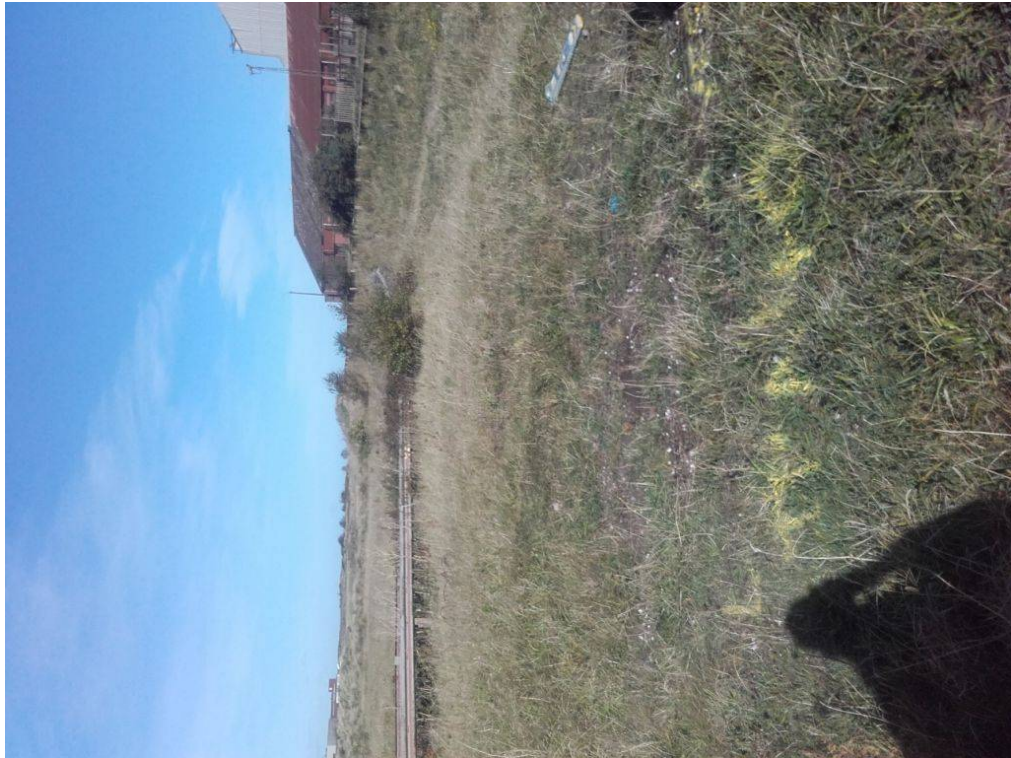


Figure S2-TPA40.1
S3-TPA40 Before investigation works.



Figure S2-TPA40.2
S3-TPA40.



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TRIAL PIT RECORD

Status:-
PRELIM3

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No.	
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:457265.341 N:525163.315	S2-TPA40	
Method (Equipment): Machine Excavated (JCB 3CX)	Ground Level (m(AOD)): 8.059	Start Date: 03/10/2017	Sheet: 3 of 3



Figure S2-TPA40.3
S3-TPA40 Spoil.



Figure S2-TPA40.4
S3-TPA40 Reinstatement.



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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1			Exploratory Hole No. S1-BH04	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456660.726 N:525230.021		
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 5.682	Start Date: 16/10/2017	Sheet: 1 of 2

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	
0.90 0.90	PID B1	2.8ppm					MADE GROUND (Soft to firm brown red sandy gravelly clay. Sand is fine to coarse. Gravel is fine to coarse subangular and includes sandstone, slag, concrete and brick).
1.80 1.80 1.90 2.00 2.00-2.45	PID B2 ES3 PID CB4	1.3ppm 1.8ppm N4			(3.90)		at c.2.00m BGL ... very loose to loose.
3.00 3.00-3.45 3.20	PID CB5 ES6	1.0ppm N6					at c.3.00m BGL ... loose.
3.90 3.90	PID B7	1.0ppm	1.782		3.90		MADE GROUND (Brown black very clayey sand. Sand is fine to coarse. Gravel is fine to coarse subangular and includes slag, concrete and brick. Hydrocarbon odour noted).
5.00-5.45	SJ8	N4			(0.90)		Soft brown black sandy CLAY/SILT. Sand is fine to medium.
5.50 5.50	PID B9	1.0ppm			(2.00)		at c.5.50m BGL ... clay of low plasticity.
5.90 6.00 6.00-6.45	ES10 PID SB11	0.6ppm N9					at c.6.00m BGL ... sandy clay (Recovered as slurry).
7.00-7.45	SJ12	N9			6.80		Loose becoming medium dense brown slightly clayey slightly gravelly SAND with occasional interbeds of gravel and fragments of shell. Sand is fine to coarse. Gravel is fine to medium rounded and includes sandstone.
7.50	B13				(1.70)		

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
16/10/2017	0.00	0.00			3.90	4.20	00:45	5.50	10.00	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 5.00m BGL.
16/10/2017	5.00	5.00	250		4.40	4.80	00:30			

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH04	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456660.726 N:525230.021	
Method (Equipment): Cable Percussion (Dando 2000)	Ground Level (m(AOD)): 5.682	Start Date: 16/10/2017	Sheet: 2 of 2

SAMPLES & TESTS			STRATA				Instrument/ Backfill			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)		DESCRIPTION		
8.00-8.45	SJ14	N13	Water	2.818		8.50	(Continued...) Loose becoming medium dense brown slightly clayey slightly gravelly SAND with occasional interbeds of gravel and fragments of shell. Sand is fine to coarse. Gravel is fine to medium rounded and includes sandstone.			
8.50	B15									Medium dense brown slightly clayey SAND with fragments of shell. Sand is fine to coarse.
9.00-9.45	SJ16	N12								
9.50	B17									at c.9.50m BGL ... clayey sand.
10.50-10.95	SJ18	N19								
10.80	B19									Stiff brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium angular to rounded and includes sandstone and mudstone.
11.40	B20									at c.11.40m BGL ... clay is of intermediate plasticity.
12.00-12.45	SJ21	N31								
12.50	B22									at c.13.50m BGL ... high strength. Clay is of intermediate to high plasticity.
13.50-13.95	U23	(96)								
14.00	J24									
14.50-14.95	SJ25	N29								
15.00	B26									at c.15.00m BGL ... clay is of intermediate plasticity. Borehole complete at 15.00m BGL.

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
16/10/2017	10.00	9.50	200	1.69				10.00	15.00	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 5.00m BGL.
17/10/2017	10.00	9.50	200	2.46						
17/10/2017	15.00	14.00	200	7.26						

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH05	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456874.149 N:525158.205	
Method (Equipment): Cable Percussion (Dando 2000)	Ground Level (m(AOD)): 5.715	Start Date: 12/10/2017	Sheet: 1 of 3

SAMPLES & TESTS			STRATA				Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	
0.90	B1			5.615		(0.10) 0.10	MADE GROUND (Brown sandy clay with some rootlets).
1.50	B2					(2.80)	MADE GROUND (Brown slightly sandy gravelly clay. Sand is fine to coarse. Gravel is fine to coarse angular and includes slag, concrete and brick).
1.90 2.00-2.45	ES3 CB4	N25					at c.2.00m BGL ... medium dense.
3.00	C			2.815		2.90	MADE GROUND (Brown grey sandy gravel and cobbles. Sand is fine to coarse. Gravel is fine to coarse subangular and includes slag, concrete and brick. Cobbles are subangular to rounded and includes concrete and slag).
4.00-4.45	C	N36				(1.90)	at c.4.00m BGL ... dense.
5.00-5.45	CB5	N4		0.915		4.80	Soft black brown sandy CLAY/SILT. Sand is fine to medium. (Driller notes slag fallen in from strata above). at c.5.00m BGL ... slightly sandy gravelly clay.
5.50	ES6					(2.20)	
6.00-6.45	CB7	N4					at c.6.00m BGL ... slightly sandy slightly gravelly clay.
7.50-7.95	SJ8	N11		1.285		7.00	Medium dense grey brown clayey SAND. Sand is fine to medium.

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
12/10/2017	0.00	0.00			2.80	3.20	00:30	7.00	16.80	
12/10/2017	7.00	7.00	200	5.68	3.20	3.60	01:00			
13/10/2017	7.00	7.00	200	3.94	3.60	3.90	00:30			

(1) Description derived from drillers daily report.
 (2) Borehole advanced through trial pit previously conducted by CH2M.
 (3) 50mm diameter slotted standpipe installed to 5.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH05	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456874.149 N:525158.205	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 5.715	Start Date: 12/10/2017 Sheet: 2 of 3

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
8.00	B9						(Continued...) Medium dense grey brown clayey SAND. Sand is fine to medium.	Instrument/ Backfill
8.50-8.95	SJ10	N12						
9.00	B11				(4.30)			
9.50-9.95	SJ12	N12						
10.00	B13					at c.10.00m BGL ... clayey slightly gravelly sand.		
11.00-11.45	SJ14	N23						
11.30	J15		-5.585		11.30		Firm (faintly fissured) brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium angular and includes sandstone, mudstone and coal. at c.11.30m BGL ... clay is of high plasticity.	
11.50	B16				(1.50)			
12.50	U*B17	(106)	-7.085		12.80		Firm to stiff faintly laminated/fissured sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subangular and includes sandstone, mudstone and coal. at c.13.00m BGL ... high strength.	
13.00	U18	(116)					at c.13.50m BGL ... clay is of intermediate plasticity.	
13.50	J19				(2.30)			
14.00-14.45	SB20	N42	-9.385		15.10		Stiff to hard red brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subangular and includes sandstone, mudstone and coal.	
15.50	U*B21	(119)	-10.085		(0.70) 15.80			

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
					15.60	15.80	00:45			(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 5.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH05	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456874.149 N:525158.205	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 5.715	Start Date: 12/10/2017
		Sheet: 3 of 3	

SAMPLES & TESTS			STRATA				Instrument/ Backfill	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)		DESCRIPTION
16.00-16.45	SJ22	N53				(1.00)	Extremely weak grey MUDSTONE highly weathered. (Recovered as gravel. Gravel is fine to coarse subangular).	
16.50	B23							
16.80	SJ24	1/0.94		11.085		16.80	Borehole complete at 16.80m BGL.	

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
13/10/2017	16.80	16.00	200	6.17						(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 5.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1			Exploratory Hole No. S1-BH06	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457019.086 N:525119.691		
Method (Equipment): Percussion/Coring (Dando 2000/Boart Longyear DB520)		Ground Level (m(AOD)): 7.090	Start Date: 05/10/2017	Sheet: 1 of 3

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	
0.30 0.50-1.00	J1 B2					(1.00)	MADE GROUND (Brown clayey sandy gravel. Sand is fine to coarse. Gravel is fine to coarse angular and includes concrete, brick and slag).
1.50 1.50	SJ3 ES4	1/5.30		6.090		1.00	MADE GROUND (Very dense brown red gravel and cobbles. Gravel is fine to coarse angular to subangular and includes brick, concrete and slag. Cobbles are angular to rounded and include concrete, brick and slag). (Engineer notes chiselling through old foundation).
2.50 2.50	SJ5 ES6	1/0.60					
3.50 3.50	SJ7 ES8	1/2.30				(5.10)	
4.50 4.50	SJ9 ES10	1/2.94					
5.50 5.70	S J11	1/3.60					
6.10-6.50	SB12	N18		0.990		6.10	Medium dense brown clayey slightly sandy slightly gravelly SILT. Sand is fine to medium.
7.00 7.00-7.50 7.30	SJ13 B15 ES14	N12				(1.60)	
7.70	J16			-0.610		7.70	

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
05/10/2017	0.00	0.00			0.40	1.00	01:00	2.70	4.00	
05/10/2017	1.00	1.00	250	Dry	1.20	6.00	02:00	8.00	10.00	
06/10/2017	1.00	1.00	250	Dry						
06/10/2017	6.10	6.10	200	4.03						

(1) Description derived from drillers daily report.
 (2) Borehole advanced through trial pit previously conducted by CH2M.
 (3) 50mm diameter slotted standpipe installed to 6.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>NW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH06	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457019.086 N:525119.691	
Method (Equipment): Percussion/Coring (Dando 2000/Boart Longyear DB520)		Ground Level (m(AOD)): 7.090	Start Date: 05/10/2017
			Sheet: 2 of 3

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
8.00-8.50	SB17	N18					Medium dense brown grey very silty slightly gravelly SAND with occasional interbeds of clay and fragments of shell. Sand is fine to medium. Gravel is fine to medium rounded and includes flint and sandstone.	
9.00 9.00-9.50	SJ18 B19	N25						
10.00 10.00-10.50	SJ20 B21	N20					at c.10.00m BGL ... silty sand.	
11.00	J22							
11.50 11.50-12.00	SJ23 B24	N24						
12.50	J25							
13.00 13.00-13.50	SJ26 B27	N23					at c.13.00m BGL ... clayey/silty sand with shell fragments.	
14.00	J28							
14.50 14.50-15.00	SJ29 B30	N26						
15.50	J31							

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
06/10/2017	10.00	10.00	200	4.67						(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 6.00m BGL.
09/10/2017	10.00	10.00	200	4.76						

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH06	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457019.086 N:525119.691	
Method (Equipment): Percussion/Coring (Dando 2000/Boart Longyear DB520)		Ground Level (m(AOD)): 7.090	Start Date: 05/10/2017
		Sheet: 3 of 3	

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	
16.00 16.00-16.50	SJ32 B33	N30					
16.80	J34		-9.710		16.80	(Continued...) Medium dense brown grey very silty slightly gravelly SAND with occasional interbeds of clay and fragments of shell. Sand is fine to medium. Gravel is fine to medium rounded and includes flint and sandstone. at c.16.00m BGL ... very clayey sand.	
17.00 17.00-17.50	SJ35 B36	N13				Soft laminated grey brown slightly sandy CLAY. at c.17.00m BGL ... clay is of intermediate plasticity.	
18.00	J37						
18.50 18.50-19.00	SJ38 B39	N13			(4.20)	at c.18.50m BGL ... sandy clay of low plasticity (recovered as slurry).	
19.50	J40						
20.00 20.00-20.50	SJ41 B42	N12				at 20.00m BGL ... clay is of intermediate plasticity.	
21.00	J43		-13.910		21.00		
21.30	SJ44	1/4.60			(0.70)	Extremely weak grey MUDSTONE distinctly weathered. (Recovered as grey clayey gravel. Gravel is fine to medium angular). at c.21.30m BGL ... clay fines are of intermediate plasticity.	
21.70	S45	1/0.20	-14.610		21.70	Boring complete at 21.70m BGL - continued by rotary drilling.	

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
09/10/2017	21.70	21.50	200	5.73	21.30	21.70	01:00	17.00	20.00	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 6.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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ROTARY CONTINUATION

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH06
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:457019.086 N:525119.691	
Method (Equipment): Percussion/Coring (Dando 2000/Boart Longyear DB520)	Ground Level (m(AOD)): 7.090	Start Date: 05/10/2017
Sheet: 1 of 8		

RUN DETAILS				STRATA				Instrument/ Backfill
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
						Discontinuities Detail	Main	
C Dia (92mm)	100 (29) 0	NI	-14.610	(0.90)	21.70	21.70-22.10m ... non-intact.	Boring complete at 21.70m BGL - continued by rotary drilling. Extremely weak grey MUDSTONE distinctly weathered.	
		40				22.10-22.20m ... horizontal to subhorizontal (0-15 degrees) very closely spaced planar smooth open clean discontinuities.		
		NI 24				22.20-22.25m ... non-intact. 22.25-22.60m ... subhorizontal (20 degrees) closely spaced planar smooth open clean discontinuities.		
22.60			-15.510		22.60	22.60-22.76m ... no recovery. 22.76-23.10m ... subhorizontal (15 degrees) closely spaced planar smooth open clean discontinuities.	Weak grey fossiliferous MUDSTONE partially weathered.	
C Dia (92mm)	94 (77) 50	NR				23.10-23.15m ... non-intact.		
		15				23.15-23.30m ... subhorizontal (18 degrees) closely spaced planar smooth open clean discontinuities.		
		NI 21				23.30-23.37m ... non-intact.		
		NI 7				23.37-25.10m ... subhorizontal (15 degrees) closely spaced planar smooth open clean discontinuities.		
25.10						25.10-25.75m ... horizontal to subhorizontal (0-15 degrees) closely spaced planar smooth open clean discontinuities.		

Drilling Progress and Water Observations						Standard Penetration Test			Flush				General Remarks
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks	Depth	Type	Result	From	To	Type	Returns (%)	
18/10/2017	21.70	21.50							21.70	22.60	A/M	100	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 6.00m BGL.
									22.60	25.10	A/M	100	
									25.10	28.10	A/M	100	

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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ROTARY CONTINUATION

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No.	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457019.086 N:525119.691	
Method (Equipment): Percussion/Coring (Dando 2000/Boart Longyear DB520)		Ground Level (m(AOD)): 7.090	Start Date: 05/10/2017
		Sheet: 2 of 8	

RUN DETAILS			STRATA				Instrument/ Backfill	
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						Discontinuities Detail		Main
28.10	100 (93) 57	NI 8				25.75-25.80m ... non-intact.	<i>(Continued...)</i> Weak grey fossiliferous MUDSTONE partially weathered.	
		3				25.80-26.10m ... horizontal to subhorizontal (0-17 degrees) closely spaced planar smooth open clean discontinuities.		
		8				26.10-26.40m ... subvertical to vertical (70 degrees) medium spaced irregular rough open clean discontinuities.		
28.10	100 (93) 57	NI 9				26.40-28.10m ... horizontal to subhorizontal (0-15 degrees) closely spaced planar smooth open clean discontinuities.		
						28.10-28.30m ... subhorizontal (18 degrees) very closely spaced planar smooth open clean discontinuities.		
						28.30-28.35m ... non-intact. 28.35-30.55m ... subhorizontal (15 degrees) closely spaced planar smooth open clean discontinuities.		

Drilling Progress and Water Observations						Standard Penetration Test			Flush				General Remarks
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks	Depth	Type	Result	From	To	Type	Returns (%)	
									28.10	30.80	A/M	100	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 6.00m BGL.

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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ROTARY CONTINUATION

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH06	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457019.086 N:525119.691	
Method (Equipment): Percussion/Coring (Dando 2000/Boart Longyear DB520)		Ground Level (m(AOD)): 7.090	Start Date: 05/10/2017 Sheet: 3 of 8

RUN DETAILS			STRATA					Instrument/ Backfill
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						Discontinuities Detail	Main	
30.80	100 (95) 67	NI 12				(Continued...) Weak grey fossiliferous MUDSTONE partially weathered.		
		NI 7			(17.20)	30.55-30.59m ... non-intact. 30.59-30.92m ... subhorizontal (17 degrees) closely spaced planar smooth open clean discontinuities. 30.92-31.00m ... non-intact. 31.00-34.15m ... horizontal to subhorizontal (0-15 degrees) closely spaced planar smooth open clean discontinuities.		

Drilling Progress and Water Observations						Standard Penetration Test			Flush				General Remarks
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks	Depth	Type	Result	From	To	Type	Returns (%)	
									30.80	33.80	A/M	100	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 6.00m BGL.

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>NW</i>	Logged by: D. Portsmouth	Contract No. 4153
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ROTARY CONTINUATION

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH06
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:457019.086 N:525119.691	
Method (Equipment): Percussion/Coring (Dando 2000/Boart Longyear DB520)	Ground Level (m(AOD)): 7.090	Start Date: 05/10/2017
Sheet: 4 of 8		

RUN DETAILS				STRATA				Instrument/ Backfill
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						Discontinuities Detail	Main	
33.80						<i>(Continued...)</i> Weak grey fossiliferous MUDSTONE partially weathered.		Instrument/ Backfill
	100 (90) 63					34.15-34.75m ... subhorizontal (10 degrees) very closely spaced planar smooth open to moderately wide infilled (clayey gravel) discontinuities.		
		24				34.75-34.95m ... subhorizontal (15 degrees) closely spaced planar smooth open discontinuities.		
		10				34.95-35.00m ... non-intact.		
		NI 6				35.00-37.85m ... horizontal to subhorizontal (0-15 degrees) closely to medium spaced planar smooth open discontinuities.		
36.80								
	100 (93) 65							

Drilling Progress and Water Observations						Standard Penetration Test			Flush				General Remarks
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks	Depth	Type	Result	From	To	Type	Returns (%)	
									33.80	36.80	A/M	100	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 6.00m BGL.
									36.80	39.80	A/M	100	

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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH06	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457019.086 N:525119.691	
Method (Equipment): Percussion/Coring (Dando 2000/Boart Longyear DB520)		Ground Level (m(AOD)): 7.090	Start Date: 05/10/2017
		Sheet: 5 of 8	

RUN DETAILS			STRATA				Instrument/ Backfill	
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						Discontinuities Detail		Main
C Dia (92mm)		NI				37.85-37.95m ... non-intact. 37.95-39.80m ... subhorizontal to subvertical (5-60 degrees) closely to medium spaced planar smooth tight discontinuities.	(Continued...) Weak grey fossiliferous MUDSTONE partially weathered.	
		6						
				-32.710				
							Borehole complete at 39.80m BGL.	

Drilling Progress and Water Observations						Standard Penetration Test			Flush				General Remarks
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks	Depth	Type	Result	From	To	Type	Returns (%)	
18/10/2017	39.80	21.70		22.80									

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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Project:	The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1			Exploratory Hole No. S1-BH06			
Client:	South Tees Site Company Ltd	Location:	Redcar Steel Works E:457019.086 N:525119.691				
Method (Equipment):	Percussion/Coring (Dando 2000/Boart Longyear DB520)	Ground Level (m(AOD)):	7.090	Start Date:	05/10/2017	Sheet:	6 of 8



Figure S1-BH06.1
BH06 21.70-25.10m BGL.



Figure S1-BH06.2
BH06 25.10-28.10m BGL.



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ROTARY CONTINUATION

Status:-

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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH06	
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:457019.086 N:525119.691		
Method (Equipment): Percussion/Coring (Dando 2000/Boart Longyear DB520)	Ground Level (m(AOD)): 7.090	Start Date: 05/10/2017	Sheet: 7 of 8



Figure S1-BH06.3
BH06 28.10-30.80m BGL.



Figure S1-BH06.4
BH06 30.80-33.80m BGL.



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ROTARY CONTINUATION

Status:-

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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No.	
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:457019.086 N:525119.691	S1-BH06	
Method (Equipment): Percussion/Coring (Dando 2000/Boart Longyear DB520)	Ground Level (m(AOD)): 7.090	Start Date: 05/10/2017	Sheet: 8 of 8



Figure S1-BH06.5
BH06 33.80-36.80m BGL.



Figure S1-BH06.6
BH06 36.80-39.80m BGL.



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BOREHOLE RECORD

Status:-
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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH07	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457131.810 N:525063.675	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 8.926	Start Date: 03/10/2017 Sheet: 1 of 1

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
				7.926		1.00	(1) MADE GROUND (Slag cobble surface below fused slag mass).	
							Borehole terminated at 1.00m BGL - due to refusal.	

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
03/10/2017	0.00	0.00			0.30	1.00	02:00			(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Relocated to S1-BH07A.
03/10/2017	1.00	0.90	250	Dry						

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: N/A	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH07A	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457130.768 N:525063.929	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 8.946	Start Date: 04/10/2017 Sheet: 1 of 2

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	
0.40 0.50 0.50-1.00	J1 PID B2	1.7ppm					MADE GROUND (Brown black clayey very sandy gravel with medium cobble content. Sand is fine to coarse pulverised fuel ash. Gravel is fine to coarse angular and includes slag, brick and clinker).
1.30 1.50 1.50-2.00	ES3 PID CB4	1.4ppm 1/1.90			(3.70)		from c.1.50m BGL ... very dense.
2.30 2.50 2.50-3.00	ES5 PID CB6	1.4ppm 1/3.00					
3.30 3.50 3.50-4.00	ES7 PID CB8	1.3ppm N35	5.246		3.70		at c.3.30m BGL ... dense clayey very sandy gravel with medium cobble content.
4.40	J9		4.546		(0.70) 4.40		Brown gravelly SAND. Gravel is fine to coarse rounded and includes sandstone and flint. (Driller notes slag - probably from above strata).
5.00 5.00 5.00-5.50 5.30	PID SJ10 B11 ES12	0.7ppm N24					Medium dense becoming dense brown slightly gravelly SAND with shell fragments. Sand is fine to medium.
6.00 6.00-6.50	SJ13 B14	N30			(4.30)		at c.5.00m BGL ... slightly clayey very gravelly sand.
7.00 7.00-7.50	SJ15 B16	N31					at c.7.00m BGL ... slightly clayey slightly gravelly sand.

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
04/10/2017	0.00	0.00	250		0.40	3.50	02:00	4.00	4.50	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 7.05m BGL. (3) Relocated from S1-BH07.
04/10/2017	5.17	5.17	250					5.00	11.00	

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH07A	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457130.768 N:525063.929	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 8.946	Start Date: 04/10/2017 Sheet: 2 of 2

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	
8.00 8.00-8.50	S17 B17	N34					(Continued...) Medium dense becoming dense brown slightly gravelly SAND with shell fragments. Sand is fine to medium.
8.70	J18		0.246		8.70		Medium dense grey clayey gravelly SAND with clay pockets. Sand is fine to medium with fragments of shell. Gravel is fine to medium and includes sandstone and flint.
9.00 9.00-9.50	SJ19 B20	N24					
10.00 10.00-10.50	SJ21 B22	N19			(3.30)		
11.00 11.00-11.50	S23 B23	N28					at c.11.00m BGL ... clayey sand.
12.00	J24		-3.054		12.00		Medium dense grey brown silty gravelly SAND with occasional interbeds of gravel. Sand is fine to medium subrounded and includes sandstone and flint. at c.12.50m BGL ... gravelly sand with occasional clay pockets.
12.50 12.50-13.00	SJ25 B26	N20			(1.80)		
13.50	J27		-4.854		13.80		
13.80	J28		-5.054		(0.20) 14.00		Grey SILT.
14.00 14.00-14.50	SJ29 B30	N25			(1.00)		Firm brown sandy gravelly CLAY. Sand is fine to medium. Gravel is fine to coarse angular to rounded and includes sandstone, mudstone, coal and chert. at c.14.00m BGL ... clay is of intermediate plasticity.
			-6.054		15.00		Borehole complete at 15.00m BGL.

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
04/10/2017	11.50	11.50	200	6.84						(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 7.05m BGL. (3) Relocated from S1-BH07.
05/10/2017	11.50		200	4.35						
05/10/2017	15.00	14.90	200	6.07						

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH12	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456825.968 N:525036.197	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 5.732	Start Date: 09/10/2017 Sheet: 1 of 3

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	
1.00 1.00	PID B1	5.6ppm					MADE GROUND (Brown clayey sandy gravel. Sand is fine to coarse. Gravel is fine to coarse angular and includes slag, concrete, macadam and brick. Slight hydrocarbon odour noted).
1.80 1.80	PID B2	4.8ppm			(4.80)		
5.00 5.00	PID CB3	11.8ppm N3		0.932		4.80	Very loose black brown clayey sandy SILT/silty SAND. Sand is fine to medium. (Driller notes slag, probably from above strata).
5.50 5.50	ES4				(1.70)		
6.00 6.00	PID CB5	9.6ppm N3		-0.768		6.50	at c.6.00m BGL ... sandy slightly gravelly clay.
7.00 7.00	PID CB6	3.8ppm N4			(1.10)		Very loose to loose grey black silty SAND. Sand is fine to medium. (Driller notes slag, probably from above strata).
7.50 7.50	ES7			-1.868		7.60	
							Medium dense grey brown silty SAND. Sand is fine to coarse.

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
09/10/2017	0.00	0.00			0.10	0.40	01:00	6.50	18.45	
09/10/2017	3.00	3.00	250	2.41	0.40	0.80	01:00			
10/10/2017	3.00	3.00	250	1.96	0.80	1.10	00:30			
10/10/2017	5.00	5.00	250		3.00	3.40	01:00			
10/10/2017	6.50	6.30	200	5.11	3.90	4.30	01:00			
11/10/2017	6.50	6.30	200	3.76	4.40	4.60	00:30			

(1) Description derived from drillers daily report.
 (2) Borehole advanced through trial pit previously conducted by CH2M.
 (3) 50mm diameter slotted standpipe installed to 5.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1			Exploratory Hole No. S1-BH12	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456825.968 N:525036.197		
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 5.732	Start Date: 09/10/2017	Sheet: 2 of 3

SAMPLES & TESTS			STRATA				Instrument/ Backfill	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)		DESCRIPTION
8.00	SJ8	N16			x		(Continued...) Medium dense grey brown silty SAND. Sand is fine to coarse.	Instrument/ Backfill
8.50 8.50	PID B9	3.0ppm			x			
9.00	SJ10	N17			x	(3.40)		
9.50 9.50	PID B11	1.2ppm			x			
10.50	SJ12	N13			x			
11.00 11.00 11.20	PID B13 B14	1.2ppm		-5.268	x	11.00 (0.90)	Firm brown black silty slightly sandy CLAY. Sand is fine to medium. (Engineer notes slight organic content). at c.11.20m BGL ... clay is of intermediate plasticity.	
12.00 12.50	SJ15 B16	N24			o		Firm to stiff brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subrounded and includes sandstone, mudstone and chert.	
13.50	U*B17	(116)			o	(3.20)	at c.13.50m BGL ... clay is of intermediate to high plasticity.	
14.00	U18	(131)			o		at c.14.00m BGL ... high strength.	
14.50	J19				o			
15.50	SJ20	N53		-9.368	o	15.10	Firm to stiff brown red sandy gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subrounded and includes sandstone and mudstone.	

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
										(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 5.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH12	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456825.968 N:525036.197	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 5.732	Start Date: 09/10/2017
			Sheet: 3 of 3

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill	
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)		DESCRIPTION
16.00	B21					(2.50)	(Continued...) Firm to stiff brown red sandy gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subrounded and includes sandstone and mudstone. at c.16.00m BGL ... clay is of intermediate plasticity.	Instrument/ Backfill
17.00	U*B22	(114)						
17.50	U23	(119)		11.868		17.60		
17.90 18.00	J24 SJ25	N52				(0.85)	Extremely weak MUDSTONE distinctly weathered. (Recovered as clayey gravel. Gravel is fine to medium).	
				12.718		18.45	Borehole complete at 18.45m BGL.	

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
11/10/2017	18.45	18.00	200	2.41	17.10 17.30	17.30 17.50	00:30 00:45			(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 5.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No.	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457017.312 N:524904.681	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 8.293	Start Date: 03/10/2017
		Sheet: 1 of 1	

SAMPLES & TESTS			STRATA				Instrument/ Backfill	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)		DESCRIPTION
				7.793		0.50	(1) MADE GROUND (Glass over slag metal steel). Borehole terminated at 0.50m BGL - due to refusal.	

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
03/10/2017	0.00	0.00			0.40	0.50	01:00			(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Relocated to S1-BH13.
03/10/2017	0.50	0.50	250	Dry						

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: N/A	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH13A	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457019.996 N:524904.940	
Method (Equipment): Cable Percussion (Dando 2000)	Ground Level (m(AOD)): 8.227	Start Date: 04/10/2017	Sheet: 1 of 2

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	
0.80 0.80	PID B1	7.3ppm					MADE GROUND (Brown black clayey very sandy gravel and cobbles. Sand is fine to coarse and includes pulverised fuel ash. Gravel is fine to coarse subrounded to angular and includes brick, clinker and slag. Cobbles are subrounded to angular and include slag and brick).
1.60 1.60	PID B2	4.2ppm					
2.00 2.00 2.10	PID CB3 ES4	9.8ppm N50					from c.2.00m BGL ... very dense.
3.00 3.00 3.30 3.30 3.35	PID CB5 PID B6 ES7	1.3ppm 1/1.83 3.2ppm			(6.90)		at c.3.00m BGL ... very dense/possible cobble obstruction.
4.00 4.10	CB8 ES9	1/1.26					at c.4.00m BGL ... very dense/possible cobble obstruction.
4.90 4.90 5.00 5.00 5.00-5.50 5.10	PID B10 PID SJ11 B13 ES12	1.9ppm 3.1ppm N19					from c.5.00m BGL ... medium dense.
6.00 6.00	PID CB14	2.0ppm N28					at c.6.00m BGL ... slightly clayey sandy gravel with high cobble content.
6.80	ES15			1.327	6.90		(1) Black SAND. (Driller notes pushing steel obstruction).
				0.227	8.00		(1.10)

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
04/10/2017	0.00	0.00			0.90	1.20	00:30			(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Water strike at 5.00m BGL - rose to 4.73m BGL (20mins). (4) 50mm diameter slotted standpipe installed to 8.00m BGL. (5) Relocated from S1-BH13.
04/10/2017	7.00	7.00	250	6.41	2.30	2.50	00:30			
05/10/2017	7.00	7.00	250	5.12	3.00	3.30	01:00			
05/10/2017	8.00	8.00	250		4.10	4.20	00:30			
					6.10	6.30	00:30			

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH13A
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:457019.996 N:524904.940	
Method (Equipment): Cable Percussion (Dando 2000)	Ground Level (m(AOD)): 8.227	Start Date: 04/10/2017 Sheet: 2 of 2

SAMPLES & TESTS			STRATA				Instrument/ Backfill	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)		DESCRIPTION
							Borehole terminated at 8.00m BGL - due to pushing obstruction.	

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
										(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Water strike at 5.00m BGL - rose to 4.73m BGL (20mins). (4) 50mm diameter slotted standpipe installed to 8.00m BGL. (5) Relocated from S1-BH13.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1			Exploratory Hole No. S1-BH14	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457170.550 N:524862.282		
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 8.312	Start Date: 06/10/2017	Sheet: 1 of 2

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	
1.00 1.00	PID B1	2.8ppm	6.712		(1.60)	MADE GROUND (Soft to firm brown sandy gravelly clay. Sand is fine to coarse. Gravel is fine to coarse subangular and includes slag, concrete and brick).	
1.60 1.60 1.90 2.00 2.00	PID B2 ES3 PID CB4	0.2ppm 7.0ppm N13			1.60	MADE GROUND (Medium dense brown black sandy gravel with low cobble content. Sand is fine to coarse. Gravel is fine to coarse subangular and includes slag, concrete, brick and sandstone. Cobbles are subrounded and include concrete and slag).	
2.60 2.60-2.90	PID B5	2.8ppm				(2.40)	
3.00	ES6						
3.40 3.40	PID CB7	4.0ppm N24	4.312		4.00	MADE GROUND (Loose becoming medium dense brown black clayey/silty gravelly sand with slight hydrocarbon odour. Sand is fine to coarse. Gravel is fine to coarse subrounded and includes sandstone and concrete). (Engineer notes reworked gravel has contaminated black sand).	
4.00 4.00	PID SB8	7.1ppm N5			4.00	at c.5.00m BGL ... clayey/silty gravelly sand.	
5.00 5.00	PID SB9	2.8ppm N5					
5.50	ES10						
6.00	SJ11	N14					
6.50 6.50	PID B12	0.1ppm	4.90			at c.7.00m BGL ... slightly clayey/silty sand.	
7.00	SJ13	N14					
7.50	B14						

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
06/10/2017	0.00	0.00			2.60	2.90	01:00	5.40	15.00	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Damp at 5.40m BGL. (4) 50mm diameter slotted standpipe installed to 8.00m BGL.
06/10/2017	4.00	4.00	250		3.10	3.40	00:30			

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH14	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457170.550 N:524862.282	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 8.312	Start Date: 06/10/2017 Sheet: 2 of 2

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	
8.00	SJ15	N13					Instrument/ Backfill
8.50	B16					(Continued...) MADE GROUND (Loose becoming medium dense brown black clayey/silty gravelly sand with slight hydrocarbon odour. Sand is fine to coarse. Gravel is fine to coarse subrounded and includes sandstone and concrete). (Engineer notes reworked gravel has contaminated black sand).	
9.00	SB17	N14			8.90	Firm grey brown sandy CLAY with interbeds of clayey sand. Sand is fine to medium. at c.9.00m BGL ... very clayey sand. Clay fines are of low plasticity.	
10.20	SB18	N11			10.10	Medium dense brown grey red clayey/silty slightly gravelly SAND. Sand is fine to coarse. Gravel is rounded and includes sandstone.	
12.00	SB19	N15					
13.00	J20						
13.50	SJ21	N16					
14.00	B22					at c.14.00m BGL ... slightly clayey/silty sand.	
15.00	SB23	N15			15.20		
					15.50	Firm brown sandy gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subrounded and includes sandstone, mudstone, coal, chert and flint. Borehole complete at 15.50m BGL.	

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
06/10/2017	15.50	15.00	200	1.96						(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Damp at 5.40m BGL. (4) 50mm diameter slotted standpipe installed to 8.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH18	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456640.341 N:524872.127	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 7.360	Start Date: 11/10/2017
		Sheet: 1 of 3	

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	
0.10	J1						
0.80 0.80	PID B2	1.2ppm					
2.00 2.00 2.00-2.45	PID ES3 CB4	1.0ppm 1/0.94			(4.80)	from c.2.00m BGL ... very dense.	
2.50 2.60 2.60-2.80	J5 PID B6	0.5ppm					
3.00 3.00 3.00-3.45	PID ES7 CB8	0.5ppm 1/0.64					
3.50 3.60 3.60-3.80	J9 PID B10	0.5ppm					
4.00-4.45	C11	1/0.64					
4.50 4.60 4.60-4.80	J12 PID B13	0.2ppm	2.560		4.80	at c.4.60m BGL ... clayey very sandy gravel.	
5.00-5.45 5.00 5.10	SJ14 ES15 J16	N19			(1.20)	MADE GROUND (Soft to firm brown black sandy slightly gravelly clay intermixed with clayey very gravelly sand. Sand is fine to coarse. Gravel is fine to coarse subangular and includes sandstone, slag and concrete).	
5.60-5.80	B17						
6.00-6.45	SJ18	N22	1.360		6.00	Medium dense grey brown slightly gravelly SAND. Gravel is fine to medium subangular and includes sandstone, concrete and slag. (Engineer notes concrete and slag fallen in from strata above).	
6.50-6.95	SJ20	N14			(0.80)		
7.00 7.00	PID B21	0.2ppm	0.560		6.80	Medium dense grey brown clayey slightly gravelly SAND. Sand is fine to coarse.	
7.50-7.95	SJ22	N17					

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
11/10/2017	0.00	0.00			0.10	1.00	03:00	0.00	1.20	
11/10/2017	1.20	1.20	250	Dry	1.20	1.80	01:00	1.20	5.00	
12/07/2017	1.20	1.20	250	Dry	2.10	2.70	00:30	5.00	6.00	
12/10/2017	5.00	5.00	250	4.10	4.00	4.80	03:00	6.00	19.10	
13/10/2017	5.00	5.00	250	3.90	5.50	5.80	03:00			
13/10/2017	6.00	6.00	250	5.00						
20/10/2017	6.00	6.00	200	3.11						

(1) Description derived from drillers daily report.
 (2) Borehole advanced through trial pit previously conducted by CH2M.
 (3) Borehole making water between 3.00-3.10m BGL.
 (4) 50mm diameter slotted standpipe installed to 5.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No.	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456640.341 N:524872.127	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 7.360	Start Date: 11/10/2017
			Sheet: 2 of 3

SAMPLES & TESTS			STRATA				Instrument/ Backfill	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)		DESCRIPTION
8.00 8.00	PID B23	0.2ppm					(Continued...) Medium dense grey brown clayey slightly gravelly SAND. Sand is fine to coarse. at c.8.00m BGL ... clayey sand.	Instrument/ Backfill
8.50-8.95	SJ24	N15					at c.9.00m BGL ... slightly clayey sand with shell fragments.	
9.00	B25							
9.50-9.95	SJ26	N17				(5.80)		
10.00	B27						at c.10.00m BGL ... slightly clayey sand.	
11.00-11.45	SJ28	N17						
11.50	B29						at c.11.50m BGL ... slightly clayey slightly gravelly sand.	
12.50-12.95	SJ30	N22		5.240		12.60	Firm laminated brown sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subangular to rounded and includes sandstone, mudstone and coal. at c.13.00m BGL ... clay is of intermediate plasticity.	
13.00	B31							
13.50	B32							
14.00	U33	(116)					at c.14.00m BGL ... very high strength.	
14.50	J34					(4.50)		
15.50	U*B35	(119)						

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
					13.40	13.60	00:45			(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Borehole making water between 3.00-3.10m BGL. (4) 50mm diameter slotted standpipe installed to 5.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH18	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456640.341 N:524872.127	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 7.360	Start Date: 11/10/2017
			Sheet: 3 of 3

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	
16.00-16.45	SB36	N23					(Continued...) Firm laminated brown sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subangular to rounded and includes sandstone, mudstone and coal.
17.50-17.95	SJ37	N25					Stiff red brown sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subangular and includes sandstone, mudstone and coal.
17.80	B38					(2.00)	
19.00	SB39	1/0.00				11.740 - 19.10	at c.19.10m BGL ... driller notes boulder. Borehole terminated at 19.10m BGL - due to obstruction.

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
20/10/2017	19.10	14.00	200	3.69	19.00	19.00	01:00			(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Borehole making water between 3.00-3.10m BGL. (4) 50mm diameter slotted standpipe installed to 5.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH19	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456892.934 N:524780.480	
Method (Equipment): Percussion/Coring (Dando 2000/Comacchio GEO 305)		Ground Level (m(AOD)): 6.975	Start Date: 10/10/2017
		Sheet: 1 of 3	

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	
0.50	J1						
1.00	J2						
1.30	CJ3	1/2.10					
1.50	ES4						
2.30	CJ5	1/3.20					
2.50	ES6						
3.00	SJ7	1/4.00					
3.50	ES8						
4.00	PID	3.2ppm					
4.00	SJ9	1/0.40					
4.00-4.50	B9						
4.50	ES10						
5.00	CJ11	1/3.20					
5.50	ES12						
6.00	PID	1.8ppm					
6.00-6.50	CB13	N49					
6.50	ES14		0.275		6.70		
7.00	PID	1.0ppm					
7.00	SJ15	N37					
7.00-7.50	B16						

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
10/10/2017	0.00	0.00			0.30	2.00	03:00	8.00	12.00	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Water strike at 4.30m BGL - rose to 3.37m BGL (20mins). (4) 50mm diameter slotted standpipe installed to 7.00m BGL.
10/10/2017	2.00	2.00	250	Dry	2.00	5.30	02:00			
11/10/2017	2.00	2.00	250							
11/10/2017	7.19	7.19	250							

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH19	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456892.934 N:524780.480	
Method (Equipment): Percussion/Coring (Dando 2000/Comacchio GEO 305)		Ground Level (m(AOD)): 6.975	Start Date: 10/10/2017
		Sheet: 2 of 3	

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
8.00 8.00 8.00-8.50 8.30	PID SJ17 B18 ES19	0.5ppm N25				(Continued...) Dense becoming medium dense brown slightly clayey gravelly SAND with fragments of shell. Sand is fine to coarse. Gravel is fine to medium rounded and includes sandstone. from c.8.00m BGL ... medium dense. Clayey gravelly sand.		
9.00 9.00-9.50	SJ20 B21	N29			(6.10)	at c.9.00m BGL ... slightly clayey sand.		
10.00-10.50 10.00	SB22 K(F)	N23						
11.00	J23							
11.50 11.50-12.00	SJ24 B25	N23				at c.11.50m BGL ... clayey sand.		
12.50	J26							
12.80	J27		5.825		12.80			
13.00-13.45	U*B28	(100)				Firm brown grey sandy gravelly CLAY. Sand is fine to medium. Gravel is fine to medium angular and includes sandstone and mudstone. at c.13.00m BGL ... clay is of high plasticity.		
13.50-13.95	U29	(130)			(1.20)	at c.13.50m BGL ... high strength.		
14.50	J30							
15.00 15.00-15.50	SJ31 B32	N38			7.025 14.00 (3.30)	Stiff red brown sandy gravelly CLAY. Sand is fine to medium. Gravel is fine to medium angular and includes sandstone and mudstone. at c.15.00m BGL ... clay is of intermediate plasticity.		

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
11/10/2017	13.50	13.40	200	5.33						(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Water strike at 4.30m BGL - rose to 3.37m BGL (20mins). (4) 50mm diameter slotted standpipe installed to 7.00m BGL.
12/10/2017	13.50	13.40	200							

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH19	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456892.934 N:524780.480	
Method (Equipment): Percussion/Coring (Dando 2000/Comacchio GEO 305)		Ground Level (m(AOD)): 6.975	Start Date: 10/10/2017
		Sheet: 3 of 3	

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
16.00	J33						(Continued...) Stiff red brown sandy gravelly CLAY. Sand is fine to medium. Gravel is fine to medium angular and includes sandstone and mudstone. at c.16.50m BGL ... high strength.	
16.50-16.95	U34	(150)						
17.30	J35		10.325		17.30			
17.50	CB36	1/2.10			(0.50)		Weak grey MUDSTONE weathered. (Recovered as gravel. Gravel is fine to coarse angular).	
17.80	CB37	1/2.08	10.825		17.80		Boring complete at 17.80m BGL - continued by rotary follow on.	

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
12/10/2017	17.80	13.66	200	4.17	17.70	18.00	01:00			(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Water strike at 4.30m BGL - rose to 3.37m BGL (20mins). (4) 50mm diameter slotted standpipe installed to 7.00m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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ROTARY CONTINUATION

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH19	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456892.934 N:524780.480	
Method (Equipment): Percussion/Coring (Dando 2000/Comacchio GEO 305)		Ground Level (m(AOD)): 6.975	Start Date: 10/10/2017
		Sheet: 1 of 10	

RUN DETAILS			STRATA					Instrument/ Backfill
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		
						Discontinuities Detail	Main	
17.80	100 (50) 0	16	- 10.825		17.80	17.80-18.35m ... subhorizontal (10 degrees) closely spaced planar smooth open clean discontinuities.	Boring complete at 17.80m BGL - continued by rotary follow on. Very weak grey MUDSTONE weathered.	Instrument/ Backfill
		NI			18.35-18.80m ... non-intact.			
18.80	100 (98) 35	7			(3.00)	18.80-26.80m ... horizontal (0-5 degrees) to subhorizontal (10 degrees) closely spaced planar smooth open clean discontinuities.		
19.80								
20.80	100 (100) 25					20.45-20.50m ... non-intact.		
	100 (100) 57		- 13.825		20.80		Weak grey MUDSTONE partially weathered.	

Drilling Progress and Water Observations						Standard Penetration Test			Flush				General Remarks
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks	Depth	Type	Result	From	To	Type	Returns (%)	
18/10/2017	17.80	13.66		14.30		17.80	C	1/2.08	17.80	18.80	A/M	100	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Water strike at 4.30m BGL - rose to 3.37m BGL (20mins). (4) 50mm diameter slotted standpipe installed to 7.00m BGL.
									18.80	19.80	A/M	100	
									19.80	20.80	A/M	100	
									20.80	23.80	A/M	100	

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456892.934 N:524780.480	
Method (Equipment): Percussion/Coring (Dando 2000/Comacchio GEO 305)		Ground Level (m(AOD)): 6.975	Start Date: 10/10/2017
		Sheet: 2 of 10	

RUN DETAILS			STRATA				Instrument/ Backfill	
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		
						Discontinuities Detail		Main
23.80						(Continued...) Weak grey MUDSTONE partially weathered.		
	100 (100) 55							

Drilling Progress and Water Observations						Standard Penetration Test			Flush				General Remarks
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks	Depth	Type	Result	From	To	Type	Returns (%)	
									23.80	26.80	A/M	100	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Water strike at 4.30m BGL - rose to 3.37m BGL (20mins). (4) 50mm diameter slotted standpipe installed to 7.00m BGL.

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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ROTARY CONTINUATION

Status:-
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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH19	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456892.934 N:524780.480	
Method (Equipment): Percussion/Coring (Dando 2000/Comacchio GEO 305)		Ground Level (m(AOD)): 6.975	Start Date: 10/10/2017
		Sheet: 3 of 10	

RUN DETAILS			STRATA				Instrument/ Backfill	
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
						Discontinuities Detail		Main
26.80							(Continued...) Weak grey MUDSTONE partially weathered.	
	90 (75) 23	14				26.80-27.87m ... subhorizontal (10 degrees) closely spaced planar smooth open clean discontinuities.		
		NR			(13.00)	27.87-28.17m ... no recovery.		
		NI				28.17-28.33m ... non-intact.		
		20				28.33-28.53m ... subhorizontal and horizontal (5 degrees) very closely spaced planar smooth open tight clean discontinuities.		
		NI				28.53-28.63m ... non-intact.		
		9				28.63-29.80m ... subhorizontal (15 degrees) closely spaced planar smooth open clean discontinuities.		
						29.00-29.05m ... non-intact.		
						29.35-29.40m ... non-intact.		
29.80						29.47-29.56m ... non-intact.		

Drilling Progress and Water Observations						Standard Penetration Test			Flush				General Remarks
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks	Depth	Type	Result	From	To	Type	Returns (%)	
									26.80	29.80	A/M	100	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Water strike at 4.30m BGL - rose to 3.37m BGL (20mins). (4) 50mm diameter slotted standpipe installed to 7.00m BGL.
									29.80	32.80	A/M	100	

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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ROTARY CONTINUATION

Status:-
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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No.	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456892.934 N:524780.480	
Method (Equipment): Percussion/Coring (Dando 2000/Comacchio GEO 305)		Ground Level (m(AOD)): 6.975	Start Date: 10/10/2017
		Sheet: 4 of 10	

RUN DETAILS			STRATA				Instrument/ Backfill	
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
						Discontinuities Detail		Main
C Dia (96mm)	92 (88) 48	7				29.80-32.55m ... subhorizontal (10 degrees) closely spaced planar smooth open clean discontinuities.	(Continued...) Weak grey MUDSTONE partially weathered.	
		NR				32.55-32.80m ... no recovery.		
	32.80	100 (95) 58	16			32.80-33.15m ... subhorizontal (10-15 degrees) closely spaced planar smooth open and infilled (black sand) discontinuities.		
		NI				33.15-33.25m ... non-intact.		
		6				33.25-35.75m ... subhorizontal (15 degrees) medium spaced planar smooth open clean discontinuities.		
			-26.825		33.80			

Drilling Progress and Water Observations						Standard Penetration Test			Flush				General Remarks
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks	Depth	Type	Result	From	To	Type	Returns (%)	
									32.80	35.80	A/M	100	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Water strike at 4.30m BGL - rose to 3.37m BGL (20mins). (4) 50mm diameter slotted standpipe installed to 7.00m BGL.

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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ROTARY CONTINUATION

Status:-
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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No.	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:456892.934 N:524780.480	
Method (Equipment): Percussion/Coring (Dando 2000/Comacchio GEO 305)		Ground Level (m(AOD)): 6.975	Start Date: 10/10/2017
		Sheet: 5 of 10	

RUN DETAILS			STRATA				Instrument/ Backfill	
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						Discontinuities Detail		Main
35.80		NI	28.825		35.80	35.75-35.80m ... non-intact.	Weak to medium strong grey fossiliferous sandy MUDSTONE/clayey SANDSTONE partially weathered.	
	97 (97) 52	NR 6				35.80-35.90m ... no recovery. 35.90-40.80m ... subhorizontal (10 degrees) medium spaced planar smooth open clean discontinuities.	Weak grey MUDSTONE partially weathered.	
						37.50-37.60m ... non-intact.		

Drilling Progress and Water Observations						Standard Penetration Test			Flush				General Remarks
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks	Depth	Type	Result	From	To	Type	Returns (%)	
18/10/2017	35.80	17.80		27.80					35.80	38.80	A/M	100	
19/10/2017	35.80	17.80		20.30									

(1) Description derived from drillers daily report.
 (2) Borehole advanced through trial pit previously conducted by CH2M.
 (3) Water strike at 4.30m BGL - rose to 3.37m BGL (20mins).
 (4) 50mm diameter slotted standpipe installed to 7.00m BGL.

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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ROTARY CONTINUATION

Status:-

FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No.	
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:456892.934 N:524780.480	S1-BH19	
Method (Equipment): Percussion/Coring (Dando 2000/Comacchio GEO 305)	Ground Level (m(AOD)): 6.975	Start Date: 10/10/2017	Sheet: 7 of 10



Figure S1-BH19.1
BH19 17.80-20.80m BGL



Figure S1-BH19.2
BH19 20.80-23.80m BGL



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ROTARY CONTINUATION

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Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:456892.934 N:524780.480		
Method (Equipment): Percussion/Coring (Dando 2000/Comacchio GEO 305)	Ground Level (m(AOD)): 6.975	Start Date: 10/10/2017	Sheet: 8 of 10



Figure S1-BH19.3
BH19 23.80-26.80m BGL



Figure S1-BH19.4
BH19 26.80-29.80m BGL



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ROTARY CONTINUATION

Status:-

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Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:456892.934 N:524780.480	S1-BH19	
Method (Equipment): Percussion/Coring (Dando 2000/Comacchio GEO 305)	Ground Level (m(AOD)): 6.975	Start Date: 10/10/2017	Sheet: 9 of 10



Figure S1-BH19.5
BH19 29.80-32.80m BGL



Figure S1-BH19.6
BH19 32.80-35.80m BGL



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ROTARY CONTINUATION

Status:-

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Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:456892.934 N:524780.480		
Method (Equipment): Percussion/Coring (Dando 2000/Comacchio GEO 305)	Ground Level (m(AOD)): 6.975	Start Date: 10/10/2017	Sheet: 10 of 10



Figure S1-BH19.7
BH19 35.80-38.80m BGL



Figure S1-BH19.8
BH19 38.80-40.80m BGL



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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No. S1-BH20	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457058.290 N:524663.143	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 6.997	Start Date: 26/10/2017 Sheet: 1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
0.10	J1						MADE GROUND (Brown black sandy gravel and cobbles with fragments of metal. Sand is fine to coarse. Gravel is fine to coarse subangular and includes slag, concrete and brick. Cobbles are subrounded and include slag and concrete). (Driller notes boulders).	
0.50 0.50-0.80	PID B2	4.2ppm			(1.50)			
				5.497		1.50	Borehole terminated at 1.50m BGL - due to obstruction.	

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
26/10/2017	0.00	0.00			0.30	1.20	03:00	0.00	1.20	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) Relocated to S1-BH20A.
26/10/2017	1.20	1.20		Dry	1.20	1.50	02:00			
27/10/2017	1.20	1.20		Dry						
27/10/2017	1.50	1.50		Dry						

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1		Exploratory Hole No.	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457056.759 N:524662.697	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 6.971	Start Date: 30/10/2017
			Sheet: 1 of 1

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill	
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)		DESCRIPTION
0.40	J1					MADE GROUND (Black brown sandy gravel and cobbles with fragments of metal. Sand is fine to coarse. Gravel is fine to coarse subrounded and include sandstone, slag, concrete and brick. Cobbles are subrounded and include concrete and slag).		
0.80	J2							
1.00	ES3							
1.20	CJ4	1/3.20						from c.1.20m BGL ... very dense.
2.00	ES5							
2.20	CJ6	1/3.00						
3.00	ES7							
3.20	CJ8	1/3.40						
4.00	ES9							
4.20	CJ10	1/4.70						
				1.971	5.00	at c.5.00m BGL ... driller notes obstruction. Borehole terminated at 5.00m BGL - due to obstruction.		

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
30/10/2017	0.00	0.00			0.40	4.50	04:00	3.00	4.50	
30/10/2017	4.50	4.40	250	3.87	4.90	5.00	01:00			
31/10/2017	4.50	4.40	250	3.96						
31/10/2017	5.00	5.00	250	4.17						

(1) Description derived from drillers daily report.
 (2) Borehole advanced through trial pit previously conducted by CH2M.
 (3) Relocated from S1-BH20.
 (4) Relocated to S1-BH20B.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4153
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-BHA4	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457120.701 N:525744.554	
Method (Equipment): Percussion/Coring (Pilcon Wayfarer 2000/Boart Longyear DB520)		Ground Level (m(AOD)): 7.527	Start Date: 26/10/2017
		Sheet: 1 of 4	

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill	
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)		DESCRIPTION
0.40	J1					MADE GROUND (Black grey sandy gravel with fragments of metal. Sand is fine to coarse. Gravel is fine to coarse subangular and includes sandstone, concrete, slag and clinker).		
0.80	J2	3.2ppm						
0.80	PID							
1.00	ES3							
1.20-1.65	CJ4	1/4.50						
1.20	PID	3.0ppm						
2.00	ES5							
2.20-2.65	CJ6	1/3.80						
2.20	PID	2.6ppm						
2.50	ES7							
3.00-3.45	SJ8	N29						
3.00	PID	1.0ppm						
3.50	ES9							
4.00	S	1/1.00						
4.10	J10							
4.50	ES11							
5.00-5.45	CJ12	N36						
5.50	J13	1.0ppm	2.027		5.50			
5.50	PID							
5.80	ES14							
6.00	SJ15	N20						
6.00-6.50	B16							
7.00-7.50	SB17	N25						
7.00	PID	0.5ppm						

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
26/10/2017	0.00	0.00			0.70	5.00	02:00	3.00	5.50	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M.
								5.80	10.00	

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4154
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-BHA4	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457120.701 N:525744.554	
Method (Equipment): Percussion/Coring (Pilcon Wayfarer 2000/Boart Longyear DB520)		Ground Level (m(AOD)): 7.527	Start Date: 26/10/2017
		Sheet: 2 of 4	

SAMPLES & TESTS			Water	STRATA				Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
8.00 8.00-8.50	SJ18 B19	N33					(Continued...) Medium dense becoming dense brown slightly clayey gravelly SAND with occasional interbeds of gravel. Sand is fine to coarse. Gravel is fine to medium subrounded to rounded and includes sandstone. at c.8.00m BGL ... sand.	
9.00 9.00-9.50	SJ20 B21	N33						
10.00 10.00-10.50	SJ22 B23	N30					at c.10.00m BGL ... very gravelly sand.	
11.00	J24					(10.20)		
11.50 11.50-12.00	S25 B25	N40						
12.50	J26							
13.00 13.00-13.50	SJ27 B28	N45					at c.13.00m BGL ... gravelly sand.	
14.00	J29							
14.50-15.00	CB30	N45						
15.50 15.70	J31 J32						Soft to firm brown black slightly organic slightly sandy slightly gravelly CLAY.	
			8.173			15.70		

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
26/10/2017	10.00	10.00	200	2.09				10.50	13.00	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M.
27/10/2017	10.00	10.00	200	4.77				14.00	15.00	
27/10/2017	13.50	13.00	200	3.32						
01/11/2017	13.50	13.00	200	4.80						

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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-BHA4	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457120.701 N:525744.554	
Method (Equipment): Percussion/Coring (Pilcon Wayfarer 2000/Boart Longyear DB520)		Ground Level (m(AOD)): 7.527	Start Date: 26/10/2017
			Sheet: 3 of 4

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill	
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)		DESCRIPTION
16.00 16.00-16.50	SJ33 B34	N22				(1.30)	(Continued...) Soft to firm brown black slightly organic slightly sandy slightly gravelly CLAY.	
17.00	J35		-9.473		17.00	Soft to firm brown sandy CLAY/SILT.		
17.50-17.95	U*B36	(90)			(1.00)	at c.17.50m BGL ... clay is of high plasticity.		
18.00-18.45	U*B37	(150)	-10.473		18.00	Stiff red brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subangular to rounded and includes sandstone, mudstone and coal.		
18.50 18.50-19.00	SJ38 B39	1/4.90				at c.18.50m BGL ... clay is of intermediate plasticity.		
19.50	J40							
20.00-20.45	U*B41	(150)						
20.50 20.50-21.00	SJ42 B43	N46						
21.50	J44					at c.21.50m BGL ... clay is of intermediate plasticity.		
22.00-22.45	U45	(150)			(9.00)	at c.22.00m BGL ... extremely high strength.		
23.00	J46							

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
01/11/2017	20.00	17.30	200	5.27	18.30	18.50	00:30			(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M.
02/11/2017	20.00	17.30	200	4.77	23.40	24.00	01:00			

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4154
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BOREHOLE RECORD

Status:-
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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-BHA4	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457120.701 N:525744.554	
Method (Equipment): Percussion/Coring (Pilcon Wayfarer 2000/Boart Longyear DB520)		Ground Level (m(AOD)): 7.527	Start Date: 26/10/2017 Sheet: 4 of 4

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill	
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)		DESCRIPTION
24.00 24.00-24.50	SJ47 B48	N44				(Continued...) Stiff red brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subangular to rounded and includes sandstone, mudstone and coal.		
25.00 25.00-25.50	SJ49 B50	N51						
26.00	J51					at c.26.00m BGL ... clay is of intermediate plasticity.		
27.00	SJ52	1/0.80		19.473		27.00		
27.40	S53	1/0.40		19.873		27.40		
							Extremely weak grey MUDSTONE distinctly weathered. (Recovered as clayey gravel/gravelly clay. Gravel is fine to medium angular). Boring complete at 27.40m BGL - continued by rotary follow on.	

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
02/11/2017	25.00	17.30	200	5.68	24.70	25.00	01:00			(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M.
03/11/2017	25.00	17.30	200	4.83	27.00	27.40	01:00			
03/11/2017	27.40	17.30	200	5.11						

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ROTARY CONTINUATION

Status:-
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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-BHA4	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457120.701 N:525744.554	
Method (Equipment): Percussion/Coring (Pilcon Wayfarer 2000/Boart Longyear DB520)		Ground Level (m(AOD)): 7.527	Start Date: 26/10/2017
		Sheet: 1 of 6	

RUN DETAILS				STRATA				Instrument/ Backfill
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
						Discontinuities Detail	Main	
27.40	72 (52) 14	NR	-19.873		27.40	27.40-28.10m ... no recovery.		Boring complete at 27.40m BGL - continued by rotary follow on. Weak interbedded grey green MUDSTONE/SILTSTONE partially weathered.
						28.10-28.40m ... non-intact.		
						28.40-28.90m ... subhorizontal to subvertical (5-85 degrees) closely spaced open irregular rough clean discontinuities.		
						28.90-29.10m ... non-intact.		
						29.10-29.70m ... subhorizontal to subvertical (5-85 degrees) closely spaced open tight irregular rough clean discontinuities.		
						29.70-30.00m ... no recovery.		
29.90	73 (64) 9	8			(5.90)	30.00-33.20m ... subvertical (60-85 degrees) subhorizontal (5-30 degrees) closely to medium spaced open tight irregular rough clean discontinuities.		
31.00	100 (96) 37							

Drilling Progress and Water Observations						Standard Penetration Test			Flush				General Remarks
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks	Depth	Type	Result	From	To	Type	Returns (%)	
06/11/2017	27.40	27.40		21.20		27.40	S	1/0.40	27.40	29.90	A/M	100	
									29.90	31.00	A/M	100	
									31.00	33.30	A/M	100	

(1) Description derived from drillers daily report.
 (2) Borehole advanced through trial pit previously conducted by CH2M.

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4154
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ROTARY CONTINUATION

Status:-
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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No.	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457120.701 N:525744.554	
Method (Equipment): Percussion/Coring (Pilcon Wayfarer 2000/Boart Longyear DB520)		Ground Level (m(AOD)): 7.527	Start Date: 26/10/2017
		Sheet: 2 of 6	

RUN DETAILS				STRATA			Instrument/ Backfill	
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
						Discontinuities Detail		Main
C Dia (92mm)		NI	- 25.773		33.30		(Continued...) Weak interbedded grey green MUDSTONE/SILTSTONE partially weathered.	
							33.20-33.30m ... non-intact.	Extremely weak interbedded laminated red grey MUDSTONE/MARL partially weathered.
							33.30-33.60m ... subhorizontal (5-30 degrees) medium to closely spaced open irregular rough clean discontinuities.	
							33.60-33.95m ... non-intact.	
							33.95-35.10m ... subhorizontal (5-30 degrees) to closely spaced open irregular rough clean discontinuities.	
							35.10-36.30m ... non-intact.	

Drilling Progress and Water Observations						Standard Penetration Test			Flush				General Remarks
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks	Depth	Type	Result	From	To	Type	Returns (%)	
									33.30	36.30	A/M	100	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M.

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4154
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ROTARY CONTINUATION

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-BHA4	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457120.701 N:525744.554	
Method (Equipment): Percussion/Coring (Pilcon Wayfarer 2000/Boart Longyear DB520)		Ground Level (m(AOD)): 7.527	Start Date: 26/10/2017 Sheet: 3 of 6

RUN DETAILS				STRATA				Instrument/ Backfill
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						Discontinuities Detail	Main	
36.30			-28.773		36.30		(Continued...) Extremely weak interbedded laminated red grey MUDSTONE/MARL partially weathered.	Instrument/ Backfill
	53 (6) 0	NR			36.30-37.00m ... no recovery.		Extremely weak red brown sandy MARL distinctly weathered.	
		NI		(1.50)	37.00-37.80m ... non-intact.			
37.80	0 (0) 0	NR	-30.273		37.80		(1) Brown Mudstone.	
						(2.20)		

Drilling Progress and Water Observations						Standard Penetration Test			Flush				General Remarks
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks	Depth	Type	Result	From	To	Type	Returns (%)	
									36.30	37.80	A/M	100	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M.
									37.80	40.00	A/M	100	

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4154
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ROTARY CONTINUATION

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-BHA4	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457120.701 N:525744.554	
Method (Equipment): Percussion/Coring (Pilcon Wayfarer 2000/Boart Longyear DB520)		Ground Level (m(AOD)): 7.527	Start Date: 26/10/2017
		Sheet: 4 of 6	

RUN DETAILS			STRATA				Instrument/ Backfill	
Depth	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						Discontinuities Detail		Main
			-32.473		40.00	(Continued...) (1) Brown Mudstone.		
						Borehole complete at 40.00m BGL.		

Drilling Progress and Water Observations						Standard Penetration Test			Flush				General Remarks
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks	Depth	Type	Result	From	To	Type	Returns (%)	
06/11/2017	40.00	27.40		28.60									(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M.

All dimensions in metres Scale 1:25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>DW</i>	Logged by: D. Portsmouth	Contract No. 4154
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ROTARY CONTINUATION

Status:-

FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-BHA4	
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:457120.701 N:525744.554		
Method (Equipment): Percussion/Coring (Pilcon Wayfarer 2000/Boart Longyear DB520)	Ground Level (m(AOD)): 7.527	Start Date: 26/10/2017	Sheet: 5 of 6



Figure S2-BHA4.1
BH04 27.40-31.00m BGL.



Figure S2-BHA4.2
BH04 31.00-33.30m BGL.



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ROTARY CONTINUATION

Status:-

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Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No.	
Client: South Tees Site Company Ltd	Location: Redcar Steel Works E:457120.701 N:525744.554	S2-BHA4	
Method (Equipment): Percussion/Coring (Pilcon Wayfarer 2000/Boart Longyear DB520)	Ground Level (m(AOD)): 7.527	Start Date: 26/10/2017	Sheet: 6 of 6



Figure S2-BHA4.3
BH04 33.30-36.30m BGL.



Figure S2-BHA4.4
BH04 36.30-40.00m BGL.



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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-BHA5	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457310.724 N:525621.803	
Method (Equipment): Cable Percussion (Pilcon Wayfarer 2000)		Ground Level (m(AOD)): 4.530	Start Date: 23/10/2017 Sheet: 1 of 2

SAMPLES & TESTS			STRATA				Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	
0.40	J1						MADE GROUND (Black brown sandy gravel with fragments of wood. Sand is fine to coarse. Gravel is fine to coarse subangular and includes sandstone, slag, concrete, brick and clinker). from 1.20m BGL ... very dense.
0.80	J2						
1.20	CJ3	1/3.20					
1.50	ES4						
2.20	CJ5	1/0.40					
2.50	ES6						
3.30	J7			1.230		3.30	Dense brown slightly clayey SAND. at c.3.50m BGL ... slightly clayey slightly gravelly. between c.4.50-6.50m BGL ... sand.
3.50	SJ8	N30					
3.50-4.00	B9	1.8ppm					
3.50	PID						
3.70	ES10						
4.50	SJ11	N31					at c.7.50m BGL ... slightly gravelly sand.
4.50-5.00	B12	0.5ppm					
4.50	PID						
5.50	SJ13	N41					
5.50-6.00	B14						
6.50	SJ15	N41					
6.50-7.00	B16						
7.50	SJ17	N34					
7.50-8.00	B18						

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
23/10/2017	0.00	0.00			0.50	3.00	03:00			(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 5.10m BGL.
23/10/2017	3.00	3.00	250	Dry						
24/10/2017	3.00	3.00	250	3.00						
24/10/2017	3.27	3.27	250							
24/10/2017	8.00	8.00	200	2.37						

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4154
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-BHA5	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457310.724 N:525621.803	
Method (Equipment): Cable Percussion (Pilcon Wayfarer 2000)		Ground Level (m(AOD)): 4.530	Start Date: 23/10/2017 Sheet: 2 of 2

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	
8.50 8.50-9.00	SJ19 B20	N39					(Continued...) Dense brown slightly clayey SAND. between c.8.50-9.50m BGL ... sand.	
9.50 9.50-10.00	SJ21 B22	N35						
10.50	J23							
11.00	J24			6.470		11.00	at c.11.00m BGL ... grey brown sandy slightly organic silt. Borehole terminated at 11.00m BGL due to possible UXO anomaly.	

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
25/10/2017	8.00	8.00	200	2.12				8.70	10.50	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 5.10m BGL.
25/10/2017	11.00	11.00	200	3.46						

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4154
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ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG
 Regional Office: Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL

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 Tel: 01772 735 300 Fax: 01772 735 999

BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No.	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457221.427 N:525185.492	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 7.162	Start Date: 07/11/2017
		Sheet: 1 of 3	

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	
0.40 0.40 0.50	J1 PID ES2	1.8ppm					MADE GROUND (Black brown sandy gravel. Sand is fine to coarse. Gravel is fine to coarse subangular and includes sandstone, clinker, concrete, slag, macadam and brick).
1.20-1.65 1.20 1.50	CJ3 PID ES4	N38 0.5ppm					from 1.20m BGL ... dense to very dense.
2.20-2.65 2.20 2.50 2.50	CJ5 PID ES6 PID	1/3.40 0.5ppm 0.5ppm			(4.40)		
3.20-3.65 3.50	CJ7 ES8	1/5.50					
4.20-4.65 4.40 4.40 4.50 4.60-5.05 4.60-5.10	CJ9 J10 PID ES11 SJ12 B13	N30 0.2ppm N22	2.762		4.40		Medium dense brown slightly clayey SAND.
5.60-6.05 5.70	SJ14 J15	N20	1.462		5.70		Soft brown slightly sandy silty CLAY interlaminated with clayey SILT.
6.00-6.45 6.00-6.50	SJ16 B17	N15			(1.60)		at c.6.00m BGL ... clay is of intermediate plasticity.
7.00-7.45	U*B18	(50)	-0.138		7.30		Medium dense brown very clayey/silty SAND with occasional grey interbeds/lenses and fragments of shell. Sand is fine to coarse. Gravel is fine to medium rounded and includes sandstone.
7.50-7.95 7.50-8.00	SJ19 B20	N22					

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
07/11/2017	0.00	0.00			1.80	3.20	02:00	4.80	8.00	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 7.10m BGL.
07/11/2017	4.40	4.40	250							

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4154
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BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-BHA6	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457221.427 N:525185.492	
Method (Equipment): Cable Percussion (Dando 2000)		Ground Level (m(AOD)): 7.162	Start Date: 07/11/2017
			Sheet: 2 of 3

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	
8.50-8.95	SB21	N15					(Continued...) Medium dense brown very clayey/silty SAND with occasional grey interbeds/lenses and fragments of shell. Sand is fine to coarse. Gravel is fine to medium rounded and includes sandstone.
9.50-9.95	SB22	N15					at c.9.50m BGL ... very clayey sand.
10.50-10.95 10.50-11.00 10.50	SJ23 B24 K(F)	N17					at c.10.50m BGL ... clayey slightly gravelly sand.
11.50	J25				(8.40)		
12.00-12.45 12.00-12.50	SJ26 B27	N21					at c.12.00m BGL ... slightly clayey very gravelly sand.
13.00	J28						
13.50-13.95 13.50-14.00	SJ29 B30	N27					at c.13.50m BGL ... slightly clayey slightly gravelly sand.
14.50	J31						
15.00-15.45 15.00-15.50	SJ32 B33	N35					at c.15.00m BGL ... dense.
15.70	J34				8.538	15.70	Firm laminated CLAY/SILT with occasional silt dustings and organic content on the laminae and fragments of wood.

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
07/11/2017	10.00	10.00	200	4.75				10.50	15.00	(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 7.10m BGL.
08/11/2017	10.00	10.00	200	4.67						

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4154
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 Tel: 01772 735 300 Fax: 01772 735 999

BOREHOLE RECORD

Status:-
FINAL

Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)		Exploratory Hole No. S2-BHA6	
Client: South Tees Site Company Ltd		Location: Redcar Steel Works E:457221.427 N:525185.492	
Method (Equipment): Cable Percussion (Dando 2000)	Ground Level (m(AOD)): 7.162	Start Date: 07/11/2017	Sheet: 3 of 3

SAMPLES & TESTS			Water	STRATA			Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	
16.00-16.45 16.00-16.50	SJ35 B36	N22			X		(Continued...) Firm laminated CLAY/SILT with occasional silt dustings and organic content on the laminae and fragments of wood. at c.16.00m BGL ... clay is of intermediate plasticity (recovered as slurry).
17.00	J37				X (2.50)		
17.50-17.95	SJ38	N20			X		Stiff red brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subangular to subrounded and includes sandstone, mudstone and coal. at c.18.50m ... high strength. at c.18.85m BGL ... clay is of intermediate plasticity.
18.20	J39		11.038		X (2.50)	18.20	
18.50-18.95	U40	(130)			O		Extremely weak grey green MUDSTONE distinctly weathered. (Recovered as gravelly clay/clayey gravel).
18.85	J41				O (2.50)		
19.50	J42				O		Borehole complete at 21.00m BGL.
20.00-20.45 20.00-20.50	SJ43 B44	N41			O		
20.70	J45		13.538		O (0.30)	20.70	
21.00	S46	1/0.40	13.838		O	21.00	

Boring Progress and Water Observations					Chiselling			Water Added		General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	To	Hours (hh:mm)	From	To	
08/11/2017	19.00	18.30	200	5.08	20.80	21.00	01:00			(1) Description derived from drillers daily report. (2) Borehole advanced through trial pit previously conducted by CH2M. (3) 50mm diameter slotted standpipe installed to 7.10m BGL.
10/11/2017	19.00	18.30	200	3.78						
10/11/2017	21.00	18.30	200	4.45						

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4154
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VARIABLE HEAD PERMEABILITY TEST CALCULATION																																			
BS5930: 1999 (Amendment 2): Section 4: Clause 25.4																																			
Installation Type : Borehole			Method: Falling Head			Test No:		1 of 1																											
Contract & Position Details																																			
Site: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1 and Contract 2 (Area A)																																			
Contract : 4153		Exploratory Hole: S1-BH19			Depth (mBGL):		10.00																												
Initial Conditions			Intake Factor Selection				Comments																												
Top of Section:	9.00	mBGL	Option	Criteria			(1) Refer to Exploratory Hole Record for soil conditions.																												
Base of Section:	10.00	mBGL	<input type="radio"/> A	Soil flush with bottom at impervious boundary																															
Diameter of Section:	200.00	mm	<input type="radio"/> B	Soil flush with bottom in uniform soil																															
Measurement Offset:	0.00	mAGL	<input type="radio"/> C	Well point or hole extended at impervious boundary																															
Standpipe Diameter:	-	mm	<input checked="" type="radio"/> D	Well point or hole extended in uniform soil																															
Initial Water Level:	4.53	mBGL	<input type="radio"/> E	Soil in casing with bottom at impervious boundary																															
Weather Conditions:	Dry		<input type="radio"/> F	Soil in casing with bottom in uniform soil																															
			<input type="radio"/> G	Standpipe or Piezometer																															
Initial Response Zone Calculations			Readings																																
Length, L:	1.00	m	Minutes	Seconds	Total Seconds	Water Level Depth (m)	Head (m)	H/H ₀	Notes																										
Diameter, D:	0.20	m	0	5	5	0.050	4.48	1.000																											
L/D:	5.00	Ratio	0	10	10	0.160	4.37	0.975																											
Response Area, A:	0.0314	m ²	0	15	15	0.500	4.03	0.900																											
Intake Factor, F:	2.7171	Coefficient	0	30	30	0.900	3.63	0.810																											
using $2\pi L / \ln[(L/D) + \sqrt{1 + (L/D)^2}]$			1	0	60	1.330	3.20	0.714																											
			2	0	120	1.830	2.70	0.603																											
Permeability Equations			3	0	180	2.120	2.41	0.538																											
General Approach			4	0	240	2.410	2.12	0.473																											
K= $\frac{A}{F \cdot (T_2 - T_1)} \cdot \ln(H_1/H_2)$ Eq.(i)			5	0	300	2.640	1.89	0.422																											
			10	0	600	3.050	1.48	0.330																											
Lag Time Analysis			15	0	900	3.150	1.38	0.308																											
K= $\frac{A}{F \cdot T}$ Eq.(ii)			20	0	1200	3.270	1.26	0.281																											
Eq.(ii) where T is the Basic Time Lag Factor coinciding with a H/H ₀ of 0.37																																			
Permeability Variable Determination																																			
General Approach																																			
Factor, T ₁ :	n/a	Seconds																																	
Head, H ₁ :	n/a	m																																	
Factor, T ₂ :	n/a	Seconds																																	
Head, H ₂ :	n/a	m																																	
Lag Time Analysis Approach			Permeability Graph																																
Lag Time, T :	470.05	Seconds	<table border="1"> <caption>Data points for Permeability Graph</caption> <thead> <tr> <th>Time Elapsed (Seconds)</th> <th>H/H₀</th> </tr> </thead> <tbody> <tr><td>0</td><td>1.000</td></tr> <tr><td>5</td><td>0.975</td></tr> <tr><td>10</td><td>0.900</td></tr> <tr><td>15</td><td>0.810</td></tr> <tr><td>30</td><td>0.714</td></tr> <tr><td>60</td><td>0.603</td></tr> <tr><td>120</td><td>0.538</td></tr> <tr><td>240</td><td>0.473</td></tr> <tr><td>300</td><td>0.422</td></tr> <tr><td>600</td><td>0.330</td></tr> <tr><td>900</td><td>0.308</td></tr> <tr><td>1200</td><td>0.281</td></tr> </tbody> </table>							Time Elapsed (Seconds)	H/H ₀	0	1.000	5	0.975	10	0.900	15	0.810	30	0.714	60	0.603	120	0.538	240	0.473	300	0.422	600	0.330	900	0.308	1200	0.281
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Permeability Calculation																																			
General Approach Eq.(i)																																			
K=	N/A	m/s																																	
Lag Time Analysis Eq.(ii)																																			
K=	2.46E-05	m/s																																	
Approvals																																			
Operator	P.B.	11/10/2017																																	
Calculated	L.C.	24/05/2018																																	
Checked & Approved:	N.V.	24/05/2018																																	

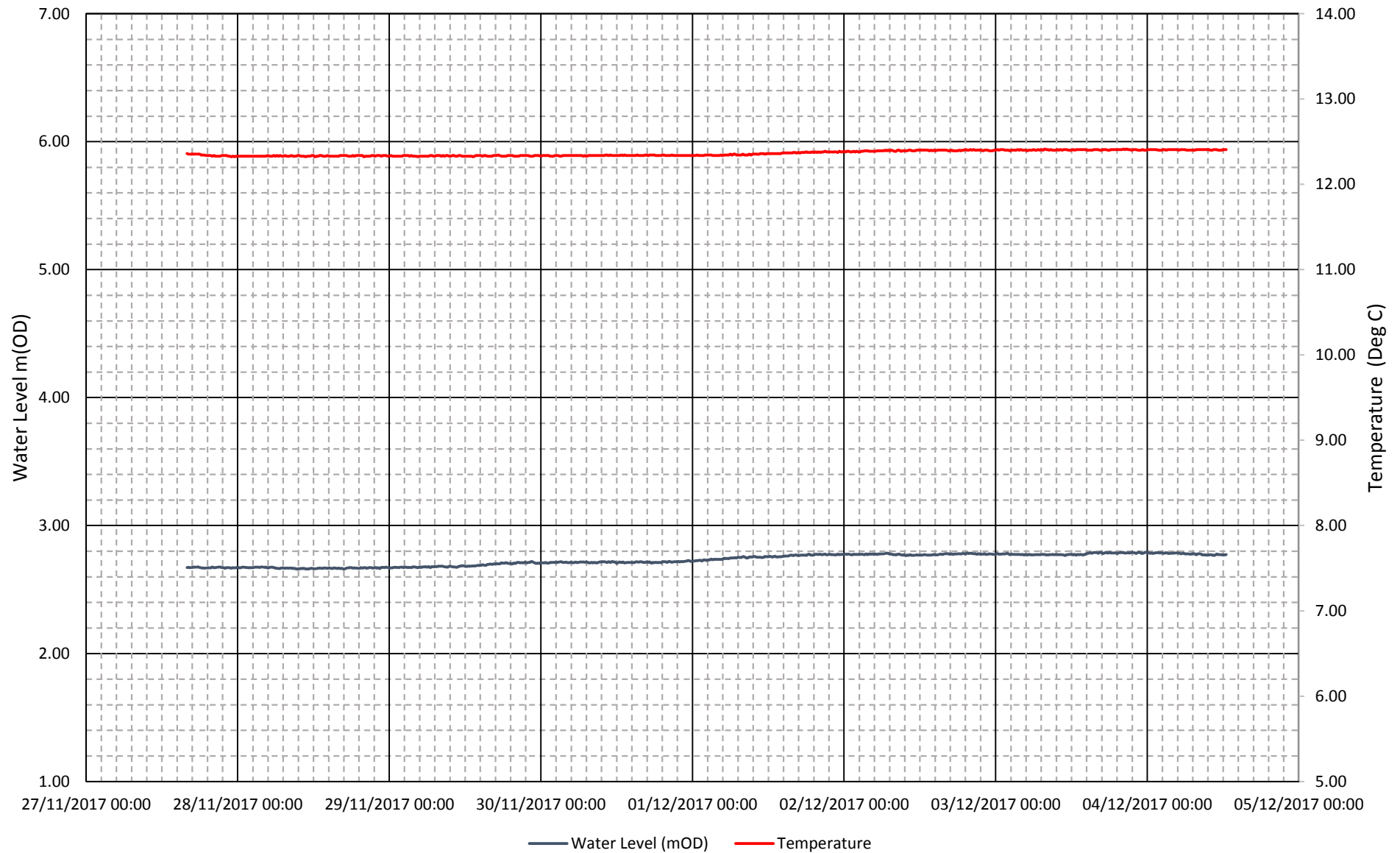
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VARIABLE HEAD PERMEABILITY TEST CALCULATION																																					
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Contract & Position Details																																					
Site: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1 and Contract 2 (Area A)																																					
Contract : 4154		Exploratory Hole: S2 - BHA6			Depth (mBGL):		10.50																														
Initial Conditions			Intake Factor Selection				Comments																														
Top of Section:	9.80	mBGL	Option	Criteria			(1) Refer to Exploratory Hole Record for soil conditions.																														
Base of Section:	10.50	mBGL	<input type="radio"/> A	Soil flush with bottom at impervious boundary																																	
Diameter of Section:	200.00	mm	<input type="radio"/> B	Soil flush with bottom in uniform soil																																	
Measurement Offset:	0.00	mAGL	<input type="radio"/> C	Well point or hole extended at impervious boundary																																	
Standpipe Diameter:	-	mm	<input checked="" type="radio"/> D	Well point or hole extended in uniform soil																																	
Initial Water Level:	4.11	mBGL	<input type="radio"/> E	Soil in casing with bottom at impervious boundary																																	
Weather Conditions:	Dry		<input type="radio"/> F	Soil in casing with bottom in uniform soil																																	
			<input type="radio"/> G	Standpipe or Piezometer																																	
Initial Response Zone Calculations			Readings																																		
Length, L:	0.70	m	Minutes	Seconds	Total Seconds	Water Level Depth (m)	Head (m)	H/H ₀	Notes																												
Diameter, D:	0.20	m	0	5	5	0.030	4.08	1.000																													
L/D:	3.50	Ratio	0	10	10	0.040	4.07	0.998																													
Response Area, A:	0.0314	m ²	0	15	15	0.050	4.06	0.995																													
Intake Factor, F:	2.2375	Coefficient	0	30	30	0.085	4.03	0.987																													
using $2\pi L / \ln[(L/D) + \sqrt{1 + (L/D)^2}]$			1	0	60	0.130	3.98	0.975																													
			2	0	120	0.190	3.92	0.961																													
Permeability Equations			3	0	180	0.260	3.85	0.944																													
General Approach			4	0	240	0.350	3.76	0.922																													
$K = \frac{A}{F \cdot (T_2 - T_1)} \cdot \ln(H_1/H_2)$ Eq.(i)			5	0	300	0.440	3.67	0.900																													
			10	0	600	0.530	3.58	0.877																													
Lag Time Analysis			15	0	900	0.670	3.44	0.843																													
$K = \frac{A}{F \cdot T}$ Eq.(ii)			20	0	1200	0.910	3.20	0.784																													
Eq.(ii) where T is the Basic Time Lag Factor coinciding with a H/H ₀ of 0.37																																					
Permeability Variable Determination																																					
General Approach																																					
Factor, T ₁ :	5	Seconds																																			
Head, H ₁ :	4.08	m																																			
Factor, T ₂ :	300	Seconds																																			
Head, H ₂ :	3.67	m																																			
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Lag Time, T :	n/a	Seconds	<table border="1" style="display: none;"> <caption>Permeability Graph Data Points</caption> <thead> <tr> <th>Time Elapsed (Seconds)</th> <th>H/H₀</th> </tr> </thead> <tbody> <tr><td>0</td><td>1.000</td></tr> <tr><td>5</td><td>0.995</td></tr> <tr><td>10</td><td>0.998</td></tr> <tr><td>15</td><td>0.995</td></tr> <tr><td>30</td><td>0.987</td></tr> <tr><td>60</td><td>0.975</td></tr> <tr><td>120</td><td>0.961</td></tr> <tr><td>180</td><td>0.944</td></tr> <tr><td>240</td><td>0.922</td></tr> <tr><td>300</td><td>0.900</td></tr> <tr><td>600</td><td>0.877</td></tr> <tr><td>900</td><td>0.843</td></tr> <tr><td>1200</td><td>0.784</td></tr> </tbody> </table>							Time Elapsed (Seconds)	H/H ₀	0	1.000	5	0.995	10	0.998	15	0.995	30	0.987	60	0.975	120	0.961	180	0.944	240	0.922	300	0.900	600	0.877	900	0.843	1200	0.784
Time Elapsed (Seconds)	H/H ₀																																				
0	1.000																																				
5	0.995																																				
10	0.998																																				
15	0.995																																				
30	0.987																																				
60	0.975																																				
120	0.961																																				
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Permeability Calculation																																					
General Approach Eq.(i)																																					
K=	5.04E-06	m/s																																			
Lag Time Analysis Eq.(ii)																																					
K=	N/A	m/s																																			
Approvals																																					
Operator	P.B.	08/11/2017																																			
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Checked & Approved:	N.V.	24/05/2018																																			

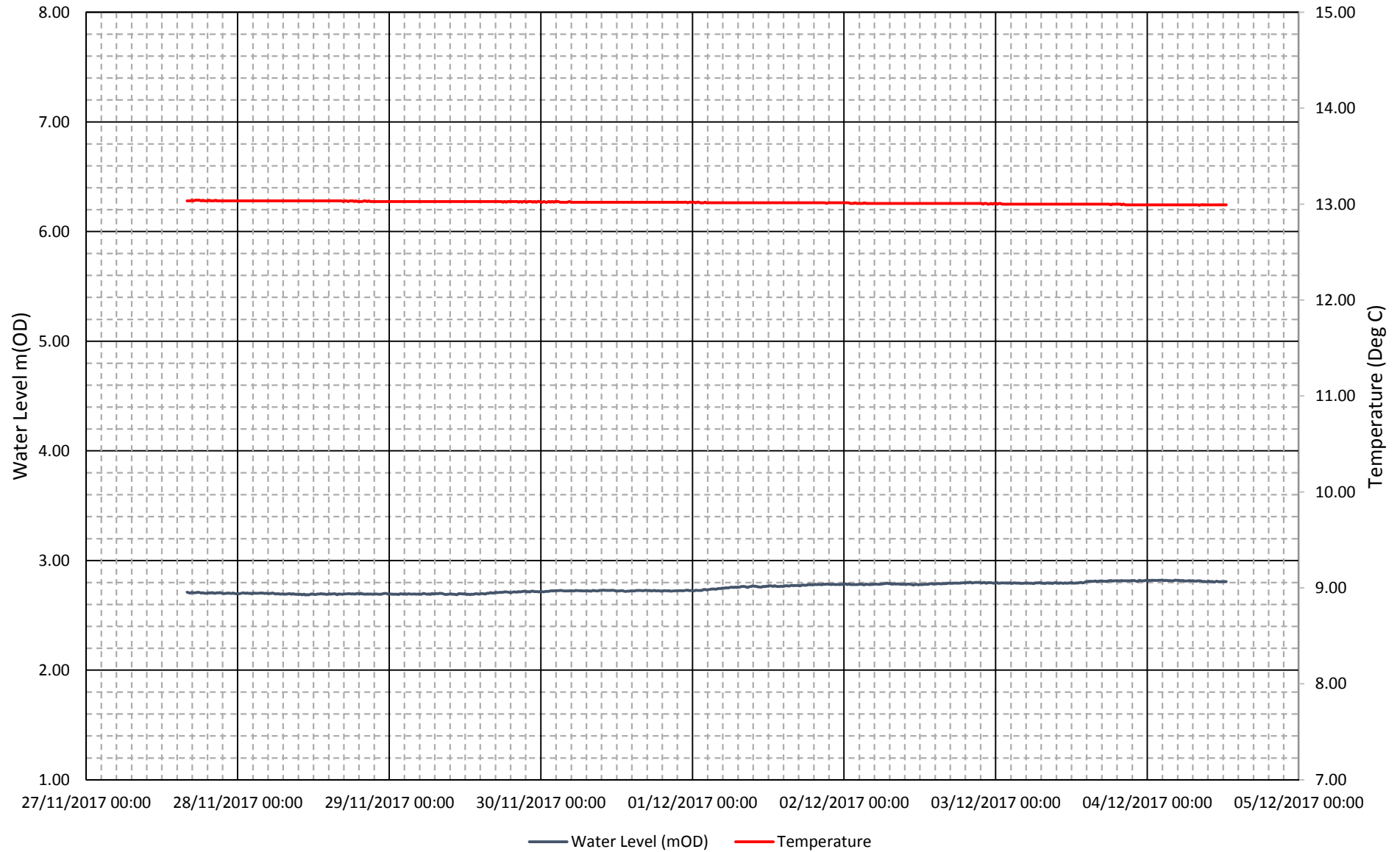
TIDAL GROUNDWATER MONITORING

S2 - BHA4



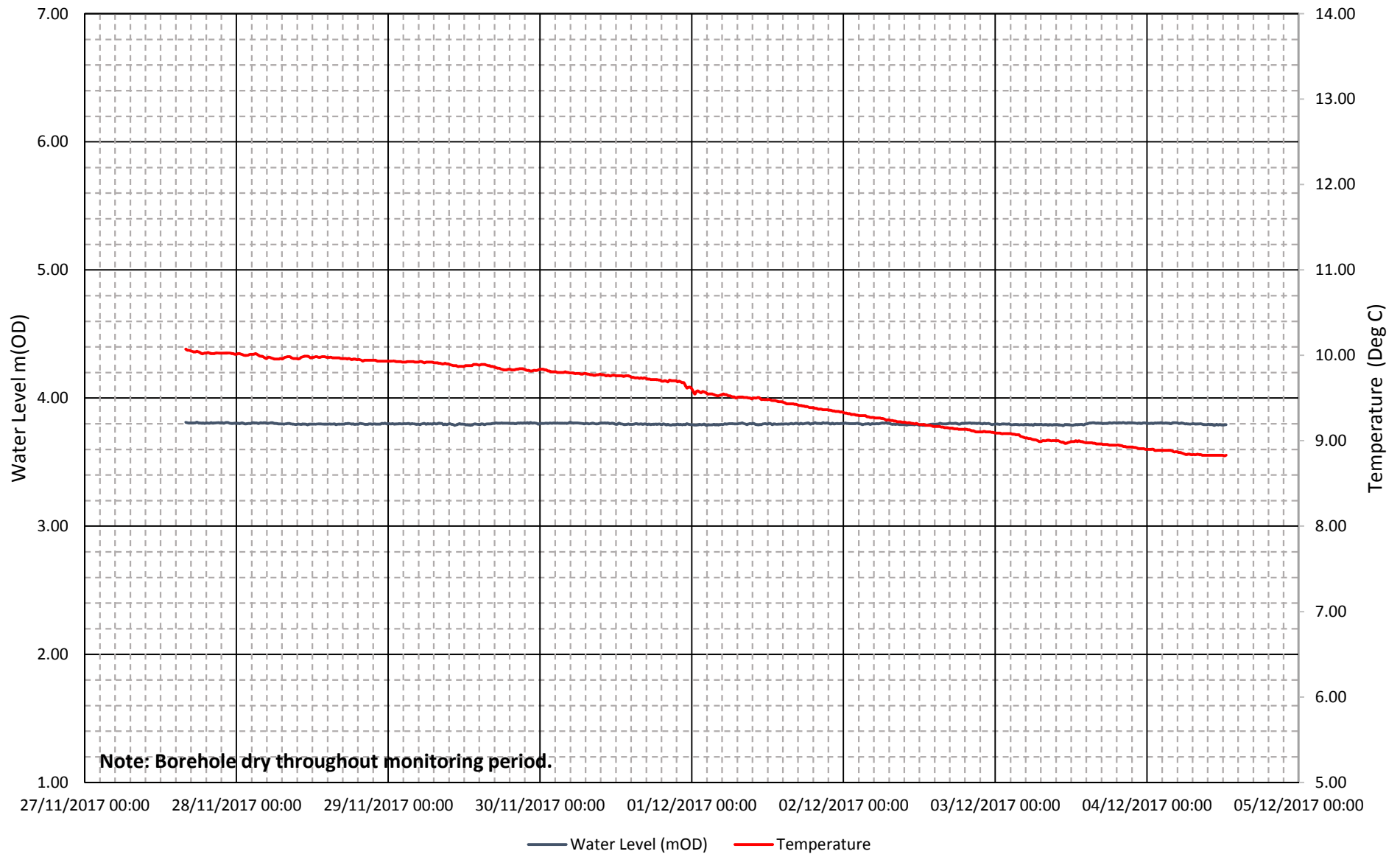
TIDAL GROUNDWATER MONITORING

S2 - BHA5



TIDAL GROUNDWATER MONITORING

S2 - BHA6





ALLIED EXPLORATION & GEOTECHNICS LIMITED

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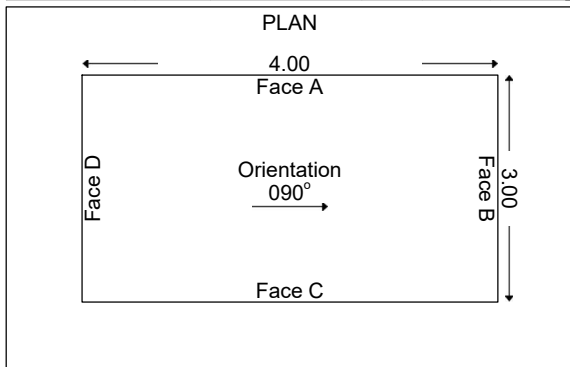
Tel: 0191 387 4700 Fax: 0191 387 4710
 Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-
PRELIM2

Project: Teardrop Site		Exploratory Hole No. TS2_AUK_TP152	
Client: South Tees Development Corporation		Location: Former Redcar Steelworks, Redcar E:457279.082 N:525310.152	
Method (Equipment): Machine Excavated (Volvo 480T)		Ground Level (m): 8.911	Start Date: 17/09/2020
		Sheet: 1 of 3	

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description
0.60	J1		Water	8.81		0.10	MADE GROUND (Brown grey very sandy gravel with many rootlets. Sand is fine to coarse and includes predominantly ash. Gravel is fine to coarse subangular and includes slag and ash. Slag content is 75-100%. Slag is vesicular). MADE GROUND (Black sandy gravel with low cobble content. Gravel is fine to coarse subangular and includes slag and ash. Cobbles are rounded and include slag. Slag content is 75-100%. Slag is vesicular). MADE GROUND (Grey white green sandy gravel and cobbles. Sand is fine to coarse and includes crushed slag. Gravel is fine to coarse subangular and includes slag. Cobbles are angular and include slag. Slag content is 75-100%. Slag is vesicular. Densely compacted/fused throughout).
0.80	B2			8.51		0.40	
1.00	PID	<0.1ppm					
1.60	J3						
1.80	B4						
2.00	ES5						
2.00	PID	<0.1ppm					
2.60	J6						
2.80	B7						
3.00	PID	<0.1ppm					
3.60	J8						
3.80	B9						
4.00	PID	<0.1ppm					
				4.41		4.50	Complete at 4.50m BGL.



GROUNDWATER
 No groundwater inflow observed.

STABILITY
 Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by:	Logged by: D. Portsmouth	Contract No. 4301
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ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG
Regional Office: Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL

Tel: 0191 387 4700 Fax: 0191 387 4710
Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-
PRELIM2

Project: Teardrop Site		Exploratory Hole No. TS2_AUK_TP152	
Client: South Tees Development Corporation	Location: Former Redcar Steelworks, Redcar E:457279.082 N:525310.152		
Method (Equipment): Machine Excavated (Volvo 480T)	Ground Level (m): 8.911	Start Date: 17/09/2020	Sheet: 2 of 3

Figure TS2_AUK_TP152.1
TS2_AUK_TP152



Figure TS2_AUK_TP152.2
TS2_AUK_TP152





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Tel: 0191 387 4700 Fax: 0191 387 4710
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TRIAL PIT RECORD

Status:-
PRELIM2

Project: Teardrop Site			Exploratory Hole No. TS2_AUK_TP152
Client: South Tees Development Corporation	Location: Former Redcar Steelworks, Redcar E:457279.082 N:525310.152		
Method (Equipment): Machine Excavated (Volvo 480T)	Ground Level (m): 8.911	Start Date: 17/09/2020	Sheet: 3 of 3

Figure TS2_AUK_TP152.3
TS2_AUK_TP152 Spoil





DETS

Certificate of Analysis

Certificate Number 20-18257

08-Oct-20

Client Allied Exploration & Geotechnics Limited
Unit 25
Stella Gill Industrial Estate
Pelton Fell
DH2 2RG

Our Reference 20-18257

Client Reference 4301

Order No (not supplied)

Contract Title Teardrop Site

Description 4 Soil samples, 2 Leachate samples.

Date Received 21-Sep-20

Date Started 21-Sep-20

Date Completed 08-Oct-20

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By



Adam Fenwick
Contracts Manager





Summary of Chemical Analysis

Matrix Descriptions

Our Ref 20-18257

Client Ref 4301

Contract Title Teardrop Site

Sample ID	Other ID	Depth	Lab No	Completed	Matrix Description
TS2_AUK_TP101	7	3	1730010	08/10/2020	Grey GRAVEL (sample matrix outside MCERTS scope of accreditation)
TS2_AUK_TP156	3	1	1730011	08/10/2020	Dark grey sandy GRAVEL (sample matrix outside MCERTS scope of accreditation)
TS2_AUK_TP152	1	2	1730012	08/10/2020	Dark grey sandy GRAVEL (sample matrix outside MCERTS scope of accreditation)
TS2_AUK_TP113A	3	0.9	1730013	08/10/2020	Grey GRAVEL (sample matrix outside MCERTS scope of accreditation)

Summary of Chemical Analysis

Soil Samples

Our Ref 20-18257

Client Ref 4301

Contract Title Teardrop Site

Lab No	1730010	1730011	1730012	1730013
Sample ID	TS2_AUK_TP1 01	TS2_AUK_TP1 56	TS2_AUK_TP1 52	TS2_AUK_TP1 13A
Depth	3.00	1.00	2.00	0.90
Other ID	7	3	1	3
Sample Type	ES	ES	ES	ES
Sampling Date	17/09/2020	17/09/2020	17/09/2020	17/09/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Metals							
Aluminium	DETSC 2301*	1	mg/kg	70000	37000	73000	14000
Antimony	DETSC 2301*	1	mg/kg	< 1.0	4.4	< 1.0	4.5
Arsenic	DETSC 2301#	0.2	mg/kg	6.0	27	7.2	65
Barium	DETSC 2301#	1.5	mg/kg	360	540	650	210
Beryllium	DETSC 2301#	0.2	mg/kg	6.2	4.5	6.3	1.8
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	0.5	1.9	8.0	1.1
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	3.2	< 0.1	0.8
Chromium	DETSC 2301#	0.15	mg/kg	12	170	30	42
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	11	120	14	340
Iron	DETSC 2301	25	mg/kg	1800	44000	3400	80000
Lead	DETSC 2301#	0.3	mg/kg	1.6	280	17	210
Magnesium	DETSC 2301*	1	mg/kg	35000	19000	38000	5000
Manganese	DETSC 2301#	20	mg/kg	3300	4600	4400	870
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	0.11	< 0.05	0.38
Molybdenum	DETSC 2301#	0.4	mg/kg	< 0.4	3.4	< 0.4	3.2
Nickel	DETSC 2301#	1	mg/kg	< 1.0	30	1.4	54
Silicon	DETSC 2301*	10	mg/kg	54000	78000	49000	54000
Vanadium	DETSC 2301#	0.8	mg/kg	61	290	82	140
Zinc	DETSC 2301#	1	mg/kg	13	660	44	470
Inorganics							
Loss on Ignition at 440oC	DETSC 2003#	0.01	%	4.1		6.8	
pH	DETSC 2008#		pH	11.2	10.4	10.4	8.3
Calorific Value	DETSC 5008	1	MJ/kg	< 1.0		< 1.0	
Cyanide, Total	DETSC 2130#	0.1	mg/kg	1.5	1.6	< 0.1	12
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Thiocyanate	DETSC 2130#	0.6	mg/kg	0.9	< 0.6	< 0.6	0.7
Organic matter	DETSC 2002#	0.1	%	0.3	1.1	0.6	8.0
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	220	340	44	170
Sulphur (free)	DETSC 3049#	0.75	mg/kg	17	22	99	19

Summary of Chemical Analysis

Soil Samples

Our Ref 20-18257

Client Ref 4301

Contract Title Teardrop Site

Lab No	1730010	1730011	1730012	1730013
Sample ID	TS2_AUK_TP1 01	TS2_AUK_TP1 56	TS2_AUK_TP1 52	TS2_AUK_TP1 13A
Depth	3.00	1.00	2.00	0.90
Other ID	7	3	1	3
Sample Type	ES	ES	ES	ES
Sampling Date	17/09/2020	17/09/2020	17/09/2020	17/09/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.07
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.06
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.10
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.13
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.16	0.08	1.5
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.38
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.29	0.11	3.2
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.23	0.09	2.8
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.10	0.04	1.3
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	0.13	0.05	1.3
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.14	0.05	1.4
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.06	< 0.03	0.63
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.09	0.03	1.2
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.08	0.03	0.44
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.12
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	0.10	< 0.03	0.51
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	1.4	0.49	15
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3

Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref 20-18257
 Client Ref 4301
 Contract Title Teardrop Site

Lab No	1730010	1730012
	TS2_AUK_T	TS2_AUK_T
Sample ID	P101	P152
Depth	3.00	2.00
Other ID	7	1
Sample Type	ES	ES
Sampling Date	17/09/2020	17/09/2020
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref 20-18257

Client Ref 4301

Contract Title Teardrop Site

Lab No	1730010	1730012
	TS2_AUK_T	TS2_AUK_T
Sample ID	P101	P152
Depth	3.00	2.00
Other ID	7	1
Sample Type	ES	ES
Sampling Date	17/09/2020	17/09/2020
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
SVOCs					
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1

Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref 20-18257

Client Ref 4301

Contract Title Teardrop Site

Lab No	1730010	1730012
	TS2_AUK_T	TS2_AUK_T
Sample ID	P101	P152
Depth	3.00	2.00
Other ID	7	1
Sample Type	ES	ES
Sampling Date	17/09/2020	17/09/2020
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1

Summary of Chemical Analysis

Leachate Samples

Our Ref 20-18257

Client Ref 4301

Contract Title Teardrop Site

Lab No	1730014	1730015
	TS2_AUK_T	TS2_AUK_T
Sample ID	P101	P152
Depth	3.00	2.00
Other ID	7	1
Sample Type	ES	ES
Sampling Date	17/09/2020	17/09/2020
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y
Leachate 2:1 250g Non-WAC	DETSC 1009*			Y	Y
Metals					
Antimony, Dissolved	DETSC 2306	0.17	ug/l	0.39	0.37
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.50	0.56
Barium, Dissolved	DETSC 2306	0.26	ug/l	50	39
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1
Boron, Dissolved	DETSC 2306*	12	ug/l	16	150
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.93	1.3
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	6.7	5.7
Iron, Dissolved	DETSC 2306	5.5	ug/l	38	11
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.25	< 0.09
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	0.65	1.7
Manganese, Dissolved	DETSC 2306	0.22	ug/l	4.5	9.4
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l	< 1.1	< 1.1
Nickel, Dissolved	DETSC 2306	0.5	ug/l	2.6	2.9
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	11	11
Zinc, Dissolved	DETSC 2306	1.3	ug/l	58	130
Inorganics					
pH	DETSC 2008		pH	10.3	8.9
Cyanide, Total	DETSC 2130	40	ug/l	< 40	< 40
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015
Chloride	DETSC 2055	0.1	mg/l	2.5	2.8
Sulphate as SO4	DETSC 2055	0.1	mg/l	60	110
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1

Summary of Chemical Analysis

Leachate Samples

Our Ref 20-18257

Client Ref 4301

Contract Title Teardrop Site

Lab No	1730014	1730015
	TS2_AUK_T	TS2_AUK_T
Sample ID	P101	P152
Depth	3.00	2.00
Other ID	7	1
Sample Type	ES	ES
Sampling Date	17/09/2020	17/09/2020
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
TPH Ali/Aro Total	DETSC 3072*	10	ug/l	< 10	< 10
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	0.05	0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.02
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.02
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.02
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20
Phenols					
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100

Summary of Chemical Analysis

Leachate VOC/SVOC Samples

Our Ref 20-18257
 Client Ref 4301
 Contract Title Teardrop Site

Lab No	1730015
Sample ID	TS2_AUK_T P152
Depth	2.00
Other ID	1
Sample Type	ES
Sampling Date	17/09/2020
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	270
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis Leachate VOC/SVOC Samples

Our Ref 20-18257

Client Ref 4301

Contract Title Teardrop Site

Lab No	1730015
Sample ID	TS2_AUK_T P152
Depth	2.00
Other ID	1
Sample Type	ES
Sampling Date	17/09/2020
Sampling Time	n/s

Test	Method	LOD	Units	
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis Leachate VOC/SVOC Samples

Our Ref 20-18257

Client Ref 4301

Contract Title Teardrop Site

Lab No	1730015
Sample ID	TS2_AUK_T P152
Depth	2.00
Other ID	1
Sample Type	ES
Sampling Date	17/09/2020
Sampling Time	n/s

Test	Method	LOD	Units	
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Summary of Asbestos Analysis

Soil Samples

Our Ref 20-18257

Client Ref 4301

Contract Title Teardrop Site

Lab No	Sample ID	Sample Location	Material Type	Result	Comment*	Analyst
1730010	TS2_AUK_TP101 7 3.00	TS2_AUK_TP101_SO_0300	SOIL	NAD	none	Joanne Luscombe
1730011	TS2_AUK_TP156 3 1.00	TS2_AUK_TP156_SO_0100	SOIL	NAD	none	Joanne Luscombe
1730012	TS2_AUK_TP152 1 2.00	TS2_AUK_TP152_SO_0300	SOIL	NAD	none	Joanne Luscombe
1730013	TS2_AUK_TP113A 3 0.90	TS2_AUK_TP113A_SO_0090	SOIL	NAD	none	Joanne Luscombe

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 20-18257

Client Ref 4301

Contract Teardrop Site

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1730010	TS2_AUK_TP101 3.00 SOIL	17/09/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1730011	TS2_AUK_TP156 1.00 SOIL	17/09/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1730012	TS2_AUK_TP152 2.00 SOIL	17/09/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1730013	TS2_AUK_TP113A 0.90 SOIL	17/09/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1730014	TS2_AUK_TP101 3.00 LEACHATE	17/09/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1730015	TS2_AUK_TP152 2.00 LEACHATE	17/09/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

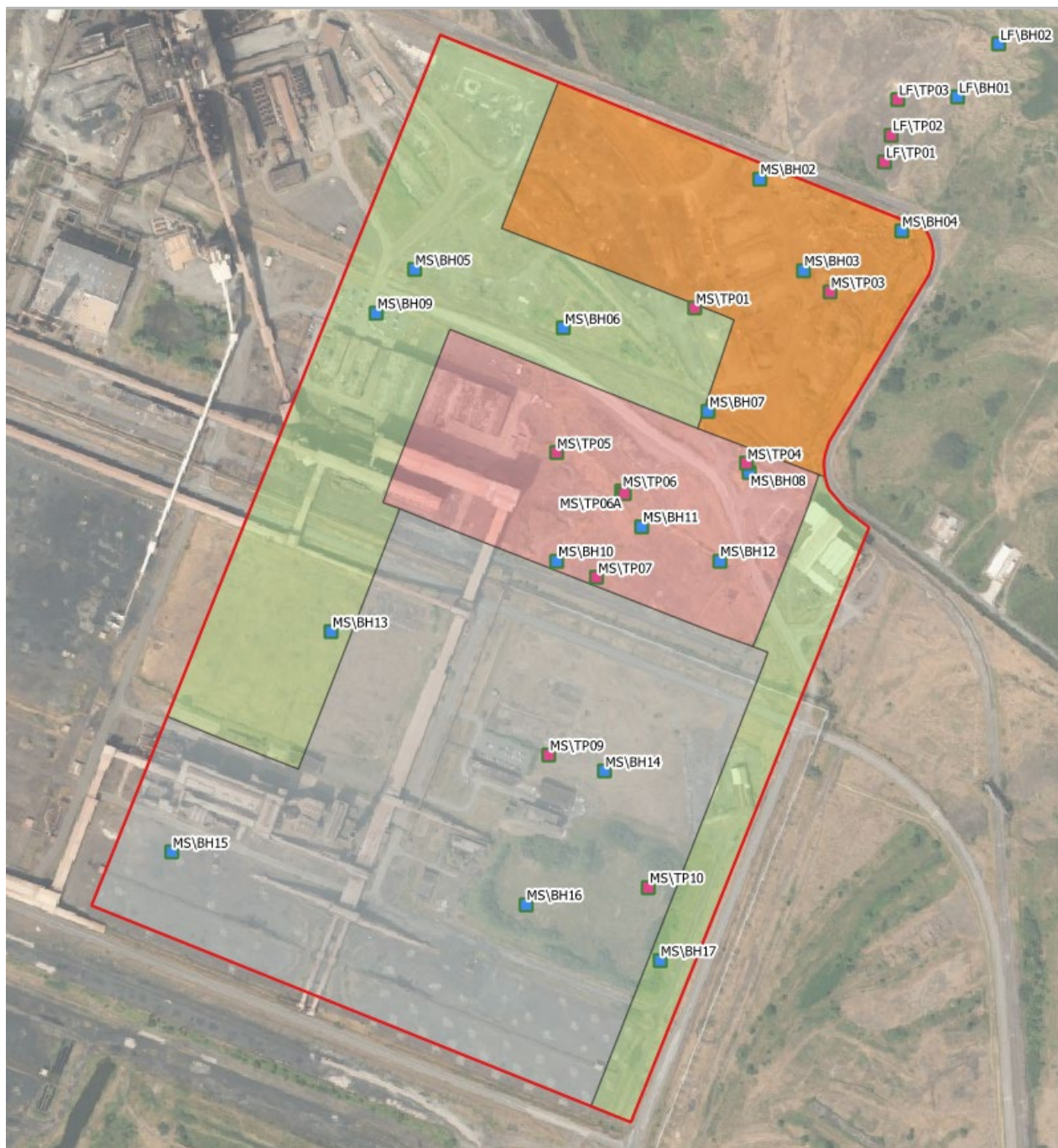
End of Report

Appendix D.4 - Report Reference:

- Preliminary Onshore Ground Investigation for Net Zero Teesside (NZT) – South Tees Development Corporation (STDC) ‘Main Site’ and Onshore CO2 Export Pipeline Corridor, prepared by AEG and dated September 2021 and marked Final Factual Report.

Information Summarised: Site Plan, Trial Pit and Borehole Logs, Vibrating Wire Piezometer Charts, Aquifer Permeability Tests, Tidal Monitoring results

Location to planning boundary overlay



Soils Summary

1. Soils analytical results screened to current risk based criteria In Appendix J.
2. Soil sampling analytical results and certificates presented in - Preliminary Onshore Ground Investigation for Net Zero Teeside (NZT) – South Tees Development Corporation (STDC) 'Main Site' and Onshore CO2 Export Pipeline Corridor, prepared by AEG and dated September 2021 and marked Draft Factual Report.

Soil Leachate

1. Soil Leachate analytical results screened to current risk based criteria in Appendix M.
2. Soil leachate sampling analytical results and certificates presented in - Preliminary Onshore Ground Investigation for Net Zero Teeside (NZT) – South Tees Development Corporation (STDC) 'Main Site' and Onshore CO2 Export Pipeline Corridor, prepared by AEG and dated September 2021 and marked Draft Factual Report.

Groundwater Summary

1. Number of monitoring visits – 3
2. Groundwater analytical results screened to current risk based criteria in Appendix K
3. Summary of groundwater elevation monitoring and analysis is presented in Appendix F



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(Email): enquiries@aeg.uk.net

KEY:



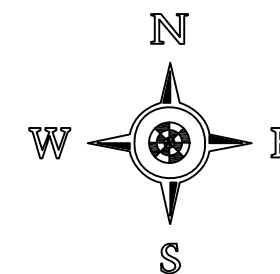
SONIC CORE HOLE



TRIAL PIT



INSPECTION PIT



Base Plan Supplied by Consulting Engineer

Drawing Title:

ENC 01 : Exploratory Hole Location Plan

Drawing No.:

AEG/4339/01

Contract Title:

Preliminary Onshore Ground Investigation for Net Zero Teesside (NZT) -
South Tees Development Corporation (STDC)
'Main Site' and Onshore CO2 Export Pipeline Corridor

Client:

AECOM
Aldgate Tower, 2 Leman Street,
London, E1 8FA

Consultant:

AECOM
First Floor, One Trinity Gardens, Quayside,
Newcastle upon Tyne, NE1 2HF

Contract No.:

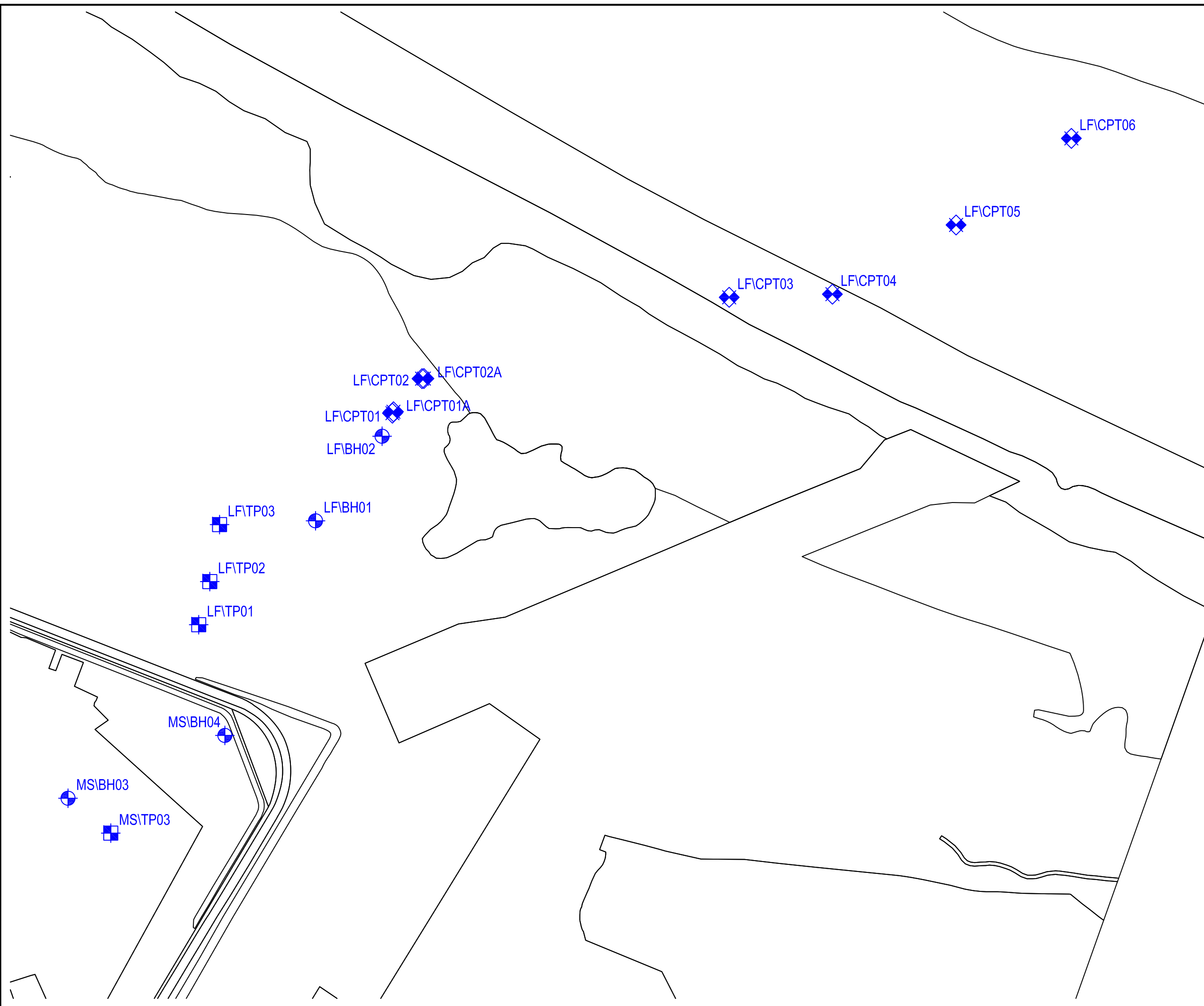
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Scale:

1:2500 @ A3

Date:




05/08/2021

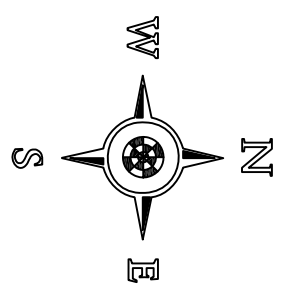




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 (Email: enquiries@aeguk.net)

KEY:

-  SONIC CORE HOLE
-  TRIAL PIT
-  INSPECTION PIT



Base Plan Supplied by Consulting Engineer

Drawing Title: ENC 01 : Exploratory Hole Location Plan

Drawing No.: AEG14339102

Contract Title:
 Preliminary Onshore Ground Investigation for Net Zero Teesside (NZT) -
 South Teas Development Corporation (STDC)
 Main Site and Onshore CO2 Export Pipeline Corridor

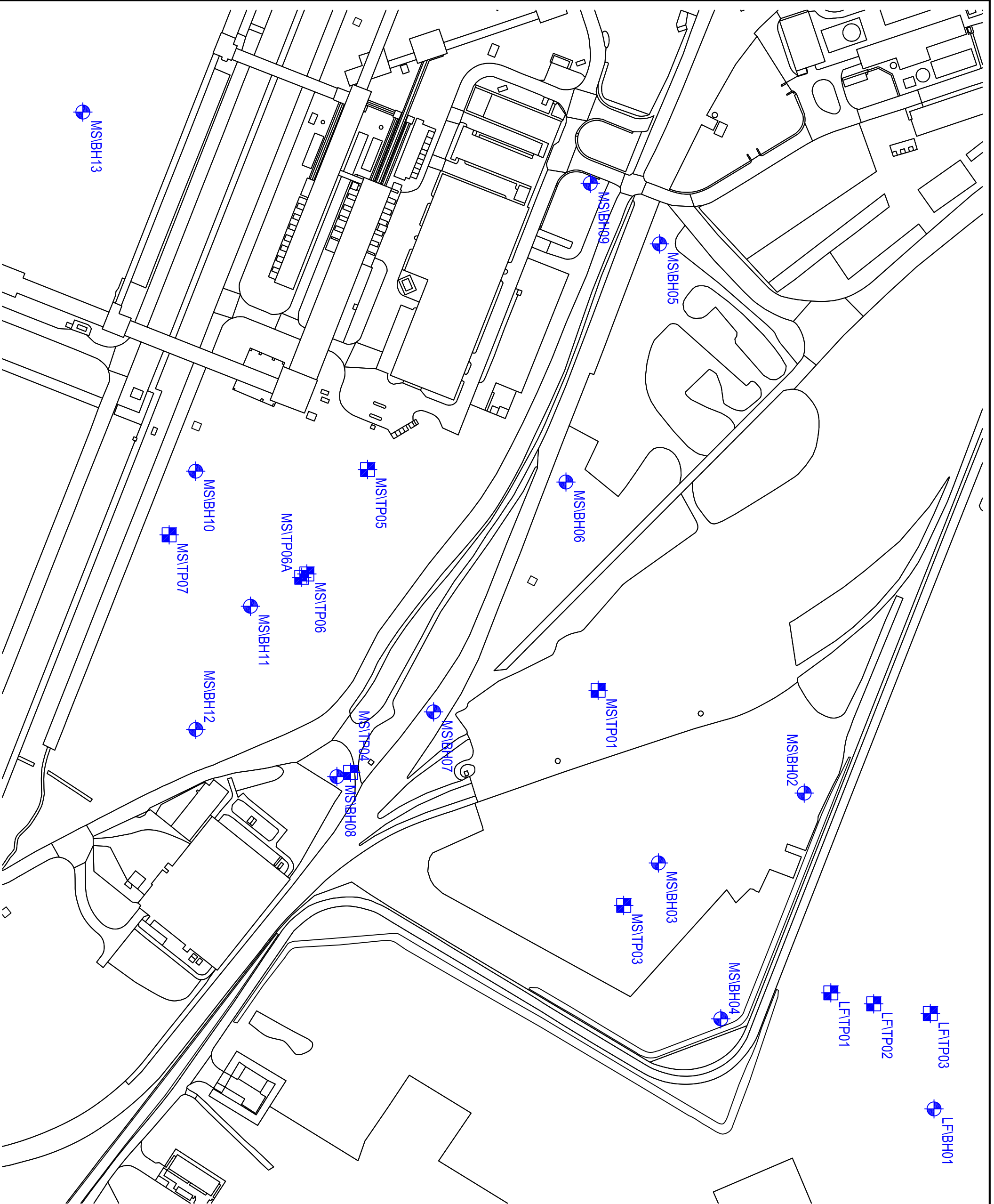
Client:
 AECOM
 Algate Tower, 2 Leman Street,
 London, E1 8FA

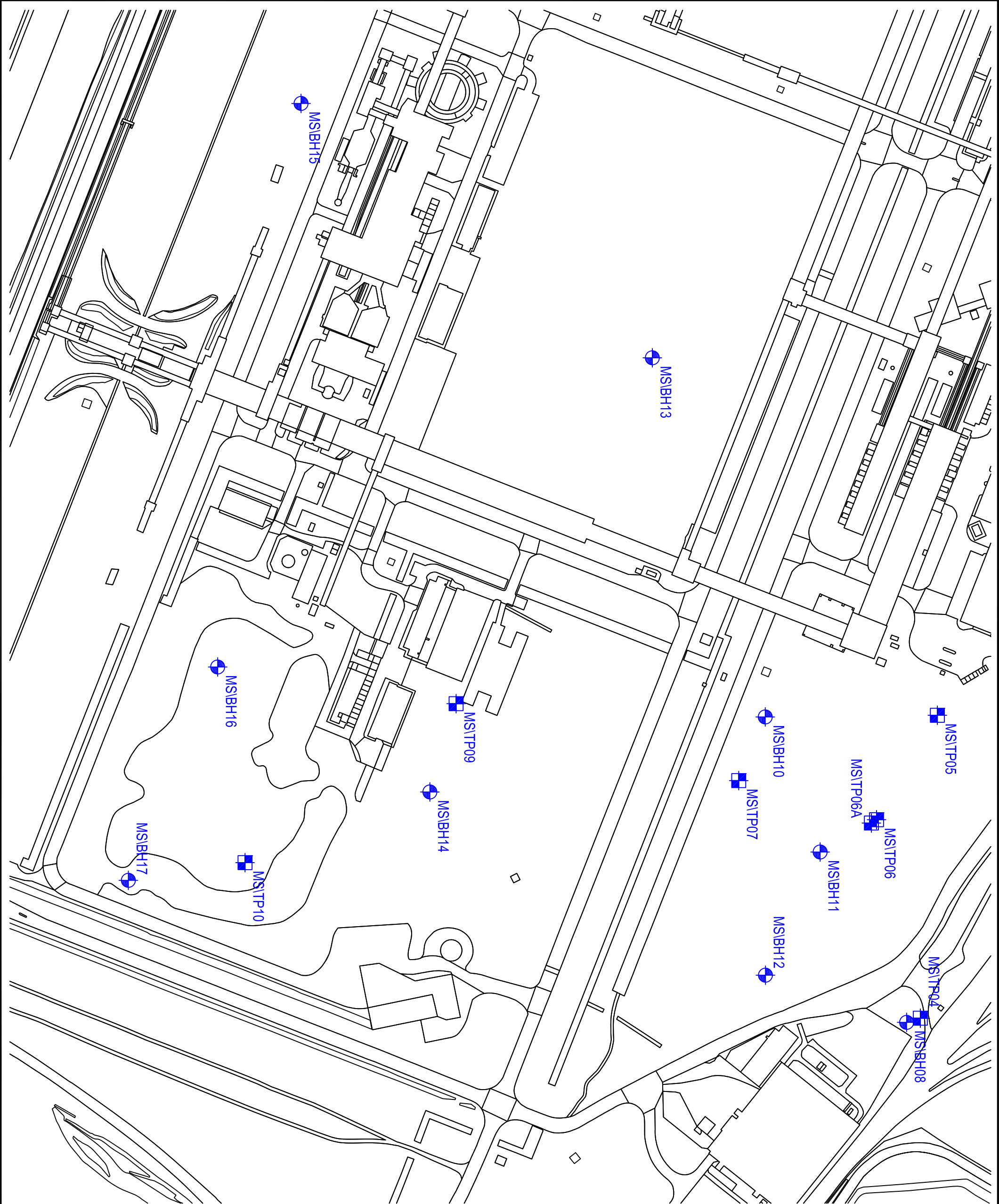
Consultant:
 AECOM
 First Floor, One Tilly Gardens, Quayside,
 Newcastle upon Tyne, NE1 2HF

Contract No.: 4339




Scale: 1:2500 @ A3

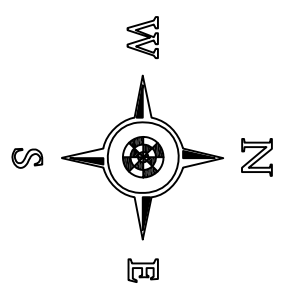
Date: 05/08/2021





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 (Email: enquiries@aeguk.net)

- KEY:**
-  SONIC CORE HOLE
 -  TRIAL PIT
 -  INSPECTION PIT



Base Plan Supplied by Consulting Engineer

Drawing Title:
 ENC 01 : Exploratory Hole Location Plan

Drawing No.:
 AEG433903

Contract Title:
 Preliminary Onshore Ground Investigation for Net Zero Teesside (NZT) -
 South Teas Development Corporation (STDC)
 Main Site and Onshore CO2 Export Pipeline Corridor

Client:
 AECOM
 Algalie Tower, 2 Leman Street,
 London, E1 8FA

Consultant:
 AECOM
 First Floor, One Tilly Gardens, Quayside,
 Newcastle upon Tyne, NE1 2HF

Contract No.:
 4339

Scale:
 1:2500 @ A3

Date:
 05/08/2021



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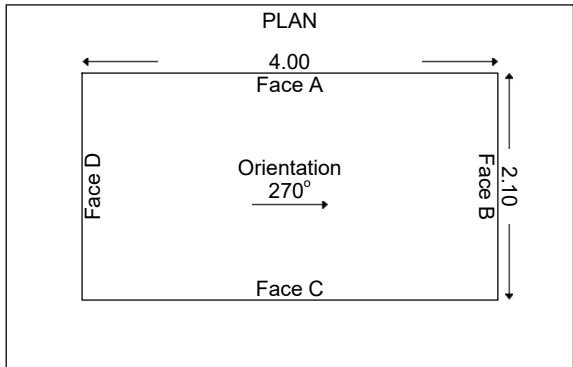
Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Tel: 0191 387 4700 Fax: 0191 387 4710
 Regional Office: Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LFITP01	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457392.527 N:525703.811	
Method (Equipment): Machine Excavated (Komatsu 210)		Ground Level (m): 7.172	Start Date: 23/06/2021 Sheet: 1 of 3

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Description	
0.30	ES1		Water	7.12	[Cross-hatched pattern]	MADE GROUND (Red brown grey very sandy gravel with occasional rootlets. Sand is fine to coarse and includes crushed slag. Gravel is fine to medium subangular and includes vesicular slag (100%)).	
0.30	PID	0.1ppm		0.05			MADE GROUND (Grey slightly sandy gravel and cobbles with low boulder content. Sand is fine to coarse and includes crushed slag. Gravel is fine to coarse subangular and includes slag. Cobbles are subangular and include slag. Boulders are subangular to subrounded and include slag. Slag is vesicular (100%)).
0.40	J2						
0.50	ES3						
0.50	PID	<0.1ppm					
0.80	B4						
1.00	ES5						
1.00	PID	0.1ppm					
1.10	J6						
1.40	J7						
1.50	PID	<0.1ppm					
1.80	B8						
1.85	LB9						
1.90	J10						
2.00	ES11					4.45	between c.2.00-4.50m BGL ... iron rich slag (frequent rust).
2.00	PID	0.2ppm					
2.40	J12						
2.50	PID	0.2ppm					
2.90	B13						
3.00	ES14						
3.00	PID	<0.1ppm					
3.10	J15						
3.40	J16						
3.50	PID	<0.1ppm					
3.60	J17						
3.90	LB18						
4.00	ES19						
4.00	PID	<0.1ppm					
4.50	J20			2.67			
4.50	PID	<0.1ppm		4.50	Complete at 4.50m BGL.		



GROUNDWATER
No groundwater inflow observed. Damp between 3.50-4.50m.

STABILITY
Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4339
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TRIAL PIT RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LFTP01	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457392.527 N:525703.811		LFTP01
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.172	Start Date: 23/06/2021	Sheet: 2 of 3

Figure LFTP01.1
LFTP01



Figure LFTP01.2
LFTP01





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TRIAL PIT RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. LFFTP01
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457392.527 N:525703.811		
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.172	Start Date: 23/06/2021	Sheet: 3 of 3

Figure LFFTP01.3
LFFTP01 Spoil





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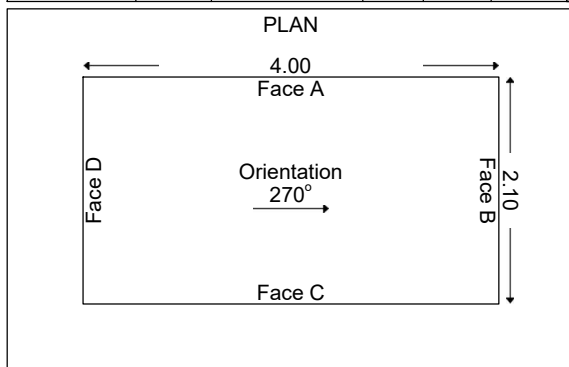
Tel: 0191 387 4700 Fax: 0191 387 4710
 Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LFITP02	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457400.272 N:525733.924	
Method (Equipment): Machine Excavated (Komatsu 210)		Ground Level (m): 7.892	Start Date: 23/06/2021 Sheet: 1 of 3

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description
0.30	ES1		Water	7.84	[Cross-hatched pattern]	0.05	MADE GROUND (Red brown grey very sandy gravel with occasional rootlets. Sand is fine to coarse and includes crushed slag. Gravel is fine to medium subangular and includes slag. Slag is vesicular (100%).
0.30	PID	0.1ppm					
0.50	ES2						
0.50	PID	0.1ppm					
0.55	J3						
0.80	B4						
1.00	ES5						
1.00	PID	0.3ppm					
1.05	J6						
1.50	J7						
1.50	PID	1.1ppm					
1.80	B8						
2.00	ES9						
2.00	PID	0.2ppm					
2.10	J7						
2.50	PID	2.1ppm					
2.60	J8						
2.80	B9						
3.00	ES10						
3.00	PID	1.0ppm					
3.10	J11						
3.50	PID	1.0ppm					
3.60	J12						
3.80	LB13						
4.00	ES14						
4.00	PID	<0.1ppm					
4.10	J15						
4.50	LB16						
4.50	PID	<0.1ppm		3.39		4.50	Complete at 4.50m BGL.



GROUNDWATER
 No groundwater inflow observed. Damp between 2.00-4.50m BGL.

STABILITY
 Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4339
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TRIAL PIT RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LFTP02	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457400.272 N:525733.924		Sheet: 2 of 3
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.892	Start Date: 23/06/2021	

Figure LFTP02.1
LFTP02



Figure LFTP02.2
LFTP02





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TRIAL PIT RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. LFFTP02
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457400.272 N:525733.924		
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.892	Start Date: 23/06/2021	Sheet: 3 of 3

Figure LFFTP02.3
LFFTP02 Spoil





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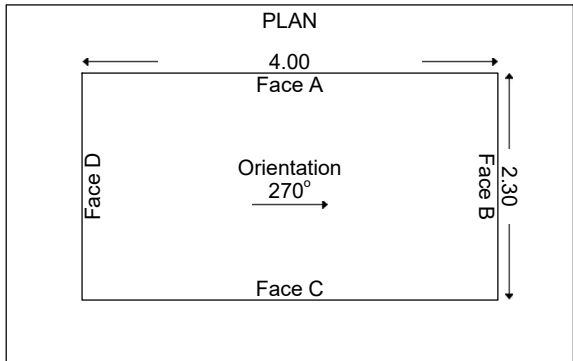
Tel: 0191 387 4700 Fax: 0191 387 4710
 Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LFITP03
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457407.062 N:525773.704	
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.703	Start Date: 24/06/2021 Sheet: 1 of 3

SAMPLES & TESTS			STRATA					
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
0.30	ES1		Water	7.65	[Cross-hatched pattern]	0.05	MADE GROUND (Red brown grey very sandy gravel with occasional rootlets. Sand is fine to coarse and includes crushed slag. Gravel is fine to medium subangular and includes slag. Slag is vesicular (100%).	
0.30	PID	0.4ppm				(1.15)		
0.45	J2							
0.50	ES3							
0.50	PID	<0.1ppm						MADE GROUND (Grey light brown slightly sandy gravel and cobbles. Sand is fine to coarse and includes crushed slag. Gravel is fine to coarse subangular and includes slag. Cobbles are subangular and include slag. Boulders are subangular to subrounded and include slag. Slag is vesicular and non vesicular (100%).
0.80	B4							
0.95	J5					6.50		
1.00	ES6							
1.00	PID	<0.1ppm						
1.10	LB7							
1.45	J8							
1.50	PID	1.5ppm						
1.80	B9							
1.95	J10							
2.00	ES11							
2.00	PID	1.1ppm						
2.45	J12							
2.50	PID	1.1ppm						
2.80	B13							
2.95	J14							
3.00	ES15							
3.00	PID	1.2ppm						
3.45	J16							
3.50	PID	2.0ppm						
3.80	B17							
3.95	J18							
4.00	ES19							
4.00	PID	2.2ppm						
4.50	LB20			3.20				
4.50	PID	2.0ppm				4.50	Complete at 4.50m BGL.	



GROUNDWATER
 No groundwater inflow observed. Damp between 3.00-4.50m BGL.

STABILITY
 Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4339
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TRIAL PIT RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. LFITP03
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457407.062 N:525773.704		
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.703	Start Date: 24/06/2021	Sheet: 2 of 3

Figure LFITP03.1
LFITP03



Figure LFITP03.2
LFITP03





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Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. LFFTP03
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457407.062 N:525773.704		
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.703	Start Date: 24/06/2021	Sheet: 3 of 3

Figure LFFTP03.3
LFFTP03 Spoil





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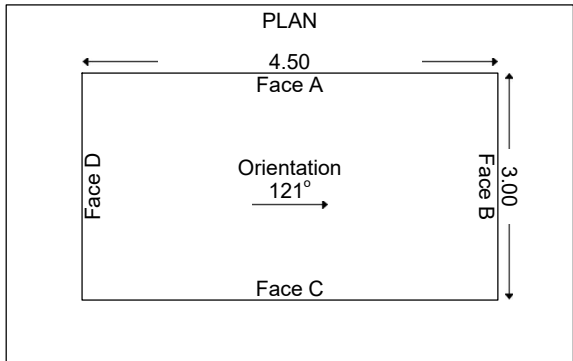
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 Regional Office: Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MSITP01
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457180.039 N:525540.369	
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 6.638	Start Date: 16/06/2021 Sheet: 1 of 3

SAMPLES & TESTS			STRATA			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Description
0.20	J1		Water	6.24		MADE GROUND (Black brown grey very gravelly sand with low cobble and boulder content and fragments of rubber, plastic and metal. Gravel is fine to coarse angular to subrounded and includes concrete and slag. Cobbles are angular to rounded and include slag and concrete. Boulders are subangular and include concrete. Slag is vesicular (50-75%)). at c.0.10m BGL ... metal rope recovered - 10m in length.
0.30	ES2					
0.30	PID	<0.1ppm				
0.40	B3					
0.50	ES4					
0.50	PID	<0.1ppm				
0.70	J5					
1.00	ES6					
1.00	PID	<0.1ppm				
1.20	J7					
1.40	B8					
1.50	PID	<0.1ppm				
1.70	J9					
2.00	ES10					
2.00	LB11					
2.00	PID	0.2ppm				
2.20	J12					
2.40	B13					
2.50	PID	<0.1ppm				
2.70	J14					
3.00	ES15					
3.00	PID	0.2ppm				
3.20	J16					
3.40	B17					
3.50	PID	<0.1ppm				
3.70	J18					
4.00	ES19					
4.00	LB20					
4.00	PID	<0.1ppm				
4.20	J21					
4.40	B22					
4.50	PID	<0.1ppm				
			Water	2.14	(1.10)	Complete at 4.50m BGL.



GROUNDWATER
 Seepage at 4.47m and 4.50m BGL - slow inflow. Water level on completion at 4.48m BGL. Engineer notes water is murky.

STABILITY
 Pit sides and base unstable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M. Bell	Contract No. 4339
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Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\TP01
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457180.039 N:525540.369		
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 6.638	Start Date: 16/06/2021	Sheet: 2 of 3

Figure MS\TP01.1
MS\TP01



Figure MS\TP01.2
MS\TP01





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Regional Office: Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL

Tel: 0191 387 4700 Fax: 0191 387 4710
Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457180.039 N:525540.369		MSITP01
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 6.638	Start Date: 16/06/2021	Sheet: 3 of 3

Figure MSITP01.3
MSITP01 Spoil



Figure MSITP01.4
MSITP01 Spoil





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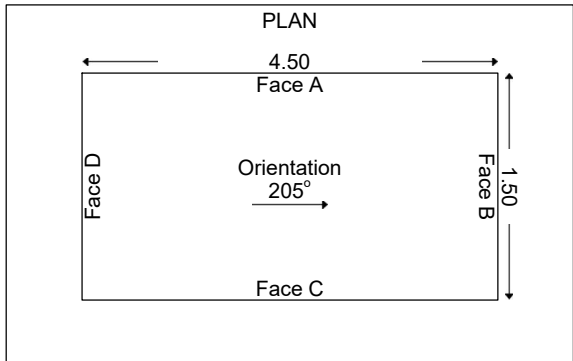
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 Regional Office: Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MSITP03	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457331.165 N:525558.341	
Method (Equipment): Machine Excavated (Komatsu 210)		Ground Level (m): 5.076	Start Date: 14/06/2021
		Sheet: 1 of 3	

SAMPLES & TESTS			STRATA			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Description
0.20	J1		↓	4.98	[Cross-hatched pattern]	0.10 MADE GROUND (Grey very sandy gravel with occasional rootlets. Sand is fine to coarse and includes crushed slag. Gravel is fine to medium subangular and includes vesicular slag (100%)).
0.30	ES2					
0.30	PID	0.2ppm				
0.40	B3					
0.50	ES4					
0.50	PID	<0.1ppm				
0.70	J5					
1.00	ES6					
1.00	PID	0.5ppm				
1.20	J7					
1.40	B8					
1.50	PID	0.2ppm				
1.70	J9					
2.00	ES10			2.58		2.50
2.00	PID	0.5ppm				
2.10	LB11					
2.20	J12					
2.40	B13					



GROUNDWATER
 Saturated strata at 2.35m BGL - moderate inflow.

STABILITY
 Pit sides and base moderately stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4339
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TRIAL PIT RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MSITP03	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457331.165 N:525558.341		Sheet: 2 of 3
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 5.076	Start Date: 14/06/2021	

Figure MSITP03.1
MSITP03



Figure MSITP03.2
MSITP03





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TRIAL PIT RECORD

Status:-

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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MSITP03	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457331.165 N:525558.341		Sheet: 3 of 3
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 5.076	Start Date: 14/06/2021	

**Figure MSITP03.3
MSITP03 Spoil**





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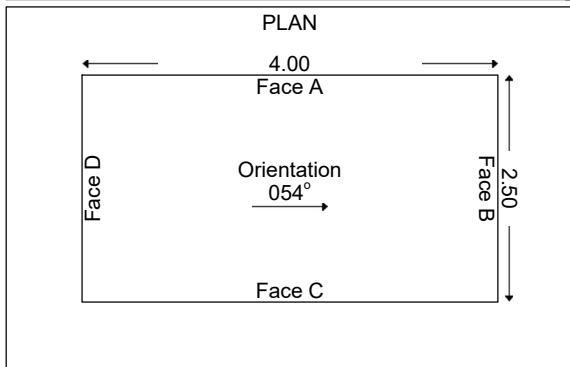
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TRIAL PIT RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MSITP04	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457237.761 N:525366.515	
Method (Equipment): Machine Excavated (Komatsu 210)		Ground Level (m): 8.831	Start Date: 14/06/2021 Sheet: 1 of 3

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description		
0.20	J1		Water	8.73	[Cross-hatch pattern]	0.10	MADE GROUND (Grey very sandy gravel with occasional rootlets. Sand is fine to coarse and includes crushed slag. Gravel is fine to medium subangular and includes slag. Slag is vesicular (100%)).		
0.30	ES2								
0.40	B3								
0.50	ES4								
0.50	PID	0.5ppm							
0.70	J5								
1.00	ES6								
1.00	PID	0.5ppm							
1.20	J7								
1.40	B8								
1.50	PID	0.4ppm							
1.70	J9								
2.00	ES10								
2.00	PID	<0.1ppm						(4.40)	between c.1.70-2.50m BGL ... slight sulphurous odour. between c.1.70-2.50m BGL ... fused slag. (Engineer notes ripper tooth used to progress).
2.20	J11								
2.40	B12								
2.50	LB13								between c.2.50-4.50m BGL ... occasionally slightly saturated.
2.50	PID	0.1ppm							
2.70	J14								
3.00	ES15								
3.00	PID	0.3ppm							
3.20	J16								
3.40	B17								
3.70	J18A								
4.00	ES18						between c.4.10-4.40m BGL ... very sandy.		
4.00	LB19								
4.00	PID	0.3ppm							
4.20	J20								
4.40	B21			4.33		4.50			
4.40	PID	0.2ppm					Complete at 4.50m BGL.		



GROUNDWATER
 No groundwater inflow observed.

STABILITY
 Pit sides and base moderately stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D.P/M.B	Contract No. 4339
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TRIAL PIT RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MSITP04
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457237.761 N:525366.515		
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 8.831	Start Date: 14/06/2021	Sheet: 2 of 3

Figure MSITP04.1
MSITP04



Figure MSITP04.2
MSITP04





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TRIAL PIT RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MSITP04
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457237.761 N:525366.515		
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 8.831	Start Date: 14/06/2021	Sheet: 3 of 3

**Figure MSITP04.3
MSITP04 Spoil**





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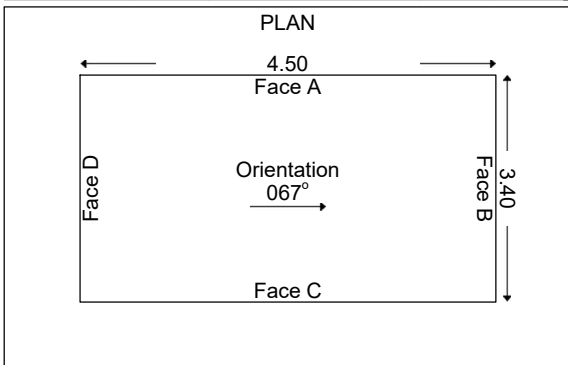
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TRIAL PIT RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MSITP05	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457024.962 N:525378.428	
Method (Equipment): Machine Excavated (Komatsu 210)		Ground Level (m): 7.165	Start Date: 17/06/2021 Sheet: 1 of 3

SAMPLES & TESTS			STRATA			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Description
0.20	J1					MADE GROUND (Grey brown orange clayey very sandy gravel with high cobble and low boulder content with occasional pockets of black silty sand (ash). Gravel is fine to coarse angular to rounded and includes slag, concrete, clinker and brick. Slag is vesicular (50-75%). Cobbles are angular to subangular and include slag, concrete and brick. Boulders are subangular to subrounded and include slag and concrete).
0.30	ES2					
0.30	PID	0.3ppm				
0.40	B3					
0.50	ES4					
0.50	PID	0.4ppm				
0.70	J5					
1.00	ES6					
1.00	LB7					
1.00	PID	0.6ppm				
1.20	J8					
1.40	B9					
1.50	PID	0.4ppm				
1.70	J10					
2.00	ES11					
2.00	PID	7.2ppm				
2.20	J12					
2.40	B13					
2.50	PID	0.1ppm				
2.70	J14					
3.00	ES15		4.57	2.60	MADE GROUND (Red orange brown very sandy gravel with low cobble content. Gravel is fine to coarse angular to subangular and include slag. Cobbles are subangular and include slag. Slag is vesicular (100%).	
3.00	PID	<0.1ppm	3.87	3.30		
3.20	J16				MADE GROUND (Black silty sandy gravel with high cobble content. Gravel is fine to coarse angular to subangular and includes clinker and slag. Cobbles are angular to subangular and include slag. Slag is vesicular (50-75%).	
3.40	B17					
3.50	PID	0.1ppm				
3.70	J18					
4.00	ES19				Complete at 4.30m BGL.	
4.00	LB20		2.87	4.30		
4.00	PID	0.1ppm				
4.20	J21					



GROUNDWATER
 Seepage at 4.20m and 4.30m - moderate inflow.

STABILITY
 Pit sides and base moderately stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M. Bell	Contract No. 4339
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TRIAL PIT RECORD

Status:-

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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457024.962 N:525378.428		MSITP05
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.165	Start Date: 17/06/2021	Sheet: 2 of 3

Figure MSITP05.1
MSITP05



Figure MSITP05.2
MSITP05





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Status:-

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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457024.962 N:525378.428		MSITP05
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.165	Start Date: 17/06/2021	Sheet: 3 of 3

**Figure MSITP05.3
MSITP05 Reinstatement**





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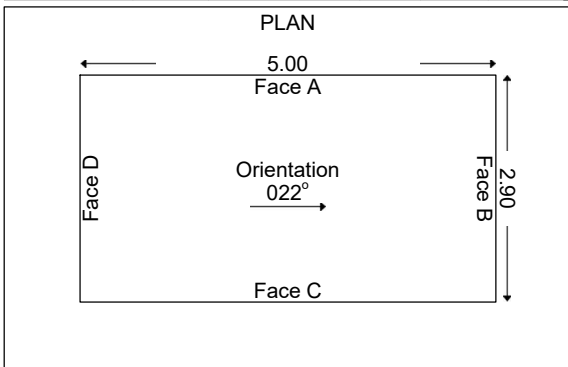
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TRIAL PIT RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MSITP06	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457098.335 N:525335.771	
Method (Equipment): Machine Excavated (Komatsu 210)		Ground Level (m): 7.271	Start Date: 15/06/2021 Sheet: 1 of 3

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description
0.20	J1					0.80	MADE GROUND (Black orange grey sandy gravel with high cobble and low boulder content and frequent fragments of metal, rubber and glass. Gravel is fine to coarse angular to subrounded and includes brick, concrete and clinker. Cobbles are angular to subangular and include concrete and slag. Boulders are angular to subangular and include concrete and slag. Slag is vesicular (50-75%). between c.0.50-3.00m BGL ... historic structure potentially furnace/ladle. Metal boulders are part of historic structure.
0.30	ES2	<0.1ppm				0.80	
0.30	PID						
0.40	B3						
0.50	ES4	<0.1ppm			6.47		
0.50	PID						
0.70	J5						
1.20	ES6	<0.1ppm					
1.20	PID						
1.50	J7	<0.1ppm					
1.50	PID						
3.10	EW8			4.47		2.80	MADE GROUND (Brown black silty sand and gravel. Gravel is fine to coarse angular to subangular and includes clinker and steel slag. Slag is vesicular (50-75%). <i>Terminated at 3.20m BGL - due to underground structure and water ingress.</i>
3.20	ES9						
3.20	J10						
3.20	PID	501.0ppm		4.07		3.20	



GROUNDWATER
 Saturated strata at 3.00m BGL - heavy inflow. Water level on completion at 3.10m BGL. Between 3.00-3.20m BGL engineer notes water has brown iridescent appearance with moderate hydrocarbon odour.

STABILITY
 Pit sides and base unstable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS
 (1) Re-excavated as MSITP06A.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M. Bell	Contract No. 4339
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TRIAL PIT RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\TP06
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457098.335 N:525335.771		
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.271	Start Date: 15/06/2021	Sheet: 2 of 3

Figure MS\TP06.1
MS\TP06



Figure MS\TP06.2
MS\TP06





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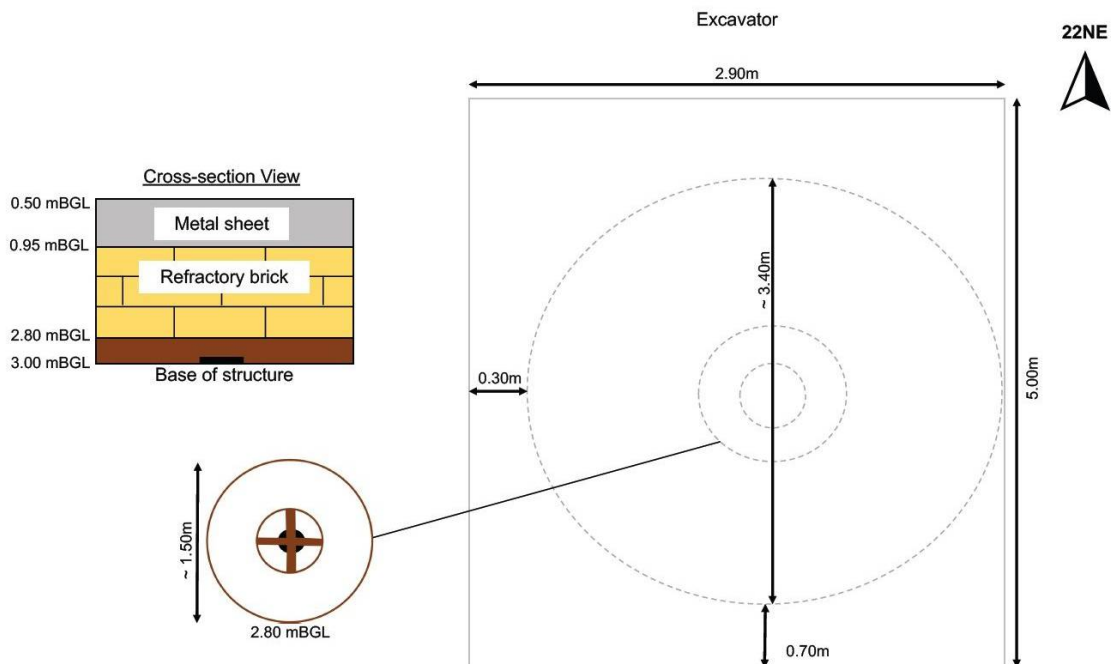
Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No.
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457098.335 N:525335.771		MSITP06
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.271	Start Date: 15/06/2021	Sheet: 3 of 3

Figure MSITP06.3
MSITP06 Spoil



Figure MSITP06.4
Sketch for MSITP06





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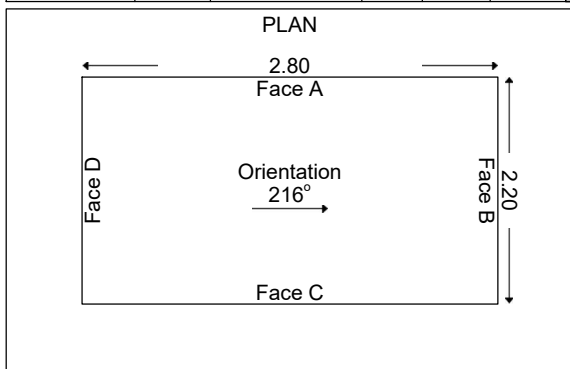
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TRIAL PIT RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS\TP06A	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457100.653 N:525332.176	
Method (Equipment): Machine Excavated (Komatsu 210)		Ground Level (m): 7.321	Start Date: 18/06/2021
		Sheet: 1 of 4	

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description
				6.62		0.70	MADE GROUND (Black brown grey very gravelly sand with high cobble content and frequent fragments of metal. Gravel is fine to coarse angular to subrounded and includes brick, concrete and clinker. Cobbles are angular to subangular and include concrete and slag. Boulders include cemented refractory brick. Slag is vesicular (50-75%)). at c.0.70m BGL ... metal pipe. Surrounded by cobbles of metallic black rock with iridescent sheen. Possible solidified tar used to insulate pipe. <i>Terminated at 0.70m BGL - due to encountering pipe.</i>



GROUNDWATER
 No groundwater inflow observed.

STABILITY
 Pit sides and base unstable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS
 (1) Excavated to locate base of reinforced concrete block - terminated due to encountering pipe.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M. Bell	Contract No. 4339
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TRIAL PIT RECORD

Status:-

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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\TP06A
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457100.653 N:525332.176		
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.321	Start Date: 18/06/2021	Sheet: 2 of 4

Figure MS\TP06A.1
MS\TP06A



Figure MS\TP06A.2
MS\TP06A





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TRIAL PIT RECORD

Status:-

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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457100.653 N:525332.176		MS\TP06A
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.321	Start Date: 18/06/2021	Sheet: 3 of 4

Figure MS\TP06A.3
MS\TP06A Pipe



Figure MS\TP06A.4
MS\TP06A Reinstatement





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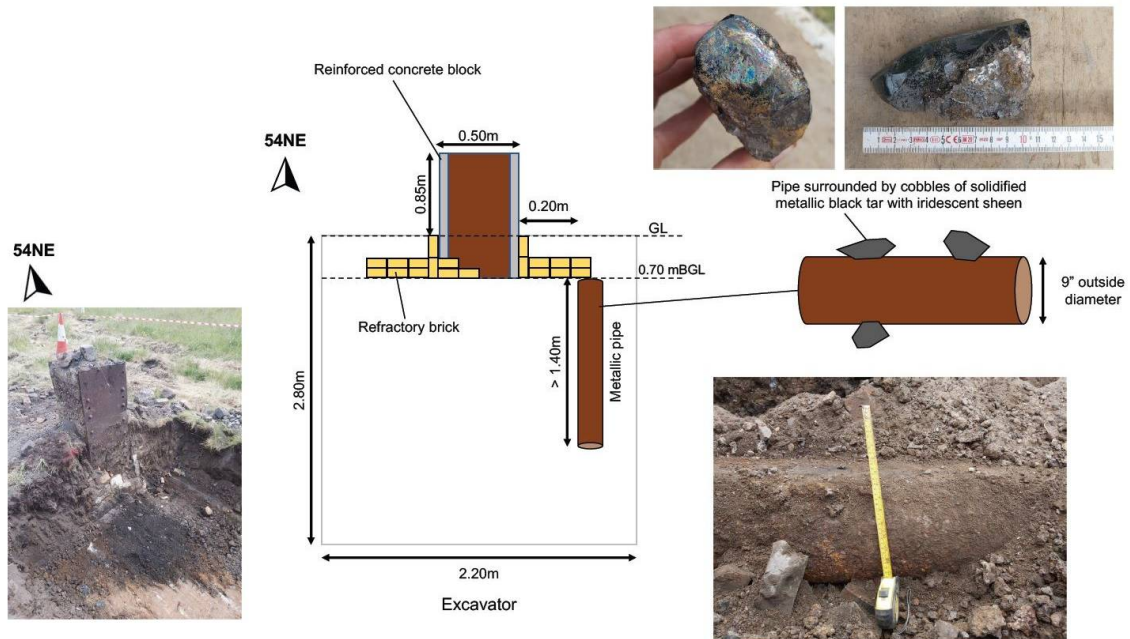
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TRIAL PIT RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS\TP06A	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457100.653 N:525332.176		
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.321	Start Date: 18/06/2021	Sheet: 4 of 4

Figure MS\TP06A.5
Sketch for MS\TP06A





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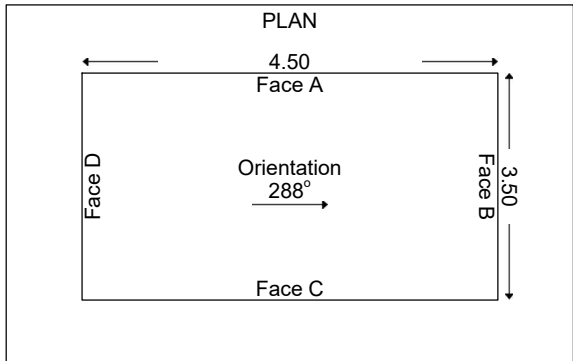
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TRIAL PIT RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MSITP07	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457070.874 N:525239.023		
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.349	Start Date: 17/06/2021	Sheet: 1 of 5

SAMPLES & TESTS			STRATA					
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
0.20	J1				[Cross-hatched pattern]		<p>MADE GROUND (Brown grey clayey sandy gravel with high cobble and low boulder content. Gravel is fine to coarse angular to subangular and includes concrete, brick, clinker, slag and sandstone. Cobbles are angular to subangular and include brick and slag. Boulders are subrounded and include concrete. Slag is vesicular (25-50%). between c.0.00-1.80m BGL ... occasional pockets of black silty sandy ash at northwest corner of pit. between c.0.40-4.00m BGL ... stepped concrete footing from Face C. between c.0.60-1.20m BGL ... black grey.</p> <p>MADE GROUND (Black brown orange very gravelly sand with high cobble content. Gravel is fine to coarse angular to subrounded and includes slag, concrete, clinker and brick. Cobbles are angular to subrounded and include slag and brick. Slag is vesicular (50-75%). between c.1.20-1.40m BGL ... many whole yellow refractory bricks at east corner. Layer of concrete in Face A. at c.1.40m BGL ... metal sheet (2.10x0.30m).</p> <p>MADE GROUND (Orange grey white slightly sandy gravel with high cobble and low boulder content. Gravel is fine to coarse angular to subangular and includes slag. Cobbles are subangular to angular and include slag. Boulders are subangular and include slag. Slag is glassy and vesicular (100%). between c.2.70-3.50m BGL ... sand and gravel. between c.3.50-4.00m BGL ... gravelly sand.</p> <p>at c.4.00m BGL - engineer notes base of the pit was too hard to excavate - possible extension of the concrete step structure. <i>Terminated at 4.00m BGL - unable to progress.</i></p>	
0.30	ES2							(1.20)
0.30	PID	<0.1ppm						
0.40	B3							
0.50	ES4							
0.50	PID	<0.1ppm						
0.70	J5							
1.00	ES6			6.15				1.20
1.00	PID	<0.1ppm						
1.20	J7							
1.40	ES8							(0.80)
1.50	PID	1.1ppm						
1.70	J9							
2.00	ES10			5.35				2.00
2.00	LB11							
2.00	PID	<0.1ppm						
2.20	J12							
2.40	B13							
2.50	PID	<0.1ppm						
2.70	J14							
3.00	ES15					(2.00)		
3.00	PID	<0.1ppm						
3.20	J16							
3.40	B17							
3.50	PID	<0.1ppm						
3.70	J18							
4.00	ES19			3.35		4.00		
4.00	LB20							
4.00	PID	<0.1ppm						



GROUNDWATER
 No groundwater inflow observed.

STABILITY
 Pit sides and base moderately stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M. Bell	Contract No. 4339
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TRIAL PIT RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MSITP07
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457070.874 N:525239.023		
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.349	Start Date: 17/06/2021	Sheet: 2 of 5

Figure MSITP07.1
MSITP07 Reinstatement



Figure MSITP07.2
MSITP07





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TRIAL PIT RECORD

Status:-

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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MSITP07	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457070.874 N:525239.023		Sheet: 3 of 5
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.349	Start Date: 17/06/2021	

**Figure MSITP07.3
MSITP07**



**Figure MSITP07.4
MSITP07 Spoil**





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TRIAL PIT RECORD

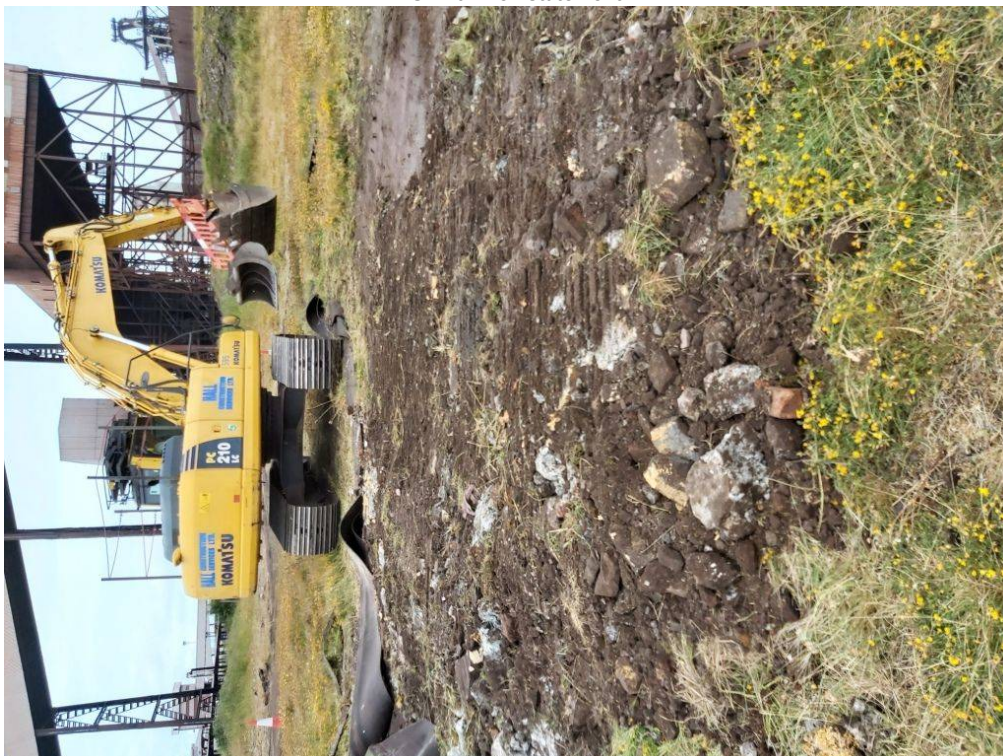
Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457070.874 N:525239.023		MSITP07
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.349	Start Date: 17/06/2021	Sheet: 4 of 5

Figure MSITP07.5
MSITP07 Spoil



Figure MSITP07.6
MSITP07 Reinstatement



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TRIAL PIT RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS1TP07
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457070.874 N:525239.023		
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.349	Start Date: 17/06/2021	Sheet: 5 of 5

Figure MS1TP07.7
 Sketch for MS1TP07





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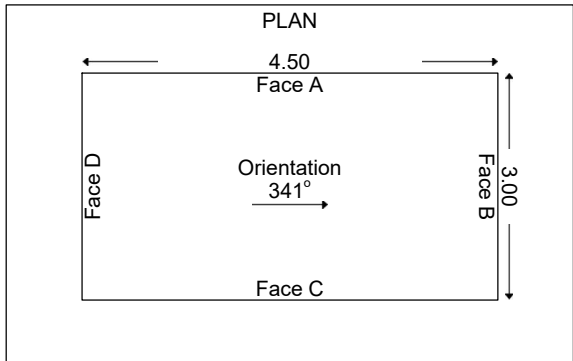
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TRIAL PIT RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MSITP09
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457016.816 N:525040.622	
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.430	Start Date: 16/06/2021 Sheet: 1 of 3

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description
0.20	J1		Water	6.53		(0.90)	MADE GROUND (Grey very sandy gravel with high cobble and low boulder content. Gravel is fine to coarse angular to subangular and includes slag. Cobbles are angular to subangular and include slag. Boulders are subangular to subrounded and include slag. Slag is vesicular (100%).
0.30	ES2						
0.30	PID	<0.1ppm					
0.40	B3						
0.50	ES4						
0.50	PID	<0.1ppm					
0.70	J5						
1.00	ES6						
1.00	LB7						
1.00	PID	10.3ppm					
1.20	J8						
1.40	B9						
1.50	PID	<0.1ppm					
1.70	J10						
2.00	ES11						
2.00	PID	0.9ppm					
2.20	J12						
2.40	B13						
2.50	PID	<0.1ppm					
2.70	J14						
3.00	ES15		Water	3.73		3.70	MADE GROUND (Dark grey sandy gravel with high cobble content. Gravel is fine to coarse angular to subangular and includes slag and limestone. Cobbles are angular to subangular and include slag and limestone. Slag is vesicular (50-75%)). between c.0.90-1.30m BGL ... mild sulphurous odour noted.
3.00	PID	0.3ppm					
3.20	J16						
3.40	B17						
3.50	PID	<0.1ppm					
3.70	J18						
4.00	ES19		Water	2.93		(0.80)	MADE GROUND (Grey brown slightly clayey very sandy gravel with low to medium cobble content. Gravel is fine to coarse angular to subangular and includes slag. Slag is vesicular (100%).
4.00	LB20						
4.00	PID	0.5ppm					
4.20	J21						
4.40	B22						
4.40	PID	<0.1ppm					
4.50							Complete at 4.50m BGL.



GROUNDWATER
Seepage at 3.68m and 3.70m BGL - slow inflow.

STABILITY
Pit sides and base moderately stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M. Bell	Contract No. 4339
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TRIAL PIT RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457016.816 N:525040.622		MSITP09
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.430	Start Date: 16/06/2021	Sheet: 2 of 3

Figure MSITP09.1
MSITP09



Figure MSITP09.2
MSITP09





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TRIAL PIT RECORD

Status:-

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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MSITP09	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457016.816 N:525040.622		Sheet: 3 of 3
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 7.430	Start Date: 16/06/2021	

Figure MSITP09.3
MSITP09 Spoil



Figure MSITP09.4
MSITP09 Spoil





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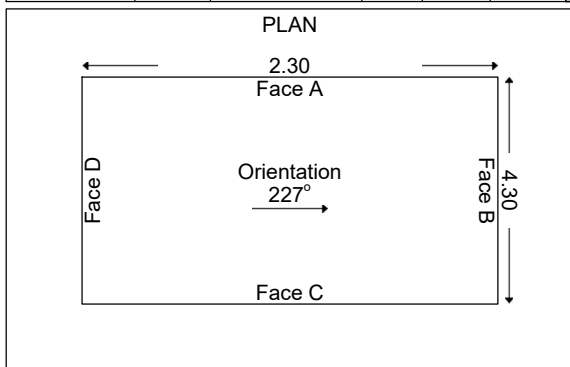
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TRIAL PIT RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MSITP10	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457128.459 N:524892.473	
Method (Equipment): Machine Excavated (Komatsu 210)		Ground Level (m): 8.134	Start Date: 21/06/2021 Sheet: 1 of 3

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description
0.20	J1			7.98	[Cross-hatched pattern]	0.15	MADE GROUND (Grass over brown slightly sandy clayey topsoil with many rootlets).
0.30	ES2			7.63	[Cross-hatched pattern]	0.50	MADE GROUND (Soft brown slightly sandy slightly gravelly clay with low cobble content and occasional fragments of plastic. Gravel is fine to coarse angular to rounded and includes sandstone, mudstone, brick and concrete. Cobbles are angular and include brick). at c.0.20m BGL ... clay is of high plasticity. at c.0.40m BGL ... slightly sandy clay of high plasticity. Metallic cobble with iridescent sheen recovered. MADE GROUND (Purple sand and gravel with high cobble and low boulder content. Gravel is fine to coarse angular to subangular and includes coke and slag. Cobbles are angular to subangular and include brick and concrete. Boulders are subangular to subrounded and include concrete). at c.0.55-0.60m BGL ... recovered concrete is reinforced. at c.0.60m BGL ... made ground (concrete base). <i>Terminated at 0.60m BGL - due to concrete obstruction.</i>
0.30	PID	<0.1ppm		7.53	[Cross-hatched pattern]	0.60	
0.40	LB3						
0.50	ES4						
0.50	LB5						
0.50	PID	<0.1ppm					



GROUNDWATER
 No groundwater inflow observed.

STABILITY
 Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M. Bell	Contract No. 4339
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TRIAL PIT RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457128.459 N:524892.473		MSITP10
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 8.134	Start Date: 21/06/2021	Sheet: 2 of 3

Figure MSITP10.1
MSITP10



Figure MSITP10.2
MSITP10





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TRIAL PIT RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MSITP10
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457128.459 N:524892.473		
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 8.134	Start Date: 21/06/2021	Sheet: 3 of 3

**Figure MSITP10.3
MSITP10 Reinstatement**





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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LFBH01	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457474.053 N:525776.345	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.277	Start Date: 22/06/2021
		Sheet: 1 of 3	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
0.30	ES1 ^(SL1)				[Cross-hatched pattern]	1.20	MADE GROUND (Grey clayey/silty sandy gravel and cobbles. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes occasionally orange stained slag. Cobbles are angular to subangular include grey slag. Slag is vesicular (100%)).	[Diagonal hatching]
0.30-1.20	SL1 ^(SS)							
0.30-1.20	B8 ^(SL1)							
0.30	PID	<0.1ppm						
0.50	ES2 ^(SL1)							
0.50	PID	<0.1ppm						
1.00	ES3 ^(SL1)							
1.00	J7 ^(SL1)							
1.00	PID	0.1ppm						
1.20-2.70	SL2 ^(SS)							
1.20-2.10	B10 ^(SL2)							
1.20	S	N20						
1.50	J9 ^(SL2)							
1.50	PID	<0.1ppm						
2.00	ES4 ^(SL2)							
2.00	PID	<0.1ppm						
2.10-2.70	B12 ^(SL2)							
2.50	J11 ^(SL2)							
2.50	PID	<0.1ppm						
2.70-4.20	SL3 ^(SS)							
2.70	S	50/70mm						
3.00	PID	<0.1ppm						
3.40	J13 ^(SL3)							
3.40-3.65	B14 ^(SL3)							
3.50	PID	<0.1ppm						
3.65-4.70	B16 ^(SL3)							
4.00	ES6 ^(SL3)							
4.00	J15 ^(SL3)							
4.00	PID	<0.1ppm						
4.20-5.70	SL4 ^(SS)							
4.20	S	N31						
4.50	J17 ^(SL4)							
5.00	PID	<0.1ppm						
5.70-7.20	SL5 ^(SS)							
5.70-6.45	B18 ^(SL5)							
5.70	S	50/180mm						
6.00	J19 ^(SL5)							
6.00	PID	<0.1ppm						
6.45-7.20	B21 ^(SL5)							
6.50	J20 ^(SL5)							
7.00	J22 ^(SL5)							
7.00	PID	<0.1ppm						
7.20-8.70	SL6 ^(SS)							
7.20-7.95	B23 ^(SL6)							
7.20	S	3/325mm						
7.50	J24 ^(SL6)							

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
22/06/2021	0.00	0.00	178		0.30 - 1.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 5.10-8.10m (diver installed to 8.00m BGL) and 35.00-38.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.75-15.60m BGL prior to commencing rotary drilling.
					1.20 - 2.70	178	100	Yes	
					2.70 - 4.20	178	100	Yes	
					4.20 - 5.70	178	100	Yes	
					5.70 - 7.20	178	100	Yes	
					7.20 - 8.70	178	100	Yes	

All dimensions in metres Scale 1:50.00
 For explanation of symbols and abbreviations see Key Sheets
 Checked by: *K.W.*
 Logged by: R. Clarke
 Contract No. **4339**



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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LF1BH01	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457474.053 N:525776.345	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.277	Start Date: 22/06/2021
		Sheet: 2 of 3	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
7.95-8.70 8.00 8.00	B25 _(SL6) J26 _(SL6) PID	<0.1ppm				(2.10)	Very loose yellow brown SAND with occasional fragments of bivalve shell. Sand is coarse. (Tidal Flat Deposits). <i>(continued)</i>	
8.50 8.70-10.20 8.70-9.30 8.70 9.00 9.00	J27 _(SL6) SL7 _(SS) B28 _(SL7) S J29 _(SL7) PID	N6 <0.1ppm		-2.02		9.30	at c.8.70m BGL ... slightly silty. at c.9.00m BGL ... loose.	
9.50-10.20 9.50	B30 _(SL7) J31 _(SL7)					(7.90)	Yellow brown occasionally multicolored slightly gravelly SAND with frequent fragments of shell and bivalve shell. Sand is fine to coarse and includes shell. Gravel is fine to coarse angular to rounded and includes mudstone and sandstone. (Tidal Flat Deposits).	
10.00 10.00 10.20-11.70 10.20-11.70 10.20 10.50	J32 _(SL7) PID SL8 _(SS) B33 _(SL8) S J34 _(SL8)	<0.1ppm N14 <0.1ppm		-2.92		10.20	Medium dense yellow brown slightly silty slightly gravelly SAND with frequent fragments of bivalve shell. Sand is coarse and includes shell. Gravel is fine to coarse subrounded to rounded and includes sandstone and mudstone. (Tidal Flat Deposits).	
11.00 11.00	J35 _(SL8) PID	<0.1ppm					at c.10.80m BGL ... 1 No. cobble of grey fossiliferous limestone (90mm). Fossils are white subangular circular (approximately 10mm diameter).	
11.70-13.20 11.70-12.45 11.70 12.00 12.00	SL9 _(SS) B36 _(SL9) S J37 _(SL9) PID	N3 <0.1ppm					at c.11.70m BGL ... very loose.	
12.45-13.20 12.50	B38 _(SL9) J39 _(SL9)							
13.00 13.00 13.20-14.70 13.20-13.95 13.20 13.50	J40 _(SL9) PID SL10 _(SS) B41 _(SL10) S J42 _(SL10)	<0.1ppm N24 <0.1ppm				(5.90)		
13.95-14.70 14.00 14.00	B43 _(SL10) J44 _(SL10) PID	<0.1ppm						
14.50 14.70-16.20 14.70-15.45 14.70 15.00 15.00	J45 _(SL10) SL11 _(SS) B46 _(SL11) S J47 _(SL11) PID	N17 <0.1ppm						
15.45-16.20 15.50	B48 _(SL11) J49 _(SL11)							

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
22/06/2021	8.70	8.70	178		8.70 - 10.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 5.10-8.10m (diver installed to 8.00m BGL) and 35.00-38.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.75-15.60m BGL prior to commencing rotary drilling.
23/06/2021	8.70	8.70	178	6.30	10.20 - 11.70	178	100	Yes	
					11.70 - 13.20	178	100	Yes	
					13.20 - 14.70	178	100	Yes	
					14.70 - 16.20	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: R. Clarke	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LF1BH01	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457474.053 N:525776.345	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.277	Start Date: 22/06/2021
		Sheet: 3 of 3	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
16.00	J50 _(SL11)	<0.1ppm		8.82		16.10	(1) CLAY. Boring complete at 16.20m BGL - continued by rotary drilling.	
16.00	PID			8.92		16.20		

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
23/06/2021	16.20	16.20	178	9.40					(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 5.10-8.10m (diver installed to 8.00m BGL) and 35.00-38.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.75-15.60m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: R. Clarke	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LF1BH01	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457474.053 N:525776.345		Sheet: 1 of 18
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.277	Start Date: 22/06/2021	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
		RO		-8.92		16.20	16.20-16.75m ... rotary openhole drilling.	(1) CLAY.	
16.75	68	SOIL		-9.47		16.75	16.75-28.65m ... soil. 16.75m ... J51 16.75m ... B52	Soft to firm thinly laminated dark brown sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subangular and includes sandstone, mudstone, limestone and coal. (Tidal Flat/Glacial Deposits).	
17.60	93					17.50m ... J53 17.50m ... U54		17.60m ... medium strength. Clay is of high plasticity.	
19.10	100			-11.82		19.10	19.20m ... J55 19.20m ... B56	Stiff dark red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subangular and includes sandstone, mudstone, coal and limestone. (Glacial Till).	
						20.00m ... J57 20.00m ... B58			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
24/06/2021	16.20	16.20	4.06	19.10	S	N33	16.75 - 17.60 17.60 - 19.10 19.10 - 20.60	Water Water Water	100 100 100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 5.10-8.10m (diver installed to 8.00m BGL) and 35.00-38.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.75-15.60m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: R. Clarke	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LF1BH01	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457474.053 N:525776.345	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.277	Start Date: 22/06/2021
		Sheet: 2 of 18	

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
20.60	100					20.60m ... B60 20.70m ... U59	Stiff dark red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subangular and includes sandstone, mudstone, coal and limestone. (Glacial Till). (continued)		
22.10	100					21.20m ... J61 21.20m ... B62	20.75m ... very high strength. Clay is of intermediate plasticity.		
23.60	100					22.60m ... B64 22.70m ... U63	22.70m ... clay is of intermediate plasticity.		
						23.20m ... B66 23.30m ... J65			
						23.60m ... B68 23.70m ... J67			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
				22.10	S	N21	20.60 - 22.10	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 5.10-8.10m (diver installed to 8.00m BGL) and 35.00-38.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.75-15.60m BGL prior to commencing rotary drilling.
							22.10 - 23.60	Water	100	
							23.60 - 25.10	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: R. Clarke	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LF1BH01	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457474.053 N:525776.345	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.277	Start Date: 22/06/2021
		Sheet: 3 of 18	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
25.10	93			-17.22		24.20m ... B70	Stiff thinly laminated dark brown sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subangular and includes siltstone, mudstone, coal and limestone. (Glacial Deposits).		
						24.30m ... J69			
26.60	70			-18.52		25.10m ... B72	25.20m ... clay is of intermediate plasticity.		
						25.20m ... J71			
28.10	100					26.00m ... J73	Stiff dark red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular and includes coal, limestone, mudstone and sandstone. (Glacial Till).		
						26.00m ... U74			
						26.60m ... B76	26.60m ... high strength. Clay is of intermediate plasticity.		
						26.70m ... J75			
						27.20m ... J77			
						27.20m ... B78			
						28.10m ... ES79			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
24/06/2021	25.10	25.10	0.00	25.10	S	N11	25.10 - 26.60	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 5.10-8.10m (diver installed to 8.00m BGL) and 35.00-38.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.75-15.60m BGL prior to commencing rotary drilling.
25/06/2021	25.10	25.10	3.11	28.10	C	50/41mm	26.60 - 28.10	Water	100	
							28.10 - 29.60	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: R. Clarke	Contract No. 4339
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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.277	Start Date: 22/06/2021
		Sheet: 4 of 18	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
29.60	(41) 21	6		-21.37		28.10m ... ES(M)82 28.20m ... J80	28.20m ... clay is of low plasticity.		
	NI					(0.30)	28.65m ... ES81 28.65-28.95m ... non-intact.	Very weak black brown MUDSTONE residual. (Recovered as clayey sand and gravel. Gravel is subangular to angular and includes mudstone). (Redcar Mudstone Formation).	
						-21.67	28.95	28.95-32.60m ... subhorizontal (5-25 degrees) closely spaced planar to undulating smooth open and tight infilled (clay) discontinuities.	Weak thinly laminated brown and black MUDSTONE partially weathered with occasional fossilised remains (2-40mm in size). (Redcar Mudstone Formation).
31.10	100 (100) 65					(3.65)			
	100 (87) 56								

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
							29.60 - 31.10	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 5.10-8.10m (diver installed to 8.00m BGL) and 35.00-38.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.75-15.60m BGL prior to commencing rotary drilling.
							31.10 - 32.60	Water	100	

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DRILLHOLE RECORD

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Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457474.053 N:525776.345	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.277	Start Date: 22/06/2021
		Sheet: 5 of 18	

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
32.60				-25.32		32.60	Weak thinly laminated brown and black MUDSTONE partially weathered with occasional fossilised remains (2-40mm in size). (Redcar Mudstone Formation). <i>(continued)</i>		
32.80 (102mm)	100 (100) 0	15				32.80-32.80m ... subhorizontal (5-25 degrees) very closely spaced smooth planar open infilled (clay) discontinuities.	Weak thinly laminated grey brown MUDSTONE partially weathered. (Redcar Mudstone Formation).		
33.80 (102mm)	30 (30) 12	16				32.80-33.10m ... subhorizontal (5-25 degrees) very closely spaced smooth planar open and tight infilled (clay) discontinuities.			
		NR				33.10-34.00m ... no recovery.			
35.30 (102mm)	87 (87) 45	12				34.00-36.80m ... subhorizontal to subvertical (5-85 degrees) closely spaced planar to undulating smooth open and tight infilled (clay) discontinuities.	34.40m ... moderately weak.		
	97 (97) 62					(6.00)			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
25/06/2021	32.60	32.60	0.00				32.60 - 32.80	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 5.10-8.10m (diver installed to 8.00m BGL) and 35.00-38.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.75-15.60m BGL prior to commencing rotary drilling.
30/06/2021	32.60	32.60	0.00				32.80 - 33.80	Water	100	
							33.80 - 35.30	Water	100	
							35.30 - 36.80	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: R. Clarke	Contract No. 4339
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DRILLHOLE RECORD

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Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457474.053 N:525776.345		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.277	Start Date: 22/06/2021	Sheet: 6 of 18

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
36.80	93 (68) 51	NR 12					36.80-36.87m ... no recovery. 36.87-38.30m ... subhorizontal to subvertical (5-85 degrees) closely spaced planar to undulating smooth open and tight infilled (clay) discontinuities.	Weak thinly laminated grey brown MUDSTONE partially weathered. (Redcar Mudstone Formation). (continued)	
(102mm)									
38.30	100 (63) 63			-31.32		38.60		Complete at 38.60m BGL.	
(102mm)									

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
30/06/2021	36.80	36.80	0.00				36.50 - 38.30	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 5.10-8.10m (diver installed to 8.00m BGL) and 35.00-38.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.75-15.60m BGL prior to commencing rotary drilling.
01/07/2021	36.80	36.80	0.00				38.30 - 38.60	Water	100	
01/07/2021	38.60	38.60	0.00							

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: R. Clarke	Contract No. 4339
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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.277	Start Date: 22/06/2021	Sheet: 7 of 18

Figure LFBH01.1
LFBH01 0.30-1.20m BGL



Figure LFBH01.2
LFBH01 1.20-2.70m BGL





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Figure LFBH01.3
LFBH01 2.70-3.20m BGL



Figure LFBH01.4
LFBH01 3.20-4.70m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.277	Start Date: 22/06/2021	Sheet: 9 of 18

Figure LF1BH01.5
LF1BH01 5.70-7.20m BGL



Figure LF1BH01.6
LF1BH01 7.20-8.70m BGL





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DRILLHOLE RECORD

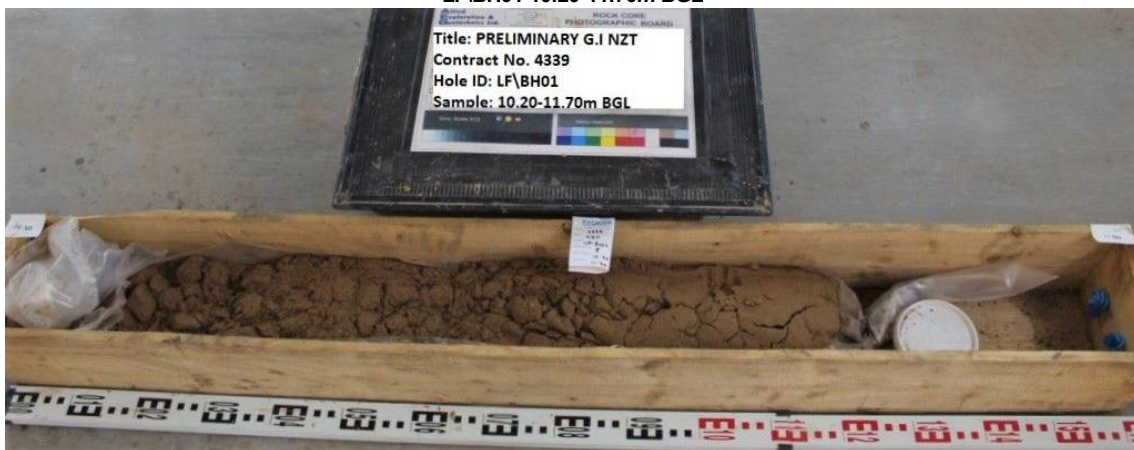
Status:-
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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457474.053 N:525776.345		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.277	Start Date: 22/06/2021	Sheet: 10 of 18

Figure LF\BH01.7
LF\BH01 8.70-10.20m BGL



Figure LF\BH01.8
LF\BH01 10.20-11.70m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.277	Start Date: 22/06/2021	Sheet: 11 of 18

Figure LF\BH01.9
LF\BH01 11.70-13.20m BGL



Figure LF\BH01.10
LF\BH01 13.20-14.70m BGL





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DRILLHOLE RECORD

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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.277	Start Date: 22/06/2021	Sheet: 12 of 18

Figure LF\BH01.11
LF\BH01 14.70-16.20m BGL



Figure LF\BH01.12
LF\BH01 16.75-19.10m BGL





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DRILLHOLE RECORD

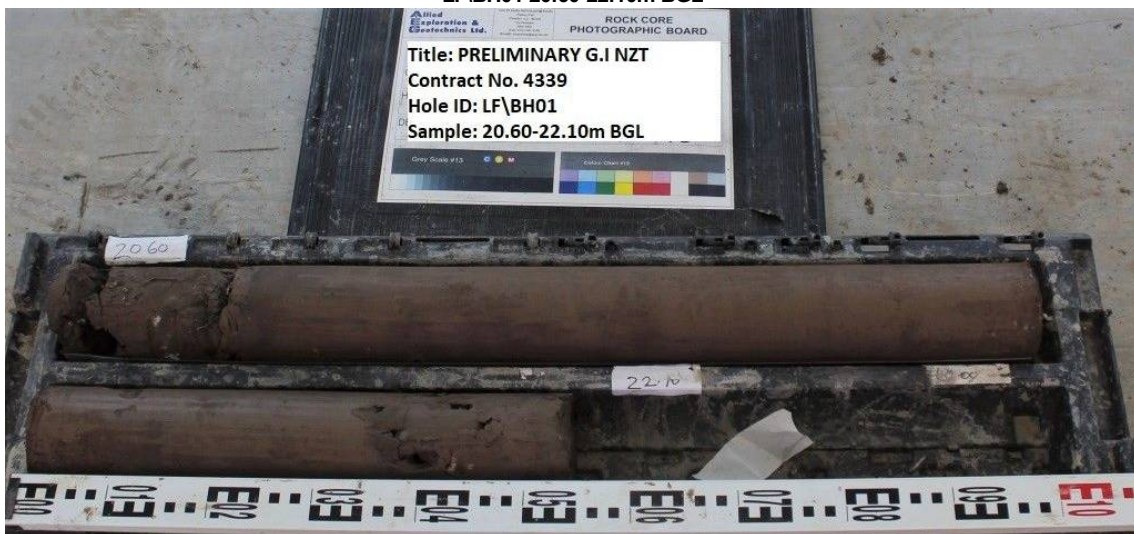
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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.277	Start Date: 22/06/2021	Sheet: 13 of 18

Figure LF\BH01.13
LF\BH01 19.10-20.60m BGL



Figure LF\BH01.14
LF\BH01 20.60-22.10m BGL





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Figure LF\BH01.15
LF\BH01 22.10-23.60m BGL



Figure LF\BH01.16
LF\BH01 23.60-25.10m BGL





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Figure LF\BH01.17
LF\BH01 25.10-26.60m BGL



Figure LF\BH01.18
LF\BH01 26.60-28.10m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.277	Start Date: 22/06/2021	Sheet: 16 of 18

Figure LF\BH01.19
LF\BH01 28.10-29.60m BGL



Figure LF\BH01.20
LF\BH01 29.60-31.10m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.277	Start Date: 22/06/2021	Sheet: 17 of 18

Figure LF\BH01.21
LF\BH01 31.10-32.60m BGL



Figure LF\BH01.22
LF\BH01 32.60-35.30m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.277	Start Date: 22/06/2021	Sheet: 18 of 18

Figure LF\BH01.23
LF\BH01 35.30-36.80m BGL



Figure LF\BH01.24
LF\BH01 36.80-38.60m BGL





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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LFBH02	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457520.508 N:525835.382	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 6.326	Start Date: 22/06/2021
		Sheet: 1 of 3	

SAMPLES & TESTS			STRATA				Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	
0.30	ES1			5.93		(0.40)	(1) MADE GROUND (Soil, slag fill).
0.30	PID	<0.1ppm				0.40	
0.40-0.85	B5 _(SL1)					(0.45)	MADE GROUND (Grey black slightly sandy gravel with high cobble content. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded grey slag and dark grey clinker. Cobbles are subangular and include grey slag. Slag is vesicular (50-75%). (Driller notes boulders).
0.42-1.20	SL1 _(SS)			5.48		0.85	
0.50	ES2 _(SL1)						MADE GROUND (Grey yellow brown slightly gravelly sand. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes grey slag. Slag is vesicular (100%).
0.50	J4 _(SL1)	<0.1ppm		5.13		1.20	
0.50	PID						MADE GROUND (Yellow brown sand. Sand is fine to medium). at c.1.20m BGL ... loose.
1.00	ES3 _(SL1)	<0.1ppm				(1.50)	
1.00	PID						MADE GROUND (Grey dark grey sandy gravel with high cobble content. Sand is fine to coarse. Gravel is fine to coarse angular to rounded and includes grey dark grey slag. Cobbles are grey dark grey subrounded to rounded and includes slag. Slag is vesicular (100%). at c.2.70m BGL ... very dense. between c.2.70-4.20m BGL ... mild to moderate hydrogen sulphide odour noted.
1.20-2.70	SL2 _(SS)	<0.1ppm				2.70	
1.20-1.95	B7 _(SL2)						Medium dense to dense yellow brown SAND with occasional fragments of shell (bivalve). Sand is fine to coarse. (Tidal Flat Deposits).
1.20	S	N6				(1.50)	
1.50	J8 _(SL2)	<0.1ppm					at c.7.20m BGL ... very dense.
1.50	PID						
1.95-2.70	B9 _(SL2)						at c.7.20m BGL ... very dense.
2.00	J10 _(SL2)	<0.1ppm				2.70	
2.00	PID						at c.7.20m BGL ... very dense.
2.50	J11 _(SL2)	<0.1ppm		3.63		2.70	
2.70-4.20	SL3 _(SS)						at c.7.20m BGL ... very dense.
2.70-4.20	B12 _(SL3)	50/150mm				(1.50)	
2.70	S	<0.1ppm					at c.7.20m BGL ... very dense.
2.70	PID						
3.00	J13 _(SL3)	<0.1ppm				(1.50)	at c.7.20m BGL ... very dense.
3.00	PID						
3.50	PID	<0.1ppm					at c.7.20m BGL ... very dense.
4.00	PID			2.13		4.20	
4.20-5.70	SL4 _(SS)						at c.7.20m BGL ... very dense.
4.20-4.95	B14 _(SL4)	N18					
4.20	S						at c.7.20m BGL ... very dense.
4.50	J15 _(SL4)	<0.1ppm					
4.50	PID						at c.7.20m BGL ... very dense.
4.95-5.70	B17 _(SL4)						
5.00	J16 _(SL4)						at c.7.20m BGL ... very dense.
5.50	J18 _(SL4)	<0.1ppm					
5.50	PID						at c.7.20m BGL ... very dense.
5.70-7.20	SL5 _(SS)	N48					
5.70	S						at c.7.20m BGL ... very dense.
6.20	J19 _(SL5)	<0.1ppm				(4.50)	
6.20-7.20	B20 _(SL5)						at c.7.20m BGL ... very dense.
6.50	PID						
7.00	J21 _(SL5)						at c.7.20m BGL ... very dense.
7.20-8.70	SL6 _(SS)	40/235mm					
7.20-7.95	B22 _(SL6)						at c.7.20m BGL ... very dense.
7.20	S						
7.50	J23 _(SL6)	<0.1ppm					at c.7.20m BGL ... very dense.
7.50	PID						

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
22/06/2021	0.00	0.00	178		0.42 - 1.20	178	100	Yes	
22/06/2021	4.20	4.20	178	Dry	1.20 - 2.70	178	100	Yes	
23/06/2021	4.20	4.20	178	Dry	2.70 - 4.20	178	53	Yes	
					4.20 - 5.70	178	100	Yes	
					5.70 - 7.20	178	100	Yes	
					7.20 - 8.70	178	100	Yes	

(1) Description derived from drillers daily report.
 (2) Inspection pit dug prior to drilling.
 (3) 4 No. vibrating piezometers installed at 6.50m, 17.00m, 23.00m and 32.50m BGL.
 (4) UXO carried out as per the Client instructions.
 (5) Aquifer protection installed between 16.85-14.50m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LFBH02	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457520.508 N:525835.382	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 6.326	Start Date: 22/06/2021
		Sheet: 2 of 3	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
7.95-8.70 8.00	B24 _(SL6) J25 _(SL6)						Medium dense to dense yellow brown SAND with occasional fragments of shell (bivalve). Sand is fine to coarse. (Tidal Flat Deposits). <i>(continued)</i>	
8.50	J26 _(SL6)			-2.37		8.70		
8.70-10.20 8.70-8.90	SL7 _(SS) ES27 _(SL7)	N13					Medium dense yellow brown occasionally multicolored gravelly SAND with frequent fragments of shell (including bivalve shell). Sand is fine to coarse and includes shell. Gravel is fine to coarse angular to rounded and includes mudstone and sandstone. (Tidal Flat Deposits).	
8.70	S	<0.1ppm						
8.70	PID							
9.00	J28 _(SL7)					(1.50)		
9.00-9.45	B29 _(SL7)							
9.45-10.20	B31 _(SL7)							
9.50	J30 _(SL7)							
10.00	J32 _(SL7)			-3.87		10.20		
10.00	PID	<0.1ppm						
10.20-11.70	SL8 _(SS)	N14					Medium dense yellow brown slightly gravelly SAND with rare fragments of shell. Sand is fine to coarse. Gravel is fine to coarse subangular to rounded and includes mudstone and sandstone. (Tidal Flat Deposits).	
10.20-10.95	B33 _(SL8)							
10.20	S							
10.50	J34 _(SL8)							
10.95-11.70	B35 _(SL8)						between c.11.40-11.70m BGL ... yellow dark brown..	
11.00	J36 _(SL8)	<0.1ppm						
11.00	PID							
11.50	J37 _(SL8)							
11.70-13.20	SL9 _(SS)	N23						
11.70-12.45	B38 _(SL9)							
11.70	S							
12.00	J39 _(SL9)	<0.1ppm				(4.50)		
12.00	PID							
12.45-13.20	B40 _(SL9)						at c.12.45m ... slightly silty sand.	
12.50	J41 _(SL9)							
13.00	J42 _(SL9)	<0.1ppm						
13.00	PID							
13.20-14.70	SL10 _(SS)	N15						
13.20-13.95	B43 _(SL10)							
13.20	S							
13.50	J44 _(SL10)							
13.95-14.70	B45 _(SL10)							
14.00	J46 _(SL10)							
14.50	J47 _(SL10)			-8.37		14.70		
14.70-16.20	SL11 _(SS)	N5					Very soft dark brown silty CLAY with occasional shell fragments (bivalves). (Tidal Flat Deposits).	
14.70-15.00	ES48 _(S11)	<0.1ppm						
14.70-15.45	B49 _(S11)							
14.70	J48A _(SL11)							
14.70	S							
14.70	PID							
15.00	PID							
15.45	J50 _(SL11)	<0.1ppm				(1.95)		
15.45-16.20	B51 _(S11)							

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
23/06/2021	10.20	10.20	178	3.00	8.70 - 10.20	178	100	Yes	
24/06/2021	10.20	10.20	178	3.00	10.20 - 11.70	178	100	Yes	
					11.70 - 13.20	178	100	Yes	
					13.20 - 14.70	178	100	Yes	
					14.70 - 16.20	178	100	No	

(1) Description derived from drillers daily report.
 (2) Inspection pit dug prior to drilling.
 (3) 4 No. vibrating piezometers installed at 6.50m, 17.00m, 23.00m and 32.50m BGL.
 (4) UXO carried out as per the Client instructions.
 (5) Aquifer protection installed between 16.85-14.50m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. LF1BH02	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457520.508 N:525835.382		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 6.326	Start Date: 22/06/2021	Sheet: 3 of 3

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
16.00 16.00 16.20-16.65	J52 _(SL11) PID UT1	<0.1ppm				16.65	Very soft dark brown silty CLAY with occasional shell fragments (bivalves). (Tidal Flat Deposits). <i>(continued)</i> at c.16.00m BGL ... soft. <i>Boring complete at 16.65m BGL - continued by rotary drilling.</i>	

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
24/06/2021	16.65	16.20	178	5.00	16.20 - 16.65	116	78	No	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 4 No. vibrating piezometers installed at 6.50m, 17.00m, 23.00m and 32.50m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.85-14.50m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LF1BH02	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457520.508 N:525835.382	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 6.326	Start Date: 22/06/2021
			Sheet: 1 of 18

RUN DETAILS			STRATA				Instrument/ Backfill		
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)		Description	
							Discontinuity Detail	Main	
16.65 (102mm)	0	SOIL		-10.33		16.65 (0.75)	16.65-27.40m ... soil.	Very soft dark brown silty CLAY with shell fragments (bivalves). (Tidal Flat Deposits).	
17.40 (102mm)	95			-11.07		17.40m ... U53 17.80m ... B55 17.90m ... J54 (1.30)	Firm thinly laminated dark brown slightly sandy silty CLAY. Sand is fine to coarse. (Tidal Flat Deposits). 17.40m ... clay is of intermediate plasticity.		
18.40 (102mm)	93			-12.37		18.40m ... ES56 18.40m ... ES(M)57 18.50m ... J58	Stiff red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subangular and includes coal, mudstone, sandstone and limestone. (Glacial Till).		
19.90 (102mm)	93					19.40m ... J59 19.40m ... B60			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
02/07/2021	16.65	16.20	0.00	19.90	S	N26	16.65 - 17.40 17.40 - 18.40 18.40 - 19.90 19.90 - 21.40	Water Water Water Water	100 100 100 100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 4 No. vibrating piezometers installed at 6.50m, 17.00m, 23.00m and 32.50m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.85-14.50m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457520.508 N:525835.382		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 6.326	Start Date: 22/06/2021	Sheet: 2 of 18

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
21.40	53					20.90m ... J62 21.00m ... U61	Stiff red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subangular and includes coal, mudstone, sandstone and limestone. (Glacial Till). (continued) 21.00m ... clay is of low to intermediate plasticity.		
22.90	53				(6.30)	21.50m ... J63 21.50m ... B64			
24.40	93					22.40m ... B66 22.50m ... J65			
						24.40m ... B68 24.50m ... J67	24.20-24.40m ... 1 No. cobble subangular to subrounded of mudstone.		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
02/07/2021	24.40	24.40	0.00	22.90	S	N15	21.40 - 22.90	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 4 No. vibrating piezometers installed at 6.50m, 17.00m, 23.00m and 32.50m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.85-14.50m BGL prior to commencing rotary drilling.
05/07/2021	24.40	24.40	3.14				22.90 - 24.40	Water	100	
							24.40 - 25.90	Water	100	

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Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457520.508 N:525835.382	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 6.326	Start Date: 22/06/2021
		Sheet: 3 of 18	

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
25.90	(102mm)			-18.67		24.90m ... ES71 24.90m ... ES(M)72 25.00m ... B70 25.10m ... J69	Stiff thinly laminated dark brown slightly sandy silty CLAY with silt dustings on the laminae. Sand is fine to medium. (Glacial Deposits). 25.10m ... clay is of high plasticity.		
						(0.90)			
27.40	(102mm)	100		-19.57		26.00m ... J73 26.00m ... B74	Stiff red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse angular to subangular and includes coal, mudstone, sandstone and limestone. (Glacial Till). 26.50m ... very high strength. Clay is of low plasticity.		
						(1.50)			
27.40	(102mm)	83 (40) 19	NR	-21.07		26.50m ... U75 27.00m ... J76 27.00m ... B78			
						(0.34)			
27.40	(102mm)	6		-21.41		27.40-27.74m ... no recovery.	(1) MUDSTONE. (Redcar Mudstone Formation).		
						27.74-28.70m ... subhorizontal (5-25 degrees) closely spaced smooth planar to undulating open and tight infilled (clay) discontinuities. 27.90m ... ES79	Weak, in places very weak, thinly laminated blue grey MUDSTONE partially weathered with occasional fossilised remains (2-40mm in size). (Redcar Mudstone Formation).		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
							25.90 - 27.40	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 4 No. vibrating piezometers installed at 6.50m, 17.00m, 23.00m and 32.50m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.85-14.50m BGL prior to commencing rotary drilling.
							27.40 - 28.80	Water	100	

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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LF1BH02	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457520.508 N:525835.382	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 6.326	Start Date: 22/06/2021
			Sheet: 4 of 18

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
28.80		NI				28.70-29.00m ... non-intact.	Weak, in places very weak, thinly laminated blue grey MUDSTONE partially weathered with occasional fossilised remains (2-40mm in size). (Redcar Mudstone Formation). (continued)		
	100 (88) 73					29.00-37.70m ... subhorizontal to subvertical (5-85 degrees) closely spaced planar to undulating smooth tight to open infilled (clay) discontinuities.			
30.30		10							
	100 (77) 42								
31.80									
	100 (81) 56								

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
							28.80 - 30.30	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 4 No. vibrating piezometers installed at 6.50m, 17.00m, 23.00m and 32.50m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.85-14.50m BGL prior to commencing rotary drilling.
							30.30 - 31.80	Water	100	
							31.80 - 33.20	Water	100	

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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. LF1BH02	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457520.508 N:525835.382		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 6.326	Start Date: 22/06/2021	Sheet: 5 of 18

RUN DETAILS				STRATA					Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
33.20	(102mm)	100 (80) 34				(9.96)		Weak, in places very weak, thinly laminated blue grey MUDSTONE partially weathered with occasional fossilised remains (2-40mm in size). (Redcar Mudstone Formation). (continued)	
33.90	(102mm)	100 (100) 65							
34.30	(102mm)	100 (100) 83							
34.70	(102mm)	100 (100) 54							
35.50	(102mm)	100 (100) 51							
36.15	(102mm)	100 (100) 40							

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
05/07/2021	33.20	33.20	0.00				33.20 - 33.90	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 4 No. vibrating piezometers installed at 6.50m, 17.00m, 23.00m and 32.50m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.85-14.50m BGL prior to commencing rotary drilling.
06/07/2021	33.20	33.20	4.17				33.90 - 34.30	Water	100	
							34.30 - 34.70	Water	100	
							34.70 - 35.50	Water	100	
							35.50 - 36.15	Water	100	
							36.15 - 37.00	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. LF1BH02	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457520.508 N:525835.382		Sheet: 6 of 18
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 6.326	Start Date: 22/06/2021	

RUN DETAILS				STRATA					Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
37.00	100 (100) 16			-31.37		37.70		Weak, in places very weak, thinly laminated blue grey MUDSTONE partially weathered with occasional fossilised remains (2-40mm in size). (Redcar Mudstone Formation). (continued)	
(102mm)								Complete at 37.70m BGL.	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
06/07/2021	37.70	37.70	0.00				37.00 - 37.70	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 4 No. vibrating piezometers installed at 6.50m, 17.00m, 23.00m and 32.50m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 16.85-14.50m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. LF\BH02
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457520.508 N:525835.382		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 6.326	Start Date: 22/06/2021	Sheet: 7 of 18

Figure LF\BH02.1
LF\BH02 0.40-1.20m BGL



Figure LF\BH02.2
LF\BH02 1.20-2.70m BGL





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DRILLHOLE RECORD

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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 6.326	Start Date: 22/06/2021	Sheet: 8 of 18

Figure LF\BH02.3
LF\BH02 2.70-4.20m BGL



Figure LF\BH02.4
LF\BH02 4.20-5.70m BGL





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DRILLHOLE RECORD

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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 6.326	Start Date: 22/06/2021	Sheet: 9 of 18

Figure LF\BH02.5
LF\BH02 5.70-7.20m BGL



Figure LF\BH02.6
LF\BH02 7.20-8.70m BGL





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DRILLHOLE RECORD

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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 6.326	Start Date: 22/06/2021	Sheet: 10 of 18

Figure LF\BH02.7
LF\BH02 8.70-10.20m BGL



Figure LF\BH02.8
LF\BH02 10.20-11.70m BGL





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DRILLHOLE RECORD

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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. LFBH02
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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 6.326	Start Date: 22/06/2021	Sheet: 11 of 18

Figure LFBH02.9
LFBH02 11.70-13.20m BGL



Figure LFBH02.10
LFBH02 13.20-14.70m BGL





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DRILLHOLE RECORD

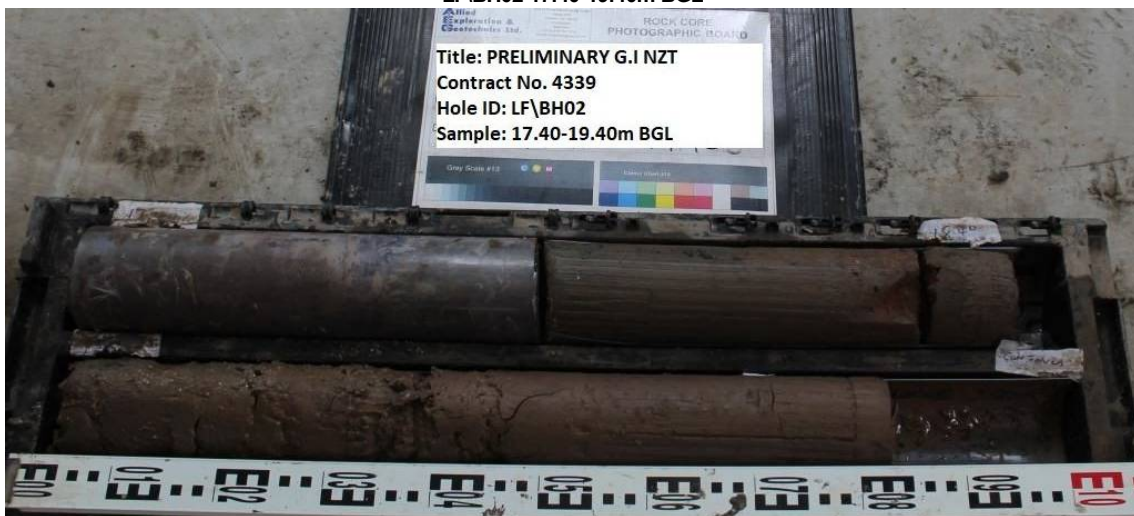
Status:-
FINAL

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457520.508 N:525835.382		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 6.326	Start Date: 22/06/2021	Sheet: 12 of 18

Figure LF\BH02.11
LF\BH02 14.70-16.20m BGL



Figure LF\BH02.12
LF\BH02 17.40-19.40m BGL





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Figure LF\BH02.13
LF\BH02 19.40-21.40m BGL



Figure LF\BH02.14
LF\BH02 21.40-24.40m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 6.326	Start Date: 22/06/2021	Sheet: 14 of 18

Figure LF\BH02.15
LF\BH02 24.40-25.90m BGL



Figure LF\BH02.16
LF\BH02 25.90-27.40m BGL





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Figure LF\BH02.17
LF\BH02 27.40-28.80m BGL



Figure LF\BH02.18
LF\BH02 28.80-30.30m BGL





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Figure LF\BH02.19
LF\BH02 30.30-31.80m BGL



Figure LF\BH02.20
LF\BH02 31.80-33.20m BGL





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Figure LF\BH02.21
LF\BH02 33.20-34.70m BGL



Figure LF\BH02.22
LF\BH02 34.70-36.15m BGL





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DRILLHOLE RECORD

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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 6.326	Start Date: 22/06/2021	Sheet: 18 of 18

Figure LF\BH02.23
LF\BH02 36.15-37.70m BGL



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SONIC SAMPLE HOLE RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457252.259 N:525685.159	
Method (Equipment): Sonic/Openhole/Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 4.818	Start Date: 25/06/2021
		Sheet: 1 of 2	

SAMPLES & TESTS			STRATA				Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	
0.05-1.20 0.05-0.90 0.30 0.30 0.50 0.50 0.50	SL1 _(SS) B5 _(SL1) ES1 _(SL1) PID ES2 _(SL1) J6 _(SL1) PID	0.1ppm 0.1ppm				(0.90) 3.92 0.90	MADE GROUND (Brown black slightly gravelly sand. Sand is fine to coarse. Gravel is fine to coarse angular to subrounded and includes slag. Slag is vesicular (100%)).
0.90-1.20 1.00 1.00 1.00	B7 _(SL1) ES3 _(SL1) J8 _(SL1) PID	<0.1ppm				3.62 1.20 (0.40)	MADE GROUND (Yellow brown sand. Sand is fine to coarse).
1.20-2.70 1.20-1.60 1.20 1.50	SL2 _(SS) B9 _(SL2) S PID	50/285mm <0.1ppm				3.22 1.60 (0.65)	MADE GROUND (Very dense blue light grey clayey sand and gravel with low cobble content. Sand is fine to coarse. Gravel is fine to coarse angular to subrounded and includes slag. Cobbles are subrounded and include slag. Slag is vesicular (100%)).
1.60-2.25 2.00 2.00	B11 _(SL2) ES4 _(SL2) J10 _(SL2) PID	<0.1ppm				2.57 2.25	MADE GROUND (Yellow brown slightly gravelly sand. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes grey slag. Slag is vesicular (100%)).
2.25-2.70 2.25 2.50	ES13 _(SL2) PID J12 _(SL2) SL3 _(SS)	<0.1ppm				(1.15)	MADE GROUND (Dark blue silty sand with occasional fragments of shell (bivalves). Sand is fine to coarse. Mild hydrocarbon odour). at c.2.70m BGL ... dense. between c.2.70-3.40m BGL ... dark blue brown.
2.70-3.40 2.70 3.00 3.00	B14 _(SL3) S J15 _(SL3) PID	N32 <0.1ppm				1.42 3.40	Dense yellow brown SAND with occasional fragments of shell. Sand is fine to coarse. (Tidal Flat Deposits).
3.40-4.20 3.40 3.50	B16 _(SL3) PID J17 _(SL3)	<0.1ppm					
4.00 4.00	J18 _(SL3) PID	<0.1ppm					
4.20-5.70 4.20-4.95 4.20 4.50	SL4 _(SS) B19 _(SL4) S J20 _(SL4)	N41					
4.95-5.70 5.00 5.00	B21 _(SL4) J22 _(SL4) PID	<0.1ppm					
5.50	J23 _(SL4)						
5.70-7.20 5.70-6.35 5.70	SL5 _(SS) B24 _(SL5) S	N32					
6.00 6.00	J25 _(SL5) PID	<0.1ppm					
6.35-6.75 6.50	B26 _(SL5) J27 _(SL5)						between c.6.35-6.75m BGL ... with frequent shell fragments (approximately 50% is fragments of shell).
6.75-7.20	B28 _(SL5)						
7.00 7.00	J29 PID	<0.1ppm				(7.70)	
7.20-8.70 7.20-7.95 7.20 7.50	SL6 _(SS) B30 _(SL6) S J31 _(SL6)	N41					at c.7.40m BGL ... 1 No. cobble of subangular grey limestone.

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
25/06/2021	0.00	0.00	178		0.05 - 1.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 4 No. vibrating piezometers installed at 7.50m, 13.50m, 18.00m and 26.50m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 12.15-10.50m BGL prior to commencing rotary drilling.
					1.20 - 2.70	178	100	Yes	
					2.70 - 4.20	178	100	Yes	
					4.20 - 5.70	178	100	Yes	
					5.70 - 7.20	178	100	Yes	
					7.20 - 8.70	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH02	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457252.259 N:525685.159	
Method (Equipment): Sonic/Openhole/Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 4.818	Start Date: 25/06/2021
		Sheet: 2 of 2	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
7.95-8.70 8.00	B32 _(SL6) J33 _(SL6) PID	<0.1ppm					Dense yellow brown SAND with occasional fragments of shell. Sand is fine to coarse. (Tidal Flat Deposits). <i>(continued)</i>	
8.50	J34 _(SL6)							
8.70-10.20 8.70-9.45	SL7 _(SS) B35 _(SL7)	N43						
8.70	S							
9.00	J36 _(SL7)							
9.00	PID	<0.1ppm						
9.45-10.20 9.50	B37 _(SL7) J38 _(SL7)						between c.9.60-11.10m BGL ... slightly saturated.	
10.20-11.70 10.20-10.40	SL8 _(SS) ES39 _(SL8)	N43					at c.10.40m BGL ... slightly silty sand.	
10.20	S							
10.20	PID	<0.1ppm						
10.40-11.10 10.50	B41 _(SL8) J40 _(SL8)							
11.00	J42 _(SL8)							
11.20-11.40 11.20	ES43 _(SL8) ES44 _(SL8)	<0.1ppm					Soft dark brown slightly sandy CLAY/SILT. Sand is fine to medium. (Tidal Flat Deposits).	
11.20	PID						at c.11.40m BGL ... clay/silt is of low plasticity.	
11.40-11.70 11.50	B45 _(SL8) J46 _(SL8)	(27)					at c.11.70m BGL ... medium strength. Clay is of low to intermediate plasticity.	
11.70-12.15	UT1							
							<i>Boring complete at 12.15m BGL - continued by rotary drilling.</i>	

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
25/06/2021	8.70	8.70	178	4.20	8.70 - 10.20	178	100	Yes	
28/06/2021	8.70	8.70	178	3.00	10.20 - 11.70	178	100	Yes	
28/06/2021	12.15	11.70	178		11.70 - 12.15	116	89	No	

(1) Description derived from drillers daily report.
 (2) Inspection pit dug prior to drilling.
 (3) 4 No. vibrating piezometers installed at 7.50m, 13.50m, 18.00m and 26.50m BGL.
 (4) UXO carried out as per the Client instructions.
 (5) Aquifer protection installed between 12.15-10.50m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:50.00
 For explanation of symbols and abbreviations see Key Sheets
 Checked by: *K.W.*
 Logged by: M.B/R.C
 Contract No. **4339**



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DRILLHOLE RECORD

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		Sheet: 1 of 14	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
12.70		RO		-7.33		12.15	12.15-12.70m ... rotary openhole drilling.	Soft dark brown slightly sandy silty CLAY. (Tidal Flat Deposits).	
13.00 (102mm)	33	SOIL				(1.45)	12.70-24.00m ... soil.		
	100						13.00m ... B48 13.10m ... J47	13.00m ... clay is of low to intermediate plasticity.	
14.50				-8.78		13.60	13.60m ... B50 13.70m ... J49	Firm dark brown slightly sandy silty CLAY with fragments of shell. Sand is fine to coarse. (Tidal Flat Deposits).	
16.00	100			-10.98	15.80	15.00m ... ES55 15.00m ... ES(M)56 15.10m ... J51 15.10m ... B52	15.10m ... clay is of high plasticity.		
						15.80m ... B54 15.90m ... J53 16.00m ... J1 16.00m ... ES57			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
29/06/2021	12.15	11.70	5.12	16.00	S	N26	12.70 - 13.00 13.00 - 14.50 14.50 - 16.00 16.00 - 17.50	Water Water Water Water	100 100 100 100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 4 No. vibrating piezometers installed at 7.50m, 13.50m, 18.00m and 26.50m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 12.15-10.50m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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		Sheet: 2 of 14	

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
17.50	93					16.00m ... ES(M)58 16.10m ... J59 16.10m ... B60 16.85m ... B62 17.00m ... J61 17.50m ... B64 17.60m ... J63 (4.20) 18.10m ... J65 18.25m ... B66 19.00m ... J2 19.00m ... B68 19.10m ... J67	Stiff dark red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular and includes coal, mudstone, sandstone and limestone. (Glacial Till). (continued)		
19.00	100			-15.18		20.00 20.00m ... B70	20.00m ... clay is of intermediate plasticity.		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
				19.00	S	N17	17.50 - 19.00 19.00 - 20.50	Water Water	100 100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 4 No. vibrating piezometers installed at 7.50m, 13.50m, 18.00m and 26.50m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 12.15-10.50m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH02	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457252.259 N:525685.159	
Method (Equipment): Sonic/Openhole/Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 4.818	Start Date: 25/06/2021
		Sheet: 4 of 14	

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
24.80	0 (0) 0					(2.00)	(1) Grey MUDSTONE. (Driller describes as 'very weak with hard bands'). (Redcar Mudstone Deposits). (continued)		
25.30	0 (0) 0								
25.80	60			-21.18		26.00	26.00-26.20m ... horizontal (0-5 degrees) closely spaced planar to undulating rough open infilled (clayey gravel) discontinuities. 26.20-26.30m ... non-intact.	Weak thinly laminating black grey MUDSTONE partly weathered with occasional fossilised remains (2mm-40mm in size). (Redcar Mudstone Formation).	
26.30	100	8					26.30-26.80m ... horizontal (0-5 degrees) closely spaced planar to undulating rough and smooth open infilled (clayey gravel) discontinuities.		
26.80	100 (43) 0	14					26.80-27.40m ... horizontal to oblique (0-45 degrees) closely spaced smooth planar to undulating open and tight infilled (clay) discontinuities.		
27.40	100 (100) 57	12				(3.00)	27.40-28.10m ... subhorizontal (5-25 degrees) closely spaced smooth planar to undulating open and tight infilled (clay) discontinuities.		
28.10	100	10							

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
30/06/2021	26.80	26.80	0.00	24.80	C	N37	24.80 - 25.30	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 4 No. vibrating piezometers installed at 7.50m, 13.50m, 18.00m and 26.50m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 12.15-10.50m BGL prior to commencing rotary drilling.
01/07/2021	26.80	26.80	0.00	25.80	C	50/82mm	25.30 - 25.80	Water	100	
				26.30	C	50/8mm	25.80 - 26.30	Water	100	
							26.30 - 26.80	Water	100	
							26.80 - 27.40	Water	100	
							27.40 - 28.10	Water	100	
							28.10 - 29.00	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH02	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457252.259 N:525685.159	
Method (Equipment): Sonic/Openhole/Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 4.818	Start Date: 25/06/2021
		Sheet: 5 of 14	

RUN DETAILS				STRATA					Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
(102mm)	(100) 83			-24.18		29.00	28.10-29.00m ... subhorizontal (5-25 degrees) closely spaced smooth planar to undulating open and tight infilled (clay) discontinuities.	Weak thinly laminated black grey MUDSTONE partly weathered with occasional fossilised remains (2mm-40mm in size). (Redcar Mudstone Formation). (continued) 28.70m ... very weak.	
								Complete at 29.00m BGL.	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
01/07/2021	29.00	29.00	0.00							(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 4 No. vibrating piezometers installed at 7.50m, 13.50m, 18.00m and 26.50m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 12.15-10.50m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH02
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457252.259 N:525685.159		
Method (Equipment): Sonic/Openhole/Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.818	Start Date: 25/06/2021	Sheet: 6 of 14

Figure MS\BH02.1
MS\BH02 0.05-1.20m BGL



Figure MS\BH02.2
MS\BH02 1.20-2.70m BGL





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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH02
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457252.259 N:525685.159		
Method (Equipment): Sonic/Openhole/Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.818	Start Date: 25/06/2021	Sheet: 7 of 14

Figure MS\BH02.3
MS\BH02 2.70-4.20m BGL



Figure MS\BH02.4
MS\BH02 4.20-5.70m BGL





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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457252.259 N:525685.159		
Method (Equipment): Sonic/Openhole/Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.818	Start Date: 25/06/2021	Sheet: 8 of 14

Figure MS\BH02.5
MS\BH02 5.70-7.20m BGL



Figure MS\BH02.6
MS\BH02 7.20-8.70m BGL





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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457252.259 N:525685.159		
Method (Equipment): Sonic/Openhole/Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.818	Start Date: 25/06/2021	Sheet: 9 of 14

Figure MS\BH02.7
MS\BH02 8.70-10.20m BGL



Figure MS\BH02.8
MS\BH02 10.20-11.70m BGL





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DRILLHOLE RECORD

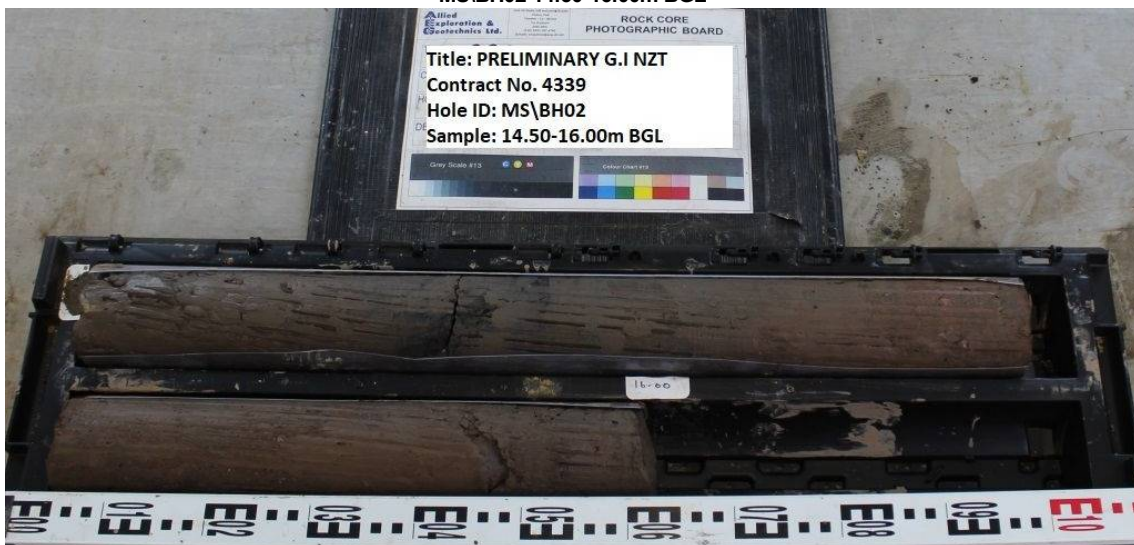
Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH02
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457252.259 N:525685.159		
Method (Equipment): Sonic/Openhole/Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.818	Start Date: 25/06/2021	Sheet: 10 of 14

Figure MS\BH02.9
MS\BH02 12.70-14.50m BGL



Figure MS\BH02.10
MS\BH02 14.50-16.00m BGL





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DRILLHOLE RECORD

Status:-
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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457252.259 N:525685.159		
Method (Equipment): Sonic/Openhole/Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.818	Start Date: 25/06/2021	Sheet: 12 of 14

Figure MS\BH02.13
MS\BH02 20.50-22.00m BGL



Figure MS\BH02.14
MS\BH02 22.00-23.50m BGL





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DRILLHOLE RECORD

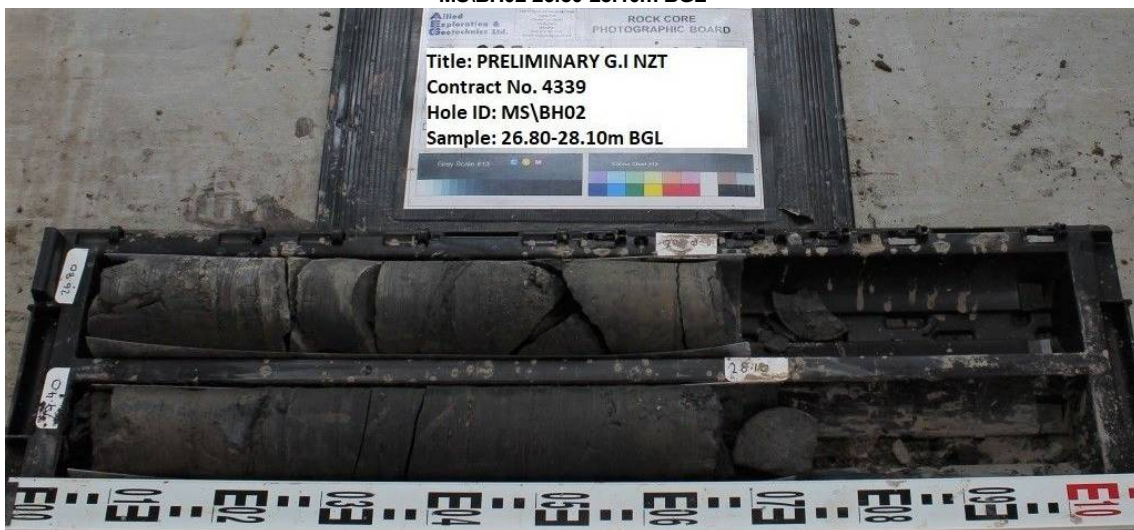
Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH02
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457252.259 N:525685.159		
Method (Equipment): Sonic/Openhole/Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.818	Start Date: 25/06/2021	Sheet: 13 of 14

Figure MS\BH02.15
MS\BH02 23.50-26.80m BGL



Figure MS\BH02.16
MS\BH02 26.80-28.10m BGL





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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH02
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457252.259 N:525685.159		
Method (Equipment): Sonic/Openhole/Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.818	Start Date: 25/06/2021	Sheet: 14 of 14

Figure MS\BH02.17
MS\BH02 28.10-29.00m BGL



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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		MS1BH03	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 4.67	Start Date: 22/06/2021
		Sheet: 1 of 2	
Location: North-west of Redcar, North Yorkshire E:457301.31 N:525582.70			

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
0.10-1.20	SL1 ^(SS)					(0.55)	MADE GROUND (Black slightly silty slightly gravelly sand. Sand is fine to coarse and includes ash. Gravel is fine to coarse subangular to subrounded and includes grey slag and clinker. Slag is 50-75%).	
0.10-0.55	B7 ^(SL1)			4.12		0.55	MADE GROUND (Grey brown slightly silty slightly gravelly sand. Sand is fine to coarse. Gravel is fine to coarse angular to subrounded and includes grey slag. Slag is vesicular (50-75%)).	
0.30	ES1	<0.1ppm				(0.80)	MADE GROUND (Grey black slightly silty sand and gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes slag and clinker. Slag is 50-75%). (Engineer notes slightly saturated).	
0.30	J6 ^(SL1)					1.35	Dark blue yellow brown silty SAND with occasional pockets of dark blue sand and fragments of shell. Sand is fine to coarse. Mild hydrocarbon odour relating to sand pockets. (Engineer notes locally saturated). (Tidal Flat Deposits)	
0.50	ES2	<0.1ppm				1.75	at c.1.20m BGL ... medium dense and dense. at c.2.70m BGL ... very dense.	
0.50	PID					(1.05)	Dense to very dense yellow brown SAND with occasional fragments of shell. Sand is fine to coarse. (Engineer notes locally saturated).	
0.55-1.20	B9 ^(SL1)					2.80	between c.2.80-3.40m BGL ... gravelly sand. Gravel is fine to coarse subrounded to rounded and includes mudstone.	
1.00	ES3						at c.6.45m BGL ... slightly silty sand.	
1.00	J8 ^(SL1)	0.1ppm					from c.7.20m BGL ... dense.	
1.00	PID							
1.20-2.70	SL2 ^(SS)							
1.20	S	N30						
1.35-1.75	B11 ^(SL2)							
1.50	J10 ^(SL2)							
1.50	PID	<0.1ppm						
1.75-2.70	B13 ^(SL2)							
1.77-28.50	EW100D							
1.89-2.70	EW100S							
2.00	ES4							
2.00	J12 ^(SL2)	0.3ppm						
2.00	PID							
2.50	ES5							
2.50	PID	<0.1ppm						
2.70-4.20	SL3 ^(SS)							
2.70	S	56/220mm						
2.80-3.45	B16 ^(SL3)							
3.00-3.30	ES14							
3.00	J15 ^(SL3)							
3.00	PID	<0.1ppm						
3.45-4.20	B18 ^(SL3)							
3.50	J17 ^(SL3)							
4.00	J19 ^(SL3)							
4.20-5.70	SL4 ^(SS)							
4.20-4.95	B20 ^(SL4)							
4.20	S	N51						
4.50	J21 ^(SL4)							
4.50	PID	<0.1ppm						
4.95-5.70	B22 ^(SL4)							
5.00	J23 ^(SL4)							
5.50	J24 ^(SL4)							
5.50	PID	<0.1ppm						
5.70-7.20	SL5 ^(SS)							
5.70-6.45	B25 ^(SL5)					(6.55)		
5.70	S	50/290mm						
6.00	J26 ^(SL5)							
6.45-7.20	B27 ^(SL5)							
6.50	J28 ^(SL5)							
6.50	PID	<0.1ppm						
7.00	J29 ^(SL5)							
7.20-8.70	SL6 ^(SS)							
7.20-7.95	B30 ^(SL6)							
7.20	S	N43						
7.50	J31 ^(SL6)							
7.50	PID	<0.1ppm						

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
22/06/2021	0.00	0.00	178		0.10 - 1.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) ES(M) = Environmental Sample with Methanol preservative. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-2.70m and 25.50-28.50m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 12.15-9.90m BGL prior to commencing rotary drilling.
22/06/2021	2.70	2.70	178	2.50	1.20 - 2.70	178	100	Yes	
23/06/2021	2.70	2.70	178	1.70	2.70 - 4.20	178	100	Yes	
					4.20 - 5.70	178	100	Yes	
					5.70 - 7.20	178	100	Yes	
					7.20 - 8.70	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457301.31 N:525582.70	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 4.67	Start Date: 22/06/2021
		Sheet: 2 of 2	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
7.95-8.70 8.00	B32 ^(SL6) J33 ^(SL6)						at c. 7.95m BGL ... slightly silty sand. Dense to very dense yellow brown SAND with occasional fragments of shell. Sand is fine to coarse. (Engineer notes locally saturated). <i>(continued)</i>	
8.50 8.50	J34 ^(SL6) PID	<0.1ppm						
8.70-10.20 8.70-9.35 8.70 9.00	SL7 ^(SS) B35 ^(SL7) S J36 ^(SL7)	N35		-4.68		9.35		
9.35-10.20 9.50 9.50-9.80 9.50	B37 ^(SL7) J38 ^(SL7) ES39 ^(SL7) PID	<0.1ppm				(1.15)	Yellow brown black clayey gravelly SAND with rare pockets of soft brown very sandy silty clay. Gravel is coarse subrounded to rounded and includes mudstone. (Tidal Flat Deposits).	
10.00 10.20-11.70 10.20 10.20	J40 ^(SL7) SL8 ^(SS) J41 ^(SL8) S	N4		-5.83		10.50	at c. 10.20m BGL ... very loose.	
10.50-11.00 10.50 10.50	B42 ^(SL8) J43 ^(SL8) PID	<0.1ppm		-6.33		(0.50) 11.00	Very soft dark brown slightly sandy CLAY with occasional fragments of shell. (Tidal Flat Deposits).	
11.00-11.20 11.00 11.20-11.20 11.20	ES44 ^(SL8) PID ES45 ES(M)45 ^(SL8) PID	<0.1ppm				(1.25)	at c. 10.50m BGL ... clay is of low plasticity. Soft thinly laminated dark brown sandy silty CLAY. (Tidal Flat Deposits).	
11.30-11.70 11.50 11.70-12.15 12.00	B47 ^(SL8) J46 ^(SL8) UT1 PID	(25) <0.1ppm		-7.58		12.25	at c. 11.70m BGL ... clay is of low plasticity.	
Boring complete at 12.25m BGL - continued by rotary drilling.								

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
23/06/2021	12.25	11.70	178		8.70 - 10.20	178	100	Yes	
					10.20 - 11.70	178	100	Yes	
					11.70 - 12.15	116	67	No	

(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) ES(M) = Environmental Sample with Methanol preservative. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-2.70m and 25.50-28.50m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 12.15-9.90m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH03	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457301.314 N:525582.699	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 4.672	Start Date: 22/06/2021
		Sheet: 1 of 14	

RUN DETAILS			STRATA				Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Reduced Level	Legend	Depth (Thickness)	Description	
					Discontinuity Detail		Main
		RO	-7.58	X	12.25	12.25-12.70m ... rotary openhole.	Soft thinly laminated dark brown very silty sandy CLAY. (Tidal Flat Deposits).
12.70	(102mm)	83		X	(0.75)	12.70-23.50m ... soil.	
13.00	(102mm)	0	-8.33	X	13.00	12.80m ... J48	12.80m ... clay is of low plasticity.
13.50	(102mm)	0		X	(1.00)		(1) Brown SILT/CLAY. (Driller describes as 'very soft'). (Tidal Flat Deposits).
14.00	(102mm)	100	-9.33	X	14.00	14.00m ... J49 14.00m ... ES50 14.10m ... ES(M)51	Firm thinly laminated dark brown slightly sandy silty CLAY. (Driller notes red sand bands). (Tidal Flat/Glacial Deposits).
14.50	(102mm)	100		X	(1.00)	14.50m ... J1 14.50m ... B54 14.60m ... J53	14.50m ... clay is of high plasticity with occasional pockets of peat.
16.00	(102mm)	100	-10.33	X	15.00	15.00m ... B56 15.10m ... J55	Firm to stiff dark red brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular to subangular and includes sandstone, mudstone, limestone and coal. (Glacial Till). 15.10m ... clay is of intermediate plasticity.
				X		15.90m ... J57 15.90m ... ES58 16.00m ... ES(M)52 16.10m ... J59 16.10m ... U60	16.10m ... clay is of intermediate plasticity.

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
24/06/2021	12.25	11.70	3.69	14.50	S	N6	12.70 - 13.00	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) ES(M) = Environmental Sample with Methanol preservative. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-2.70m and 25.50-28.50m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 12.15-9.90m BGL prior to commencing rotary drilling.
							13.00 - 13.50	Water	100	
							13.50 - 14.00	Water	100	
							14.00 - 14.50	Water	100	
							14.50 - 16.00	Water	100	
							16.00 - 17.50	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH03	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457301.314 N:525582.699		Sheet: 2 of 14
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.672	Start Date: 22/06/2021	

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
17.50	100					16.50m ... J61 16.50m ... B62	Firm to stiff dark red brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular to subangular and includes sandstone, mudstone, limestone and coal. (Glacial Till). (continued) 16.50m ... clay is of intermediate plasticity.		
19.00	100					17.40m ... J63 17.50m ... J2 17.60m ... J64 17.60m ... B65			
						18.20m ... J66 18.20m ... B67			
						19.10m ... J68 19.10m ... U70 19.10m ... ES69	19.10m ... soft to firm fissured slightly sandy clay with some silt dustings. Clay is of intermediate plasticity.		
						19.90m ... J71 19.90m ... B72 19.90m ... ES(M)73			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
				17.50	S	N16	17.50 - 19.00 19.00 - 20.50	Water Water	100 100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) ES(M) = Environmental Sample with Methanol preservative. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-2.70m and 25.50-28.50m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 12.15-9.90m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH03
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457301.314 N:525582.699	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.672	Start Date: 22/06/2021
		Sheet: 3 of 14

RUN DETAILS			STRATA						Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
20.50	90					20.50m ... J3 20.50m ... B75 20.60m ... J74		Firm to stiff dark red brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular to subangular and includes sandstone, mudstone, limestone and coal. (Glacial Till). (continued)	
(102mm)						21.20m ... J76 21.20m ... B77		21.20m ... clay is of low plasticity.	
22.00	100					22.10m ... J78 22.10m ... B79			
(102mm)						22.90m ... J80 22.90m ... B81		22.90m ... clay is of high plasticity.	
23.50	100 (39) 7					23.40m ... ES82 23.50m ... J4		23.50m ... clay is of low plasticity.	
		12		-19.08		23.75		Weak thinly laminated dark grey MUDSTONE partially to distinctly weathered with numerous fossilised remains (2-40mm in size). (Redcar Mudstone Formation).	
		NI				23.75-24.15m ... subhorizontal (5-25 degrees) oblique (25-45 degrees) closely to very closely spaced planar to undulating smooth open and tight clean and infilled (clay) discontinuities.			
						24.15-24.50m ... non-intact.			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
24/06/2021	22.00	22.00	0.00	20.50	S	N13	20.50 - 22.00	Water	100	
25/06/2021	22.00	22.00	0.00	23.50	S	N41	22.00 - 23.50	Water	100	
							23.50 - 25.00	Water	100	

(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) ES(M) = Environmental Sample with Methanol preservative. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-2.70m and 25.50-28.50m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 12.15-9.90m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH03	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457301.314 N:525582.699	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 4.672	Start Date: 22/06/2021
		Sheet: 4 of 14	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
25.00	(102mm)	12					24.50-24.80m ... subhorizontal (5-25 degrees) oblique (25-45 degrees) closely to very closely spaced planar to undulating smooth open and tight clean and infilled (clay) discontinuities.	Weak thinly laminated dark grey MUDSTONE partially to distinctly weathered with numerous fossilised remains (2-40mm in size). (Redcar Mudstone Formation). (continued)	
		NI					24.80-25.00m ... non-intact.		
26.50	(102mm)	8					25.00-26.30m ... subhorizontal (5-25 degrees) closely spaced planar to undulating smooth open and tight clean discontinuities.	26.20m ... moderately weak.	
		NR					26.30-26.50m ... no recovery.		
28.00	(102mm)	2					26.50-27.05m ... horizontal (0-5 degrees) medium spaced planar to undulating smooth open clean discontinuities.		
		6					27.05-28.00m ... subhorizontal (5-25 degrees) closely spaced smooth planar open clean discontinuities.		
		7					28.00-29.10m ... subhorizontal (5-25 degrees) closely spaced smooth planar open and tight clean discontinuities.		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
25/06/2021	26.50	26.50	0.00				25.00 - 26.50	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) ES(M) = Environmental Sample with Methanol preservative. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-2.70m and 25.50-28.50m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 12.15-9.90m BGL prior to commencing rotary drilling.
28/06/2021	26.50	26.50	0.00				26.50 - 28.00	Water	100	
							28.00 - 29.10	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
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Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457301.314 N:525582.699	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 4.672	Start Date: 22/06/2021
		Sheet: 5 of 14	

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
(102mm)				-24.43		29.10		Weak thinly laminated dark grey MUDSTONE partially to distinctly weathered with numerous fossilised remains (2-40mm in size). (Redcar Mudstone Formation). (continued)	
								Complete at 29.10m BGL.	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
28/06/2021	29.10	29.10	0.00							(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) ES(M) = Environmental Sample with Methanol preservative. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-2.70m and 25.50-28.50m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 12.15-9.90m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457301.314 N:525582.699		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.672	Start Date: 22/06/2021	Sheet: 6 of 14

Figure MS\BH03.1
MS\BH03 0.10-1.20m BGL



Figure MS\BH03.2
MS\BH03 1.20-2.70m BGL





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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457301.314 N:525582.699		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.672	Start Date: 22/06/2021	Sheet: 7 of 14

Figure MS\BH03.3
MS\BH03 2.70-4.20m BGL



Figure MS\BH03.4
MS\BH03 4.20-5.70m BGL





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DRILLHOLE RECORD

Status:-

FINAL

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457301.314 N:525582.699		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.672	Start Date: 22/06/2021	Sheet: 8 of 14

Figure MS\BH03.5
MS\BH03 5.70-7.20m BGL



Figure MS\BH03.6
MS\BH03 7.20-8.70m BGL





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DRILLHOLE RECORD

Status:-
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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457301.314 N:525582.699		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.672	Start Date: 22/06/2021	Sheet: 9 of 14

Figure MS\BH03.7
MS\BH03 8.70-10.20m BGL



Figure MS\BH03.8
MS\BH03 10.20-11.70m BGL





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DRILLHOLE RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH03
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457301.314 N:525582.699		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.672	Start Date: 22/06/2021	Sheet: 10 of 14

Figure MS\BH03.9
MS\BH03 12.70-14.50m BGL



Figure MS\BH03.10
MS\BH03 14.50-16.00m BGL





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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH03
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457301.314 N:525582.699		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.672	Start Date: 22/06/2021	Sheet: 11 of 14

Figure MS\BH03.11
MS\BH03 17.50-19.00m BGL



Figure MS\BH03.12
MS\BH03 19.00-20.50m BGL





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DRILLHOLE RECORD

Status:-
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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457301.314 N:525582.699		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.672	Start Date: 22/06/2021	Sheet: 12 of 14

Figure MS\BH03.13
MS\BH03 20.50-22.00m BGL



Figure MS\BH03.14
MS\BH03 22.00-23.50m BGL





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DRILLHOLE RECORD

Status:-
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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457301.314 N:525582.699		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.672	Start Date: 22/06/2021	Sheet: 13 of 14

Figure MS\BH03.15
MS\BH03 23.50-25.00m BGL



Figure MS\BH03.16
MS\BH03 25.00-26.50m BGL





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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457301.314 N:525582.699		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 4.672	Start Date: 22/06/2021	Sheet: 14 of 14

Figure MS\BH03.17
MS\BH03 26.50-28.00m BGL



Figure MS\BH03.18
MS\BH03 28.00-29.10m BGL



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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457410.778 N:525626.536	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 5.006	Start Date: 17/05/2021
		Sheet: 1 of 2	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
0.30	ES1				(0.90)	4.11	MADE GROUND (Dark grey slightly sandy gravel and cobbles with medium boulder content. Gravel is fine to coarse angular to subangular and includes slag. Cobbles are subangular to subrounded and include slag. Boulders are >400mm diameter subangular and include slag. Slag is vesicular (100%).)	
0.30	PID	<0.1ppm						
0.43-1.20	SL1 _(SL1)						Loose becoming medium dense to dense yellow brown slightly silty gravelly SAND with occasional shell fragments. Gravel is fine to coarse subangular to subrounded and includes sandstone, mudstone and limestone. Sand is fine to medium. (Tidal Flat Deposits).	
0.43	J4 _(SL1)							
0.43-0.90	B5 _(SL1)							
0.50	ES2							
0.50	PID	<0.1ppm						
0.90	U6 _(SL1)							
1.00	ES3							
1.00	PID	<0.1ppm						
1.20-2.70	SL2 _(SS)							
1.20	J7 _(SL2)							
1.20-1.95	B8 _(SL2)							
1.20	S	N8						
1.95	J9 _(SL2)							
1.95-2.70	B10 _(SL2)							
2.00	PID	<0.1ppm						
2.70-4.20	SL3 _(SS)						at c.2.70m BGL ... medium dense gravelly sand.	
2.70	J11 _(SL3)							
2.70-3.45	B12 _(SL3)							
2.70	S	N29						
3.00	PID	<0.1ppm						
3.45	J13 _(SL3)							
3.45-4.20	B14 _(SL3)							
4.00	PID	<0.1ppm						
4.20-5.70	SL4 _(SS)						at c.4.20m BGL ... dense.	
4.20	J15 _(SL4)							
4.20-4.95	B16 _(SL4)							
4.20	S	N44						
4.95	J17 _(SL4)							
4.95-5.70	B18 _(SL4)						at c.4.95m BGL ... sand.	
5.00	PID	<0.1ppm						
5.70-7.20	SL5 _(SS)						at c.5.70m BGL ... dense.	
5.70	J19 _(SL5)							
5.70-6.45	B20 _(SL5)							
5.70	S	N41						
6.00	PID	<0.1ppm						
6.45	J21 _(SL5)							
6.45-7.20	B22 _(SL5)						at c.7.20m BGL ... very dense.	
7.00	PID	<0.1ppm						
7.20-8.70	SL6 _(SS)							
7.20	J23 _(SL6)							
7.20-7.95	B24 _(SL6)							
7.20	S	50/250mm						

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
17/06/2021	0.00	0.00	178		0.43 - 1.20	178	100	Yes	
17/06/2021	2.70	2.70	178	Dry	1.20 - 2.70	178	100	Yes	
18/06/2021	2.70	2.70	178	Dry	2.70 - 4.20	178	100	Yes	
					4.20 - 5.70	178	100	Yes	
					5.70 - 7.20	178	100	Yes	
					7.20 - 8.70	178	100	Yes	

(1) Description derived from drillers daily report.
 (2) Inspection pit dug prior to drilling.
 (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 2.00-5.00m and 15.00-18.00m BGL.
 (4) UXO carried out as per the Client instructions.
 (5) Aquifer protection installed between 13.75-11.70m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH04	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457410.778 N:525626.536	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 5.006	Start Date: 17/05/2021
		Sheet: 2 of 2	

SAMPLES & TESTS			STRATA					Instrument/ Backfill		
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description			
7.95 7.95-8.70 8.00	J25 _(SL6) B26 _(SL6) PID	<0.1ppm					Loose becoming medium dense to dense yellow brown slightly silty gravelly SAND with occasional shell fragments. Gravel is fine to coarse subangular to subrounded and includes sandstone, mudstone and limestone. Sand is fine to medium. (Tidal Flat Deposits). <i>(continued)</i> at c.8.70m BGL ... very dense.			
8.70-10.20 8.70 8.70-9.45 8.70 9.00	SL7 _(SS) J27 _(SL7) B28 _(SL7) S PID	N51 <0.1ppm					at c.10.20m BGL ... medium dense.			
9.45 9.45-10.20	J29 _(SL7) B30 _(SL7)									
10.00 10.20	PID S	<0.1ppm N25								
11.00	PID	<0.1ppm								
11.70-13.20 11.70 11.70-12.70 11.70 12.00	SL8 _(SS) J35 _(SL8) B36 _(SL8) S PID	N3 <0.1ppm					at c.11.70m BGL ... slightly sandy clay.			
12.70 12.70-13.20 13.00 13.20-13.65	J37 _(SL8) B38 _(SL8) PID UT8	<0.1ppm (25)		-7.69			12.70		Soft to firm dark brown slightly sandy CLAY/SILT. Sand is fine to coarse. (Driller notes sandy bands). (Tidal Flat Deposits). at c.13.20m BGL ... silt of low plasticity.	
				-8.75			13.75		<i>Boring complete at 13.75m BGL - continued by rotary drilling.</i>	

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
18/06/2021	10.20	10.20	178	4.90	8.70 - 10.20	178	100	Yes	
21/06/2021	10.20	10.20	178	4.10	11.70 - 13.20	178	100	Yes	
21/06/2021	13.75	13.75	178	3.50	13.20 - 13.65	178	100	No	

(1) Description derived from drillers daily report.
 (2) Inspection pit dug prior to drilling.
 (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 2.00-5.00m and 15.00-18.00m BGL.
 (4) UXO carried out as per the Client instructions.
 (5) Aquifer protection installed between 13.75-11.70m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH04	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457410.778 N:525626.536	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 5.006	Start Date: 17/05/2021
		Sheet: 1 of 14	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
13.75 (102mm)	0	SOIL		-8.75		13.75 (0.75)	13.75m ... J1 13.75-25.00m ... soil.	(1) Laminated brown CLAY with gravelly clay bands. (Tidal Flat Deposits).	
14.50 (102mm)	100			-9.49		14.50 (0.80)	14.50m ... J39 14.50m ... B40 14.85m ... U41	Firm thinly laminated red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subangular and includes limestone, mudstone and sandstone. (Glacial Deposits). 14.85m ... clay is of high plasticity.	
15.30 (102mm)	100			-10.29		15.30	15.30m ... J42 15.30m ... B43 16.30m ... U44	Stiff red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subangular and includes limestone, mudstone and sandstone. (Glacial Till). 15.30m ... clay is of intermediate plasticity. 16.30m ... very high strength. Clay is of intermediate plasticity.	
16.80 (102mm)	100					(3.50)	16.75m ... J45 16.80m ... B46		
17.50 (102mm)	100								

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
21/06/2021	13.75	13.75	2.11	14.50	S	N9	13.75 - 14.50	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 2.00-5.00m and 15.00-18.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 13.75-11.70m BGL prior to commencing rotary drilling.
							14.50 - 15.30	Water	100	
							15.30 - 16.80	Water	100	
							16.80 - 17.50	Water	100	
							17.50 - 17.80	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH04	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457410.778 N:525626.536	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 5.006	Start Date: 17/05/2021
		Sheet: 2 of 14	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
17.80	100					17.80m ... J47 17.80m ... U48		Stiff red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subangular and includes limestone, mudstone and sandstone. (Glacial Till). (continued) 17.80m ... clay is of intermediate plasticity.	
18.80	100			-13.79		18.80m ... J49 18.80m ... B51 18.80m ... ES50		Stiff thickly laminated red brown slightly sandy CLAY. Sand is fine to coarse. (Glacial Deposits).	
19.80	86					19.80m ... ES(M)52			
20.50	77				(3.50)	20.50m ... J53 20.50m ... B54		20.50m ... clay is of intermediate plasticity.	
21.50	98					21.50m ... J55 21.50m ... B56			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
21/06/2021	20.50	20.50	0.00	17.80	S	N17	17.80 - 18.80	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 2.00-5.00m and 15.00-18.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 13.75-11.70m BGL prior to commencing rotary drilling.
22/06/2021	20.50	20.50	4.09	20.50	S	N15	18.80 - 19.80	Water	100	
							19.80 - 20.50	Water	100	
							20.50 - 21.50	Water	100	
							21.50 - 22.30	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH04	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457410.778 N:525626.536		Sheet: 3 of 14
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 5.006	Start Date: 17/05/2021	

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
22.30	100			-17.29		22.30m ... J57 22.30m ... B59 22.30m ... ES58	Stiff thickly laminated red brown slightly sandy CLAY. Sand is fine to coarse. (Glacial Deposits). (continued)		
23.80	100 (11) 0					23.30m ... J60 23.80m ... J61 23.80m ... B62	Stiff red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse angular to subangular and includes sandstone, mudstone and limestone. (Glacial Till). 23.80m ... clay is of low to intermediate plasticity.		
25.30	100 (100) 0	8		-19.99		24.80m ... ES63 24.80m ... ES(M)64 25.00-25.30m ... non-intact. 25.30-26.80m ... subhorizontal (5-25 degrees) and oblique (55-65 degrees) closely spaced planar to undulating smooth to rough open and tight clean discontinuities.	Weak thinly bedded dark grey MUDSTONE partially weathered, in places, distinctly weathered with occasional fossilised remains (2-40mm in size). (Redcar Mudstone Formation).		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
				23.80	S	50/11mm	22.30 - 23.80	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 2.00-5.00m and 15.00-18.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 13.75-11.70m BGL prior to commencing rotary drilling.
							23.80 - 25.30	Water	100	
							25.30 - 26.80	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

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Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457410.778 N:525626.536			
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 5.006	Start Date: 17/05/2021	Sheet: 4 of 14	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
26.80								Weak thinly bedded dark grey MUDSTONE partially weathered, in places, distinctly weathered with occasional fossilised remains (2-40mm in size). (Redcar Mudstone Formation). (continued)	
28.30	100 (27) 0	9				26.80-28.30m ... subhorizontal (5-25 degrees) and subvertical (65-85 degrees) closely spaced planar to undulating smooth open and tight clean and infilled (clay) discontinuities.	(5.00)		
	100 (90) 24	8				28.30-30.00m ... subhorizontal (5-25 degrees) closely spaced smooth planar to undulating smooth open and tight clean and infilled (clay) discontinuities.			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
							26.80 - 28.30	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 2.00-5.00m and 15.00-18.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 13.75-11.70m BGL prior to commencing rotary drilling.
							28.30 - 29.80	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

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Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457410.778 N:525626.536		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 5.006	Start Date: 17/05/2021	Sheet: 5 of 14

RUN DETAILS				STRATA					Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
29.80 (102mm)	100 (100) 0			-24.99		30.00			
							Complete at 30.00m BGL.		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
22/06/2021	30.00	30.00	0.00				29.80 - 30.00	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 2.00-5.00m and 15.00-18.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 13.75-11.70m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457410.778 N:525626.536		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 5.006	Start Date: 17/05/2021	Sheet: 6 of 14

Figure MS\BH04.1
MS\BH04 0.43-1.20m BGL



Figure MS\BH04.2
MS\BH04 1.20-2.70m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 5.006	Start Date: 17/05/2021	Sheet: 7 of 14

Figure MS\BH04.3
MS\BH04 2.70-4.20m BGL



Figure MS\BH04.4
MS\BH04 4.20-5.70m BGL





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DRILLHOLE RECORD

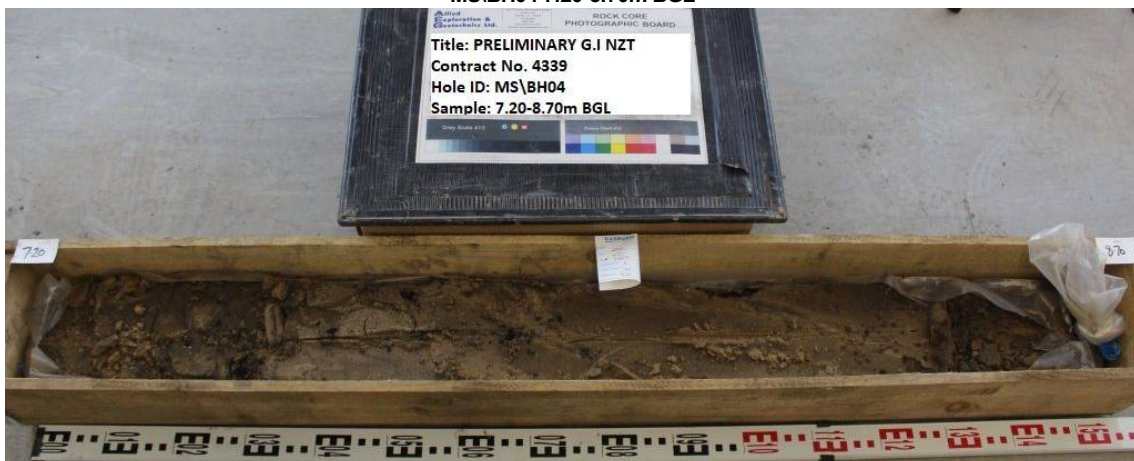
Status:-
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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457410.778 N:525626.536		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 5.006	Start Date: 17/05/2021	Sheet: 8 of 14

Figure MS\BH04.5
MS\BH04 5.70-7.20m BGL



Figure MS\BH04.6
MS\BH04 7.20-8.70m BGL





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DRILLHOLE RECORD

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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 5.006	Start Date: 17/05/2021	Sheet: 9 of 14

Figure MS\BH04.7
MS\BH04 8.70-10.20m BGL



Figure MS\BH04.8
MS\BH04 11.70-13.20m BGL





ALLIED EXPLORATION & GEOTECHNICS LIMITED

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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH04
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457410.778 N:525626.536		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 5.006	Start Date: 17/05/2021	Sheet: 10 of 14

Figure MS\BH04.9
MS\BH04 13.75-16.30m BGL

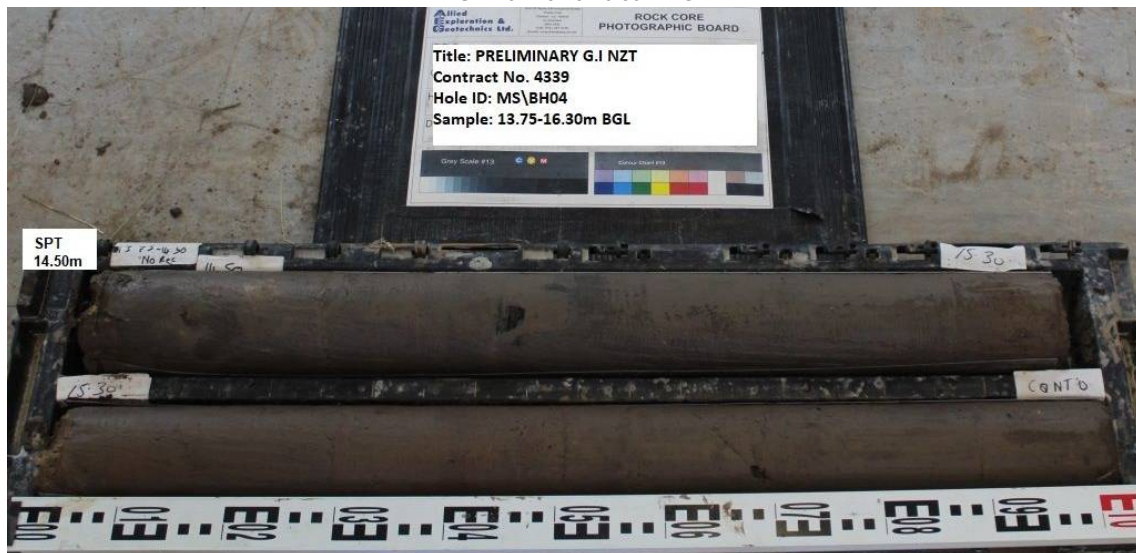


Figure MS\BH04.10
MS\BH04 16.30-17.50m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 5.006	Start Date: 17/05/2021	Sheet: 11 of 14

Figure MS\BH04.11
MS\BH04 17.50-18.80m BGL



Figure MS\BH04.12
MS\BH04 18.80-20.50m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 5.006	Start Date: 17/05/2021	Sheet: 12 of 14

Figure MS\BH04.13
MS\BH04 20.50-22.30m BGL



Figure MS\BH04.14
MS\BH04 22.30-23.80m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 5.006	Start Date: 17/05/2021	Sheet: 13 of 14

Figure MS\BH04.15
MS\BH04 23.80-25.30m BGL



Figure MS\BH04.16
MS\BH04 25.30-26.80m BGL





ALLIED EXPLORATION & GEOTECHNICS LIMITED

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DRILLHOLE RECORD

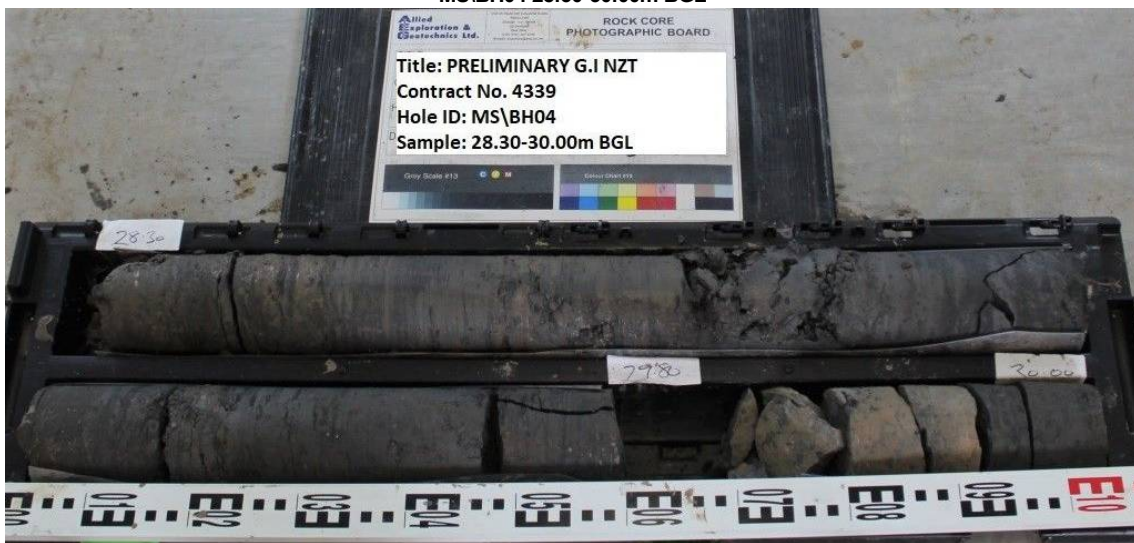
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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457410.778 N:525626.536		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 5.006	Start Date: 17/05/2021	Sheet: 14 of 14

Figure MS\BH04.17
MS\BH04 26.80-28.30m BGL



Figure MS\BH04.18
MS\BH04 28.30-30.00m BGL





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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH05	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:456866.530 N:525583.502	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.484	Start Date: 16/06/2021
		Sheet: 2 of 2	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
7.95 7.95-8.70 8.30	J17 _(SL6) B18 _(SL6) PID	<0.1ppm					7.95m ... slightly silty sand. Dense to very dense yellow brown slightly silty slightly gravelly SAND with rare fragments of shell. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes sandstone, mudstone, limestone and coal. (Tidal Flat Deposits). <i>(continued)</i>	
8.70-10.20 8.70 8.70-9.45 8.70	SL7 _(SS) J19 _(SL7) B20 _(SL7) S	N48				(4.50)		
9.30 9.45 9.45-10.20	PID J21 _(SL7) B22 _(SL7)	<0.1ppm						
10.20-11.70 10.20 10.20-10.95 10.20 10.30	SL8 _(SS) J23 _(SL8) B24 _(SL8) S PID	N49 <0.1ppm						
10.95 10.95-11.70 11.30	J25 _(SL8) B26 _(SL8) PID	<0.1ppm						
11.70-13.20 11.70 11.70-12.45 11.70	SL9 _(SS) J27 _(SL9) B28 _(SL9) S	50/157mm		-4.22		11.70	Dense to very dense dark grey brown slightly silty very gravelly SAND with frequent fragments of shell. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes coal, limestone, sandstone and mudstone. (Tidal Flat Deposits).	
12.30 12.45 12.45-13.20	PID J29 _(SL9) B30 _(SL9)	<0.1ppm				(2.25)		
13.20-14.70 13.20 13.20-13.95 13.20 13.30	SL10 _(SS) J31 _(SL10) B32 _(SL10) S PID	N32 <0.1ppm				-6.47	13.95	
13.95 13.95-14.70 14.30	J33 _(SL10) B34 _(SL10) PID	<0.1ppm				(0.75) -7.22	14.70	
Firm dark grey brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium subangular to subrounded and includes sandstone, mudstone and limestone. (Tidal Flat/Glacial Deposits). 13.95m ... clay is of high plasticity. Boring complete at 14.70m BGL - continued by rotary drilling.								

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
16/06/2021	11.70	11.70	178		8.70 - 10.20	178	100	Yes	
17/06/2021	11.70	11.70	178	8.40	10.20 - 11.70	178	100	Yes	
17/06/2021	14.70	14.70	178	4.20	11.70 - 13.20	178	100	Yes	
					13.20 - 14.70	178	100	No	

(1) Description derived from drillers daily report.
 (2) Inspection pit dug prior to drilling.
 (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 6.50-12.50m and 23.50-29.90m BGL.
 (4) UXO carried out as per the Client instructions.
 (5) Aquifer protection installed between 14.70-12.50m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH05	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:456866.530 N:525583.502	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.484	Start Date: 16/06/2021
		Sheet: 1 of 15	

RUN DETAILS			STRATA				Instrument/ Backfill		
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)		Description	
								Discontinuity Detail	Main
15.00		RO		-7.22		14.70	14.70-15.00m ... rotary openhole drilling.	(1) Brown gravelly CLAY. (Driller describes as 'stiff'). (Glacial Deposits).	
15.80	38	SOIL		-7.52		15.00	15.00-20.30m ... soil. 15.00m ... J35 15.00m ... B36	Stiff grey brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subangular and includes sandstone, mudstone and limestone. (Glacial Till). 15.00m ... clay is of intermediate plasticity.	
16.30	70						15.80m ... J1		
16.80	0						16.00-16.40m ... U1	16.00m ... high strength. Clay is of intermediate plasticity.	
17.30	100						16.80m ... J2		
17.80	70						17.30m ... ES37		
18.30	80						17.80m ... J38		
							18.00-18.30m ... U2		
	0			-10.82		18.30	18.30m ... J3	18.30m ... clay is of high plasticity.	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
18/06/2021	14.70	14.70	4.71	15.80	S	N21	14.70 - 15.00	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 6.50-12.50m and 23.50-29.90m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 14.70-12.50m BGL prior to commencing rotary drilling.
18/06/2021	15.00	15.00	4.71	16.80	S	N17	15.00 - 15.80	Water	50	
21/06/2021	15.00	15.00	0.00	18.30	S	N17	15.80 - 16.30	Water	50	
							16.30 - 16.80	Water	50	
							16.80 - 17.30	Water	60	
							17.30 - 17.80	Water	60	
							17.80 - 18.30	Water	50	
							18.30 - 18.80	Water	50	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.484	Start Date: 16/06/2021
		Sheet: 2 of 15	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
18.80	0							Stiff red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subangular and includes sandstone, mudstone and limestone. (Glacial Till). (continued)	
19.30	100					19.30m ... J39 19.30m ... B40		19.30-19.80m ... driller notes loss of flush to 50% returns.	
19.80	100					19.80m ... J41 19.80m ... B42		19.80m ... laminated with silt dustings on the laminae. Clay is of intermediate plasticity. 19.80-20.30m ... driller notes loss of flush to 70% returns.	
20.30	83 (0) 0			-13.12		20.60		Extremely weak thinly laminated grey MUDSTONE distinctly weathered to destructured. (Redcar Mudstone Formation).	
21.50	100 (0) 0	NI				20.60-23.50m ... non-intact.			
22.00	100 (0) 0								

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
				19.30	S	N13	18.80 - 19.30	Water	50	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 6.50-12.50m and 23.50-29.90m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 14.70-12.50m BGL prior to commencing rotary drilling.
				21.50	C	50/159mm	19.30 - 19.80	Water	50	
							19.80 - 20.30	Water	70	
							20.30 - 21.50	Water	100	
							21.50 - 22.00	Water	100	
							22.00 - 23.00	Water	100	

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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.484	Start Date: 16/06/2021
		Sheet: 3 of 15	

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
23.00								Extremely weak thinly laminated grey MUDSTONE distinctly weathered to destructured. (Redcar Mudstone Formation). (continued)	
(102mm)	100 (0) 0								
23.50				-16.02		23.50	23.50-26.00m ... non-intact.	Extremely weak thinly laminated dark grey MUDSTONE distinctly weathered to destructured. (Redcar Mudstone Deposits).	
(102mm)	100 (0) 0	NI							
25.00						(2.50)			
(102mm)	100 (0) 0								
26.00				-18.52		26.00	26.00-26.60m ... non-intact.	Extremely weak to very weak thinly laminated MUDSTONE partially weathered to distinctly weathered. (Redcar Mudstone Formation).	
(102mm)	100 (0) 0	NI							
26.50							26.60-27.60m ... horizontal to subhorizontal (0-5)		
(102mm)	100 (0) 0	15							

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
21/06/2021	26.00	26.00	0.00				23.00 - 23.50	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 6.50-12.50m and 23.50-29.90m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 14.70-12.50m BGL prior to commencing rotary drilling.
22/06/2021	26.00	26.00	4.27				23.50 - 25.00	Water	100	
							25.00 - 26.00	Water	100	
							26.00 - 26.50	Water	100	
							26.50 - 28.00	Water	100	

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DRILLHOLE RECORD

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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH05	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456866.530 N:525583.502		MS1BH05
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.484	Start Date: 16/06/2021	Sheet: 4 of 15

RUN DETAILS				STRATA					Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
28.00	(102mm)	10	NI			(3.90)	degrees) closely to very closely spaced planar to undulating smooth and rough open to wide infilled (fine to coarse gravel) discontinuities.	Extremely weak to very weak thinly laminated MUDSTONE partially weathered to distinctly weathered. (Redcar Mudstone Formation). (continued)	
							27.60-28.00m ... horizontal to subhorizontal (0-25 degrees) closely spaced planar to undulating smooth open and tight infilled (clay) discontinuities.		
29.50	(102mm)	19	NI				28.00-28.70m ... non-intact.	29.50-29.90m ... distinctly weathered to destructured.	
							28.70-29.50m ... subhorizontal (5-25 degrees) very closely spaced planar to undulating smooth open and tight smooth infilled (clay) discontinuities.		
	(102mm)	22	NI	-22.42		29.90	29.90-30.50m ... non-intact.	Extremely weak to weak thinly laminated light grey MUDSTONE distinctly weathered to destructured. (Redcar Mudstone Formation).	
							30.50-30.90m ... subhorizontal (5-25 degrees) very closely spaced planar to undulating smooth open and tight infilled (clay) discontinuities.		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
							28.00 - 29.50	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 6.50-12.50m and 23.50-29.90m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 14.70-12.50m BGL prior to commencing rotary drilling.
							29.50 - 31.00	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.484	Start Date: 16/06/2021	Sheet: 5 of 15

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
				-23.42		30.90			
		NI		-23.52		31.00	30.90-31.00m ... non-intact.	Extremely weak to weak thinly laminated light grey MUDSTONE partially to distinctly weathered. (Redcar Mudstone Formation). Complete at 31.00m BGL.	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
22/06/2021	31.00	31.00	0.00							(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 6.50-12.50m and 23.50-29.90m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 14.70-12.50m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.484	Start Date: 16/06/2021	Sheet: 6 of 15

Figure MS\BH05.1
MS\BH05 0.12-1.20m BGL



Figure MS\BH05.2
MS\BH05 1.20-2.70m BGL





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Figure MS\BH05.3
MS\BH05 2.70-4.20m BGL



Figure MS\BH05.4
MS\BH05 4.20-5.70m BGL





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Figure MS\BH05.5
MS\BH05 5.70-7.20m BGL



Figure MS\BH05.6
MS\BH05 7.20-8.70m BGL





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Figure MS\BH05.7
MS\BH05 8.70-10.20m BGL



Figure MS\BH05.8
MS\BH05 10.20-11.70m BGL





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Figure MS\BH05.9
MS\BH05 11.70-13.20m BGL



Figure MS\BH05.10
MS\BH05 13.20-14.70m BGL





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Figure MS\BH05.11
MS\BH05 15.00-17.80m BGL



Figure MS\BH05.12
MS\BH05 17.80-19.80m BGL





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Figure MS\BH05.13
MS\BH05 19.80-21.50m BGL

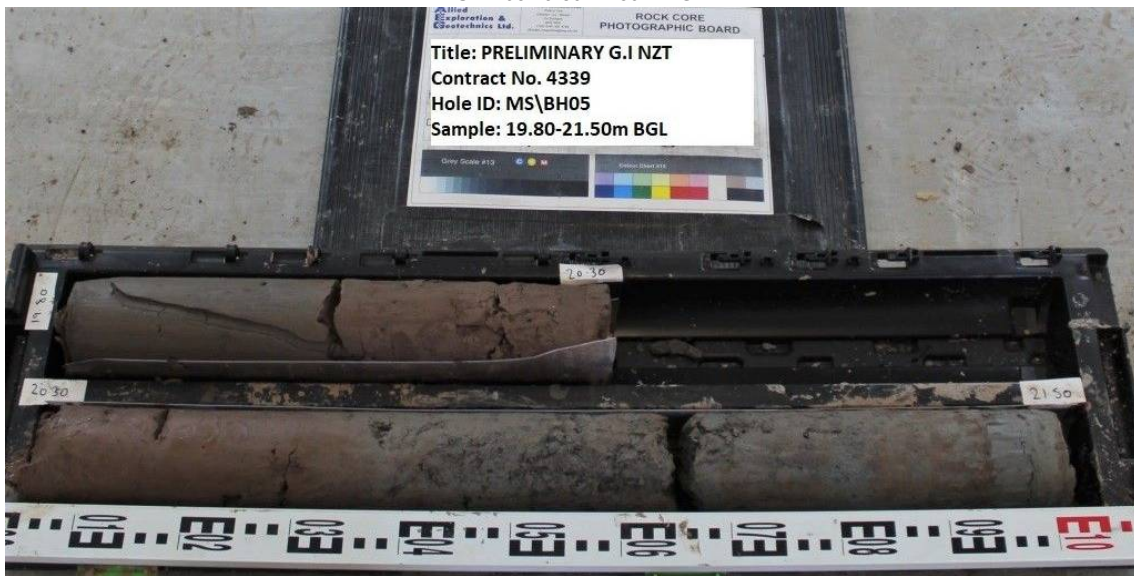


Figure MS\BH05.14
MS\BH05 21.50-23.00m BGL





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Figure MS\BH05.15
MS\BH05 23.00-24.90m BGL



Figure MS\BH05.16
MS\BH05 24.90-26.50m BGL





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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH05
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456866.530 N:525583.502		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.484	Start Date: 16/06/2021	Sheet: 14 of 15

Figure MS\BH05.17
MS\BH05 26.50-28.00m BGL



Figure MS\BH05.18
MS\BH05 28.00-29.50m BGL





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DRILLHOLE RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH05
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456866.530 N:525583.502		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.484	Start Date: 16/06/2021	Sheet: 15 of 15

Figure MS\BH05.19
MS\BH05 29.50-31.00m BGL



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SONIC SAMPLE HOLE RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.976	Start Date: 24/05/2021
		Sheet: 1 of 3	

SAMPLES & TESTS			STRATA				Instrument/ Backfill	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)		Description
0.18	J1			7.93		0.05	MADE GROUND (Grass over soft dark brown clayey topsoil).	
0.20-1.20	SL1 ^(SS)			7.80		0.18	MADE GROUND (Dark grey fused gravel with medium cobble content. Gravel is fine to coarse angular to subangular and includes vesicular slag. Cobbles are angular to subangular and include vesicular slag (75-100%)).	
0.20-0.90	B30 ^(SL1)					(0.72)		
0.50	ES1 ^(SL1)							
0.50	J9 ^(SL1)							
0.50	PID	<0.1ppm		7.08		0.90	MADE GROUND (Black dark grey red brown gravelly sand with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse angular to subangular and includes vesicular slag and ash. Cobbles are subangular and include vesicular slag (50-75%)).	
0.90-1.20	B31 ^(SL1)							
1.00	ES2 ^(SL1)							
1.00	J10 ^(SL1)							
1.00	PID	<0.1ppm						
1.20-2.70	SL2 ^(SS)							
1.20-1.90	B32 ^(SL2)					(1.80)	MADE GROUND (Pink red clayey sandy gravel with high cobble and low boulder content and occasional fragments of metal. Sand is fine to coarse and includes ash. Gravel is fine to coarse angular to subangular and includes vesicular slag (50-75%) and concrete. Cobbles and boulders are angular to subangular and includes concrete).	
1.20	S	50/90mm						
1.50	ES3 ^(SL2)							
1.50	J11 ^(SL2)							
1.50	PID	<0.1ppm						
1.90-2.70	B33 ^(SL2)							
2.00	PID	<0.1ppm						
2.30	J12 ^(SL2)							
2.50	ES4 ^(SL2)			5.28		2.70	MADE GROUND (Pink brown clayey very sandy gravel with low cobble content. Gravel is fine to coarse angular to subangular and includes vesicular slag and ash. Cobbles are angular and include vesicular slag (50-75%)).	
2.50	PID	<0.1ppm						
2.70-4.20	SL3 ^(SS)							
2.70-4.20	B34 ^(SL3)							
2.70	S	N21						
3.00	ES5 ^(SL3)							
3.00	J13 ^(SL3)					(1.70)	MADE GROUND (Pink brown clayey very sandy gravel with low cobble content. Gravel is fine to coarse angular to subangular and includes vesicular slag and ash. Cobbles are angular and include vesicular slag (50-75%)).	
3.00	PID	<0.1ppm						
3.20	ES6 ^(SL3)							
3.20	PID	<0.1ppm						
3.70	PID	<0.1ppm						
4.00	J14 ^(SL3)							
4.20-5.70	SL4 ^(SS)			3.58		4.40	MADE GROUND (Black sandy gravelly cobbles. Sand is fine to coarse. Gravel is fine to coarse angular to subangular and includes vesicular slag and ash. Cobbles are angular to subangular and include vesicular slag (75-100%)).	
4.20-5.20	B35 ^(SL4)							
4.20	S	N13						
4.50	ES7 ^(SL4)							
4.50	PID	<0.1ppm				(0.90)	MADE GROUND (Black sandy gravelly cobbles. Sand is fine to coarse. Gravel is fine to coarse angular to subangular and includes vesicular slag and ash. Cobbles are angular to subangular and include vesicular slag (75-100%)).	
4.90	J15 ^(SL4)							
5.30	ES8 ^(SL4)			2.68		5.30	Dark grey black silty SAND. Sand is fine to coarse. (Tidal Flat Deposits).	
5.30	PID	<0.1ppm						
5.40	J16 ^(SL4)			2.28		5.70	Medium dense dark brown grey slightly silty SAND with rare fragments of shell. Sand is fine to medium. (Tidal Flat Deposits).	
5.40-5.70	B36 ^(SL4)							
5.70-7.20	SL5 ^(SS)							
5.70	J17 ^(SL5)							
5.70-6.45	B35 ^(SL5)							
5.70	S	N27						
5.70	PID	0.5ppm						
6.30	PID	<0.1ppm						
6.45	J18 ^(SL5)							
6.45-7.20	B37 ^(SL5)							
6.70	PID	<0.1ppm						
7.20-8.70	SL6 ^(SS)							
7.20	J19 ^(SL6)							
7.20-7.95	B38 ^(SL6)							
7.20	S	N24						
7.30	PID	<0.1ppm						
7.70	PID	<0.1ppm						

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
24/05/2021	0.00	0.00	178		0.20 - 1.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit excavated prior to drilling. (4) High Pressure Dilatometer testing carried out. Refer to Appendix III for results. (5) 4 No. vibrating piezometers installed at 4.50m, 10.00m, 19.20m and 30.00m BGL. (6) UXO carried out as per the Client instructions. (7) Aquifer protection installed between 16.20-13.40m BGL prior to commencing rotary drilling.
24/05/2021	5.70	5.70	178	Damp	1.20 - 2.70	178	100	Yes	
25/05/2021	5.70	5.70	178	Dry	2.70 - 4.20	178	100	Yes	
					4.20 - 5.70	178	100	Yes	
					5.70 - 7.20	178	100	Yes	
					7.20 - 8.70	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH06	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.976	Start Date: 24/05/2021
		Sheet: 2 of 3	

SAMPLES & TESTS			STRATA				Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	
7.95-8.70	J20 ^(SL6) B39 ^(SL6) PID	<0.1ppm			x	(6.00)	Medium dense dark brown grey slightly silty SAND with rare fragments of shell. Sand is fine to medium. (Tidal Flat Deposits). <i>(continued)</i>
8.70-10.20	SL7 ^(SS) J21 ^(SL7) B40 ^(SL7) S PID	N17 <0.1ppm			x		at c.8.70m BGL ... sand.
8.70-9.45	B40 ^(SL7) S	<0.1ppm			x		
8.70	PID	<0.1ppm			x		
9.30	PID	<0.1ppm			x		
9.45	J22 ^(SL7)				x		
9.45-10.20	B41 ^(SL7) PID	<0.1ppm			x		
9.70	PID	<0.1ppm			x		
10.20-11.70	SL8 ^(SS) J23 ^(SL8) B42 ^(SL8) S PID	N29 <0.1ppm			x		
10.20	PID	<0.1ppm			x		
10.70	PID	<0.1ppm			x		
10.95	J24 ^(SL8)				x		
10.95-11.70	B43 ^(SL8) PID	<0.1ppm			x		
11.30	PID	<0.1ppm			x		
11.70-13.20	SL9 ^(SS) J25 ^(SL9) B44 ^(SL9) S PID	N51 2.6ppm <0.1ppm		-3.72	x	11.70	Very dense dark brown grey slightly silty slightly gravelly SAND with occasional fragments of shell. Sand is fine to coarse. Gravel is fine to medium and includes mudstone. (Tidal Flat Deposits).
11.70	PID	<0.1ppm			x		
12.30	PID	<0.1ppm			x		
12.45	J26 ^(SL9)				x		
12.45-13.20	B45 ^(SL9) PID	5.1ppm			x	13.20	Very dense grey slightly silty gravelly SAND with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse rounded to subrounded. Cobbles are rounded to subrounded and include granite and sandstone. (Tidal Flat Deposits).
12.70	PID	<0.1ppm			x		
13.20-14.70	SL10 ^(SS) S	50/280mm			x	13.20	Very dense grey slightly silty gravelly SAND with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse rounded to subrounded. Cobbles are rounded to subrounded and include granite and sandstone. (Tidal Flat Deposits).
13.20	PID	<0.1ppm			x		
13.70	PID	<0.1ppm			x		
13.90	J28 ^(SL10)				x		
14.30	PID	<0.1ppm			x		Soft thinly laminated grey brown sandy silty CLAY with occasional fragments of shell and traces of organic material. (Tidal Flat Deposits). at c. 13.90m BGL ... clay is of low plasticity.
14.60	J29 ^(SL10)				x		
14.70-16.20	SL11 S PID	N0 <0.1ppm			x	16.20	at c. 14.70m BGL ... clay is of intermediate plasticity. at c. 14.70m BGL ... ATH Tool sunk under own weight.
14.70	PID	<0.1ppm			x		
15.70	PID	<0.1ppm			x		

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
25/05/2021	14.70	14.70	178		8.70 - 10.20	178	100	Yes	
27/05/2021	14.70	14.70	178	4.00	10.20 - 11.70	178	100	Yes	
					11.70 - 13.20	178	100	Yes	
					13.20 - 14.70	178	100	Yes	
					14.70 - 16.20	178	100	No	

(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit excavated prior to drilling. (4) High Pressure Dilatometer testing carried out. Refer to Appendix III for results. (5) 4 No. vibrating piezometers installed at 4.50m, 10.00m, 19.20m and 30.00m BGL. (6) UXO carried out as per the Client instructions. (7) Aquifer protection installed between 16.20-13.40m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH06	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.976	Start Date: 24/05/2021
		Sheet: 3 of 3	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
				-8.23	X - X - X	16.20	Boring complete at 16.20m BGL - continued by rotary drilling.	

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
27/05/2021	16.20	16.20	178	4.00					(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit excavated prior to drilling. (4) High Pressure Dilatometer testing carried out. Refer to Appendix III for results. (5) 4 No. vibrating piezometers installed at 4.50m, 10.00m, 19.20m and 30.00m BGL. (6) UXO carried out as per the Client instructions. (7) Aquifer protection installed between 16.20-13.40m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH06	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.976	Start Date: 24/05/2021
		Sheet: 1 of 17	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
16.30		RO		-8.23		16.20	16.20-16.30m ... rotary openhole.	(1) Brown CLAY.	
	100	SOIL		-8.32		16.30	16.30m ... J57 16.30-22.00m ... Soil.	Firm dark grey brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subangular to subrounded and includes coal, sandstone, mudstone and limestone. (Glacial Till). 16.30m ... high strength. Clay is of high plasticity.	
							16.60m ... U58		
							17.05m ... B59		
17.30						(2.00)	17.30m ... J1	17.30m ... clay is of intermediate plasticity.	
	100						17.55m ... J60 17.55m ... B61		
							18.30m ... J62 18.30m ... B63	Stiff dark grey brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subangular to subrounded and includes coal, sandstone, mudstone and limestone. (Glacial Till).	
18.30		95		-10.32		18.30	18.85m ... U64		
						(1.50)			
							19.80m ... J2	(1) Laminated brown CLAY with sand lenses. (Driller describes as 'firm'). (Glacial Deposits). 19.80m ... firm thinly laminated brown slightly sandy clay with some silt	
19.80		0		-11.82		19.80			
						(0.45)			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
01/06/2021	16.20	16.20	5.42	17.30	S	N23	16.20 - 16.30	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit excavated prior to drilling. (4) High Pressure Dilatometer testing carried out. Refer to Appendix III for results. (5) 4 No. vibrating piezometers installed at 4.50m, 10.00m, 19.20m and 30.00m BGL. (6) UXO carried out as per the Client instructions. (7) Aquifer protection installed between 16.20-13.40m BGL prior to commencing rotary drilling.
01/06/2021	16.30	16.30	0.00	19.80	S	N19	16.30 - 17.30	Water	100	
02/06/2021	16.30	16.30	0.00				17.30 - 18.30	Water	100	
							18.30 - 19.80	Water	100	
							19.80 - 21.30	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH06	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.976	Start Date: 24/05/2021	Sheet: 2 of 17

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
21.30	100			-12.27		20.25		dustings on laminae. Clay is of intermediate plasticity. (1) Brown SAND. (Glacial Deposits).	
22.00	100			-13.37		21.35	21.30m ... J3 21.30m ... B66 21.30m ... J65	Stiff dark grey brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes sandstone, limestone and mudstone. (Glacial Till).	
23.00	90	NI		-14.02		22.00	22.00-22.90m ... non-intact.	Extremely weak grey very clayey MUDSTONE distinctly weathered to destructured. (In places recovered as clay). (Redcar Mudstone Formation).	
23.00	77 (72) 38	NR		-15.02		23.00	22.90-23.30m ... no recovery.	Very weak thinly laminated light grey MUDSTONE distinctly weathered. (Redcar Mudstone Formation).	
		13					23.30-24.30m ... subhorizontal to oblique (25-50 degrees) with occasional subvertical to vertical (80-90 degrees) closely spaced smooth planar to undulating open and tight clean and infilled (clay) discontinuities.		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
				21.30	S	N24	21.30 - 22.00	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit excavated prior to drilling. (4) High Pressure Dilatometer testing carried out. Refer to Appendix III for results. (5) 4 No. vibrating piezometers installed at 4.50m, 10.00m, 19.20m and 30.00m BGL. (6) UXO carried out as per the Client instructions. (7) Aquifer protection installed between 16.20-13.40m BGL prior to commencing rotary drilling.
							22.00 - 23.00	Water	100	
							23.00 - 24.30	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH06	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.976	Start Date: 24/05/2021
		Sheet: 3 of 17	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
24.30	91 (67) 0	NR					24.30-24.40m ... no recovery.	Very weak thinly laminated light grey MUDSTONE distinctly weathered. (Redcar Mudstone Formation). (continued)	
		NI					24.40-24.50m ... non-intact.		
		25				(3.70)	24.50-26.70m ... horizontal to subhorizontal (0-25 degrees) closely spaced smooth planar to undulating smooth open and tight clean discontinuities.		
25.40	83 (71) 0							(1) Grey MUDSTONE. (Driller describes as 'fractured').	
		NR		-18.72		26.70	26.70-28.40m ... no recovery.		
26.90	0 (0) 0					(0.60)		Weak thinly laminated light grey MUDSTONE distinctly weathered. (Redcar Mudstone Formation).	
27.30	51 (37) 7								
				-19.32		27.30			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
02/06/2021	24.30	24.30	0.00				24.30 - 25.40	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit excavated prior to drilling. (4) High Pressure Dilatometer testing carried out. Refer to Appendix III for results. (5) 4 No. vibrating piezometers installed at 4.50m, 10.00m, 19.20m and 30.00m BGL. (6) UXO carried out as per the Client instructions. (7) Aquifer protection installed between 16.20-13.40m BGL prior to commencing rotary drilling.
03/06/2021	24.30	24.30	7.28				25.40 - 26.90	Water	100	
03/06/2021	27.30	27.30	0.00				26.90 - 27.30	Water	100	
04/06/2021	27.30	27.30	1.46				27.30 - 28.80	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH06	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.976	Start Date: 24/05/2021
		Sheet: 4 of 17	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
28.80		NI				28.40-28.80m ... non-intact.	Weak thinly laminated light grey MUDSTONE distinctly weathered. (Redcar Mudstone Formation). (continued)		
(102mm)	88 (81) 0	21				28.80-31.40m ... subhorizontal (5-25 degrees) very closely spaced planar to undulating smooth open and tight infilled (clay) discontinuities.			
30.30						30.10-30.20m ... 1 No. subvertical (75-85 degrees) undulating smooth tight clean discontinuity.			
(102mm)	51 (36) 13								
31.10				-23.12		31.10	Weak thinly laminated dark grey MUDSTONE moderately weathered. (Redcar Mudstone Formation).		
(102mm)	100 (86) 19	20				31.40-31.80m ... subhorizontal (5-25 degrees) very closely spaced planar to undulating smooth open and tight infilled (clay) discontinuities.			
31.80						31.60-31.80m ... 3 No. subvertical (75-85 degrees) planar smooth tight clean discontinuities.			
(102mm)	100 (90) 19	10				31.80-33.10m ... subhorizontal (5-25 degrees) closely spaced planar to undulating smooth open and tight clean discontinuities.			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
04/06/2021	31.10	31.10	0.00				28.80 - 30.30	Water	100	
07/06/2021	31.10	31.10	7.31				30.30 - 31.10	Water	100	
							31.10 - 31.80	Water	100	
							31.80 - 33.10	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH06	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.976	Start Date: 24/05/2021
		Sheet: 5 of 17	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
33.10	(102mm)						32.70-32.80m ... 1 No. subvertical (65-85 degrees) stepped smooth tight infilled (clay) discontinuity.	Weak thinly laminated dark grey MUDSTONE moderately weathered. (Redcar Mudstone Formation). (continued)	
34.10	(102mm)	8				33.10-35.90m ... subhorizontal (5-25 degrees) closely spaced planar to undulating smooth open and tight infilled (clay) discontinuities.			
34.90	(102mm)								
	(102mm)	10				35.90-37.10m ... subhorizontal (5-25 degrees) and subvertical (65-85 degrees) closely to medium spaced planar to undulating smooth open and tight clean occasionally infilled (clay) discontinuities. 36.10-36.35m ... 1No vertical planar smooth clean			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
07/06/2021	34.10	34.10	0.00				33.10 - 34.10	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit excavated prior to drilling. (4) High Pressure Dilatometer testing carried out. Refer to Appendix III for results. (5) 4 No. vibrating piezometers installed at 4.50m, 10.00m, 19.20m and 30.00m BGL. (6) UXO carried out as per the Client instructions. (7) Aquifer protection installed between 16.20-13.40m BGL prior to commencing rotary drilling.
08/06/2021	34.10	34.10	0.00				34.10 - 34.90	Water	100	
							34.90 - 36.40	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH06	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.976	Start Date: 24/05/2021	Sheet: 6 of 17

RUN DETAILS				STRATA					Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
36.40	83 (83) 19			-29.12		37.10	discontinuity.	Weak thinly laminated dark grey MUDSTONE moderately weathered. (Redcar Mudstone Formation). (continued)	
(102mm)								Complete at 37.10m BGL.	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
08/06/2021	37.10	37.10	0.00				36.40 - 37.10	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit excavated prior to drilling. (4) High Pressure Dilatometer testing carried out. Refer to Appendix III for results. (5) 4 No. vibrating piezometers installed at 4.50m, 10.00m, 19.20m and 30.00m BGL. (6) UXO carried out as per the Client instructions. (7) Aquifer protection installed between 16.20-13.40m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH06
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.976	Start Date: 24/05/2021	Sheet: 7 of 17

Figure MS\BH06.1
MS\BH06 0.20-1.20m BGL



Figure MS\BH06.2
MS\BH06 1.20-2.70m BGL





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DRILLHOLE RECORD

Status:-
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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.976	Start Date: 24/05/2021	Sheet: 8 of 17

Figure MS\BH06.3
MS\BH06 2.70-4.20m BGL



Figure MS\BH06.4
MS\BH06 4.20-5.70m BGL





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DRILLHOLE RECORD

Status:-

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.976	Start Date: 24/05/2021	Sheet: 9 of 17

Figure MS\BH06.5
MS\BH06 7.20-8.70m BGL



Figure MS\BH06.6
MS\BH06 8.70-10.20m BGL





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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.976	Start Date: 24/05/2021	Sheet: 10 of 17

Figure MS\BH06.7
MS\BH06 10.20-11.70m BGL



Figure MS\BH06.8
MS\BH06 11.70-13.20m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.976	Start Date: 24/05/2021	Sheet: 11 of 17

Figure MS\BH06.9
MS\BH06 13.20-14.70m BGL



Figure MS\BH06.10
MS\BH06 14.70-16.20m BGL





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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758		Sheet: 12 of 17
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.976	Start Date: 24/05/2021	

Figure MS\BH06.11
MS\BH06 16.30-18.30m BGL



Figure MS\BH06.12
MS\BH06 18.30-19.80m BGL





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DRILLHOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758		Sheet: 13 of 17
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.976	Start Date: 24/05/2021	

Figure MS\BH06.13
MS\BH06 21.50-23.00m BGL



Figure MS\BH06.14
MS\BH06 23.00-25.40m BGL





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DRILLHOLE RECORD

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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS\BH06	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758		Sheet: 14 of 17
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.976	Start Date: 24/05/2021	

Figure MS\BH06.15
MS\BH06 25.40-26.90m BGL



Figure MS\BH06.16
MS\BH06 27.30-30.30m BGL





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DRILLHOLE RECORD

Status:-
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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758		Sheet: 15 of 17
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.976	Start Date: 24/05/2021	

Figure MS\BH06.17
MS\BH06 30.30-31.80m BGL



Figure MS\BH06.18
MS\BH06 31.80-33.10m BGL





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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS\BH06
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758	Sheet: 16 of 17
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.976 Start Date: 24/05/2021	

Figure MS\BH06.19
MS\BH06 33.10-34.90m BGL



Figure MS\BH06.20
MS\BH06 34.90-36.40m BGL





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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH06
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457033.748 N:525517.758		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.976	Start Date: 24/05/2021	Sheet: 17 of 17

Figure MS\BH06.21
MS\BH06 36.40-37.10m BGL



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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		MS1BH07	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.330	Start Date: 30/06/2021
		Sheet: 1 of 3	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
0.35	ES1 ^(SL1)			7.28		0.05	MADE GROUND (Grass over dark brown clayey topsoil).	
0.35-1.20	SL1 ^(SS)			6.98		0.35	MADE GROUND (Light brown slightly sandy gravel. Gravel is coarse angular to subangular and includes limestone).	
0.35	PID	<0.1ppm				(0.60)	MADE GROUND (Grey brown clayey sand and gravel. Gravel is fine to coarse angular to subangular and includes slag. Slag is vesicular (100%)).	
0.40	J1							
0.50	ES2 ^(SL1)			6.38		0.95	MADE GROUND (Blue light grey slightly sandy gravel and cobbles. Gravel is fine to coarse angular to subangular and includes slag. Cobbles are subrounded to subangular and include slag. Slag is vesicular (100%)). (Engineer notes slightly saturated). at c.1.20m BGL ... medium dense.	
0.50	J3A ^(SL1)	<0.1ppm						
0.50	PID	<0.1ppm						
1.00-2.00	ES3 ^(SL1/SL2)	<0.1ppm						
1.00	PID	<0.1ppm						
1.20-2.70	SL2 ^(SS)							
1.20	C	N25						
2.00-2.70	B4 ^(SL2)	<0.1ppm						
2.00	PID	<0.1ppm						
2.70-4.20	SL3 ^(SS)					(3.25)	at c.2.70m BGL ... loose.	
2.70-4.20	ES5 ^(SL3)							
2.70-4.20	B6 ^(SL3)							
2.70	C	N7						
2.70	PID	<0.1ppm						
4.20-5.70	SL4 ^(SS)			3.13		4.20	MADE GROUND (Medium dense grey brown sand and gravel. Gravel is fine to coarse angular to subangular and includes slag. Mild tar odour). (Engineer notes slightly saturated and slag with tar coating).	
4.20-4.65	ES7 ^(SL4)					(0.45)	Black yellow brown SAND with occasional pockets of soft black silt. Sand is fine to coarse. Mild hydrocarbon odour. (Tidal Flat Deposits).	
4.20	C	N18		2.68		4.65		
4.20	PID	1.0ppm						
4.65-5.00	ES8 ^(SL4)	<0.1ppm				(0.95)		
4.65	PID	<0.1ppm						
5.00-5.70	B10 ^(SL4)							
5.50	J9 ^(SL4)	<0.1ppm		1.73		5.60	Dense yellow brown slightly gravelly SAND with occasional shell fragments. Sand is fine to coarse. Gravel is fine to coarse subrounded to rounded and includes mudstone, sandstone and limestone. (Tidal Flat Deposits).	
5.50	PID	<0.1ppm						
5.70-7.20	SL5 ^(SS)							
5.70-6.45	B11 ^(SL5)					(1.75)		
5.70	S	N36						
6.00	J12 ^(SL5)							
6.45-7.20	B13 ^(SL5)							
6.50	J14 ^(SL5)	<0.1ppm						
6.50	PID	<0.1ppm						
7.00	J15 ^(SL5)							
7.20-8.70	SL6 ^(SS)			-0.02		7.35	Soft dark grey brown silty CLAY with frequent traces of organic material. (Tidal Flat Deposits). at c.7.50m BGL ... clay is of high plasticity.	
7.20	S	N5						
7.35-7.55	ES16 ^(SL6)	<0.1ppm				(0.90)		
7.35	ES(M)17 ^(SL6)	<0.1ppm						
7.35	PID	<0.1ppm						
7.50	J19 ^(SL6)							

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
30/06/2021	0.00	0.00	178		0.35 - 1.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.60m and 5.80-7.30m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 16.55-14.50mprior to commencing rotary drilling. (7) Unable to carry out High Pressure Dilatometer test between 22.80-25.20m BGL due to poor ground conditions. (8) High Pressure Dilatometer testing carried out. Refer to Appendix III for results.
					1.20 - 2.70	178	100	Yes	
					2.70 - 4.20	178	100	Yes	
					4.20 - 5.70	178	100	Yes	
					5.70 - 7.20	178	100	Yes	
					7.20 - 8.70	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/M.B/R.C	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457195.207 N:525424.790	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.330	Start Date: 30/06/2021
		Sheet: 2 of 3	

SAMPLES & TESTS			STRATA					Instrument/ Backfill		
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description			
7.55-8.25 8.00 8.25-8.70	B18 _(SL6) J20 _(SL6) B21 _(SL6)			-0.92	x x x	8.25	Yellow brown SAND with occasional fine to coarse gravel sized pockets of soft brown silty clay. Sand is fine to coarse. (Tidal Flat Deposits).			
8.50	PID	<0.1ppm			x x x					
8.70-10.20 8.70-9.45 8.70 9.00	SL8 _(SS) B22 _(SL8) S J23 _(SL8)	N28			x x x	(1.95)				
9.45-10.20 9.50 9.50	B24 _(SL8) J25 _(SL8) PID	<0.1ppm			x x x					
10.00	J26 _(SL8)			-2.87	x x x	10.20				
10.20-11.70 10.20-11.00 10.20 10.50 10.50	SL9 _(SS) B27 _(SL9) S J28 _(SL9) PID	N26 <0.1ppm			x o x				Medium dense becoming dense yellow brown slightly gravelly silty SAND with frequent fragments of shell. Sand is fine to coarse. Gravel is fine to coarse angular to rounded and includes mudstone, sandstone and limestone. (Tidal Flat Deposits).	
11.00-11.70 11.00	B29 _(SL9) J30 _(SL9)				x o x					
11.50 11.50	J31 _(SL9) PID	<0.1ppm			x o x					
11.70-13.20 11.70-12.45 11.70 12.00	SL10 _(SS) B32 _(SL10) S J33 _(SL10)	N33			x o x	(3.45)				
12.45-13.20 12.50 12.50	B34 _(SL10) J35 _(SL10) PID	<0.1ppm			x o x					
13.00	J36 _(SL10)				x o x					
13.20-14.70 13.20-13.40 13.20 13.20	SL11 _(SS) ES37 _(SL11) S PID	N41 <0.1ppm		-6.32	x o x	13.65				
13.50 13.65-13.85 13.65	J38 _(SL11) ES39 _(SL11) PID	<0.1ppm			x o x	(0.95)				
13.85-14.60 14.00 14.50	ES(M)40 _(SL11) B41 _(SL11) J42 _(SL11) J43 _(SL11) PID	<0.1ppm (35)		-7.27	x o x	14.60				
14.70-15.12 14.70-16.20 14.70	UT1 SL12 _(SS) J44 _(SL12) B45 _(SL12) J46 _(SL12)			-7.47	x o x	14.80				
14.80-15.60 15.00					x o x	(0.80)				
15.70 15.70-15.90	J47 _(SL12) ES48 _(SL12)			-8.27 -8.37	x o x	15.60 15.70	Firm grey black organic CLAY. Mild organic odour. (Tidal Flat Deposits).			

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
30/06/2021	13.20	13.20	178		8.70 - 10.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.60m and 5.80-7.30m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 16.55-14.50m prior to commencing rotary drilling. (7) Unable to carry out High Pressure Dilatometer test between 22.80-25.20m BGL due to poor ground conditions. (8) High Pressure Dilatometer testing carried out. Refer to Appendix III for results.
01/07/2021	13.20	13.20	178		10.20 - 11.70	178	100	Yes	
					11.70 - 13.20	178	100	Yes	
					13.20 - 14.70	178	100	Yes	
					14.70 - 16.20	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/M.B/R.C	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH07	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457195.207 N:525424.790	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.330	Start Date: 30/06/2021
		Sheet: 3 of 3	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
15.70	ES(M)49 ^(SL12)	<0.1ppm			○	(0.85)	Stiff thinly laminated red brown slightly gravelly CLAY. Gravel is fine to coarse angular to rounded and includes mudstone and limestone. (Glacial Deposits). <i>(continued)</i> at c.16.20m BGL ... very high strength. Clay is of high plasticity. <i>Boring complete at 16.55m BGL - continued by rotary drilling.</i>	
15.70	PID				○			
15.90-16.20	B50 ^(SL12)				○			
16.00	J51 ^(SL12)				○			
16.20-16.55	UT2	(150)		-9.22	○	16.55		

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
01/07/2021	16.55	16.20	178	3.80					(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.60m and 5.80-7.30m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 16.55-14.50mprior to commencing rotary drilling. (7) Unable to carry out High Pressure Dilatometer test between 22.80-25.20m BGL due to poor ground conditions. (8) High Pressure Dilatometer testing carried out. Refer to Appendix III for results.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH07	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457195.207 N:525424.790		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.330	Start Date: 30/06/2021	Sheet: 1 of 17

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
16.60	100	RO SOIL		-9.22 -9.27		16.55 16.60	16.55-16.60m ... rotary openhole drilling. 16.60-22.30m ... soil.	(1) Firm brown CLAY. (Glacial Deposits).	
16.80	100						16.70m ... J52	Stiff dark brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subangular and includes coal, mudstone, sandstone and limestone. (Glacial Till). 17.10m ... clay is of intermediate plasticity.	
16.90	100						16.80m ... ES55 16.80m ... ES(M)56		
17.10	100						17.00m ... J53 17.10m ... U54		
17.60	100						17.60m ... B58 17.70m ... J57		
18.30	56						18.10m ... U59 18.30m ... J1	18.10m ... high strength. Clay is of intermediate plasticity.	
19.10	100			-11.57		18.90	19.00m ... J60 19.10m ... B62 19.20m ... J61 19.40m ... U63	Stiff red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse angular to subangular and includes coal, limestone, mudstone and sandstone. (Glacial Till). 19.40m ... clay is of intermediate plasticity.	
19.80	47						19.80m ... B65 19.90m ... J64		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
01/07/2021	16.55	16.55	4.68	18.30	S	N16	16.60 - 16.80	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.60m and 5.80-7.30m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 16.55-14.50m prior to commencing rotary drilling. (7) Unable to carry out High Pressure Dilatometer test between 22.80-25.20m BGL due to poor ground conditions. (8) High Pressure Dilatometer testing carried out. Refer to Appendix III for Log.
01/07/2021	16.90	16.90	0.00				16.80 - 16.90	Water	100	
02/07/2021	16.90	16.90	0.00				16.90 - 17.10	Water	100	
02/07/2021	19.10	19.10	0.00				17.10 - 17.60	Water	100	
05/07/2021	19.10	19.10	6.71				17.60 - 18.30	Water	100	
							18.30 - 19.10	Water	100	
							19.10 - 19.80	Water	100	
							19.80 - 21.30	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
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Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457195.207 N:525424.790	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.330	Start Date: 30/06/2021
		Sheet: 2 of 17	

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
21.30	100					(3.40)		Stiff red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse angular to subangular and includes coal, limestone, mudstone and sandstone. (Glacial Till). (continued)	
						21.40m ... J66 21.40m ... ES67 21.40m ... ES(M)68			
						21.90m ... U69		21.90m ... high strength. Clay is of low plasticity.	
		NI		-14.97		22.30		Extremely weak thinly laminated dark grey MUDSTONE residual. (Recovered as gravelly clay). (Redcar Mudstone Formation).	
						22.80-22.80m ... non-intact. Recovered as clay. 22.40m ... ES70			
						(0.85)			
22.80	0 (0) 0	10				22.80-23.15m ... horizontal (0-5 degrees) closely spaced undulating rough partly open infilled (grey sandy clay) discontinuities.			
23.00	15 (0) 0					23.15		(1) Grey MUDSTONE. (Driller describes as 'weathered').	
		NR		-15.82		23.15-24.10m ... no recovery.			
						(0.95)			
						24.10		Extremely weak dark grey MUDSTONE distinctly weathered. (Redcar Mudstone Formation).	
24.30		NI		-16.77		24.10-24.40m ... non-intact.			
24.40	100 (0) 0					(0.30)			
24.40		NR		-17.07		24.40-25.90m ... no recovery.			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
05/07/2021	23.00	23.00	0.00	21.30	S	N21	21.30 - 22.80	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.60m and 5.80-7.30m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 16.55-14.50m prior to commencing rotary drilling. (7) Unable to carry out High Pressure Dilatometer test between 22.80-25.20m BGL due to poor ground conditions. (8) High Pressure Dilatometer testing carried out. Refer to Appendix
06/07/2021	23.00	23.00	2.46				22.80 - 23.00	Water	100	
							23.00 - 24.30	Water	100	
							24.30 - 24.40	Water	100	
							24.40 - 24.90	Water	100	

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DRILLHOLE RECORD

Status:-
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Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457195.207 N:525424.790	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.330	Start Date: 30/06/2021
			Sheet: 3 of 17

RUN DETAILS				STRATA					Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
24.90	(0) 0							(1) Grey MUDSTONE. (Driller describes as 'badly broken and fractured'). (continued)	
25.40	0 (0) 0								
	0 (0) 0					(2.65)			
26.20		RO					25.90-26.20m ... rotary openhole drilling		
	43 (30) 0	NR					26.20-27.05m ... no recovery.		
				-19.72		27.05	27.05-27.60m ... horizontal to oblique (0-40 degrees) closely spaced undulating rough tight infilled (grey clayey sand and gravel) discontinuities.	Extremely weak dark grey MUDSTONE distinctly weathered. (Redcar Mudstone Formation).	
27.70		NI				(1.25)	27.60-27.70m ... non-intact.		
	100 (89) 50	8					27.70-28.30m ... horizontal to subhorizontal (0-30 degrees) closely spaced planar to undulating smooth tight partly open clean discontinuities.		
28.40		5		-20.97		28.30	28.30-28.80m ... horizontal (0-5 degrees) medium spaced planar smooth tight clean discontinuities.		
	80 (70)								

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
06/07/2021	25.80	25.80	0.00	24.90	C	N32	24.90 - 25.40	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.60m and 5.80-7.30m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 16.55-14.50mprior to commencing rotary drilling. (7) Unable to carry out High Pressure Dilatometer test between 22.80-25.20m BGL due to poor ground conditions. (8) High Pressure Dilatometer testing carried out. Refer to Appendix
07/07/2021	25.80	25.80	0.00	25.90	C	N47	25.40 - 25.90	Water	100	
07/07/2021	28.40	26.20	0.00				25.90 - 26.20	Water	100	
08/07/2021	28.40	26.20	6.10				26.20 - 27.70	Water	100	
							27.70 - 28.40	Water	100	
							28.40 - 28.90	Water	100	

All dimensions in metres Scale 1:25.00
 For explanation of symbols and abbreviations see Key Sheets
 Checked by: *K.W.*
 Logged by: G.T/M.B/R.C
 Contract No. **4339**



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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH07
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457195.207 N:525424.790	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.330	Start Date: 30/06/2021
Sheet: 4 of 17		

RUN DETAILS			STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)		Description
							Discontinuity Detail	Main
28.90	56	NR				28.80-28.90m ... no recovery.	Weak to medium strong grey dark grey fossiliferous MUDSTONE partially weathered. (Redcar Mudstone Formation). (continued)	Hatched pattern
	100 (92) 77	6				28.90-29.90m ... horizontal to subhorizontal (0-80 degrees) closely spaced undulating to planar smooth tight to partly open clean discontinuities.		
30.10		NI				29.90-30.10m ... non-intact.		
	100 (91) 77	7				30.10-31.60m ... subhorizontal to oblique (5-50 degrees) closely spaced planar to undulating smooth tight to partly open clean discontinuities.		
31.60					(6.50)	31.60-31.90m ... horizontal to subvertical (0-75 degrees) closely spaced undulating rough tight to partly open infilled (gravelly clay) discontinuities.		
	100 (77) 60	10				31.90-32.80m ... oblique (30-60 degrees) closely spaced planar to undulating smooth tight to open clean discontinuities.		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
							28.90 - 30.10	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.60m and 5.80-7.30m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 16.55-14.50m prior to commencing rotary drilling. (7) Unable to carry out High Pressure Dilatometer test between 22.80-25.20m BGL due to poor ground conditions. (8) High Pressure Dilatometer testing carried out. Refer to Appendix III for Logfile.
							30.10 - 31.60	Water	100	
							31.60 - 33.10	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T.M./B.R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH07	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457195.207 N:525424.790		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.330	Start Date: 30/06/2021	Sheet: 5 of 17

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
33.10		6				32.80-33.10m ... horizontal (0-5 degrees) closely spaced planar smooth tight to partly open clean discontinuities.	Weak to medium strong grey dark grey fossiliferous MUDSTONE partially weathered. (Redcar Mudstone Formation). (continued)		
(102mm)	100 (82) 57	6				33.10-33.60m ... horizontal to subhorizontal (0-30 degrees) closely spaced planar to undulating smooth partly open to open clean discontinuities.			
		NI				33.60-33.75m ... non-intact.			
		9				33.75-34.20m ... horizontal (0-5 degrees) closely spaced planar smooth to rough partly open clean discontinuities.			
		NI				34.20-34.35m ... non-intact.			
34.80		8				34.35-34.80m ... horizontal (0-5 degrees) closely spaced planar smooth partly open clean discontinuities.			
(102mm)	67 (56) 43	NR		-27.47		34.80-35.30m ... no recovery.	(1) Grey MUDSTONE. (Driller describes as 'heavily fractured').		
		6		-27.97		35.30-36.20m ... horizontal (0-5 degrees) closely spaced planar to undulating smooth tight to partly open clean discontinuities.	Weak to medium strong grey dark grey fossiliferous MUDSTONE partially weathered. (Redcar Mudstone Formation).		
		NI				36.20-36.30m ... non-intact.			
36.30		NR		-28.97		36.30-36.70m ... no recovery.	(1) Grey MUDSTONE. (Driller describes as 'heavily fractured').		
	60 (29) 14	NR							

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
08/07/2021	34.80	28.50	0.00				33.10 - 34.60	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.60m and 5.80-7.30m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 16.55-14.50mprior to commencing rotary drilling. (7) Unable to carry out High Pressure Dilatometer test between 22.80-25.20m BGL due to poor ground conditions. (8) High Pressure Dilatometer testing carried out. Refer to Appendix III for Logfile by: G.T/M.B/R.C
09/07/2021	34.80	28.50	1.60				34.80 - 36.30	Water	100	
							36.30 - 37.30	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Contract No. 4339
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DRILLHOLE RECORD

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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH07	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457195.207 N:525424.790	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.330	Start Date: 30/06/2021
			Sheet: 6 of 17

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
(102mm)		8		-29.37		36.70	36.70-37.30m ... horizontal to subvertical (0-75 degrees) closely spaced planar smooth tight to partly open infilled (clayey sand and gravel) discontinuities.	Weak to medium strong grey dark grey fossiliferous MUDSTONE partially weathered. (Redcar Mudstone Formation).	
						40.60			
				-29.97		37.30		Complete at 37.30m BGL.	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
09/07/2021	37.30	28.50	0.00							(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.60m and 5.80-7.30m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 16.55-14.50mprior to commencing rotary drilling. (7) Unable to carry out High Pressure Dilatometer test between 22.80-25.20m BGL due to poor ground conditions. (8) High Pressure Dilatometer testing carried out. Refer to Appendix III for Logfile by: G.T/M.B/R.C

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457195.207 N:525424.790		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.330	Start Date: 30/06/2021	Sheet: 7 of 17

Figure MS\BH07.1
MS\BH07 0.35-1.20m BGL



Figure MS\BH07.2
MS\BH07 1.20-2.70m BGL





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Figure MS\BH07.3
MS\BH07 2.70-4.20m BGL



Figure MS\BH07.4
MS\BH07 4.20-5.70m BGL





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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH07
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457195.207 N:525424.790		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.330	Start Date: 30/06/2021	Sheet: 9 of 17

Figure MS\BH07.5
MS\BH07 5.70-7.20m BGL



Figure MS\BH07.6
MS\BH07 7.20-8.70m BGL





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DRILLHOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457195.207 N:525424.790		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.330	Start Date: 30/06/2021	Sheet: 10 of 17

Figure MS\BH07.7
MS\BH07 8.70-10.20m BGL



Figure MS\BH07.8
MS\BH07 10.20-11.70m BGL





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DRILLHOLE RECORD

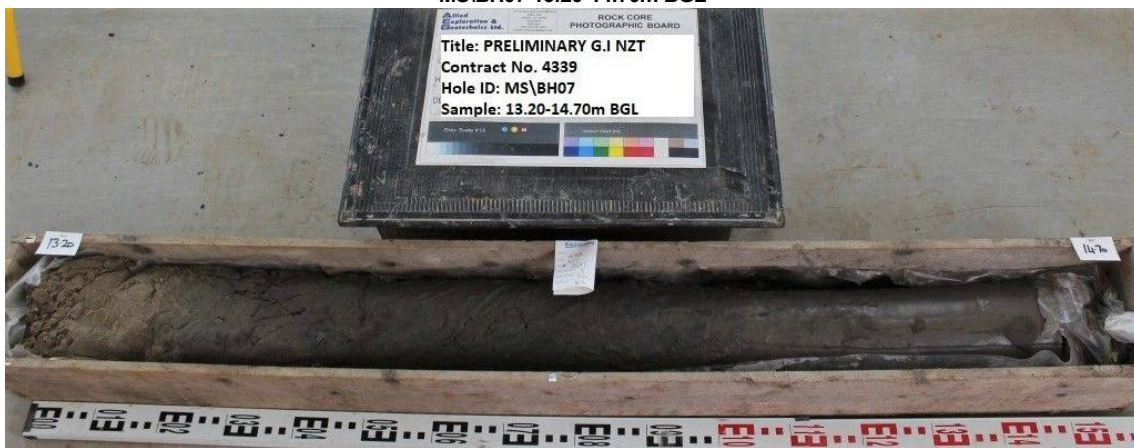
Status:-
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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457195.207 N:525424.790		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.330	Start Date: 30/06/2021	Sheet: 11 of 17

Figure MS\BH07.9
MS\BH07 11.70-13.20m BGL



Figure MS\BH07.10
MS\BH07 13.20-14.70m BGL





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Figure MS\BH07.11
MS\BH07 14.70-16.20m BGL



Figure MS\BH07.12
MS\BH07 16.60-17.60m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.330	Start Date: 30/06/2021	Sheet: 13 of 17

Figure MS\BH07.13
MS\BH07 17.60-19.10m BGL



Figure MS\BH07.14
MS\BH07 19.10-21.30m BGL





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Figure MS\BH07.15
MS\BH07 21.30-22.80m BGL



Figure MS\BH07.16
MS\BH07 22.80-27.70m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.330	Start Date: 30/06/2021	Sheet: 15 of 17

Figure MS\BH07.17
MS\BH07 27.70-28.90m BGL



Figure MS\BH07.18
MS\BH07 28.90-30.10m BGL





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Figure MS\BH07.19
MS\BH07 30.10-31.60m BGL



Figure MS\BH07.20
MS\BH07 31.60-33.10m BGL





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Figure MS\BH07.21
MS\BH07 33.10-34.80m BGL



Figure MS\BH07.22
MS\BH07 34.80-37.30m BGL



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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457240.665 N:525356.883	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 8.745	Start Date: 28/05/2021
		Sheet: 1 of 2	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
0.36-1.20	ES1 SL1 _(SS)			8.45		0.30	MADE GROUND (Grass over dark grey fused gravel with medium cobble content. Gravel is fine to coarse angular to subangular and includes slag. Cobbles are angular to subangular and include slag. Slag is vesicular (100%)).	
0.36	J7 _(SL1)						MADE GROUND (Grey brown and light grey slightly clayey slightly sandy gravel with low cobble content. Sand is fine to coarse. Gravel is fine to coarse angular to subangular and includes ash and slag. Slag is vesicular (75-100%)). at c.1.20m BGL ... dense.	
0.36-0.50	B8 _(SL1)	<0.1ppm						
0.36	PID							
0.50	ES2							
0.50	J9 _(SL1)							
0.50-1.20	B10 _(SL1)	<0.1ppm						
0.50	PID							
1.00	ES3	<0.1ppm						
1.00	PID							
1.20-2.70	SL2 _(SS)							
1.20	J11 _(SL2)							
1.20-1.80	B12 _(SL2)							
1.20	S	N46				(3.90)		
1.50	PID	<0.1ppm						
1.80	J13 _(SL2)							
1.80-2.70	B14 _(SL2)							
2.00	ES4	<0.1ppm						
2.00	PID							
2.50	PID	<0.1ppm						
2.70-4.20	SL3 _(SS)							
2.70	J15 _(SL3)							
2.70-3.45	B16 _(SL3)							
2.70	S	N11						
3.00	ES5	<0.1ppm						
3.00	PID							
3.45	J17 _(SL3)							
3.45-4.20	B18 _(SL3)							
3.50	PID	<0.1ppm		4.55		4.20		
4.20	S	50/75mm						
4.20-5.70	SL*							
							(1) MADE GROUND (Brown grey slag fill). at c.4.20m BGL ... very dense.	
							(1.50)	
5.70-7.20	SL4 _(SS)			3.05		5.70		
5.70	J19 _(SL4)							
5.70-6.30	B20 _(SL4)	50/165mm		2.85		5.90	MADE GROUND (Very dense brown grey slightly sandy gravel with low cobble content. Gravel is fine to coarse angular to subangular and includes ash and vesicular slag. Cobbles include vesicular slag (75-100%)).	
5.70	S							
6.00	ES6	<0.1ppm						
6.00	PID							
6.30	J21 _(SL4)							
6.30-7.20	B22 _(SL4)						MADE GROUND (Brown grey slightly silty sand. Sand is fine to medium).	
6.50	PID	<0.1ppm		1.85		6.90		
7.20-8.70	SL5 _(SS)			1.55		7.20	MADE GROUND (Dark brown slightly organic clayey sand with occasional organic fragments).	
7.20	J23 _(SL5)							
7.20-7.80	B24 _(SL5)							
7.20	S	N12						
7.20	PID	<0.1ppm		0.94		7.80	MADE GROUND (Medium dense dark grey brown slightly clayey slightly gravelly sand. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes slag, brick, concrete, ash and cinders).	
7.80	J25 _(SL5)							

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
28/05/2021	0.00	0.00	178		0.36 - 1.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-5.70m and 11.30-13.30m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed prior to commencing rotary drilling.
					1.20 - 2.70	178	100	Yes	
					2.70 - 4.20	178	100	Yes	
					4.20 - 5.70	178	0	No	
					5.70 - 7.20	178	100	Yes	
					7.20 - 8.70	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457240.665 N:525356.883	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 8.745	Start Date: 28/05/2021
		Sheet: 2 of 2	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
7.80-8.50	B26 _(SL5)					(0.70)	Light yellow grey slightly clayey slightly gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes slag, brick, concrete, ash and cinders. (Tidal Flat Deposits). <i>(continued)</i>	
8.20	PID	0.4ppm		0.24		8.50		
8.50	J27 _(SL5)					(0.75)	Soft to firm black grey slightly organic sandy CLAY. Sand is fine to coarse. (Tidal Flat Deposits).	
8.50-8.70	B28 _(SL5)	(24)				9.25		
8.70-9.15	UT1							
9.20	PID	<0.1ppm				(0.50)	Dark grey very clayey SAND with occasional fragments of shell. Sand is fine to coarse. (Tidal Flat Deposits).	
9.25	J1			-0.51		9.75		
9.25-10.20	SL6 _(SS)					(0.45)	Dark grey sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium subangular to subrounded. (Tidal Flat Deposits).	
9.25	J29 _(SL6)			-1.01		10.20		
9.25-9.75	B30 _(SL6)							
9.75	J31 _(SL6)							
9.75-10.20	B32 _(SL6)							
10.20-11.70	SL7 _(SS)					(3.60)	Very loose and loose dark grey brown very clayey SAND with occasional fragments of shell. Sand is fine to coarse. (Tidal Flat Deposits).	
10.20	J33 _(SL7)							
10.20-10.95	B34 _(SL7)							
10.20	S	N4						
10.20	PID	<0.1ppm						
10.95	J35 _(SL7)							
10.95-11.70	B36 _(SL7)							
11.20	PID	<0.1ppm						
11.70-13.20	SL8 _(SS)					(3.60)	from c.12.20m BGL ... medium dense.	
11.70	J37 _(SL8)							
11.70-12.45	B38 _(SL8)							
11.70	S	N12						
12.20	PID	<0.1ppm						
12.45	J39 _(SL8)							
12.45-13.20	B40 _(SL8)						at c.12.45m BGL ... slightly silty sand.	
13.20-14.70	SL9 _(SS)					(1.90)	Firm grey brown sandy slightly gravelly CLAY with occasional fragments of shell. Sand is fine to coarse. Gravel is fine subangular to subrounded and includes mudstone. (Tidal Flat Deposits).	
13.20	J41 _(SL9)							
13.20-13.80	B42 _(SL9)							
13.20	S	N23						
13.20	PID	<0.1ppm						
13.80	J43 _(SL9)							
13.80-14.25	B44 _(SL9)							
14.20	PID	<0.1ppm						
14.25	J45 _(SL9)							
14.25-14.70	B46 _(SL9)							
14.70-15.15	UT2	(20)					at c.14.70m BGL... very low strength clay of low plasticity.	
14.70-15.70	SL10 _(SS)							
14.70	J47 _(SL10)							
14.70-15.20	B48 _(SL10)							
15.20	J49 _(SL10)							
15.20-15.70	B50 _(SL10)							
15.20	PID	<0.1ppm						
15.70-15.70	J51						at c.15.70m BGL ... silty clay of intermediate plasticity.	
Boring complete at 15.70m BGL - continued by rotary drilling.								

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
28/05/2021	10.20	10.20	178	5.85	9.25 - 10.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-5.70m and 11.30-13.30m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed prior to commencing rotary drilling.
01/06/2021	10.20	10.20	178	6.00	10.20 - 11.70	178	100	Yes	
01/06/2021	14.70	14.70	178	5.70	11.70 - 13.20	178	100	Yes	
02/06/2021	14.70	14.70	178	7.20	13.20 - 14.70	178	100	Yes	
02/06/2021	15.70	15.70	178	4.90	14.70 - 15.70	178	100	Yes	

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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH08	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457240.665 N:525356.883	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 8.745	Start Date: 28/05/2021
		Sheet: 2 of 13	

RUN DETAILS			STRATA				Instrument/ Backfill		
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)		Description	
								Discontinuity Detail	Main
20.50	67				(4.00)	20.35m ... U59	Firm to stiff thinly laminated grey brown slightly sandy silty CLAY with silt dustings on laminae. Sand is fine to coarse. (Tidal Flat/Glacial Deposits). (continued)		
						20.80m ... J60 20.80m ... B61	20.35m ... very high strength. Clay is of intermediate plasticity.		
				-13.06		21.80	from 21.50m ... slightly gravelly. Gravel is fine to medium subangular to subrounded and includes mudstone, sandstone and coal.		
22.30	50				(1.50)	22.30m ... B62	Stiff red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium subangular and includes sandstone, mudstone, limestone and coal. (Glacial Till).		
23.30	100			-14.56		23.30m ... U63	23.30m ... clay is of low plasticity.		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
				22.30	S	N29	20.50 - 22.30	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-5.70m and 11.30-13.30m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed prior to commencing rotary drilling.
							22.30 - 23.30	Water	100	
							23.30 - 23.80	Water	100	

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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 8.745	Start Date: 28/05/2021
		Sheet: 3 of 13	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
23.80	100					23.75m ... J64 23.80m ... J65 23.80m ... B66 24.35m ... U67	Stiff grey sandy slightly gravelly CLAY with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes, mudstone, limestone and sandstone. Cobbles are subangular to subrounded and include limestone and sandstone. (Probable Weathered Redcar Mudstone Formation). (continued) 24.35m ... high strength. Clay is of low plasticity.		
24.80	100 (48) 0	12		-16.06		24.80	24.80-25.40m ... subhorizontal (5-25 degrees) closely spaced smooth planar to undulating open and tight infilled (clay) discontinuities.	Extremely weak thinly laminated light grey MUDSTONE residual. ((Redcar Mudstone Formation)).	
25.40	100 (25) 13	NI				25.40	25.40-25.70m ... non-intact.		
		26				25.70-26.80m ... subhorizontal (5-25 degrees) to vertical (85-90 degrees) very closely spaced planar to undulating smooth open and tight infilled (clay) discontinuities.			
		NI				26.20-26.40m ... non-intact.			
		18				26.40-26.80m ... subhorizontal (5-25 degrees) and subvertical (65-85 degrees) closely to medium spaced smooth planar and undulating open and tight infilled (clay) discontinuities.			
26.90	100 (69) 0	15		-18.06		26.80	26.80-29.90m ... subhorizontal (5-25 degrees) and subvertical (65-85 degrees) very closely spaced smooth planar and undulating open and tight infilled (clay) discontinuities.	Very weak thinly laminated light grey MUDSTONE distinctly weathered. (Redcar Mudstone Formation). 26.90-28.40m ... driller notes loss of flush to 0% returns.	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
04/06/2021	25.40	25.40	3.11				23.80 - 24.80	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-5.70m and 11.30-13.30m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed prior to commencing rotary drilling.
07/06/2021	25.40	25.40	0.96				24.80 - 25.40	Water	100	
							25.40 - 26.90	Water	100	
							26.90 - 28.40	Water	0	

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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH08	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457240.665 N:525356.883	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 8.745	Start Date: 28/05/2021
		Sheet: 4 of 13	

RUN DETAILS				STRATA					Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
28.40	100 (88) 0			-21.16		(3.10)		Very weak thinly laminated light grey MUDSTONE distinctly weathered. (Redcar Mudstone Formation). (continued) 28.40-29.90m ... driller notes loss of flush to 50% returns.	
						29.90		Terminated at 29.90m BGL - due to sinking casing and jammed tools.	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
07/06/2021	28.40	28.40	0.96				28.40 - 29.90	Water	50	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-5.70m and 11.30-13.30m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed prior to commencing rotary drilling.
08/06/2021	28.40	28.40	0.00							
08/06/2021	29.90	29.90	0.00							

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH08
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457240.665 N:525356.883		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 8.745	Start Date: 28/05/2021	Sheet: 5 of 13

Figure MS\BH08.1
MS\BH08 0.36-1.20m BGL



Figure MS\BH08.2
MS\BH08 1.20-2.70m BGL





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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH08
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457240.665 N:525356.883		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 8.745	Start Date: 28/05/2021	Sheet: 6 of 13

Figure MS\BH08.3
MS\BH08 2.70-4.20m BGL



Figure MS\BH08.4
MS\BH08 5.70-7.20m BGL





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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH08
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457240.665 N:525356.883		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 8.745	Start Date: 28/05/2021	Sheet: 7 of 13

Figure MS\BH08.5
MS\BH08 7.20-8.70m BGL



Figure MS\BH08.6
MS\BH08 9.25-10.20m BGL





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DRILLHOLE RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH08
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457240.665 N:525356.883		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 8.745	Start Date: 28/05/2021	Sheet: 8 of 13

Figure MS\BH08.7
MS\BH08 10.20-11.70m BGL



Figure MS\BH08.8
MS\BH08 11.70-13.20m BGL





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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH08
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457240.665 N:525356.883		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 8.745	Start Date: 28/05/2021	Sheet: 9 of 13

**Figure MS\BH08.9
MS\BH08 13.20-14.70m BGL**



**Figure MS\BH08.10
MS\BH08 14.70-15.70m BGL**





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DRILLHOLE RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS\BH08	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457240.665 N:525356.883		Sheet: 10 of 13
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 8.745	Start Date: 28/05/2021	

Figure MS\BH08.11
MS\BH08 15.70-17.80m BGL



Figure MS\BH08.12
MS\BH08 17.80-20.80m BGL





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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS\BH08	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457240.665 N:525356.883		Sheet: 11 of 13
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 8.745	Start Date: 28/05/2021	

Figure MS\BH08.13
MS\BH08 20.80-23.80m BGL



Figure MS\BH08.14
MS\BH08 23.80-25.40m BGL





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DRILLHOLE RECORD

Status:-
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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457240.665 N:525356.883		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 8.745	Start Date: 28/05/2021	Sheet: 12 of 13

Figure MS\BH08.15
MS\BH08 25.40-26.90m BGL



Figure MS\BH08.16
MS\BH08 26.90-28.40m BGL





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DRILLHOLE RECORD

Status:-

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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH08
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457240.665 N:525356.883		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 8.745	Start Date: 28/05/2021	Sheet: 13 of 13

Figure MS\BH08.17
MS\BH08 28.40-29.90m BGL



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SONIC SAMPLE HOLE RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		MS1BH09	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.466	Start Date: 05/07/2021
		Sheet: 1 of 2	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
0.20	J1			7.42		0.05	MADE GROUND (Macadam).	
0.30	ES2					(1.30)	MADE GROUND (Grey black slightly saturated sand and gravel. Sand includes ash. Gravel is fine to coarse angular to subangular and includes slag and clinker. Slag is vesicular (50-75%)).	
0.30	PID	<0.1ppm						
0.50	ES3							
0.50	PID	<0.1ppm						
0.75-1.20	SL1 _(SS)							
0.75-1.20	B5 _(SL1)							
1.00	ES4			6.12		1.35	MADE GROUND (Loose black yellow slightly sandy gravel with low cobble content. Gravel is fine to coarse angular to subrounded and includes compacted ash and clinker).	
1.00	PID	<0.1ppm						
1.20-2.70	SL2 _(SS)					(0.60)		
1.20	S	N8						
1.35-1.95	B6 _(SL2)							
1.50	J7 _(SL2)			5.52	1.95	MADE GROUND (Black orange yellow slightly clayey sandy gravel with medium cobble content. Gravel is fine to coarse angular to subrounded and includes slag, clinker, compacted ash and brick. Slag is vesicular (25-50%). Cobbles are subangular and include yellow compacted ash). (Engineer notes locally saturated). at c.2.70m BGL ... loose and very loose.		
1.50	PID	<0.1ppm						
1.95-2.70	B9 _(SL2)							
2.00-2.30	ES8 _(SL2)							
2.00	PID	<0.1ppm						
2.50	PID	<0.1ppm						
2.70-4.20	SL3 _(SS)							
2.70	S	N4						
3.00-3.20	ES10 _(SL3)							
3.00	J11 _(SL3)				(2.70)			
3.00	PID	<0.1ppm						
3.20-4.00	B12 _(SL3)							
3.50	PID	<0.1ppm						
4.00-4.20	ES13 _(SL3)							
4.00	J14 _(SL3)							
4.00	PID	<0.1ppm						
4.20-5.70	SL4 _(SS)							
4.20-4.65	B15 _(SL4)			2.82	4.65	at c.4.20m BGL ... medium dense.		
4.20	S	N12						
4.50	J16 _(SL4)							
4.65-4.85	ES17 _(SL4)							
4.65	PID	<0.1ppm						
4.85-5.70	B18 _(SL4)							
5.00	J19 _(SL4)							
5.50	J20 _(SL4)							
5.50	PID	<0.1ppm						
5.70-7.20	SL5 _(SS)							
5.70-6.45	B21 _(SL5)							
5.70	S	N15						
6.00	J22 _(SL5)							
6.45-7.20	B23 _(SL5)							
6.50	J24 _(SL5)							
6.50	PID	<0.1ppm						
7.00	J25 _(SL5)							
7.20-8.70	SL6 _(SS)							
7.20	S	50/285mm						
7.50	J27 _(SL6)							
7.50	PID	<0.1ppm						
						at c.7.20m BGL ... very dense.		

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
05/07/2021	0.00	0.00	178		0.75 - 1.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.50m and 5.70-8.70m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 15.15-13.70m prior to commencing rotary drilling. (6) High Pressure Dilatometer testing carried out. Refer to Appendix III for results.
					1.20 - 2.70	178	100	Yes	
					2.70 - 4.20	178	100	Yes	
					4.20 - 5.70	178	100	Yes	
					5.70 - 7.20	178	100	Yes	
					7.20 - 8.70	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:456823.949 N:525534.870	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.466	Start Date: 05/07/2021
		Sheet: 2 of 2	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
7.95-8.45 7.95-8.45 8.00	B26 _(SL6) B28 _(SL6) J29 _(SL6)				○		Medium dense to dense yellow brown slightly gravelly SAND with occasional fragments of shell. Gravel is fine to coarse angular and includes mudstone and sandstone. (Tidal Flat Deposits). <i>(continued)</i>	
8.50 8.50 8.70-10.20 8.70-9.45 8.70 9.00	J30 _(SL6) PID SL7 _(SS) B31 _(SL7) S J32 _(SL7)	<0.1ppm N37			○	(8.75)	at c.8.70m BGL ... dense.	
9.45-10.20 9.50 9.50	B33 _(SL7) J34 _(SL7) PID	<0.1ppm			○		between c.9.60-13.40m BGL ... with frequent shell fragments.	
10.00 10.20-11.70 10.20-10.95 10.20 10.50 10.50	J35 _(SL7) SL8 _(SS) B36 _(SL8) S J37 _(SL8) PID	50/295mm N37 N37			○		at c.10.20m BGL ... very dense.	
10.95-11.70 11.00	B38 _(SL8) J39 _(SL8)				○		between c.10.80-13.40m BGL ... gravelly sand.	
11.50 11.50 11.70-13.20 11.70-13.00 11.70 12.00	J40 _(SL8) PID SL9 _(SS) B41 _(SL9) S J42 _(SL9)	<0.1ppm N48			○		at c.11.70m BGL ... dense.	
12.50 12.50	J43 _(SL9) PID	<0.1ppm			○			
13.00-13.20 13.00 13.00	ES44 _(SL9) J45 _(SL9) PID	<0.1ppm		-5.93	○	13.40		
13.20-14.70 13.20 13.40-13.60 13.50 13.60-13.80 13.60 14.00 14.00-14.20 14.00 14.00 14.20-14.70 14.50 14.70	SL10 _(SS) S B46 _(SL10) J47 _(SL10) ES48 _(SL10) ES(M)49 _(SL10) PID J50 _(SL10) ES51 _(SL10) ES(M)52 _(SL10) PID B53 _(SL10) J54 _(SL10) S	N22 N22 N28		-6.33 -7.24	○	(0.40) 13.80 (0.90) 14.70	Firm to stiff thinly laminated grey brown slightly sandy slightly gravelly CLAY. Mild organic odour. Gravel is fine to medium subangular to subrounded and includes mudstone and limestone. (Tidal Flat/Glacial Deposits). at c.13.50m ... clay is of intermediate plasticity. Stiff red brown sandy gravelly CLAY. Gravel is fine to coarse angular to rounded and includes mudstone, sandstone and limestone. (Glacial Till). at c.14.00m BGL ... clay is of intermediate plasticity. Boring complete at 14.70m BGL - continued by rotary drilling.	

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
05/07/2021	13.20	13.20	178	4.70	8.70 - 10.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.50m and 5.70-8.70m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 15.15-13.70m prior to commencing rotary drilling. (6) High Pressure Dilatometer testing carried out. Refer to Appendix III for results.
06/07/2021	13.20	13.20	178	5.90	10.20 - 11.70	178	100	Yes	
06/07/2021	13.20	13.50	178		11.70 - 13.20	178	100	Yes	
					13.20 - 14.70	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH09	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:456823.949 N:525534.870	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.466	Start Date: 05/07/2021
		Sheet: 1 of 18	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
15.15		RO		-7.24	(0.45)	14.70	14.70-15.15m ... rotary openhole drilling.	Stiff red brown sandy gravelly CLAY. Gravel is fine to coarse angular to rounded and includes mudstone, sandstone and limestone. (Glacial Till).	
15.50	100	SOIL		-7.68		15.15	15.15m ... B56 15.15-20.00m ... soil. 15.20m ... J55	Stiff dark red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subangular and includes coal, mudstone, sandstone and limestone. (Glacial Till).	
	63						15.70m ... U57	15.20m ... clay is of intermediate plasticity. 15.70m ... high strength. Clay is of intermediate plasticity.	
17.00					(3.35)		16.90m ... J58 17.00m ... B60 17.10m ... J59		
18.50	100						18.00m ... J61 18.00m ... B62	18.00m ... clay is of intermediate plasticity.	
	37			-11.03		18.50	18.50m ... B64 18.60m ... J63	18.60m ... clay is of high plasticity.	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
07/07/2021	14.70	14.70	3.11				14.70 - 15.15	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.50m and 5.70-8.70m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 15.15-13.70m prior to commencing rotary drilling. (6) High Pressure Dilatometer testing carried out. Refer to Appendix III for results.
							15.15 - 15.50	Water	100	
							15.50 - 17.00	Water	100	
							17.00 - 18.50	Water	100	
							18.50 - 20.00	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH09	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456823.949 N:525534.870		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021	Sheet: 2 of 18

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
20.00	(102mm)			-11.53	(0.50)	19.00m ... ES65 19.00m ... ES(M)66	Stiff thinly laminated dark brown silty slightly sandy CLAY. Sand is fine to coarse. (Glacial Deposits). (continued)		
21.00	(102mm)	NI		-12.53	(1.00)	20.00m ... ES67 20.00-23.40m ... non-intact.	Stiff dark red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse angular to subangular and includes coal, mudstone, sandstone and limestone. (Glacial Till).		
21.50	(102mm)	70 (12) 0		-13.53	(1.00)		Extremely weak thinly laminated dark grey MUDSTONE distinctly weathered. (Recovered as very stiff gravelly clay). (Redcar Mudstone Formation).		
22.50	(102mm)	46 (12) 0			(2.40)		Very weak thinly laminated dark grey MUDSTONE partially weathered. (Redcar Mudstone Formation).		
		80 (54) 0							

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
07/07/2021	20.00	20.00	0.00				20.00 - 21.00	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.50m and 5.70-8.70m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 15.15-13.70m prior to commencing rotary drilling. (6) High Pressure Dilatometer testing carried out. Refer to Appendix III for results.
08/07/2021	20.00	20.00	4.16				21.00 - 21.50	Water	100	
							21.50 - 22.50	Water	100	
							22.50 - 23.30	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH09
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456823.949 N:525534.870	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021
Sheet: 3 of 18		

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
23.30	(102mm)							Very weak thinly laminated dark grey MUDSTONE partially weathered. (Redcar Mudstone Formation). (continued)	
24.40	100 (70) 0	16		-15.93		23.40-26.30m ... subhorizontal (5-25 degrees) closely spaced planar smooth tight clean and infilled (clay) discontinuities.		Weak thinly laminated dark grey MUDSTONE partially weathered. (Redcar Mudstone Formation).	
24.50	100 (100) 0								
25.90	100 (100) 0					(3.90)			
26.30	100 (64) 22	NI				26.30-26.50m ... non-intact.			
		12				26.50-27.00m ... subhorizontal (5-30 degrees) closely spaced planar smooth to rough tight stained (grey silt) discontinuities.			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
08/07/2021	24.50	24.50	0.00				23.30 - 24.40	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.50m and 5.70-8.70m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 15.15-13.70m prior to commencing rotary drilling. (6) High Pressure Dilatometer testing carried out. Refer to Appendix III for results.
09/07/2021	24.50	24.50	2.16				24.40 - 24.50	Water	100	
							24.50 - 25.90	Water	100	
							25.90 - 26.30	Water	100	
							26.30 - 27.50	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
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Client: AECOM		Location: North-west of Redcar, North Yorkshire E:456823.949 N:525534.870	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.466	Start Date: 05/07/2021
		Sheet: 4 of 18	

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
27.50	100 (83) 77	8		-19.83		27.00-29.00m ... subhorizontal to oblique (5-45 degrees) closely spaced planar to undulating smooth to rough tight to partly open stained (grey silt) discontinuities.	Weak thinly laminated dark grey MUDSTONE partially weathered. (Redcar Mudstone Formation). (continued)		
29.00	100 (79) 73	6		-21.53		29.00-30.65m ... subhorizontal (5-30 degrees) closely spaced undulating rough very tight to tight infilled (grey clayey sand and gravel) discontinuities.	Medium strong thinly bedded grey light grey arenaceous MUDSTONE unweathered. (Redcar Mudstone Formation).		
30.50	100 (65) 49	NI		-23.18			Extremely weak thinly bedded grey light grey MUDSTONE distinctly weathered. (Redcar Mudstone Formation).		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
09/07/2021	29.00	29.00	0.00				27.50 - 29.00	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.50m and 5.70-8.70m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 15.15-13.70m prior to commencing rotary drilling. (6) High Pressure Dilatometer testing carried out. Refer to Appendix III for results.
12/07/2021	29.00	29.00	4.11				29.00 - 30.50	Water	100	
							30.50 - 32.00	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B./R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH09
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456823.949 N:525534.870	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021
Sheet: 5 of 18		

RUN DETAILS				STRATA					Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
32.00	100 (57) 39	10				30.65-31.20m ... non-intact.		30.65-30.80m ... residual (recovered as sandy gravel). Very weak thinly bedded grey dark grey MUDSTONE distinctly weathered to destructured. (Redcar Mudstone Formation). (continued)	
						31.20-33.30m ... subhorizontal to oblique (5-60 degrees) closely spaced undulating rough to striated partly open infilled (clayey sand and gravel) discontinuities.	(2.85)		
33.50	100 (52) 31	NI		-26.03		33.30-34.50m ... non-intact.		Weak to medium strong thinly bedded dark grey arenaceous MUDSTONE partially weathered to destructured. (Redcar Mudstone Formation).	
						34.50-35.60m ... subhorizontal (5-30 degrees) closely spaced planar to undulating smooth to rough stained and infilled (clayey sand and gravel) discontinuities.	(2.10)		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
							32.00 - 33.50	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.50m and 5.70-8.70m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 15.15-13.70m prior to commencing rotary drilling. (6) High Pressure Dilatometer testing carried out. Refer to Appendix III for results.
							33.50 - 35.00	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS1BH09	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:456823.949 N:525534.870		Sheet: 6 of 18
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.466	Start Date: 05/07/2021	

RUN DETAILS				STRATA					Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
35.00	100 (60) 20			-28.13		35.60		Weak to medium strong thinly bedded dark grey arenaceous MUDSTONE partially weathered to destructured. (Redcar Mudstone Formation). (continued)	
(102mm)								Complete at 35.60m BGL.	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
12/07/2021	35.60	35.60	0.00				35.00 - 35.60	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.50m and 5.70-8.70m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 15.15-13.70m prior to commencing rotary drilling. (6) High Pressure Dilatometer testing carried out. Refer to Appendix III for results.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456823.949 N:525534.870		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021	Sheet: 7 of 18

Figure MS\BH09.1
MS\BH09 0.75-1.20m BGL



Figure MS\BH09.2
MS\BH09 1.20-2.70m BGL





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Figure MS\BH09.3
MS\BH09 2.70-4.20m BGL



Figure MS\BH09.4
MS\BH09 4.20-5.70m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021	Sheet: 9 of 18

Figure MS\BH09.5
MS\BH09 5.70-7.20m BGL

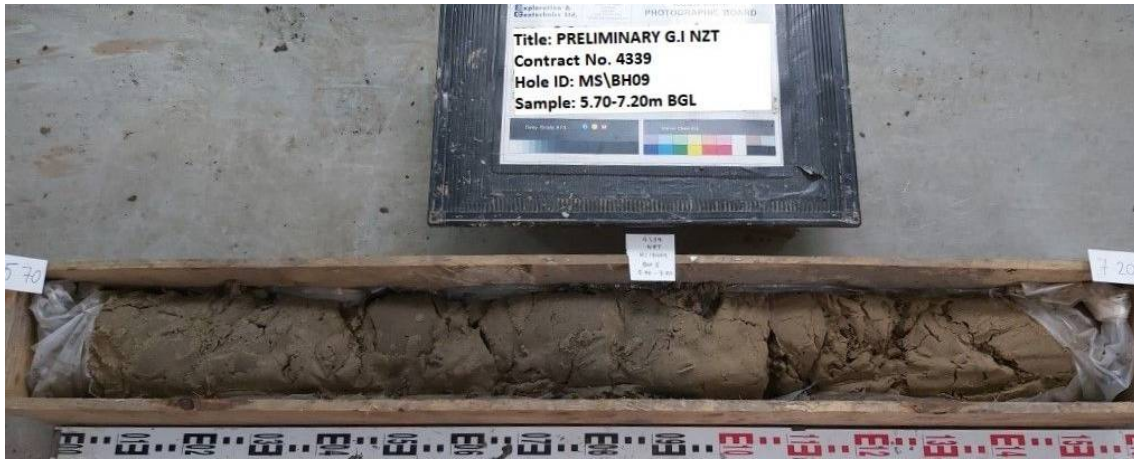


Figure MS\BH09.6
MS\BH09 7.20-8.70m BGL





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DRILLHOLE RECORD

Status:-
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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456823.949 N:525534.870		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021	Sheet: 10 of 18

Figure MS\BH09.7
MS\BH09 8.70-10.20m BGL



Figure MS\BH09.8
MS\BH09 10.20-11.70m BGL





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DRILLHOLE RECORD

Status:-

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456823.949 N:525534.870		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021	Sheet: 11 of 18

Figure MS\BH09.9
MS\BH09 11.70-13.20m BGL



Figure MS\BH09.10
MS\BH09 13.20-14.70m BGL





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DRILLHOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456823.949 N:525534.870		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021	Sheet: 12 of 18

Figure MS\BH09.11
MS\BH09 15.15-17.00m BGL

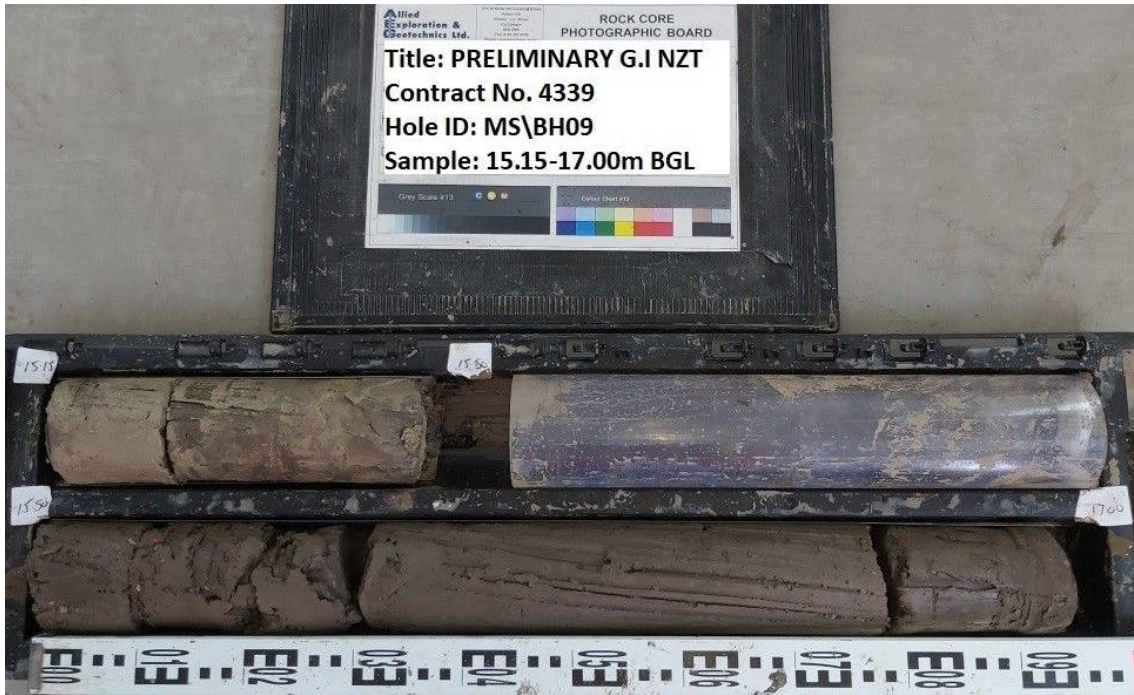


Figure MS\BH09.12
MS\BH09 17.00-18.50m BGL





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DRILLHOLE RECORD

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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021	Sheet: 13 of 18

Figure MS\BH09.13
MS\BH09 18.50-21.00m BGL



Figure MS\BH09.14
MS\BH09 21.00-23.30m BGL





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DRILLHOLE RECORD

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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021	Sheet: 14 of 18

Figure MS\BH09.15
MS\BH09 23.30-24.50m BGL



Figure MS\BH09.16
MS\BH09 24.50-26.30m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021	Sheet: 15 of 18

Figure MS\BH09.17
MS\BH09 26.30-27.50m BGL

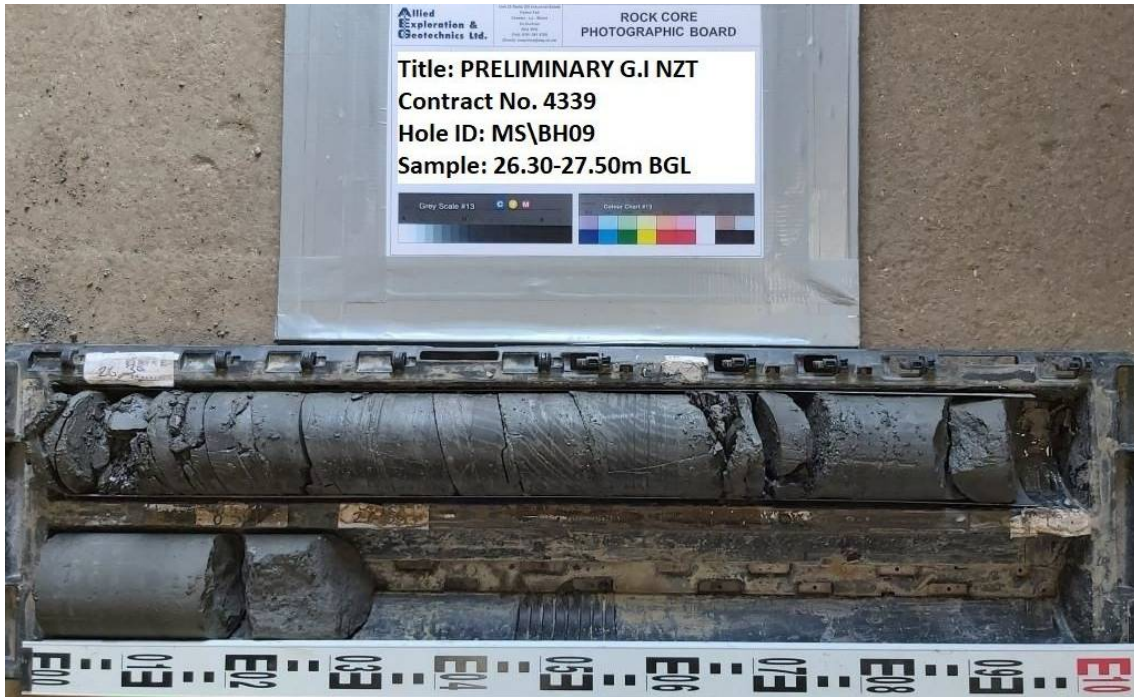


Figure MS\BH09.18
MS\BH09 27.50-29.00m BGL





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DRILLHOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456823.949 N:525534.870		Sheet: 16 of 18
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021	

Figure MS\BH09.19
MS\BH09 29.00-30.50m BGL



Figure MS\BH09.20
MS\BH09 30.50-32.00m BGL





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DRILLHOLE RECORD

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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021	Sheet: 17 of 18

Figure MS\BH09.21
MS\BH09 32.00-33.50m BGL



Figure MS\BH09.22
MS\BH09 33.50-35.00m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021	Sheet: 18 of 18

Figure MS\BH09.23
MS\BH09 35.00-35.60m BGL



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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.502	Start Date: 07/06/2021
		Sheet: 1 of 2	

SAMPLES & TESTS			STRATA				Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	
0.00-0.05	ES			7.45		0.05	MADE GROUND (Grass over soft dark brown clayey topsoil).
0.00	PID	<0.1ppm		7.26		0.24	MADE GROUND (Dark grey fused gravel with medium cobble content. Gravel is fine to coarse angular to subangular and includes slag. Cobbles are angular and include slag. Slag is vesicular (100%).
0.30	ES1						
0.30	PID	<0.1ppm					
0.45-1.20	SL1						
0.50	ES2						
0.50	PID	<0.1ppm					
1.00	ES3						
1.00	PID	<0.1ppm					
1.20-2.70	SL2						
1.20	C	50/15mm					
1.50	PID	<0.1ppm					
2.00	ES4						
2.00	PID	<0.1ppm					
2.50	PID	<0.1ppm				(4.36)	
2.70-4.20	SL3 _(SS)						
2.70	J8 _(SL3)						
2.70-3.45	B9 _(SL3)						
2.70	C	50/150mm					
3.00	ES5						
3.00	PID	<0.1ppm					
3.45	J10 _(SL3)						
3.45-4.20	B11 _(SL3)						
3.50	PID	<0.1ppm					
4.00	ES6						
4.00	PID	<0.1ppm					
4.20-5.70	SL4 _(SS)						
4.20	J12 _(SL4)						
4.20-4.60	B13 _(SL4)			2.90	4.60		
4.20	C	50/175mm					
4.50	PID	<0.1ppm					
4.60	J14 _(SL4)						
4.60-5.70	B15 _(SL4)				(1.10)		
5.00	ES7						
5.00	PID	<0.1ppm					
5.50	PID	<0.1ppm		1.80	5.70		
5.70-7.20	SL5 _(SS)						
5.70	J16 _(SL5)						
5.70-7.20	B17 _(SL5)						
5.70	S	N57					
6.50	PID	<0.1ppm			(2.25)		
7.20-8.70	SL6 _(SS)						
7.20	J18 _(SL6)						
7.20-7.95	B19 _(SL6)						
7.20	S	N37					
7.50	PID	<0.1ppm		-0.45	7.95		

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
07/06/2021	0.00	0.00	178		0.45 - 1.20	178	100	No	
07/06/2021	2.70	2.70	178	Dry	1.20 - 2.70	178	100	No	
08/06/2021	2.70	2.70	178	Dry	2.70 - 4.20	178	100	Yes	
08/06/2021	4.20	4.20	178	Dry	4.20 - 5.70	178	100	Yes	
14/06/2021	4.20	4.20	178	Dry	5.70 - 7.20	178	100	Yes	
					7.20 - 8.70	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C/D.P	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH10	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651		Sheet: 2 of 2
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.502	Start Date: 07/06/2021	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
7.95 7.95-8.70	J20 ^(SL6) B21 ^(SL6)						Brown grey silty slightly gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes sandstone, limestone, mudstone and coal. (Tidal Flat Deposits). <i>(continued)</i>	[Hatched Area]
8.50 8.70-10.20 8.70 8.70-9.45 8.70	PID SL7 ^(SS) J22 ^(SL7) B23 ^(SL7) S	<0.1ppm N43				(1.50)	at c.8.70m BGL ... dense.	
9.45 9.45-10.20 9.50	J24 ^(SL7) B25 ^(SL7) PID	<0.1ppm				(0.75)	Soft dark brown grey slightly organic slightly sandy slightly gravelly CLAY/SILT. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes mudstone, limestone and sandstone. (Tidal Flat Deposits). at c.9.45m BGL ... clay/silt is of low plasticity.	
10.20-11.70 10.20 10.20-11.30 10.20 10.50	SL8 ^(SS) J26 ^(SL8) B27 ^(SL8) S PID	N53 <0.1ppm				(1.10)	Very dense brown grey silty slightly gravelly SAND with rare fragments of shell. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes sandstone, mudstone and limestone. (Tidal Flat Deposits).	
11.30 11.30 11.30 11.70-12.15 11.70-12.15	J28 ^(SL8) ES29 ^(SL8) PID UT1 ^(SS) U30 ^(UT1)	<0.1ppm				(0.85)	Soft light brown grey slightly organic slightly sandy slightly gravelly CLAY with occasional sand pockets. Sand is fine to coarse. Gravel is fine to medium subangular to subrounded and includes sandstone, limestone and mudstone. (Tidal Flat Deposits). at c.11.70m BGL ... clay is of intermediate plasticity.	
Boring complete at 12.15m BGL - continued by rotary drilling.								

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
14/06/2021	12.15	11.70	178	5.80	8.70 - 10.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) 4 No. vibrating piezometers installed at 4.30m, 8.00m, 16.00m and 32.00m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 12.15-10.15m prior to commencing rotary drilling.
					10.20 - 11.70	178	100	No	
					11.70 - 12.15	116	78	No	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C/D.P	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH10	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.502	Start Date: 07/06/2021
		Sheet: 1 of 16	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
		RO		-4.65		12.15	12.15-12.60m ... rotary openhole drilling.	(1) Laminated brown grey CLAY with sand lenses. (Driller describes as 'firm'). (Tidal Flat Deposits).	
12.60				-5.10		12.60	12.60-20.00m ... soil. 12.60m ... J31 12.60m ... B32	Firm brown grey organic slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium subangular to subrounded and includes coal, limestone, mudstone and sandstone. (Tidal Flat Deposits). 12.60m ... slightly sandy clay of intermediate plasticity.	
13.60	100	SOIL				13.60	13.60m ... J33 13.60m ... B34	13.60m ... clay is of high plasticity.	
	100					14.10	14.10m ... J35 14.10m ... B36	14.10m ... clay is of high plasticity with rare peat pockets.	
15.10	100			-7.10		14.60	14.60m ... J37	Stiff brown grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes coal, limestone, mudstone and sandstone. (Glacial Till).	
	100					15.10	15.10m ... U38	15.10m ... clay is of high plasticity.	
						15.60	15.60m ... J39 15.60m ... B40		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
15/06/2021	12.15	12.15	0.00	13.60	S	N6	12.60 - 13.60 13.60 - 15.10 15.10 - 16.60	Water Water Water	100 100 100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) 4 No. vibrating piezometers installed at 4.30m, 8.00m, 16.00m and 32.00m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 12.15-10.15m prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C/D.P	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH10	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.502	Start Date: 07/06/2021
		Sheet: 2 of 16	

RUN DETAILS			STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)		Description
							Discontinuity Detail	Main
16.60	100					16.60m ... ES41 16.60m ... J42 16.60m ... B43		Stiff brown grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes coal, limestone, mudstone and sandstone. (Glacial Till). (continued)
(102mm)						(4.90)	17.25m ... U44	17.25m ... very high strength. Clay is of intermediate plasticity.
18.10	82					17.50m ... B45		
(102mm)								
19.50	0			-12.00		19.50		(1) Laminated brown grey CLAY with sand lenses. (Driller describes as 'firm'). (Glacial Deposits).
(102mm)						(0.20)		(1) Grey MUDSTONE. (Driller describes as 'weak' recovered as angular hard pieces).
20.00	0 (0)	NR		-12.20		19.70		
							20.00-21.40m ... no recovery.	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
				16.60	S	N12	16.60 - 18.10	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) 4 No. vibrating piezometers installed at 4.30m, 8.00m, 16.00m and 32.00m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 12.15-10.15m prior to commencing rotary drilling.
				19.50	S	N46	18.10 - 19.50	Water	100	
							19.50 - 20.00	Water	100	
							20.00 - 21.00	Water	100	

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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH10	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.502	Start Date: 07/06/2021
			Sheet: 3 of 16

RUN DETAILS			STRATA				Instrument/ Backfill		
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)		Description	
								Discontinuity Detail	Main
21.00	0					(1.70)	(1) Grey MUDSTONE. (Driller describes as 'weak' recovered as angular hard pieces). (continued)		
21.50	20 (0) 0	NI		-13.90		21.40	21.40-21.50m ... non-intact. 21.50-21.80m ... no recovery.	Extremely weak thinly laminated dark grey MUDSTONE distinctly weathered. (Redcar Mudstone Formation).	
22.00	40 (0) 0	NR		-14.50		22.00	21.80-22.00m ... non-intact. 22.00-22.30m ... no recovery.	Very weak thinly laminated dark grey MUDSTONE partially weathered. (Redcar Mudstone Formation).	
22.50	40 (40) 0	NR		-15.00		22.50	22.30-22.50m ... subhorizontal (5-25 degrees) closely spaced planar tight clean discontinuities.		
23.00	100 (80) 40	NI				22.50	22.50-22.60m ... non-intact. 22.60-25.40m ... subhorizontal (10-20 degrees) planar and irregular rough undulating smooth and rough tight clean discontinuities.	Weak to moderately weak dark grey black fossiliferous MUDSTONE partially weathered with occasional fragments of shell. (Redcar Mudstone Formation).	
24.00	100 (100) 68	6							

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
15/06/2021	21.50	21.50	0.00	21.00	C	50/161mm	21.00 - 21.50	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) 4 No. vibrating piezometers installed at 4.30m, 8.00m, 16.00m and 32.00m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 12.15-10.15m prior to commencing rotary drilling.
16/06/2021	21.50	21.50	0.00	21.50	C	N40	21.50 - 22.00	Water	100	
				22.50	C	50/167mm	22.00 - 22.50	Water	100	
							22.50 - 23.00	Water	100	
							23.00 - 24.00	Water	100	
							24.00 - 25.50	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C/D.P	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH10
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.502	Start Date: 07/06/2021
		Sheet: 4 of 16

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
25.50	60	NI						Weak to moderately weak dark grey black fossiliferous MUDSTONE partially weathered with occasional fragments of shell. (Redcar Mudstone Formation). (continued)	
	100 (87) 67								8
27.00	100 (87) 47	NI							
	100 (87) 67								8
	100 (87) 47	6							
	100 (87) 67								8

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
							25.50 - 27.00	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) 4 No. vibrating piezometers installed at 4.30m, 8.00m, 16.00m and 32.00m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 12.15-10.15m prior to commencing rotary drilling.
							27.00 - 28.50	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C/D.P	Contract No. 4339
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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH10	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.502	Start Date: 07/06/2021
		Sheet: 5 of 16	

RUN DETAILS				STRATA					Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
28.50	100 (100) 60 (102mm)					(12.20)	clean discontinuities.	Weak to moderately weak dark grey black fossiliferous MUDSTONE partially weathered with occasional fragments of shell. (Redcar Mudstone Formation). (continued)	
29.50							100 (100) 43 (102mm)		
30.20	100 (73) 33 (102mm)						31.20-31.60m ... non-intact.		
31.70	87 (87) 37	9					31.60-33.00m ... subhorizontal (10-20 degrees) planar and irregular rough undulating smooth and rough tight clean discontinuities.		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
16/06/2021	29.50	29.50	0.00				28.50 - 29.50	Water	100	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) 4 No. vibrating piezometers installed at 4.30m, 8.00m, 16.00m and 32.00m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 12.15-10.15m prior to commencing rotary drilling.
17/06/2021	29.50	29.50	7.60				29.50 - 30.20	Water	100	
							30.20 - 31.70	Water	100	
							31.70 - 33.20	Water	60	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C/D.P	Contract No. 4339
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DRILLHOLE RECORD

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Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.502	Start Date: 07/06/2021
		Sheet: 6 of 16	

RUN DETAILS				STRATA					Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
(102mm)								Weak to moderately weak dark grey black fossiliferous MUDSTONE partially weathered with occasional fragments of shell. (Redcar Mudstone Formation). (continued)	Instrument/ Backfill
33.20		NR				33.00-33.20m ... no recovery.			
(102mm)	100 (87) 67	8				33.20-33.80m ... subhorizontal (10-20 degrees) planar and irregular rough undulating smooth and rough tight clean discontinuities.			
		NI				33.80-34.00m ... non-intact.			
		7				34.00-34.70m ... subhorizontal (10-20 degrees) planar and irregular rough undulating smooth and rough tight clean discontinuities.			
				-27.20		34.70		Complete at 34.70m BGL.	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
17/06/2021	33.20	33.20	0.00				33.20 - 34.70	Water	50	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) 4 No. vibrating piezometers installed at 4.30m, 8.00m, 16.00m and 32.00m BGL. (5) UXO carried out as per the Client instructions. (6) Aquifer protection installed between 12.15-10.15m prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C/D.P	Contract No. 4339
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DRILLHOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.502	Start Date: 07/06/2021	Sheet: 7 of 16

Figure MS\BH10.1
MS\BH10 0.45-1.20m BGL



Figure MS\BH10.2
MS\BH10 1.20-2.70m BGL





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DRILLHOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.502	Start Date: 07/06/2021	Sheet: 8 of 16

Figure MS\BH10.3
MS\BH10 2.70-4.20m BGL



Figure MS\BH10.4
MS\BH10 4.20-5.70m BGL





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DRILLHOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.502	Start Date: 07/06/2021	Sheet: 9 of 16

Figure MS\BH10.5
MS\BH10 5.70-7.20m BGL



Figure MS\BH10.6
MS\BH10 7.20-8.70m BGL





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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.502	Start Date: 07/06/2021	Sheet: 10 of 16

Figure MS\BH10.7
MS\BH10 8.70-10.20m BGL



Figure MS\BH10.8
MS\BH10 10.20-11.70m BGL





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DRILLHOLE RECORD

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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS\BH10	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651		Sheet: 11 of 16
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.502	Start Date: 07/06/2021	

Figure MS\BH10.9
MS\BH10 12.60-14.60m BGL



Figure MS\BH10.10
MS\BH10 14.60-16.60m BGL





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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS\BH10	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651		Sheet: 12 of 16
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.502	Start Date: 07/06/2021	

Figure MS\BH10.11
MS\BH10 16.60-18.10m BGL

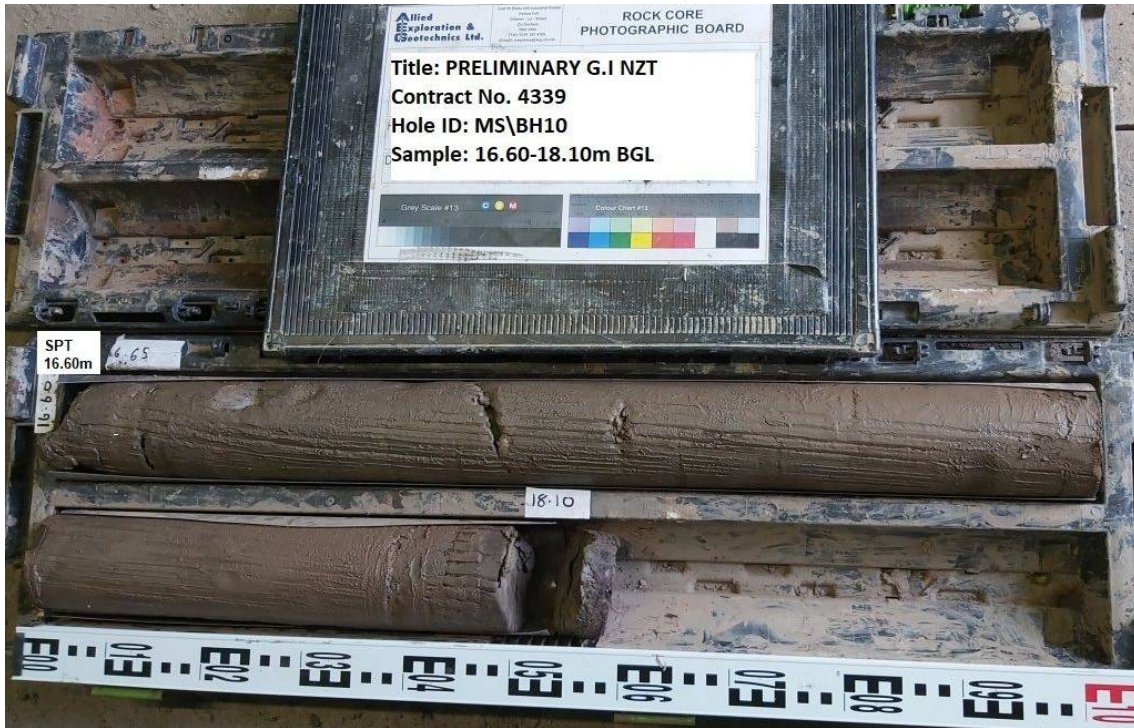


Figure MS\BH10.12
MS\BH10 18.10-22.50m BGL





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DRILLHOLE RECORD

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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS\BH10	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.502	Start Date: 07/06/2021	Sheet: 13 of 16

Figure MS\BH10.13
MS\BH10 22.50-24.00m BGL



Figure MS\BH10.14
MS\BH10 24.00-25.50m BGL





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DRILLHOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.502	Start Date: 07/06/2021	Sheet: 14 of 16

Figure MS\BH10.15
MS\BH10 25.50-27.00m BGL



Figure MS\BH10.16
MS\BH10 27.00-28.50m BGL





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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.502	Start Date: 07/06/2021	Sheet: 15 of 16

Figure MS\BH10.17
MS\BH10 28.50-30.20m BGL



Figure MS\BH10.18
MS\BH10 30.20-31.70m BGL





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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457026.135 N:525257.651		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.502	Start Date: 07/06/2021	Sheet: 16 of 16

Figure MS\BH10.19
MS\BH10 31.70-33.20m BGL



Figure MS\BH10.20
MS\BH10 33.20-34.70m BGL



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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.255	Start Date: 02/06/2021
		Sheet: 1 of 2	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
0.30	ES1 ^(SL1)					(1.60)	MADE GROUND (Grass over black red slightly silty sandy gravel with medium cobble content. Gravel is fine to coarse angular to subangular and includes brick, ash and slag. Cobbles are angular and include brick. Slag is 75-100%).	
0.30-1.20	SL1 ^(SS)							
0.30	J8 ^(SL1)							
0.30-1.20	B9 ^(SL1)							
0.30	PID	<0.1ppm						
0.50	ES2 ^(SL1)							
0.50	PID	<0.1ppm						
1.00	ES3 ^(SL1)							
1.00	PID	<0.1ppm						
1.20-2.20	SL2 ^(SS)							
1.20	J10 ^(SL2)							
1.20-1.95	B11 ^(SL2)							
1.20	S	N17						
1.50	PID	<0.1ppm						
1.95	J12 ^(SL2)							
1.95-2.70	B13 ^(SL2)							
2.00	ES4 ^(SL2)							
2.00	PID	<0.1ppm						
2.50	PID	<0.1ppm						
2.70-4.20	SL3 ^(SS)							
2.70	J14 ^(SL3)							
2.70-3.45	B15 ^(SL3)							
2.70	S	N6						
3.00	ES5 ^(SL3)							
3.00	PID	<0.1ppm						
3.45	J16 ^(SL3)							
3.45-4.20	B17 ^(SL3)							
3.50	PID	<0.1ppm						
4.00	ES6 ^(SL3)							
4.00	PID	<0.1ppm						
4.20-5.70	SL4 ^(SS)							
4.20	J18 ^(SL4)							
4.20-4.50	B19 ^(SL4)							
4.20	S	50/20mm						
4.50	J20 ^(SL4)							
4.50-5.10	B21 ^(SL4)							
4.50	PID	<0.1ppm						
5.00	ES7 ^(SL4)							
5.00	PID	<0.1ppm						
5.10	J22 ^(SL4)							
5.10-5.70	B23 ^(SL4)							
5.70-7.20	SL5 ^(SS)							
5.70	J24 ^(SL5)							
5.70-6.45	B25 ^(SL5)							
5.70	S	N17						
5.70	PID	<0.1ppm						
6.45	J26 ^(SL5)							
6.45-7.20	B27 ^(SL5)							
6.70	PID	<0.1ppm						
7.20-8.70	SL6 ^(SS)							
7.20	J28 ^(SL6)							
7.20-7.90	B29 ^(SL6)							
7.20	S	N7						
7.70	PID	<0.1ppm						

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
02/06/2021	0.00	0.00	178		0.30 - 1.20	178	100	Yes	
					1.20 - 2.70	178	100	Yes	
					2.70 - 4.20	178	100	Yes	
					4.20 - 5.70	178	100	Yes	
					5.70 - 7.20	178	100	Yes	
					7.20 - 8.70	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.255	Start Date: 02/06/2021
		Sheet: 2 of 2	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
7.90 7.90-8.70	J30 _(SL6) B31 _(SL6)						Loose to medium dense light grey brown clayey SAND with rare fragments of shell. Sand is fine to coarse. (Tidal Flat Deposits). <i>(continued)</i>	
8.70-10.20 8.70 8.70-9.45 8.70 8.70	SL7 _(SS) J32 _(SL7) B33 _(SL7) S PID	N14 <0.1ppm		-1.45		8.70 (1.50)	Medium dense dark grey brown gravelly SAND with rare fragments of shell. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes mudstone, limestone and sandstone. (Tidal Flat Deposits).	
9.45 9.45-10.20 9.70	J34 _(SL7) B35 _(SL7) PID	<0.1ppm						
10.20-11.70 10.20 10.20-10.95 10.20 10.70	SL8 _(SS) J36 _(SL8) B37 _(SL8) S PID	N12 <0.1ppm					Medium dense dark grey brown silty slightly gravelly SAND with numerous fragments of shell. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes sandstone. (Tidal Flat Deposits).	
10.95 10.95-11.70	J38 _(SL8) B39 _(SL8)							
11.70-13.20 11.70 11.70-12.90 11.70 11.70	SL9 _(SS) J40 _(SL9) B41 _(SL9) S PID	N28 <0.1ppm						
12.70 12.90 12.90-13.20 13.20-13.65 13.20-14.70 13.20 13.20-13.95 13.20 13.20 13.70 13.95 13.95-14.70	PID J42 _(SL9) B43 _(SL9) UT1 SL10 _(SS) J44 _(SL10) B45 _(SL10) ES48 PID PID J46 _(SL10) B47 _(SL10)	<0.1ppm <0.1ppm					Soft dark grey brown sandy slightly gravelly CLAY with numerous fragments of shell. Sand is fine to coarse. Gravel is fine to medium subangular to subrounded and includes mudstone, sandstone, coal and limestone. (Tidal Flat Deposits). at c.12.90m BGL ... clay is of low to intermediate plasticity. at c.13.20m BGL ... low strength. Clay is of low plasticity.	
14.70	PID	<0.1ppm					<i>Boring complete at 14.70m BGL - continued by rotary drilling.</i>	

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
02/06/2021	10.20	10.20	178	7.45	8.70 - 10.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) High Pressure Dilatometer testing carried out. Refer to Appendix III for results. (4) Test pockets at 23.00m and 26.00m BGL for HDP testing. (5) Redrilled between 23.40-24.50m and 26.40-27.10m BGL using Geobore. (6) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-4.40m and 7.00-11.40m BGL. (7) UXO carried out as per the Client instructions. (8) Aquifer protection installed between 14.60-13.00m BGL prior to commencing rotary drilling.
03/06/2021	10.20	10.20	178	4.00	10.20 - 11.70	178	100	Yes	
03/06/2021	14.70	14.70	178	4.00	11.70 - 13.20	178	100	Yes	
					13.20 - 14.70	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH11
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.255	Start Date: 02/06/2021 Sheet: 1 of 17

RUN DETAILS			STRATA				Instrument/ Backfill		
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)		Description	
								Discontinuity Detail	Main
15.00		RO		-7.45		14.70 (0.30)	14.70-15.00m ... rotary openhole drilling.	(1) Laminated brown CLAY. (Driller describes as 'soft'). (Probable Tidal Flat Deposits).	
	34	SOIL		-7.75		15.00 (0.60)	15.00m ... J48 15.00-20.50m ... soil. 15.00m ... B49	Firm grey brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes sandstone, mudstone and limestone. (Glacial Till).	
15.90				-8.35		15.60	15.90m ... J50 15.90m ... U51	Stiff grey brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes sandstone, mudstone and limestone. (Glacial Till). 15.90m ... clay is of intermediate plasticity.	
	83						16.35m ... B52	16.35m ... clay is of intermediate to high plasticity.	
17.40							17.20m ... J53 17.20m ... B54	17.20m ... clay is of intermediate plasticity.	
	77						17.55m ... U55	17.55m ... very high strength. Clay is of intermediate plasticity.	
						(5.10)			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
09/06/2021	14.70	14.70	0.00				14.70 - 15.00	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) High Pressure Dilatometer testing carried out. Refer to Appendix III for results. (4) Test pockets at 23.00m and 26.00m BGL for HDP testing. (5) Redrilled between 23.40-24.50m and 26.40-27.10m BGL using Geobore. (6) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-4.40m and 7.00-11.40m BGL. (7) UXO carried out as per the Client instructions. (8) Aquifer protection installed between 14.60-13.00m BGL prior to commencing rotary drilling
							15.00 - 15.90	Water	100	
							15.90 - 17.40	Water	100	
							17.40 - 18.90	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH11	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.255	Start Date: 02/06/2021	Sheet: 2 of 17

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
18.90	0					18.90m ... J1 18.90m ... J56 18.90m ... B57	Stiff grey brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes sandstone, mudstone and limestone. (Glacial Till). (continued) 19.15-20.15m ... engineer notes material appears possibly disturbed and may have expanded within core box. The following assumed zone of no recovery could be more extensive.		
19.40	0								
20.40	100					20.40m ... J58			
20.50	71 (50) 0	NR		-13.45		20.50-20.70m ... no recovery.			
21.20	79 (79) 0	NR				20.70-21.20m ... subhorizontal (5-25 degrees) closely spaced planar to undulating smooth open and tight infilled (clay) discontinuities.	Extremely weak thinly laminated light grey MUDSTONE residual. (Redcar Mudstone Formation).		
21.90	68 (55) 0	NR		-14.65		21.20-21.35m ... no recovery.			
		NI				21.35-21.90m ... subhorizontal (5-25 degrees) closely spaced planar smooth tight and open infilled (clay) discontinuities.			
		15				21.90-22.15m ... no recovery.	Very weak thinly laminated dark grey MUDSTONE partially weathered. (Redcar Mudstone Formation).		
		12				22.15-22.25m ... non-intact.			
						22.25-22.65m ... subhorizontal (5-25 degrees) closely spaced planar smooth tight clean discontinuities.			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
09/06/2021	21.90	21.90	0.00	18.90	S	N18	18.90 - 19.40	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) High Pressure Dilatometer testing carried out. Refer to Appendix III for results. (4) Test pockets at 23.00m and 26.00m BGL for HDP testing. (5) Redrilled between 23.40-24.50m and 26.40-27.10m BGL using Geobore. (6) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-4.40m and 7.00-11.40m BGL. (7) UXO carried out as per the Client instructions. (8) Aquifer protection installed between 14.60-13.00m BGL prior to commencing rotary drilling
10/06/2021	21.90	21.90	0.00	20.40	S	N13	19.40 - 20.40	Water	100	
				21.20	C	100/96mm	20.40 - 20.50	Water	100	
							20.50 - 21.20	Water	100	
							21.20 - 21.90	Water	100	
							21.90 - 23.00	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH11	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.255	Start Date: 02/06/2021
		Sheet: 3 of 17	

RUN DETAILS				STRATA					Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
23.00	60 (27) 0					(1.85)	22.65-23.95m ... subhorizontal (5-25 degrees) and subvertical (65-85 degrees) closely spaced planar undulating smooth open and tight clean discontinuities.	Very weak thinly laminated dark grey MUDSTONE partially weathered. (Redcar Mudstone Formation). (continued)	
23.75	100 (100) 0	18		-16.50		23.75	23.95-24.50m ... subhorizontal (5-25 degrees) very closely spaced planar to undulating smooth open and tight clean discontinuities.	Weak thinly laminated dark grey MUDSTONE partially weathered. (Redcar Mudstone Formation).	
24.50	60 (53) 0	15					24.50-26.00m ... subhorizontal (5-25 degrees) and subvertical (65-85 degrees) very closely to closely spaced planar to undulating smooth open and tight clean discontinuities.	24.90-27.90m ... redrilled high Pressure Dilatometer socket.	
26.00	44 (31) 0	NR					26.00-26.45m ... no recovery.		
		15					26.45-30.20m ... horizontal (0-5 degrees) to subvertical (65-85 degrees) closely to very closely spaced planar to undulating smooth open and tight infilled (clay) discontinuities.		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
10/06/2021	24.90	24.90	0.00				23.00 - 23.75	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) High Pressure Dilatometer testing carried out. Refer to Appendix III for results. (4) Test pockets at 23.00m and 26.00m BGL for HDP testing. (5) Redrilled between 23.40-24.50m and 26.40-27.10m BGL using Geobore. (6) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-4.40m and 7.00-11.40m BGL. (7) UXO carried out as per the Client instructions. (8) Aquifer protection installed between 14.60-13.00m BGL prior to commencing rotary drilling.
11/06/2021	24.90	24.90	0.00				23.75 - 24.50	Water	100	
							24.50 - 26.00	Water	100	
							26.00 - 26.80	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH11
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.255	Start Date: 02/06/2021
		Sheet: 4 of 17

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
26.80	100 (100) 33							Weak thinly laminated dark grey MUDSTONE partially weathered. (Redcar Mudstone Formation). (continued)	
27.10									
	100 (75) 30								
27.90									
	100 (80) 13								
29.40									
	100 (68) 0								
30.20									
	100 (71) 46	7					30.20-30.90m ... subhorizontal (5-25 degrees) closely spaced planar to undulating open and tight smooth infilled (clay) discontinuities.		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
11/06/2021	30.20	30.20	0.00				26.80 - 27.10	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) High Pressure Dilatometer testing carried out. Refer to Appendix III for results. (4) Test pockets at 23.00m and 26.00m BGL for HDP testing. (5) Redrilled between 23.40-24.50m and 26.40-27.10m BGL using Geobore. (6) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-4.40m and 7.00-11.40m BGL. (7) UXO carried out as per the Client instructions. (8) Aquifer protection installed between 14.60-13.00m BGL prior to commencing rotary drilling
14/06/2021	30.20	30.20	0.00				27.10 - 27.90	Water	100	
							27.90 - 29.40	Water	100	
							29.40 - 30.20	Water	100	
							30.20 - 30.90	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH11	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)		Ground Level (m): 7.255	Start Date: 02/06/2021
		Sheet: 5 of 17	

RUN DETAILS			STRATA				Instrument/ Backfill		
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)		Description	
								Discontinuity Detail	Main
30.90								Weak thinly laminated dark grey MUDSTONE partially weathered. (Redcar Mudstone Formation). (continued)	
(102mm)	100 (73) 31	14							
31.70								31.70-32.33m ... no recovery.	
(102mm)	10 (10) 0	NR							
32.40								32.33-34.00m ... subhorizontal (5-25 degrees) closely spaced planar to undulating open tight smooth infilled (clay) discontinuities.	
(102mm)	100 (100) 0	10							
32.50									
(102mm)	100 (87) 53								
34.00				-26.75		34.00		34.00-35.50m ... subhorizontal (5-25 degrees) closely spaced planar to undulating open and tight smooth clean discontinuities.	
(102mm)	100 (97) 53	6						Medium strong thinly laminated dark grey MUDSTONE partially weathered with occasional fossilised remains (2-40mm in size). (Redcar Mudstone Formation).	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
							30.90 - 31.70	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) High Pressure Dilatometer testing carried out. Refer to Appendix III for results. (4) Test pockets at 23.00m and 26.00m BGL for HDP testing. (5) Redrilled between 23.40-24.50m and 26.40-27.10m BGL using Geobore. (6) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.20-4.40m and 7.00-11.40m BGL. (7) UXO carried out as per the Client instructions. (8) Aquifer protection installed between 14.60-13.00m BGL prior to commencing rotary drilling
							31.70 - 32.40	Water	100	
							32.40 - 32.50	Water	100	
							32.50 - 34.00	Water	100	
							34.00 - 35.50	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339
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DRILLHOLE RECORD

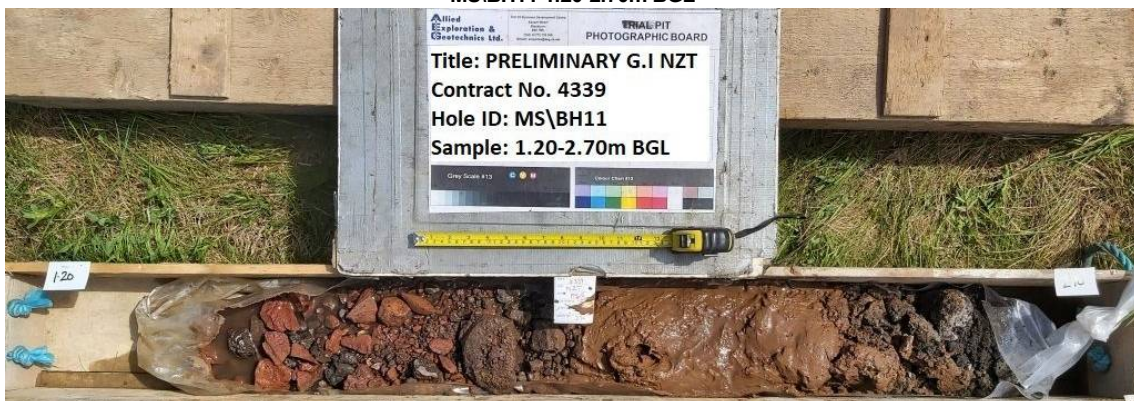
Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH11
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.255	Start Date: 02/06/2021	Sheet: 7 of 17

Figure MS\BH11.1
MS\BH11 0.30-1.20m BGL



Figure MS\BH11.2
MS\BH11 1.20-2.70m BGL





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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH11
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.255	Start Date: 02/06/2021	Sheet: 8 of 17

Figure MS\BH11.3
MS\BH11 2.70-4.20m BGL



Figure MS\BH11.4
MS\BH11 4.20-5.70m BGL





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DRILLHOLE RECORD

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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH11
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.255	Start Date: 02/06/2021	Sheet: 9 of 17

**Figure MS\BH11.5
MS\BH11 5.70-7.20m BGL**



**Figure MS\BH11.6
MS\BH11 7.20-8.70m BGL**





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DRILLHOLE RECORD

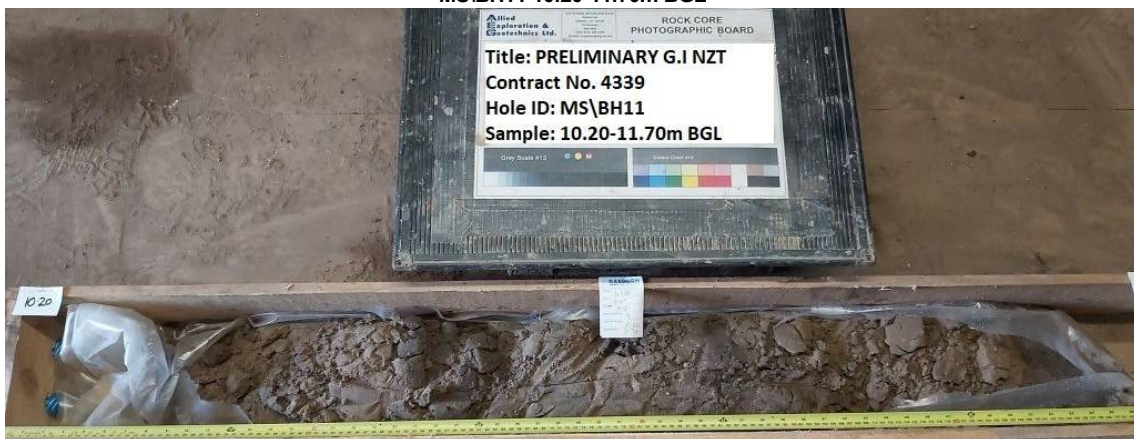
Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH11
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.255	Start Date: 02/06/2021	Sheet: 10 of 17

Figure MS\BH11.7
MS\BH11 8.70-10.20m BGL



Figure MS\BH11.8
MS\BH11 10.20-11.70m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.255	Start Date: 02/06/2021	Sheet: 11 of 17

Figure MS\BH11.9
MS\BH11 11.70-13.20m BGL



Figure MS\BH11.10
MS\BH11 13.20-14.70m BGL





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DRILLHOLE RECORD

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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS\BH11	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160		Sheet: 12 of 17
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.255	Start Date: 02/06/2021	

Figure MS\BH11.11
MS\BH11 15.00-17.20m BGL



Figure MS\BH11.12
MS\BH11 17.20-19.15m BGL





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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160		Sheet: 13 of 17
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.255	Start Date: 02/06/2021	

Figure MS\BH11.13
MS\BH11 19.15-21.20m BGL



Figure MS\BH11.14
MS\BH11 21.20-23.00m BGL





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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS\BH11	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160		Sheet: 14 of 17
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.255	Start Date: 02/06/2021	

Figure MS\BH11.15
MS\BH11 23.00-24.50m BGL - Test Pocket for HDP testing



Figure MS\BH11.16
MS\BH11 23.40-26.00m BGL - Redrilled 23.40-24.50m BGL using Geobore





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DRILLHOLE RECORD

Status:-
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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160		Sheet: 15 of 17
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.255	Start Date: 02/06/2021	

Figure MS\BH11.17
MS\BH11 26.00-27.10m BGL - Test Pocket for HDP testing



Figure MS\BH11.18
MS\BH11 26.40-28.90m BGL - Redrilled 26.40-27.10m BGL using Geobore





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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS\BH11	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160		Sheet: 16 of 17
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.255	Start Date: 02/06/2021	

Figure MS\BH11.19
MS\BH11 28.90-30.20m BGL



Figure MS\BH11.20
MS\BH11 30.20-32.40m BGL





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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS\BH11	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457121.000 N:525296.160		Sheet: 17 of 17
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520)	Ground Level (m): 7.255	Start Date: 02/06/2021	

Figure MS\BH11.21
MS\BH11 32.40-34.00m BGL



Figure MS\BH11.22
MS\BH11 34.00-35.50m BGL



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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		MS1BH12	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.147	Start Date: 03/06/2021
		Sheet: 1 of 3	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
0.12-1.20	SL1 _(SS)				(0.60)	MADE GROUND (Grey sandy gravel with medium cobble content. Gravel is fine to coarse angular to subangular and includes vesicular slag. Cobbles are angular and include vesicular slag. Slag is 100%).		
0.12	J5 _(SL1)			6.55	(0.60)	MADE GROUND (Dark grey sandy gravel with medium cobble content. Gravel is fine to coarse angular to subangular and includes vesicular slag and ash. Cobbles are angular and include vesicular slag. Slag is 100%).		
0.12-1.20	B6 _(SL1)				(0.60)	MADE GROUND (Medium dense dark grey gravel and cobbles. Gravel is fine to coarse angular to subangular and includes vesicular slag. Cobbles are angular to subangular and includes vesicular slag. Slag is 100%). (Engineer notes poor recovery).		
0.30	ES1	<0.1ppm		5.95	(1.20)			
0.30	PID	<0.1ppm			(1.40)			
0.50	ES2	<0.1ppm			(2.60)			
0.50	PID	<0.1ppm		4.55	(2.60)	Medium dense light brown slightly silty gravelly SAND with rare fragments of shell. Sand is fine to medium. Gravel is fine to coarse subrounded and includes granite, sandstone and limestone. (Tidal Flat Deposits).		
1.00	ES3	<0.1ppm			(2.10)			
1.00	PID	<0.1ppm			(2.10)			
1.20-2.70	SL2 _(SS)				(4.70)			
1.20	J7 _(SL2)			2.45	(4.70)	Light grey brown silty SAND with rare fragments of shell. Sand is fine to coarse. (Tidal Flat Deposits).		
1.20-2.70	B8 _(SL2)				(4.95)	Dark grey brown clayey/silty slightly gravelly SAND with frequent fragments of shell. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes mudstone and sandstone. (Tidal Flat Deposits).		
1.20	S	N15			(5.80)			
1.50	PID	<0.1ppm			(5.80)	Soft dark brown sandy CLAY with occasional fragments of shell. Sand is fine to coarse. (Tidal Flat Deposits). at c.5.80m BGL ... clay is of intermediate plasticity with occasional sand pockets.		
2.50	PID	<0.1ppm			(6.80)			
2.60	J9 _(SL2)				(6.80)	Loose becoming medium dense dark grey brown silty slightly gravelly SAND with occasional fragments of shell. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes mudstone and sandstone. (Tidal Flat Deposits).		
2.70-4.20	SL3 _(SS)				(7.90)			
2.70-3.00	ES4 _(SL3)			2.20	(4.95)			
2.70	J10 _(SL3)				(0.85)			
2.70-3.45	B11 _(SL3)				(1.35)			
2.70	S	N13			(1.00)			
2.70	PID	<0.1ppm			(1.00)			
3.00	PID	<0.1ppm			(1.00)			
3.45	J12 _(SL3)				(1.10)			
3.45-4.20	B13 _(SL3)				(1.10)			
3.50	PID	<0.1ppm			(1.10)			
4.20-5.70	SL4 _(SS)				(1.10)			
4.20	J14 _(SL4)				(1.10)			
4.20-4.95	B15 _(SL4)				(1.10)			
4.20	S	N23			(1.10)			
4.50	PID	<0.1ppm			(1.10)			
4.95	J16 _(SL4)				(1.10)			
4.95-5.70	B17 _(SL4)				(1.10)			
5.70-7.20	SL5 _(SS)				(1.10)			
5.70	S	N10			(1.10)			
5.70	PID	<0.1ppm			(1.10)			
5.80	J18 _(SL5)				(1.10)			
5.80-6.80	B19 _(SL5)				(1.10)			
6.70	PID	<0.1ppm			(1.10)			
6.80	J20 _(SL5)				(1.10)			
6.80-7.20	B21 _(SL5)				(1.10)			
7.20-8.70	SL6 _(SS)				(1.10)			
7.20	J22 _(SL6)				(1.10)			
7.20-7.90	B23 _(SL6)				(1.10)			
7.20	S	N5			(1.10)			
7.70	PID	<0.1ppm			(1.10)			

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
03/06/2021	0.00	0.00	178		0.12 - 1.20	178	100	Yes	
03/06/2021	7.20	7.20	178	3.00	1.20 - 2.70	178	53	Yes	
04/06/2021	7.20	7.20	178	4.00	2.70 - 4.20	178	100	Yes	
					4.20 - 5.70	178	100	Yes	
					5.70 - 7.20	178	100	Yes	
					7.20 - 8.70	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C/D.P	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MSBH12	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457207.512 N:525257.781	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.147	Start Date: 03/06/2021
		Sheet: 3 of 3	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
16.20-16.65	UT1	(100)		-9.50		(1.25) 16.65	Soft grey brown sandy CLAY. Sand is fine to coarse. (Tidal Flat Deposits). <i>(continued)</i> at c.16.20m BGL ... very low strength. Clay is of intermediate plasticity. <i>Boring complete at 16.65m BGL - continued by rotary drilling.</i>	

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
07/06/2021	16.65	16.20	146		16.20 - 16.65	116	100	No	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 1 No. 50mm diameter slotted standpipe and 1 No. 25mm diameter slotted standpipe installed between 18.20-20.50m and 30.70-34.50m BGL respectively. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 14.90-16.65m BGL prior to commencing rotary drilling.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C/D.P	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH12	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457207.512 N:525257.781		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.147	Start Date: 03/06/2021	Sheet: 1 of 16

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
16.65 (102mm)	33	SOIL		-9.50		16.65	16.65-20.40m ... soil. 16.65m ... J46 16.65m ... B47	Firm to stiff dark grey brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes siltstone, limestone and mudstone. (Tidal Flat/Glacial Deposits). 16.65m ... clay is of intermediate plasticity.	
17.60 (102mm)	0					(2.25)			
18.10 (102mm)	63								
18.90 (102mm)	100			-11.75		18.90	18.90m ... J48 18.90m ... B49	Stiff light red brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes sandstone, mudstone and limestone. (Glacial Till). 18.90m ... clay is of low to intermediate plasticity.	
19.40 (102mm)	70					(1.50)	19.40m ... J50 19.40m ... B51		
20.40 (102mm)	100 (0) 0	NI		-13.25		20.40	20.40-23.00m ... non-intact.		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
11/06/2021	16.65	16.65	4.11	17.60	S	N4	16.65 - 17.60	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 1 No. 50mm diameter slotted standpipe and 1 No. 25mm diameter slotted standpipe installed between 18.20-20.50m and 30.70-34.50m BGL respectively. (4) UJO carried out as per the Client instructions. (5) Aquifer protection installed between 14.90-16.65m BGL prior to commencing rotary drilling.
				18.90	S	N25	17.60 - 18.10	Water	100	
							18.10 - 18.90	Water	100	
							18.90 - 19.40	Water	100	
							19.40 - 20.40	Water	100	
							20.40 - 21.70	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C/D.P	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS1BH12	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457207.512 N:525257.781		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.147	Start Date: 03/06/2021	Sheet: 2 of 16

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
21.70	(102mm)					(1.80)		Extremely weak thinly laminated dark grey MUDSTONE distinctly weathered. (Recovered as very stiff clay). (Redcar Mudstone Formation). (continued)	
22.00	(102mm)	100 (0) 0							
23.50	(102mm)	100 (0) 0		-15.05		22.20		Extremely weak thinly laminated dark grey MUDSTONE distinctly weathered. (Redcar Mudstone Formation).	
		12					23.00-25.00m ... horizontal to subhorizontal (0-15 degrees) closely spaced planar to undulating smooth tight to partly open clean and infilled (clayey gravel) discontinuities.		
24.00	(102mm)	100 (0) 0				(2.70)			
	(102mm)	100 (42) 0							

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
11/06/2021	24.00	24.00	0.00				21.70 - 22.00	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 1 No. 50mm diameter slotted standpipe and 1 No. 25mm diameter slotted standpipe installed between 18.20-20.50m and 30.70-34.50m BGL respectively. (4) UJO carried out as per the Client instructions. (5) Aquifer protection installed between 14.90-16.65m BGL prior to commencing rotary drilling.
14/06/2021	24.00	24.00	4.09				22.00 - 23.50	Water	100	
							23.50 - 24.00	Water	100	
							24.00 - 25.20	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C/D.P	Contract No. 4339
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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH12	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457207.512 N:525257.781		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.147	Start Date: 03/06/2021	Sheet: 3 of 16

RUN DETAILS			STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)		Description
							Discontinuity Detail	Main
25.20		10		-17.75		24.90		Very weak thinly laminated dark grey MUDSTONE partially weathered. (Redcar Mudstone Formation).
				-18.05		25.20	25.00-25.20m ... subhorizontal (5-25 degrees) very closely spaced planar to undulating open and tight infilled (clay) discontinuities.	
	100 (93) 60	4					25.20-26.30m ... subhorizontal (5-25 degrees) closely spaced planar to undulating open and tight infilled (clay) discontinuities.	Weak thinly laminated dark grey MUDSTONE partially weathered with occasional fossilised remains (2-40mm in size). (Redcar Mudstone Formation).
		15					26.30-26.70m ... subhorizontal (5-25 degrees) and subvertical (65-85 degrees) closely to very closely spaced planar to undulating open and tight infilled (clay) discontinuities.	
26.70		6				28.20	26.70-28.20m ... subvertical (65-85 degrees) very closely spaced planar to undulating open and tight infilled (clay) discontinuities.	Weak grey fossiliferous MUDSTONE partially weathered. (Redcar Mudstone Formation).
	100 (87) 70						28.20-29.50m ... oblique (25-65 degrees) and subhorizontal (5-25 degrees) very closely spaced planar to undulating open and tight infilled (clay) discontinuities.	
28.20		11		-21.05		28.20		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
							25.20 - 26.70	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 1 No. 50mm diameter slotted standpipe and 1 No. 25mm diameter slotted standpipe installed between 18.20-20.50m and 30.70-34.50m BGL respectively. (4) UJO carried out as per the Client instructions. (5) Aquifer protection installed between 14.90-16.65m BGL prior to commencing rotary drilling.
							26.70 - 28.20	Water	100	
							28.20 - 29.50	Water	100	

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/R.C/D.P	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH12	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457207.512 N:525257.781	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.147	Start Date: 03/06/2021
		Sheet: 4 of 16	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
29.50	(102mm)			-22.35		29.50		Weak grey fossiliferous MUDSTONE partially weathered. (Redcar Mudstone Formation). (continued)	
30.20	93 (93) 50	NR 6				29.50-29.55m ... no recovery. 29.55-31.20m ... subhorizontal (10-20 degrees) closely spaced planar and irregular rough undulating smooth and rough tight clean discontinuities.		Weak to moderately weak dark grey black grey black fossiliferous MUDSTONE partially weathered. (Redcar Mudstone Formation).	
31.20	100 (100) 80								
31.70	100 (80) 40	NI 8				31.20-31.30m ... non-intact. 31.30-32.45m ... subhorizontal (10-20 degrees) closely spaced planar and irregular rough undulating smooth and rough tight clean discontinuities.			
	77 (57) 33	NR				32.45-32.70m ... no recovery.			
	(102mm)					(6.20)			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
14/06/2021	29.50	29.50	2.19				29.50 - 30.20	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 1 No. 50mm diameter slotted standpipe and 1 No. 25mm diameter slotted standpipe installed between 18.20-20.50m and 30.70-34.50m BGL respectively. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed between 14.90-16.65m BGL prior to commencing rotary drilling.
16/06/2021	29.50	29.50	5.19				30.20 - 31.20	Water	100	
							31.20 - 31.70	Water	100	
							31.70 - 33.20	Water	100	

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DRILLHOLE RECORD

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Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457207.512 N:525257.781	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)		Ground Level (m): 7.147	Start Date: 03/06/2021
		Sheet: 5 of 16	

RUN DETAILS			STRATA					Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
33.20		NI				32.70-33.00m ... non-intact.	Weak to moderately weak dark grey black grey black fossiliferous MUDSTONE partially weathered. (Redcar Mudstone Formation). (continued)		
		6				33.00-35.70m ... subhorizontal (10-20 degrees) closely spaced planar and irregular rough undulating smooth and rough tight clean discontinuities.			
34.20	100 (100) 70								
35.30	100 (100) 82								
	100 (100) 75			-28.55		35.70			
							Complete at 35.70m BGL.		

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
16/06/2021	33.20	33.20	5.19				33.20 - 34.20	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 1 No. 50mm diameter slotted standpipe and 1 No. 25mm diameter slotted standpipe installed between 18.20-20.50m and 30.70-34.50m BGL respectively. (4) UJO carried out as per the Client instructions. (5) Aquifer protection installed between 14.90-16.65m BGL prior to commencing rotary drilling.
17/06/2021	33.20	33.20	4.67				34.20 - 35.30	Water	100	
17/06/2021	35.70	35.70	4.67				35.30 - 35.70	Water	100	

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457207.512 N:525257.781		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.147	Start Date: 03/06/2021	Sheet: 6 of 16

Figure MS\BH12.1
MS\BH12 0.12-1.20m BGL



Figure MS\BH12.2
MS\BH12 1.20-2.70m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.147	Start Date: 03/06/2021	Sheet: 7 of 16

Figure MS\BH12.3
MS\BH12 2.70-4.20m BGL



Figure MS\BH12.4
MS\BH12 4.20-5.70m BGL





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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457207.512 N:525257.781		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.147	Start Date: 03/06/2021	Sheet: 8 of 16

Figure MS\BH12.5
MS\BH12 5.70-7.20m BGL



Figure MS\BH12.6
MS\BH12 7.20-8.70m BGL





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DRILLHOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457207.512 N:525257.781		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.147	Start Date: 03/06/2021	Sheet: 9 of 16

Figure MS\BH12.7
MS\BH12 8.70-10.20m BGL



Figure MS\BH12.8
MS\BH12 10.20-11.70m BGL





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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457207.512 N:525257.781		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.147	Start Date: 03/06/2021	Sheet: 10 of 16

Figure MS\BH12.9
MS\BH12 11.70-13.20m BGL



Figure MS\BH12.10
MS\BH12 13.20-14.70m BGL





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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457207.512 N:525257.781		Sheet: 11 of 16
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.147	Start Date: 03/06/2021	

Figure MS\BH12.11
MS\BH12 16.65-19.40m BGL



Figure MS\BH12.12
MS\BH12 19.40-21.40m BGL





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DRILLHOLE RECORD

Status:-
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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457207.512 N:525257.781		Sheet: 12 of 16
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.147	Start Date: 03/06/2021	

Figure MS\BH12.13
MS\BH12 21.40-23.60m BGL



Figure MS\BH12.14
MS\BH12 23.40-24.00m BGL





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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.147	Start Date: 03/06/2021	

Figure MS\BH12.15
MS\BH12 24.00-25.20m BGL



Figure MS\BH12.16
MS\BH12 25.20-26.70m BGL





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DRILLHOLE RECORD

Status:-

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Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS\BH12	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457207.512 N:525257.781		Sheet: 14 of 16
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.147	Start Date: 03/06/2021	

Figure MS\BH12.17
MS\BH12 26.70-28.20m BGL



Figure MS\BH12.18
MS\BH12 28.20-29.50m BGL





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DRILLHOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457207.512 N:525257.781		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.147	Start Date: 03/06/2021	Sheet: 15 of 16

Figure MS\BH12.19
MS\BH12 29.50-31.20m BGL



Figure MS\BH12.20
MS\BH12 31.20-32.25m BGL





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DRILLHOLE RECORD

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Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)	Ground Level (m): 7.147	Start Date: 03/06/2021	Sheet: 16 of 16

Figure MS\BH12.21
MS\BH12 32.25-34.20m BGL



Figure MS\BH12.22
MS\BH12 34.20-35.70m BGL





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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH13	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456773.892 N:525178.376		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 5.714	Start Date: 25/06/2021	Sheet: 1 of 2

SAMPLES & TESTS			STRATA				Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	
0.15-1.20	SL1 _(SS)			5.56		0.15	(1) MADE GROUND (Black ash and soil).
0.15-1.20	B7 _(SL1)						MADE GROUND (Brown black very sandy gravel and cobbles with low cobble content. Gravel is fine to coarse angular to subrounded and includes grey to dark grey slag. Cobbles are subangular to subrounded and include slag. Slag is 100%).
0.30	ES1 _(SL1)	0.1ppm				(1.05)	
0.30	PID						MADE GROUND (Medium dense grey brown slightly clayey sand and gravel. Gravel is fine to coarse angular to rounded and includes slag. Slag is 100%).
0.50	ES2 _(SL1)	<0.1ppm		4.51		1.20	
0.50	J8 _(SL1)						between c. 1.90-2.70m BGL ... clayey.
0.50	PID						
1.00	ES3 _(SL1)						MADE GROUND (Soft red brown sandy gravelly clay with low cobble content. Gravel is fine to coarse angular to subrounded and includes grey slag. Slag is vesicular (100%). Cobbles are subrounded and include slag. at c.3.00m BGL ... clay is of intermediate plasticity.
1.00	J9 _(SL1)	<0.1ppm					
1.00	PID						MADE GROUND (Dark blue brown sand with mild hydrocarbon odour. Sand is fine to coarse).
1.20-2.70	SL2 _(SS)						
1.20-1.95	B10 _(SL2)						Soft brown black slightly organic slightly sandy CLAY with occasional fragments of white shell. Mild organic odour. (Tidal Flat Deposits). at c.4.20m BGL ... clay is of high plasticity. between c.4.80-5.70m BGL ... black brown.
1.20	S	N28					
1.50	J11 _(SL2)						Brown clayey SAND. Sand is fine to coarse. (Engineer notes slightly saturated). (Tidal Flat Deposits).
1.50	PID	<0.1ppm					
1.95-2.70	B12 _(SL2)						Medium dense to dense yellow brown very silty SAND with occasional fragments of bivalve shell. (Tidal Flat Deposits).
2.00	ES4 _(SL2)						
2.00	J13 _(SL2)						
2.00	PID	<0.1ppm					
2.50	J14 _(SL2)						
2.50	PID	<0.1ppm					
2.70-4.20	SL3 _(SS)						
2.70-3.65	B15 _(SL3)						
2.70	S	N9					
3.00	ES5 _(SL3)						
3.00	J16 _(SL3)						
3.00	PID	<0.1ppm					
3.60	ES6 _(SL3)						
3.60	PID	<0.1ppm					
3.65-4.20	B17 _(SL3)						
4.00	J18 _(SL3)						
4.00	PID	<0.1ppm					
4.20-5.70	SL4 _(SS)						
4.20-4.80	B19 _(SL4)						
4.20	S	N4					
4.50	J20 _(SL4)						
4.80-5.70	B21 _(SL4)						
5.00	J22 _(SL4)						
5.00	PID	<0.1ppm					
5.50	J23 _(SL4)						
5.70-6.15	UT1						
5.70-7.20	SL5 _(SS)						
5.70-6.05	B24 _(SL5)						
6.00	PID	<0.1ppm					
6.05-7.20	B26 _(SL5)						
6.50	J25 _(SL5)						
7.00	PID	<0.1ppm					
7.20-8.70	SL6 _(SS)						
7.20-7.95	B27 _(SL6)						
7.20	S	N33					
7.50	J28 _(SL6)						

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
25/06/2021	0.00	0.00	178		0.15 - 1.20	178	76	Yes	
25/06/2021	5.70	5.70	178	5.00	1.20 - 2.70	178	100	Yes	
28/06/2021	5.70	5.70	178	4.00	2.70 - 4.20	178	100	Yes	
					4.20 - 5.70	178	100	Yes	
					5.70 - 7.20	178	67	Yes	
					7.20 - 8.70	178	100	Yes	

(1) Description derived from drillers daily report.
 (2) Inspection pit dug prior to drilling.
 (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 6.50-9.50m and 17.00-20.00m BGL.
 (4) UXO carried out as per the Client instructions.
 (5) Aquifer protection installed prior to commencing rotary drilling.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS1BH13	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:456773.892 N:525178.376		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)		Ground Level (m): 5.714	Start Date: 25/06/2021	Sheet: 2 of 2

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
7.95-8.70 8.00 8.00	B29 ^(SL6) J30 ^(SL6) PID	<0.1ppm			x		Medium dense to dense yellow brown very silty SAND with occasional fragments of bivalve shell. (Tidal Flat Deposits). <i>(continued)</i>	
8.50	J31 ^(SL6)				x			
8.70-10.20 8.70-10.20	SL7 ^(SS) B32 ^(SL7)	N24			x	(3.30)		
8.70 9.00	S PID	<0.1ppm			x			
9.50	J33 ^(SL7)				x			
10.20-11.70 10.20-10.40	SL8 ^(SS) ES34 ^(SL8)	N26		-4.79	x	10.50	Brown very clayey SAND with occasional pockets of soft brown very sandy clay. Sand is fine to coarse. (Tidal Flat Deposits).	
10.20 10.50	S J39 ^(SL8)	<0.1ppm		-5.19	x	10.90		
11.00-11.20 11.00	ES35 ^(SL8) ES(M)36 ^(SL8)	<0.1ppm			x	(0.80)	Stiff thinly laminated red brown silty CLAY. (Glacial Deposits).	
11.00 11.20-11.70 11.50	PID B38 ^(SL8) J37 ^(SL8)				x			
11.70-12.15	UT2			-5.99	x	11.70	at c. 11.50m BGL ... clay is of high plasticity. <i>Boring complete at 11.70m BGL - continued by rotary drilling.</i>	

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
28/06/2021	11.70	11.70	178	5.00	8.70 - 10.20	178	47	Yes	
					10.20 - 11.70	178	100	Yes	

(1) Description derived from drillers daily report.
 (2) Inspection pit dug prior to drilling.
 (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 6.50-9.50m and 17.00-20.00m BGL.
 (4) UXO carried out as per the Client instructions.
 (5) Aquifer protection installed prior to commencing rotary drilling.

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH13	
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456773.892 N:525178.376		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 5.714	Start Date: 25/06/2021	Sheet: 1 of 10

RUN DETAILS				STRATA					Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
11.70 (102mm)	70	SOIL		-5.99		11.70	11.70-15.30m ... soil.	Stiff dark brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subangular and includes coal, mudstone, sandstone and limestone. (Glacial Till). 11.70m ... clay is of high plasticity.	
12.70 (102mm)	100					(2.50)	12.80m ... J42 12.80m ... B43 12.80m ... E44 12.80m ... ES(M)45 12.80m ... U46	12.80m ... high strength. Clay is of intermediate plasticity.	
14.20 (102mm)	97 (0) 0			-8.49		(0.50)	14.20m ... B48 14.30m ... J47	Stiff thinly laminated grey brown silty slightly sandy CLAY. Sand is fine to coarse. (Glacial Till).	
15.70 (102mm)	NI			-8.99		(0.60)	14.70m ... U49	Stiff dark brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium angular to subangular and includes mudstone, sandstone, limestone and coal. (Glacial Till). 14.70m ... clay is of intermediate plasticity.	
				-9.59		(0.40)	15.30m ... E50 15.30-15.70m ... non-intact. Recovered as clay.	Extremely weak thinly laminated blue grey MUDSTONE residual. (Recovered as stiff clay). (Redcar Mudstone Formation).	
				-9.99					

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
29/06/2021	11.70	11.70	5.00	14.20	S	N18	11.70 - 18.20	Water	100	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 6.50-9.50m and 17.00-20.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS1BH13	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:456773.892 N:525178.376		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)		Ground Level (m): 5.714	Start Date: 25/06/2021	Sheet: 3 of 10

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
				-14.49		20.20		Very weak thinly laminated grey MUDSTONE partially to distinctly weathered. (continued)	
								Complete at 20.20m BGL.	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
30/06/2021	20.20	20.20	6.00							(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 6.50-9.50m and 17.00-20.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M.B/R.C	Contract No. 4339
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DRILLHOLE RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH13
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456773.892 N:525178.376		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 5.714	Start Date: 25/06/2021	Sheet: 4 of 10

Figure MS\BH13.1
MS\BH13 0.15-1.20m BGL



Figure MS\BH13.2
MS\BH13 1.20-2.70m BGL





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DRILLHOLE RECORD

Status:-

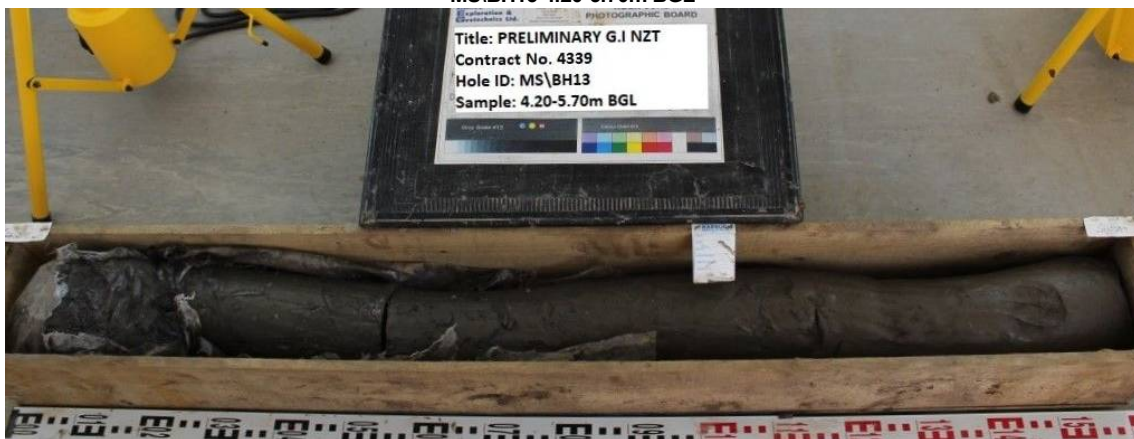
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH13
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456773.892 N:525178.376		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 5.714	Start Date: 25/06/2021	Sheet: 5 of 10

Figure MS\BH13.3
MS\BH13 2.70-4.20m BGL



Figure MS\BH13.4
MS\BH13 4.20-5.70m BGL





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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH13
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456773.892 N:525178.376		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 5.714	Start Date: 25/06/2021	Sheet: 6 of 10

Figure MS\BH13.5
MS\BH13 5.70-7.20m BGL



Figure MS\BH13.6
MS\BH13 7.20-8.70m BGL





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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH13
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456773.892 N:525178.376		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 5.714	Start Date: 25/06/2021	Sheet: 7 of 10

Figure MS\BH13.7
MS\BH13 8.70-10.20m BGL



Figure MS\BH13.8
MS\BH13 10.20-11.70m BGL





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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH13
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456773.892 N:525178.376		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 5.714	Start Date: 25/06/2021	Sheet: 8 of 10

Figure MS\BH13.9
MS\BH13 11.70-12.70m BGL

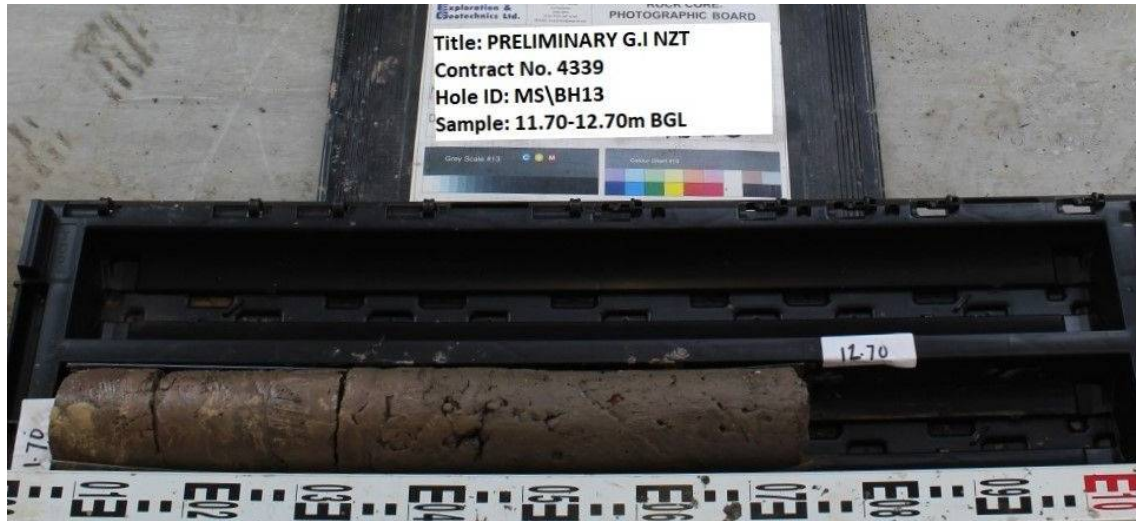


Figure MS\BH13.10
MS\BH13 12.70-14.20m BGL





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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH13
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456773.892 N:525178.376		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 5.714	Start Date: 25/06/2021	Sheet: 9 of 10

Figure MS\BH13.11
MS\BH13 14.20-15.70m BGL



Figure MS\BH13.12
MS\BH13 15.70-17.20m BGL





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DRILLHOLE RECORD

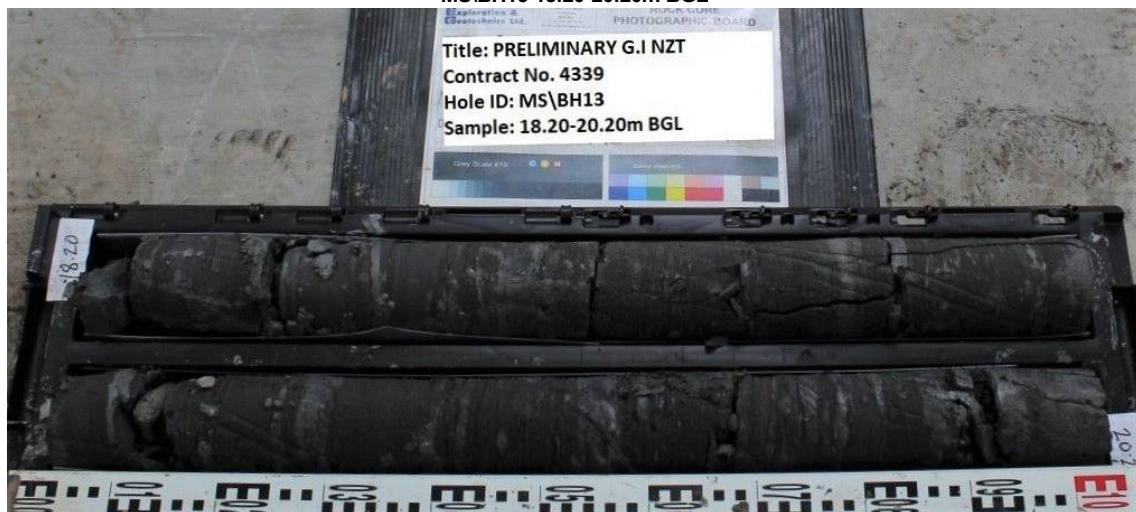
Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH13
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456773.892 N:525178.376		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 5.714	Start Date: 25/06/2021	Sheet: 10 of 10

Figure MS\BH13.13
MS\BH13 17.20-18.20m BGL



Figure MS\BH13.14
MS\BH13 18.20-20.20m BGL



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Regional Office: Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL **Tel:** 01772 735 300 **Fax:** 01772 735 999

SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457078.825 N:525022.226	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)		Ground Level (m): 7.191	Start Date: 28/06/2021
		Sheet: 1 of 2	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
0.10-1.20	SL1 _(SS)					(1.20)	MADE GROUND (Grey brown very gravelly sand with low cobble content. Sand is fine to coarse. Gravel is fine to coarse angular to subrounded and includes slag. Slag is vesicular (100%). Cobbles are subrounded and include slag).	
0.10-1.20	B4 _(SL1)							
0.30	ES1 _(SL1)	<0.1ppm						
0.30	PID							
0.50	ES2 _(SL1)							
0.50	J5 _(SL1)	<0.1ppm						
0.50	PID							
1.00	ES3 _(SL1)	<0.1ppm		5.99				
1.00	PID							
1.20-2.70	SL2 _(SS)							
1.20-1.95	B6 _(SL2)							
1.20	S	N26						
1.50	J7 _(SL2)	<0.1ppm						
1.50	PID							
1.95-2.70	B8 _(SL2)							
2.00	PID	<0.1ppm						
2.00	J9 _(SL2)							
2.00	ES9A _(SL2)							
2.50	J10 _(SL2)	<0.1ppm						
2.50	PID							
2.70-4.20	SL3 _(SS)					(0.65)	MADE GROUND (Blue grey black very sandy gravel with high cobble content. Sand is fine to coarse. Gravel is fine to coarse angular to subrounded and includes slag. Slag is vesicular (100%). Cobbles are subangular to subrounded and include slag. Slag is vesicular).	
2.70-3.55	B11 _(SL3)							
2.70	S	N15						
3.00	PID	<0.1ppm						
3.00	J12 _(SL3)							
3.00	ES12A _(SL3)							
3.00	PID							
3.50	J13 _(SL3)							
3.50	PID							
3.55-4.20	B14 _(SL3)							
4.00	J15 _(SL3)	<0.1ppm		2.99		(4.20)	MADE GROUND (Black sand and gravel. Sand is fine to coarse. Gravel is fine to coarse angular to subangular and includes slag. Mild to moderate hydrocarbon odour noted). (Slightly saturated). Black pseudofibrous PEAT.	
4.00	PID							
4.20	PID	1.0ppm						
4.20-5.70	SL4 _(SS)							
4.20-4.40	ES16 _(SL4)							
4.20	S	N19						
4.50	PID	<0.1ppm						
4.50	J17 _(SL4)							
4.50-4.80	ES18 _(SL4)							
5.00	J19 _(SL4)							
5.00-5.70	B20 _(SL4)							
5.50	J21 _(SL4)					(4.20)	Medium dense black brown silty SAND with occasional fragments of shell. Mild organic odour (Tidal Flat Deposits). at c.4.50m BGL ... sandy slightly gravelly silt of intermediate plasticity. between c.4.50-5.30m BGL ... occasional pockets of soft black silt.	
5.70-7.20	SL5 _(SS)							
5.70-6.45	B22 _(SL5)							
5.70	S	N12						
6.00	J23 _(SL5)							
6.00	PID	<0.1ppm						
6.45-7.20	B24 _(SL5)							
6.50	J25 _(SL5)							
7.00	J26 _(SL5)							
7.00	PID	<0.1ppm						
7.20-8.70	SL6 _(SS)					(4.20)		
7.20-7.95	B27 _(SL6)							
7.20	S	N15						
7.50	J28 _(SL6)							

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
28/06/2021	0.00	0.00	178	Dry	0.10 - 1.20	178	100	Yes	
28/06/2021	1.20	0.00	178		1.20 - 2.70	178	100	Yes	
29/06/2021	1.20	0.00	178		2.70 - 4.20	178	100	Yes	
					4.20 - 5.70	178	100	Yes	
					5.70 - 7.20	178	100	Yes	
					7.20 - 8.70	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M. Bell	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH14	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457078.825 N:525022.226	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)		Ground Level (m): 7.191	Start Date: 28/06/2021 Sheet: 2 of 2

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
7.95-8.70 8.00 8.00	B29 _(SL6) J30 _(SL6) PID	<0.1ppm			x		Medium dense black brown silty SAND with occasional fragments of shell. Mild organic odour (Tidal Flat Deposits). <i>(continued)</i>	
8.50	J31 _(SL6)			-1.51	x	8.70	Medium dense yellow brown silty SAND with pockets of soft brown silty clay. (Tidal Flat Deposits).	
8.70-10.20 8.70-9.45	SL7 _(SS) B32 _(SL7)	N25			x			
8.70	S				x			
9.00	J33 _(SL7) PID	<0.1ppm			x	(1.50)		
9.45-10.20 9.50	B34 _(SL7) J35 _(SL7)				x			
10.00	J36 _(SL7) PID	<0.1ppm			x	10.20		
10.20-11.70 10.20-10.95	SL8 _(SS) B37 _(SL8)	N2			x		Very loose yellow brown SAND. Sand is fine to coarse. (Tidal Flat Deposits).	
10.20	S				x	(1.20)		
10.50	J38 _(SL8)				x			
10.95-11.40 11.00	B39 _(SL8) J40 _(SL8) PID	<0.1ppm			x	11.40		
11.50	J41 _(SL8)				x		Medium dense yellow brown silty SAND with occasional pockets of soft brown silty clay and fragments of shell. Sand is fine to coarse. (Tidal Flat Deposits).	
11.70-13.20 11.70-12.45	SL9 _(SS) B42 _(SL9)	N23			x			
11.70	S				x	(1.60)		
12.00	J43 _(SL9) PID	<0.1ppm			x			
12.45-12.65 12.45	ES44 _(SL9) PID	<0.1ppm			x			
12.50	J45 _(SL9)				x	13.00		
13.00	J46 _(SL9)				x		Soft dark brown very sandy CLAY. (Tidal Flat Deposits).	
13.20	UT*B1 PID	(15) <0.1ppm			x	13.20		
13.20							Boring complete at 13.20m BGL - continued by rotary drilling.	

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
29/06/2021	13.20	13.20	178	8.70	8.70 - 10.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 50mm diameter slotted standpipe installed between 5.00-8.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed prior to commencing rotary drilling.
					10.20 - 11.70	178	100	Yes	
					11.70 - 13.20	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M. Bell	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH14	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457078.825 N:525022.226	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)		Ground Level (m): 7.191	Start Date: 28/06/2021
		Sheet: 2 of 11	

RUN DETAILS				STRATA				Instrument/ Backfill	
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail		Main
17.70		NI		-10.06		17.25m ... B61 17.25-17.70m ... non-intact. Recovered as clay. (0.45) 17.50m ... ES62	plasticity. Extremely weak grey MUDSTONE residual. (Recovered as gravelly clay. Gravel is fine to coarse angular). (Redcar Mudstone Formation).	Instrument/ Backfill	
	100 (77) 7	NI		-10.51		17.70-18.00m ... non-intact. (0.30)	Extremely weak grey MUDSTONE destructured. (Redcar Mudstone Formation).		
		30		-10.81		18.00-19.15m ... horizontal to vertical (0-90 degrees) extremely to very closely spaced planar to undulating smooth to very tight to tight clean discontinuities. (0.20)	Very weak thinly to thickly laminated grey MUDSTONE distinctly weathered. (Redcar Mudstone Formation).		
	(102mm)			-11.01		(0.80)	Weak grey MUDSTONE partially weathered with occasional fragments of shell (5-20mm in size). (Redcar Mudstone Formation).		
				-11.81		19.00			
				-11.96		19.15			
19.20		NI		-12.01		19.15-19.20m ... non-intact. 19.20-21.50m ... horizontal to vertical (0-90 degrees) very closely spaced planar very tight to partly open clean discontinuities. 19.20	Very weak thinly to thickly laminated grey MUDSTONE distinctly weathered. (Redcar Mudstone Formation).		
	100 (70) 29						Extremely weak grey MUDSTONE destructured. (Redcar Mudstone Formation).		
							Weak grey thinly to thickly laminated grey MUDSTONE partially weathered with occasional fragments of shell (5-40mm in size). (Redcar Mudstone Formation).		
20.70						(3.00)			

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
										(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 50mm diameter slotted standpipe installed between 5.00-8.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M. Bell	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH14	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457078.825 N:525022.226	
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)		Ground Level (m): 7.191	Start Date: 28/06/2021
			Sheet: 3 of 11

RUN DETAILS				STRATA					Instrument/ Backfill
Depth & (Core Ø)	TCR (SCR) RQD	Fracture Index	Water	Reduced Level	Legend	Depth (Thickness)	Description		
							Discontinuity Detail	Main	
(102mm)		NI		-15.01		21.50-21.70m ... non-intact.		Weak grey thinly to thickly laminated grey MUDSTONE partially weathered with occasional fragments of shell (5-40mm in size). (Redcar Mudstone Formation). (continued)	
		12				21.70-22.20m ... horizontal to vertical (0-90 degrees) very closely spaced planar very tight to partly open clean discontinuities.			
						22.20		Complete at 22.20m BGL.	

Drilling Progress and Water Observations				Standard Penetration Test			Flush			General Remarks
Date	Depth	Casing	Water Standing	Depth	Type	Result	From - To	Type	Returns (%)	
01/07/2021	22.20	22.20	3.80							(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 50mm diameter slotted standpipe installed between 5.00-8.00m BGL. (4) UXO carried out as per the Client instructions. (5) Aquifer protection installed prior to commencing rotary drilling.

All dimensions in metres Scale 1:25.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M. Bell	Contract No. 4339
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DRILLHOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH14
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457078.825 N:525022.226		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 7.191	Start Date: 28/06/2021	Sheet: 4 of 11

Figure MS\BH14.1
MS\BH14 0.10-1.20m BGL



Figure MS\BH14.2
MS\BH14 1.20-2.70m BGL





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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH14
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457078.825 N:525022.226		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 7.191	Start Date: 28/06/2021	Sheet: 5 of 11

Figure MS\BH14.3
MS\BH14 2.70-4.20m BGL



Figure MS\BH14.4
MS\BH14 4.20-5.70m BGL





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DRILLHOLE RECORD

Status:-

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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH14
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457078.825 N:525022.226		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 7.191	Start Date: 28/06/2021	Sheet: 6 of 11

Figure MS\BH14.5
MS\BH14 5.70-7.20m BGL



Figure MS\BH14.6
MS\BH14 7.20-8.70m BGL





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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH14
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457078.825 N:525022.226		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 7.191	Start Date: 28/06/2021	Sheet: 7 of 11

Figure MS\BH14.7
MS\BH14 8.70-10.20m BGL



Figure MS\BH14.8
MS\BH14 10.20-11.70m BGL





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DRILLHOLE RECORD

Status:-

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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH14
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457078.825 N:525022.226		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 7.191	Start Date: 28/06/2021	Sheet: 8 of 11

Figure MS\BH14.9
MS\BH14 11.70-13.20m BGL



Figure MS\BH14.10
MS\BH14 13.20-14.70m BGL





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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH14
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457078.825 N:525022.226		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 7.191	Start Date: 28/06/2021	Sheet: 9 of 11

Figure MS\BH14.11
MS\BH14 14.70-16.20m BGL



Figure MS\BH14.12
MS\BH14 16.20-17.70m BGL





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DRILLHOLE RECORD

Status:-

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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH14
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457078.825 N:525022.226		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 7.191	Start Date: 28/06/2021	Sheet: 10 of 11

Figure MS\BH14.13
MS\BH14 17.70-19.20m BGL

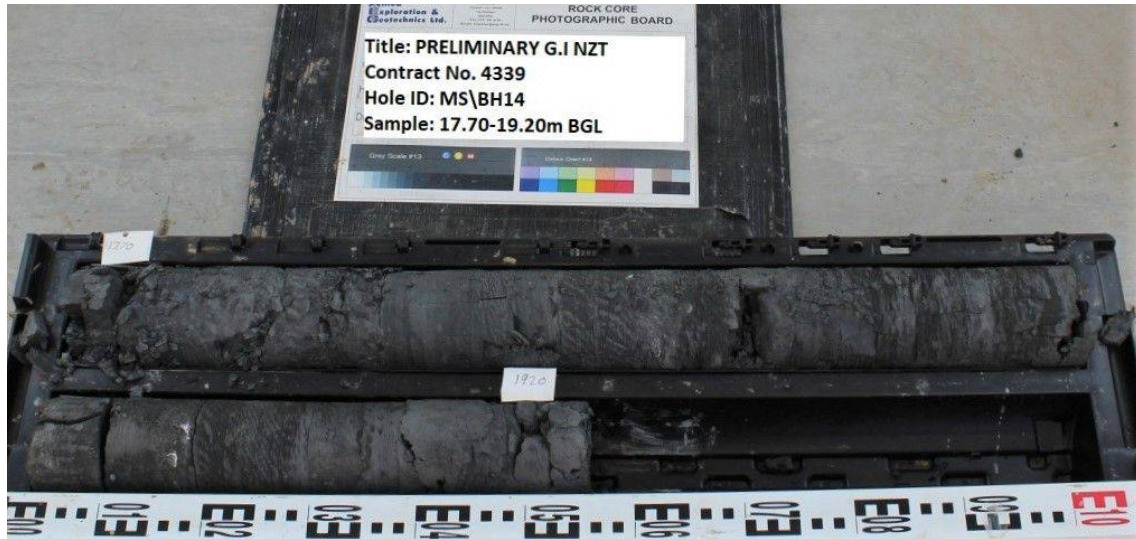


Figure MS\BH14.14
MS\BH14 19.20-20.70m BGL





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DRILLHOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH14
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457078.825 N:525022.226		
Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250)	Ground Level (m): 7.191	Start Date: 28/06/2021	Sheet: 11 of 11

Figure MS\BH14.15
MS\BH14 20.70-22.20m BGL



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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:456595.238 N:524931.815	
Method (Equipment): Sonic Coring (Boart Longyear LS250)		Ground Level (m): 7.247	Start Date: 01/07/2021
		Sheet: 1 of 10	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
0.13-1.20	SL ₁ (SS)			7.12		0.13	MADE GROUND (Dark grey slag). (Driller notes iron rich).	
0.30	ES1(SL1)	<0.1ppm				(0.65)	MADE GROUND (Black clayey sand and gravel. Gravel is fine to coarse angular to subangular and includes slag. Slag is vesicular (100%)).	
0.30	PID							
0.50	J2(SL1)							
0.50	ES3(SL1)	<0.1ppm		6.47		0.78	MADE GROUND (Grey dark grey slightly gravelly sand with low cobble content. Gravel is fine to coarse angular to subangular and includes slag. Slag is vesicular (100%). Cobbles are subrounded and include slag).	
0.50	PID							
1.00	ES4(SL1)					(0.47)		
1.00	J5(SL1)			6.00		1.25	MADE GROUND (Firm red brown slightly sandy slightly gravelly clay with low cobble content and cobble sized fragments of metal. Gravel is fine to coarse angular to subrounded and includes slag and brick. Slag is vesicular (50-75%). Cobbles are subangular to angular and include brick and slag).	
1.00	PID	<0.1ppm						
1.20-2.70	SL2(SS)					(0.95)	MADE GROUND (Dense black clayey very sandy gravel with low cobble content. Sand includes ash (50-75%). Gravel is fine to coarse angular to subangular and includes slag and black and yellow clinker. Cobbles are subangular and include black slag).	
1.20	C	N8						
1.25-2.20	B6(SL2)					(1.10)	MADE GROUND (Brown black clayey gravelly sand with fragments of wood and frequent multicoloured plastic beads. Gravel is fine to coarse angular to subangular and includes slag (75-100%)).	
1.50	J9(SL2)							
1.50	PID	<0.1ppm						
1.80-2.00	ES7(SL2)			5.05		2.20	MADE GROUND (Dense blue light grey very sandy gravel with low cobble content. Gravel is fine to coarse angular to subangular and includes slag. Cobbles are subrounded and include slag. Slag is vesicular (100%). Mild hydrogen sulphide odour).	
1.80	PID	<0.1ppm						
2.00	ES(M)8(SL2)					(1.00)	MADE GROUND (Medium dense yellow brown slightly gravelly SAND with occasional fragments of shell (bivalve). Gravel is fine to coarse angular and includes mudstone, sandstone and limestone. (Tidal Flat Deposits).	
2.00	J11(SL2)							
2.20-2.70	B10(SL2)							
2.50	J12(SL2)							
2.50	PID	<0.1ppm						
2.70-4.20	SL3(SS)					(0.90)		
2.70-2.90	ES13(SL3)			3.95		3.30		
2.70	C	N34						
2.70	PID	<0.1ppm						
3.50	J14(SL3)					(1.00)		
3.90-4.20	ES15(SL3)							
3.90	PID	<0.1ppm		3.05		4.20		
4.00	J16(SL3)							
4.20-5.70	SL4(SS)							
4.20-5.20	B17(SL4)							
4.20	S	N49						
4.40-4.60	ES18(SL4)							
4.40	PID	<0.1ppm						
4.50	J19(SL4)							
5.00	J20(SL4)							
5.20-5.40	ES21(SL4)							
5.20	PID	<0.1ppm		2.05		5.20		
5.50	J22(SL4)							
5.70-7.20	SL5(SS)							
5.70-6.45	J23(SL5)							
5.70	S	N28						
6.00	J24(SL5)							
6.00	PID	<0.1ppm						
6.45-7.20	J25(SL5)							
6.50	J26(SL5)							
7.00	J27(SL5)							
7.00	PID	<0.1ppm						
7.20-8.70	SL6(SS)							
7.20-7.95	J28(SL6)							
7.20	S	N29						
7.50	J29(SL6)							

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
01/07/2021	0.00	0.00	178		0.13 - 1.20	178	75	Yes	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 9.00-12.00m and 2.00-5.00m BGL. (5) UXO carried out as per the Client instructions.
					1.20 - 2.70	178	100	Yes	
					2.70 - 4.20	178	67	Yes	
					4.20 - 5.70	178	80	Yes	
					5.70 - 7.20	178	100	Yes	
					7.20 - 8.70	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/M.B	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH15	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:456595.238 N:524931.815	
Method (Equipment): Sonic Coring (Boart Longyear LS250)		Ground Level (m): 7.247	Start Date: 01/07/2021
		Sheet: 2 of 10	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
7.95-8.70	B30 _(SL6)	<0.1ppm			○		Medium dense yellow brown slightly gravelly SAND with occasional fragments of shell (bivalve). Gravel is fine to coarse angular and includes mudstone, sandstone and limestone. (Tidal Flat Deposits). (continued)	○
8.00	J31 _(SL6)							
8.00	PID							
8.50	J32 _(SL6)	N24			○	(8.20)		○
8.70-10.20	SL7 _(SS)							
8.70-9.45	B33 _(SL7)							
8.70	S	<0.1ppm			○			○
9.00	J34 _(SL7)							
9.00	PID							
9.45-10.20	B35 _(SL7)	<0.1ppm			○			○
9.50	J36 _(SL7)							
10.00	J37 _(SL7)							
10.00	PID	<0.1ppm			○		at c.10.20m BGL ... dense.	○
10.20-11.70	SL8 _(SS)							
10.20-10.95	B38 _(SL8)							
10.20	S	N31			○			○
10.50	J39 _(SL8)							
10.95-11.70	B40 _(SL8)							
11.00	J41 _(SL8)	<0.1ppm			○			○
11.00	PID							
11.50	J42 _(SL8)							
11.70-13.20	SL9 _(SS)	N27			○			○
11.70-12.45	B43 _(SL9)							
11.70	S							
12.00	J44 _(SL9)	<0.1ppm			○			○
12.00	PID							
12.45	PID							
12.45-13.00	B45 _(SL9)	<0.1ppm			○			○
12.45-13.00	ES45 _(SL9)							
12.50	J46 _(SL9)							
13.00-13.20	ES47 _(SL9)	<0.1ppm			○			○
13.00	J48 _(SL9)							
13.00	PID							
13.20-14.70	SL10 _(SS)	N12			○		Soft black brown slightly sandy CLAY with frequent pockets of black very organic silty clay. Mild to moderate organic odour. (Tidal Flat Deposits).	○
13.20	S							
13.40-13.60	ES49 _(SL10)							
13.40	ES(M)50 _(SL10)	<0.1ppm			○	(0.90)	at c.14.00m BGL ... clay is of low plasticity.	○
13.40	PID							
13.60-14.30	B51 _(SL10)							
14.00	J52 _(SL10)	<0.1ppm			○		Firm to stiff dark brown slightly sandy silty CLAY with occasional blue grey organic traces and fragments of wood. (Tidal Flat Deposits).	○
14.30-14.50	ES53 _(SL10)							
14.30	ES(M)54 _(SL10)							
14.30	PID	<0.1ppm			○		at c.14.70m BGL ... clay is of low plasticity.	○
14.50-14.70	B56 _(SL10)							
14.70-15.15	UT1							
14.70-16.20	SL11 _(SS)	N11			○		Firm to stiff thinly laminated dark brown slightly sandy slightly gravelly CLAY with sand dustings. Gravel is fine to coarse subangular to rounded and includes mudstone and sandstone. (Tidal Flat/Glacial Deposits).	○
14.80	J57 _(SL11)							
14.80-15.45	B58 _(SL11)							
15.00	J59 _(SL11)	<0.1ppm			○		at c.15.00m BGL ... clay is of high plasticity.	○
15.45-15.65	ES60 _(SL11)							
15.45	ES(M)61 _(SL11)							
15.45	PID	<0.1ppm			○		Firm to stiff thinly laminated grey brown sandy silty CLAY.	○
15.50	J62 _(SL11)							

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
01/07/2021	13.20	13.20	178	6.00	8.70 - 10.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 9.00-12.00m and 2.00-5.00m BGL. (5) UXO carried out as per the Client instructions.
02/07/2021	13.20	13.20	178		10.20 - 11.70	178	100	Yes	
					11.70 - 13.20	178	100	Yes	
					13.20 - 14.70	178	100	Yes	
					14.70 - 16.20	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/M.B	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		MS1BH15	
Method (Equipment): Sonic Coring (Boart Longyear LS250)		Ground Level (m): 7.247	Start Date: 01/07/2021
		Sheet: 3 of 10	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
15.70-15.90	ES63 ^(SL11)	<0.1ppm			x x x x	(1.30)	(Tidal Flat/Glacial Deposits). Firm to stiff thinly laminated grey brown sandy silty CLAY. (Tidal Flat/Glacial Deposits). <i>(continued)</i> at c. 16.00m BGL ... clay is of high plasticity.	
15.70	PID							
15.90-16.20	B64 ^(SL11)	<0.1ppm			x x x x		Firm to stiff brown red silty sandy gravelly silty CLAY. Gravelly is fine to coarse subangular to rounded and includes mudstone, sandstone and limestone. (Glacial Till). at c. 17.70m BGL ... high strength and laminated with silt dustings on the laminae. Clay is of high plasticity.	
15.90	ES(M)66 ^(SL11)							
16.00	J65 ^(SL11)	N15			x x x x			
16.20-17.70	SL12 ^(SS)							
16.20-16.95	B67 ^(SL12)	<0.1ppm			x x x x	-9.70	16.95	
16.20	S							
16.50	J68 ^(SL12)	<0.1ppm			o o o o			
16.95-17.15	ES69 ^(SL12)							
16.95	PID	<0.1ppm			o o o o			
17.00	J70 ^(SL12)							
17.15-17.70	B71 ^(SL12)	<0.1ppm			o o o o			
17.15	ES(M)73 ^(SL2)							
17.50	J72 ^(SL12)	<0.1ppm			o o o o		(2.05)	
17.70-18.15	UT2							
17.70-19.20	SL13 ^(SS)	<0.1ppm			o o o o			
17.70-18.45	B74 ^(SL13)							
18.00	J75 ^(SL13)	<0.1ppm			o o o o			
18.45-18.65	ES76 ^(SL13)							
18.45	ES(M)77 ^(SL13)	<0.1ppm			o o o o	-11.75	19.00	
18.45	PID							
18.50	J78 ^(SL13)	<0.1ppm			o o o o			
19.00-19.20	ES79 ^(SL13)							
19.00	PID	<0.1ppm			o o o o			
19.20-20.00	SL14 ^(SS)							
19.20-20.00	B81 ^(SL14)	50/225mm			o o o o		(1.00)	
19.20	S							
19.50	J80 ^(SL14)	<0.1ppm			o o o o	-12.75	20.00	
20.00	PID							
Complete at 20.00m BGL.								

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
02/07/2021	20.00	20.00	178		16.20 - 17.70	178	73	Yes	(1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit attempted prior to drilling. (3) Inspection pit dug prior to drilling. (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 9.00-12.00m and 2.00-5.00m BGL. (5) UXO carried out as per the Client instructions.
					17.70 - 19.20	178	73	Yes	
					19.20 - 20.00	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: G.T/M.B	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH15
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456595.238 N:524931.815		
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 7.247	Start Date: 01/07/2021	Sheet: 4 of 10

Figure MS\BH15.1
MS\BH15 0.13-1.20m BGL



Figure MS\BH15.2
MS\BH15 1.20-2.70m BGL





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SONIC SAMPLE HOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH15
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456595.238 N:524931.815		
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 7.247	Start Date: 01/07/2021	Sheet: 5 of 10

Figure MS\BH15.3
MS\BH15 2.70-4.20m BGL



Figure MS\BH15.4
MS\BH15 4.20-5.70m BGL





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SONIC SAMPLE HOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH15
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456595.238 N:524931.815		
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 7.247	Start Date: 01/07/2021	Sheet: 6 of 10

Figure MS\BH15.5
MS\BH15 5.70-7.20m BGL



Figure MS\BH15.6
MS\BH15 7.20-8.70m BGL





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SONIC SAMPLE HOLE RECORD

Status:-
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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456595.238 N:524931.815		
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 7.247	Start Date: 01/07/2021	Sheet: 7 of 10

Figure MS\BH15.7
MS\BH15 8.70-10.20m BGL



Figure MS\BH15.8
MS\BH15 10.20-11.70m BGL





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SONIC SAMPLE HOLE RECORD

Status:-

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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH15
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456595.238 N:524931.815		
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 7.247	Start Date: 01/07/2021	Sheet: 8 of 10

Figure MS\BH15.9
MS\BH15 11.70-13.20m BGL



Figure MS\BH15.10
MS\BH15 13.20-14.70m BGL





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SONIC SAMPLE HOLE RECORD

Status:-

FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH15
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456595.238 N:524931.815		
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 7.247	Start Date: 01/07/2021	Sheet: 9 of 10

Figure MS\BH15.11
MS\BH15 14.70-16.20m BGL



Figure MS\BH15.12
MS\BH15 16.20-17.70m BGL





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SONIC SAMPLE HOLE RECORD

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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH15
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456595.238 N:524931.815		
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 7.247	Start Date: 01/07/2021	Sheet: 10 of 10

Figure MS\BH15.13
MS\BH15 17.70-19.20m BGL



Figure MS\BH15.14
MS\BH15 19.20-20.00m BGL



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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No.	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:456991.050 N:524873.262	
Method (Equipment): Sonic Coring (Boart Longyear LS250)		Ground Level (m): 7.904	Start Date: 01/07/2021
		Sheet: 1 of 10	

SAMPLES & TESTS			STRATA				Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	
0.00-0.40	B1					(0.40)	MADE GROUND (Brown slightly sandy slightly gravelly topsoil with occasional rootlets and fragments of glass and metal. Gravel is fine to coarse angular to subrounded and includes grey slag (25-50%)).
0.10	J2			7.50		0.40	
0.30	ES3	<0.1ppm					MADE GROUND (Black grey dark grey gravelly sand with occasional cobble sized fragments of metal. Gravel is fine to coarse angular to subangular and includes clinker and slag. Slag is occasionally vesicular (10-25%)).
0.30	PID						
0.40-1.20	SL1 _(SS)						between c.1.05-1.50m BGL ... slag is occasionally white.
0.40-1.20	ES5 _(SL1)	<0.1ppm				1.50	
0.50	J6 _(SL1)						MADE GROUND (Soft to firm black brown sandy gravelly clay. Gravel is fine to coarse angular to subangular and includes slag. Slag is vesicular (100%)).
0.50	PID						
1.00	ES7 _(SL1)	<0.1ppm					at c.2.00m BGL ... clay is of intermediate plasticity.
1.00	PID						
1.20-2.70	SL2 _(SS)						MADE GROUND (Soft grey brown sandy slightly gravelly clay. Gravel is fine to coarse angular to subangular and includes slag. Slag is vesicular (10-25%)).
1.20	C	N26					
1.40	J8 _(SL2)						between c.3.00-4.20m BGL ... mild hydrocarbon odour.
1.50-1.70	ES9 _(SL2)	<0.1ppm				(0.80)	
1.50	PID						between c.3.10-3.40m BGL ... black brown.
1.70-2.30	B10 _(SL2)						
2.00	J11 _(SL2)						between c.3.70-4.20m BGL ... very gravelly.
2.30-2.50	ES12 _(SL2)	<0.1ppm					
2.30	PID						MADE GROUND (Grey black brown very clayey sand and gravel. Gravel is fine to coarse angular to subangular and includes slag (75-100%) and clinker. Mild hydrocarbon odour).
2.50	J13 _(SL2)						
2.50-3.00	B14 _(SL2/SL3)						MADE GROUND (Firm to stiff black red brown sandy slightly gravelly clay. Gravel is fine to coarse angular to subangular and includes black slag. Slag is vesicular (100%). Hydrogen sulphide odour).
2.70-4.20	SL3 _(SS)						
2.70	C	N9					at c.5.00m BGL ... clay is of intermediate plasticity.
3.00	J15 _(SL3)						
3.00-4.20	B16 _(SL3)	<0.1ppm					Black very organic sandy SILT with organic rootlets. (Tidal flat Deposits).
3.00	PID						
3.30-3.50	ES17 _(SL3)	<0.1ppm					at c.5.65m BGL ... silt is of extremely high plasticity.
3.30	PID						
4.00	J18 _(SL3)						Loose to medium dense brown dark brown clayey SAND with occasional pockets of soft dark brown very sandy silty clay. (Tidal Flat Deposits).
4.00	PID	<0.1ppm					
4.20-5.70	SL4 _(SS)						at c.5.70m BGL ... dense.
4.20-4.40	ES19 _(SL4)	N20					
4.20	C	<0.1ppm					at c.5.90m BGL ... sandy silt with shell fragments and organic matter.
4.40-5.00	B20 _(SL4)						
4.50	J21 _(SL4)						between c.6.90-13.20m BGL ... with fragments of shell.
5.00	J22 _(SL4)						
5.00-5.20	ES23 _(SL4)						at c.7.20m BGL ... very loose and loose.
5.00	ES(M)24 _(SL4)						
5.00	J26 _(SL4)						MADE GROUND (Very loose to medium dense brown dark brown clayey SAND with occasional pockets of soft dark brown very sandy silty clay. (Tidal Flat Deposits)).
5.00	PID	<0.1ppm					
5.20-5.60	B25 _(SL4)						at c.7.20m BGL ... very loose and loose.
5.65	J27 _(SL4)						
5.70-7.20	SL5 _(SS)						MADE GROUND (Very loose to medium dense brown dark brown clayey SAND with occasional pockets of soft dark brown very sandy silty clay. (Tidal Flat Deposits)).
5.70-5.90	ES28 _(SL5)						
5.70	S	N32					at c.7.20m BGL ... very loose and loose.
5.70	PID	<0.1ppm					
5.90-6.45	B30 _(SL5)						MADE GROUND (Very loose to medium dense brown dark brown clayey SAND with occasional pockets of soft dark brown very sandy silty clay. (Tidal Flat Deposits)).
6.00	J29 _(SL5)						
6.45-7.20	B32 _(SL5)						MADE GROUND (Very loose to medium dense brown dark brown clayey SAND with occasional pockets of soft dark brown very sandy silty clay. (Tidal Flat Deposits)).
6.50	J31 _(SL5)						
6.60	PID	<0.1ppm					MADE GROUND (Very loose to medium dense brown dark brown clayey SAND with occasional pockets of soft dark brown very sandy silty clay. (Tidal Flat Deposits)).
7.00	J33 _(SL5)						
7.20-8.70	SL6 _(SS)						MADE GROUND (Very loose to medium dense brown dark brown clayey SAND with occasional pockets of soft dark brown very sandy silty clay. (Tidal Flat Deposits)).
7.20-7.95	B34 _(SL6)						
7.20	S	N4					MADE GROUND (Very loose to medium dense brown dark brown clayey SAND with occasional pockets of soft dark brown very sandy silty clay. (Tidal Flat Deposits)).
7.50	J35 _(SL6)						
7.60	PID	<0.1ppm					

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
01/07/2021	0.00	0.00	178		0.40 - 1.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 4 No. vibrating piezometers installed at 5.00m, 8.00m, 16.00m and 18.50m BGL. (4) UXO carried out as per the Client instructions.
01/07/2021	5.70	5.70	178		1.20 - 2.70	178	100	Yes	
02/07/2021	5.70	5.70	178		2.70 - 4.20	178	100	Yes	
					4.20 - 5.70	178	100	Yes	
					5.70 - 7.20	178	100	Yes	
					7.20 - 8.70	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M. Bell	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH16	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:456991.050 N:524873.262	
Method (Equipment): Sonic Coring (Boart Longyear LS250)		Ground Level (m): 7.904	Start Date: 01/07/2021
		Sheet: 2 of 10	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
7.95-8.70 8.00	B36 _(SL6) J37 _(SL6)						Loose to medium dense brown dark brown clayey SAND with occasional pockets of soft dark brown very sandy silty clay. (Tidal Flat Deposits). <i>(continued)</i>	
8.50 8.60	J38 _(SL6) PID	<0.1ppm						
8.70-10.20 8.70-9.45	SL7 _(SS) B39 _(SL7)	N22						
8.70 9.00	S J40 _(SL7)					(7.50)		
9.45-10.20 9.50 9.60	B41 _(SL7) J42 _(SL7) PID	<0.1ppm						
10.00	J43 _(SL7)						at c.10.20m BGL ... very loose and loose silty sand.	
10.20-11.70 10.20-10.95	SL8 _(SS) B44 _(SL8)	N4						
10.20 10.50	PID J45 _(SL8)	<0.1ppm						
10.60 10.95-11.70	PID B46 _(SL8)	<0.1ppm						
11.00	J47 _(SL8)							
11.50 11.60	J48 _(SL8) PID	<0.1ppm						
11.70-13.20 11.70-12.45	SL9 _(SS) B49 _(SL9)	N8						
11.70 12.00	S J50 _(SL9)	<0.1ppm						
12.20	PID							
12.45-13.00 12.50	B51 _(SL9) J52 _(SL9)							
13.00-13.20 13.00	ES53 _(SL9) J54 _(SL9)	<0.1ppm		-5.30		13.20	Firm thinly laminated red brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse subangular to rounded and includes mudstone and sandstone. (Glacial Deposits).	
13.00 13.20-14.70	PID SL10 _(SS)	N27				(0.90)	between c.13.20-13.45m BGL ... very sandy. at c.13.50m BGL ... clay is of high plasticity.	
13.20 13.40-13.60	S ES55 _(SL10)	<0.1ppm		-6.20		14.10	Stiff brown red sandy gravelly silty CLAY. Gravel is fine to coarse angular to rounded and includes mudstone, sandstone and limestone. (Glacial Till).	
13.40 13.60-14.10	ES(M)56 _(SL10) J57 _(SL10)	<0.1ppm					at c.14.70m BGL ... high strength. Clay is of intermediate plasticity.	
13.60-14.10 14.00	B58 _(SL10) J59 _(SL10)							
14.10-14.30 14.10	ES60 _(SL10) ES(M)61 _(SL10)	<0.1ppm						
14.10 14.30-14.70	PID B62 _(SL10)							
14.30-14.70 14.50	J63 _(SL10) UT1	(100)						
14.70-15.15 14.70-16.20	SL11 _(SS) B64 _(SL11)							
15.00 15.10	J65 _(SL11) PID	<0.1ppm						
15.10 15.50	PID J66 _(SL11)					(3.60)		

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
02/07/2021	14.70	14.70	178		8.70 - 10.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) 4 No. vibrating piezometers installed at 5.00m, 8.00m, 16.00m and 18.50m BGL. (4) UXO carried out as per the Client instructions.
05/07/2021	14.70	14.70	178		10.20 - 11.70	178	100	Yes	
					11.70 - 13.20	178	100	Yes	
					13.20 - 14.70	178	100	Yes	
					14.70 - 16.20	178	73	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M. Bell	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH16
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456991.050 N:524873.262		
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 7.904	Start Date: 01/07/2021	Sheet: 4 of 10

Figure MS\BH16.1
MS\BH16 0.40-1.20m BGL



Figure MS\BH16.2
MS\BH16 1.20-2.70m BGL





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SONIC SAMPLE HOLE RECORD

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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH16
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456991.050 N:524873.262		
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 7.904	Start Date: 01/07/2021	Sheet: 5 of 10

Figure MS\BH16.3
MS\BH16 2.70-4.20m BGL



Figure MS\BH16.4
MS\BH16 4.20-5.70m BGL





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SONIC SAMPLE HOLE RECORD

Status:-
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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH16
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456991.050 N:524873.262		
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 7.904	Start Date: 01/07/2021	Sheet: 6 of 10

Figure MS\BH16.5
MS\BH16 5.70-7.20m BGL



Figure MS\BH16.6
MS\BH16 7.20-8.70m BGL





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SONIC SAMPLE HOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456991.050 N:524873.262		
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 7.904	Start Date: 01/07/2021	Sheet: 7 of 10

Figure MS\BH16.7
MS\BH16 8.70-10.20m BGL



Figure MS\BH16.8
MS\BH16 10.20-11.70m BGL





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SONIC SAMPLE HOLE RECORD

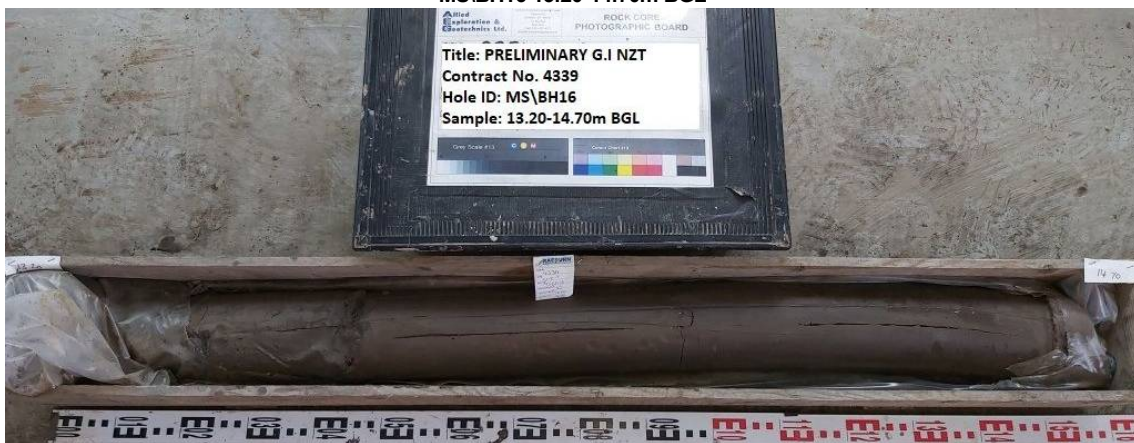
Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH16
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456991.050 N:524873.262		
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 7.904	Start Date: 01/07/2021	Sheet: 8 of 10

Figure MS\BH16.9
MS\BH16 11.70-13.20m BGL



Figure MS\BH16.10
MS\BH16 13.20-14.70m BGL





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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH16
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456991.050 N:524873.262		
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 7.904	Start Date: 01/07/2021	Sheet: 9 of 10

Figure MS\BH16.11
MS\BH16 14.70-16.20m BGL



Figure MS\BH16.12
MS\BH16 16.20-17.70m BGL





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SONIC SAMPLE HOLE RECORD

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Client: AECOM	Location: North-west of Redcar, North Yorkshire E:456991.050 N:524873.262		
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 7.904	Start Date: 01/07/2021	Sheet: 10 of 10

Figure MS\BH16.13
MS\BH16 17.70-19.20m BGL





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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH17	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457140.890 N:524810.592	
Method (Equipment): Sonic Coring (Boart Longyear LS250)		Ground Level (m): 9.247	Start Date: 06/07/2021
		Sheet: 1 of 10	

SAMPLES & TESTS			STRATA					Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
0.10	J1				[Cross-hatched pattern]	1.70	MADE GROUND (Orange brown sandy slightly gravelly clay with occasional fragments of plastic. Gravel is fine to coarse angular to rounded and includes mudstone, sandstone, limestone, brick and slag (10-25%)). at c.0.50m BGL ... clay is of low to intermediate plasticity.	[Symbolic representation of soil]
0.30	B1							
0.30	ES2	<0.1ppm						
0.30	PID							
0.50	B2							
0.50	ES3							
0.50	B4							
0.50	PID	<0.1ppm						
0.75-1.20	SL1 _(SS)							
1.00-1.20	ES6 _(SL1)							
1.00	J7 _(SL1)						MADE GROUND (Purple very gravelly sand. Sand is fine to coarse. Gravel is fine to coarse angular to subrounded and includes slag and coke).	[Symbolic representation of soil]
1.00	PID	<0.1ppm		7.55		1.70		
1.20-2.70	SL2 _(SS)							
1.20-1.70	B8 _(SL2)							
1.20	C	N26						
1.50	J9 _(SL2)							
1.50	PID	<0.1ppm						
2.00-2.20	ES10 _(SL2)							
2.00	J11 _(SL2)							
2.00	PID	<0.1ppm						
2.20-2.70	B12 _(SL2)						MADE GROUND (Black slightly silty sandy gravel and cobbles. Gravel is fine to coarse angular to subrounded and includes clinker, compacted ash and slag (25-50%). Cobbles are angular to subangular and include slag and compacted ash. Mild hydrocarbon odour). (Engineer notes locally saturated). at c.4.20m BGL ... very dense.	[Symbolic representation of soil]
2.50	J13 _(SL2)							
2.70-4.20	SL3 _(SS)							
2.70-3.90	B14 _(SL3)							
2.70	S	51/236mm						
3.00-3.20	ES15 _(SL3)							
3.00	J16 _(SL3)							
3.00	PID	0.7ppm						
3.50	J17 _(SL3)							
3.50	PID	0.7ppm						
3.90-4.20	ES18 _(SL3)						MADE GROUND (Orange yellow black slightly silty sandy gravel and cobbles with pockets of black very organic pseudo-fibrous silt. Gravel is fine to coarse angular to subangular and includes slag, clinker and brick. Moderate organic odour). at c.5.70m BGL ... dark blue rounded metallic cobble. at c.5.70m BGL ... medium dense.	[Symbolic representation of soil]
3.90	PID	2.0ppm						
4.00	J19 _(SL3)							
4.20-5.70	SL4 _(SS)							
4.20	S	50/200mm						
5.00-5.20	ES20 _(SL4)							
5.00	J21 _(SL4)							
5.00	PID	0.3ppm						
5.20-5.70	B22 _(SL4)							
5.50	J23 _(SL4)							
5.50	PID	0.2ppm						
5.70-7.20	SL5 _(SS)						Medium dense yellow grey brown silty SAND with occasional fragments of shell. (Tidal Flat Deposits).	[Symbolic representation of soil]
5.70	S	N24						
6.00-6.20	ES25 _(SL5)							
6.00	PID	<0.1ppm						
6.20-6.70	B26 _(SL5)							
6.50	J27 _(SL5)							
6.50	PID	<0.1ppm						
7.00	PID	<0.1ppm						
7.20-8.70	SL6 _(SS)							
7.20-7.40	ES28 _(SL6)							
7.20	S	N13						
7.20	PID	<0.1ppm						
7.40-7.95	B29 _(SL6)							
7.50	J30 _(SL6)							

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
06/07/2021	0.00	0.00	178		0.75 - 1.20	178	100	Yes	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 2.00-5.00m and 18.50-20.00m BGL. (4) UXO carried out as per the Client instructions.
					1.20 - 2.70	178	100	Yes	
					2.70 - 4.20	178	100	Yes	
					4.20 - 5.70	178	50	Yes	
					5.70 - 7.20	178	33	Yes	
					7.20 - 8.70	178	100	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M. Bell	Contract No. 4339
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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH17	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457140.890 N:524810.592	
Method (Equipment): Sonic Coring (Boart Longyear LS250)		Ground Level (m): 9.247	Start Date: 06/07/2021
		Sheet: 2 of 10	

SAMPLES & TESTS			STRATA				Instrument/ Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	
7.95-8.70 8.00 8.00	B31 _(SL6) J32 _(SL6) PID	<0.1ppm			x		Medium dense yellow grey brown silty SAND with occasional fragments of shell. (Tidal Flat Deposits). (continued)
8.50	J33 _(SL6)				x		
8.70-10.20	SL7 _(SS)				x	(3.30)	
8.70-9.45	B34 _(SL7)				x		
8.70	S	N28			x		
9.00	J35 _(SL7)				x		
9.00	PID	<0.1ppm			x		
9.45-10.20	B36 _(SL7)				x		
9.50	J37 _(SL7)				x		
10.00	J38 _(SL7)				x		
10.20-11.70	SL8 _(SS)				x		
10.20	S	N29		-1.25	x	10.50	
10.50-10.70	ES39 _(SL8)				x		Soft dark brown slightly sandy CLAY/SILT. (Tidal Flat Deposits).
10.50	ES(M)40 _(SL8)				x	(0.90)	at c.10.50m BGL ... clay/silt is of low plasticity.
10.50	J41 _(SL8)				x		
10.50	PID	<0.1ppm			x		
10.70-11.40	B42 _(SL8)				x		
11.00	J43 _(SL8)				x		
11.00	PID	<0.1ppm		-2.15	x	11.40	
11.50	J44 _(SL8)				x		Loose to medium dense yellow brown SAND with occasional fragments of shell. (Tidal Flat Deposits).
11.70-13.20	SL9 _(SS)				x		
11.70	S	N14			x		
12.00	PID	<0.1ppm			x		
12.45-13.20	B41 _(SL9)				x		
12.50	J42 _(SL9)				x	(2.80)	
13.00	J43 _(SL9)				x		
13.20-14.70	SL10 _(SS)				x		between c.13.20-13.45m BGL ... very sandy.
13.20-13.40	ES44 _(SL10)				x		
13.20	S	N9			x		
13.20	PID	<0.1ppm			x		
14.20-14.40	ES45 _(SL10)				x		Soft dark brown slightly sandy silty CLAY. (Tidal Flat Deposits).
14.20	ES(M)46 _(SL10)				x		
14.20	PID	<0.1ppm			x		
14.50	J47 _(SL10)				x		
14.70-15.15	UT1	(30)			x	(1.15)	at c.14.70m BGL ... low strength. Clay is of intermediate plasticity.
14.70-16.20	SL11 _(SS)				x		
14.70-15.35	B48 _(SL11)				x		
15.00	J49 _(SL11)				x		
15.00	PID	<0.1ppm			x		
15.35-15.55	ES50 _(SL11)				x		Stiff red brown sandy gravelly CLAY. Gravel is fine to coarse angular to rounded and includes mudstone, sandstone, limestone and coal. (Glacial Till).
15.35	ES(M)51 _(SL11)				x	(0.85)	
15.35	PID	<0.1ppm			x		
15.50	J52 _(SL11)				x		
15.55-16.20	B53 _(SL11)				x		

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
06/07/2021	14.70	14.70	178	6.00	8.70 - 10.20	178	73	Yes	
07/07/2021	14.70	14.70	178	6.00	10.20 - 11.70	178	53	Yes	
					11.70 - 13.20	178	100	Yes	
					13.20 - 14.70	178	47	Yes	
					14.70 - 16.20	178	100	Yes	

(1) Description derived from drillers daily report.
 (2) Inspection pit dug prior to drilling.
 (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 2.00-5.00m and 18.50-20.00m BGL.
 (4) UXO carried out as per the Client instructions.

All dimensions in metres Scale 1:50.00
 For explanation of symbols and abbreviations see Key Sheets
 Checked by: *K.W.*
 Logged by: M. Bell
 Contract No. 4339



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SONIC SAMPLE HOLE RECORD

Status:-
FINAL

Project: Preliminary Onshore Ground Investigation for NZT		Exploratory Hole No. MS1BH17	
Client: AECOM		Location: North-west of Redcar, North Yorkshire E:457140.890 N:524810.592	
Method (Equipment): Sonic Coring (Boart Longyear LS250)		Ground Level (m): 9.247	Start Date: 06/07/2021 Sheet: 3 of 10

SAMPLES & TESTS			STRATA				Instrument/ Backfill	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)		Description
16.00	J54 _(SL11)			-6.95		16.20	at c. 15.50m BGL ... clay is of intermediate plasticity.	
16.00	PID	<0.1ppm						
16.20-17.70	SL12 _(SS)						Firm thinly laminated brown sandy silty CLAY. (Glacial Till).	
16.20-17.30	B55 _(S12)							
16.20	S	N23						
16.50	J56 _(S12)					(1.10)		
17.00	J57 _(S12)							
17.00	PID	<0.1ppm		-8.05		17.30		
17.30-17.70	B58 _(S12)						Stiff brown red sandy gravelly CLAY. Gravel is fine to coarse angular to rounded and includes mudstone, sandstone and limestone. (Glacial Till).	
17.50	J59 _(S12)					(0.70)		
17.70-18.15	UT2	(50)						
17.70-19.20	SL13 _(SS)			-8.75		18.00	at c. 17.70m BGL very high strength. Clay is of intermediate plasticity.	
17.70-17.90	ES60 _(S13)							
17.70	ES(M)61 _(S13)							
17.70	PID	<0.1ppm				(0.70)		
18.00-18.70	B62 _(S13)						Extremely weak blue grey MUDSTONE residual. (Recovered as blue brown sandy gravelly clay). (Redcar Mudstone Formation).	
18.50	J63 _(S13)			-9.45		18.70	at c. 18.50m BGL ... clay is of intermediate plasticity.	
18.70-18.90	ES64 _(S13)							
18.70	PID	<0.1ppm						
18.90-20.00	B65 _(S13)						Extremely weak blue grey MUDSTONE residual. (Recovered as sand and gravel). (Redcar Mudstone Formation).	
19.00	J66 _(S13)							
19.20-20.00	SL14 _(SS)					(1.30)	between c. 19.00-19.20m BGL ... weak.	
19.20	S	50/105mm						
19.50	J67 _(S14)							
20.00	J68 _(S14)			-10.75		20.00	Complete at 20.00m BGL.	
20.00	PID	<0.1ppm						

Boring Progress and Water Observations					Liner Sample Information				General Remarks
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	
07/07/2021	20.00	20.00	178	6.00	16.20 - 17.70	178	100	Yes	(1) Description derived from drillers daily report. (2) Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 2.00-5.00m and 18.50-20.00m BGL. (4) UXO carried out as per the Client instructions.
					17.70 - 19.20	178	100	Yes	
					19.20 - 20.00	178	89	Yes	

All dimensions in metres Scale 1:50.00	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: M. Bell	Contract No. 4339
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Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 9.247	Start Date: 06/07/2021	Sheet: 4 of 10

Figure MS\BH17.1
MS\BH17 0.75-1.20m BGL



Figure MS\BH17.2
MS\BH17 1.20-2.70m BGL





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Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 9.247	Start Date: 06/07/2021	Sheet: 5 of 10

Figure MS\BH17.3
MS\BH17 2.70-4.20m BGL



Figure MS\BH17.4
MS\BH17 4.20-5.70m BGL





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Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 9.247	Start Date: 06/07/2021	Sheet: 6 of 10

Figure MS\BH17.5
MS\BH17 5.70-7.20m BGL



Figure MS\BH17.6
MS\BH17 7.20-8.70m BGL





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Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 9.247	Start Date: 06/07/2021	Sheet: 7 of 10

Figure MS\BH17.7
MS\BH17 8.70-10.20m BGL



Figure MS\BH17.8
MS\BH17 10.20-11.70m BGL





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SONIC SAMPLE HOLE RECORD

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Project: Preliminary Onshore Ground Investigation for NZT			Exploratory Hole No. MS\BH17
Client: AECOM	Location: North-west of Redcar, North Yorkshire E:457140.890 N:524810.592		
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 9.247	Start Date: 06/07/2021	Sheet: 8 of 10

Figure MS\BH17.9
MS\BH17 11.70-13.20m BGL



Figure MS\BH17.10
MS\BH17 13.20-14.70m BGL





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Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 9.247	Start Date: 06/07/2021	Sheet: 9 of 10

Figure MS\BH17.11
MS\BH17 14.70-16.20m BGL



Figure MS\BH17.12
MS\BH17 16.20-17.70m BGL





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Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): 9.247	Start Date: 06/07/2021	Sheet: 10 of 10

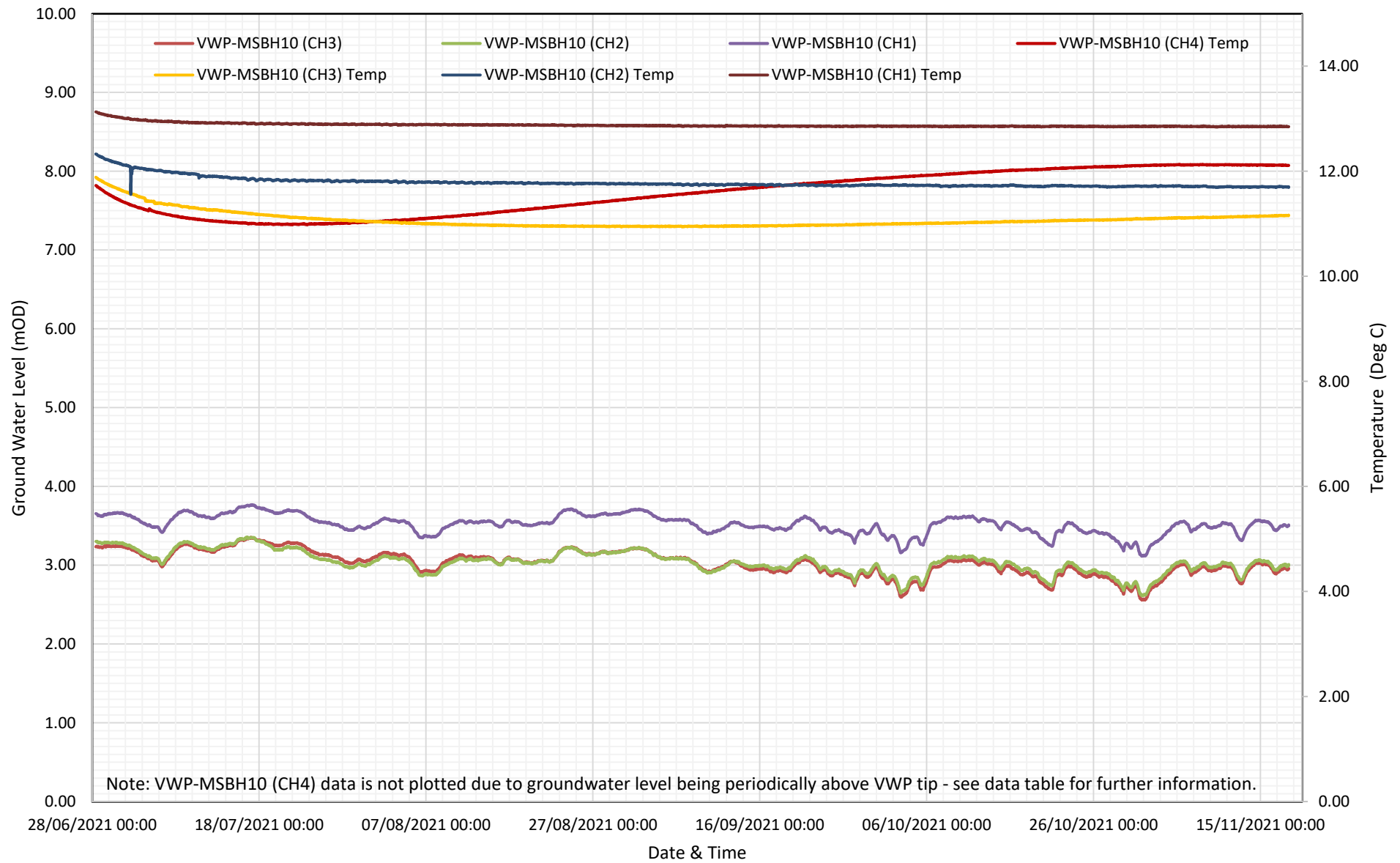
Figure MS\BH17.13
MS\BH17 17.70-19.20m BGL



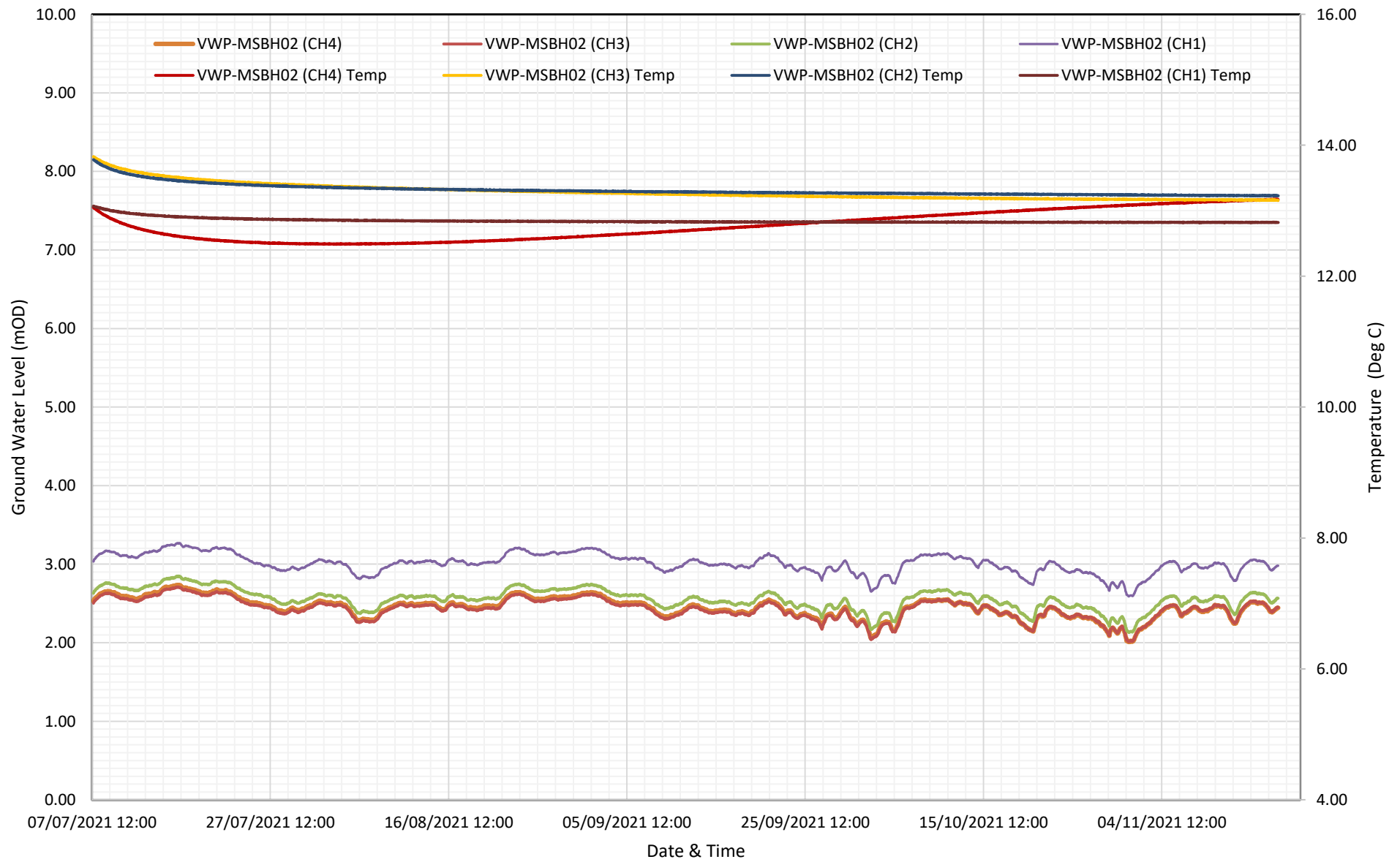
Figure MS\BH17.14
MS\BH17 19.20-20.00m BGL



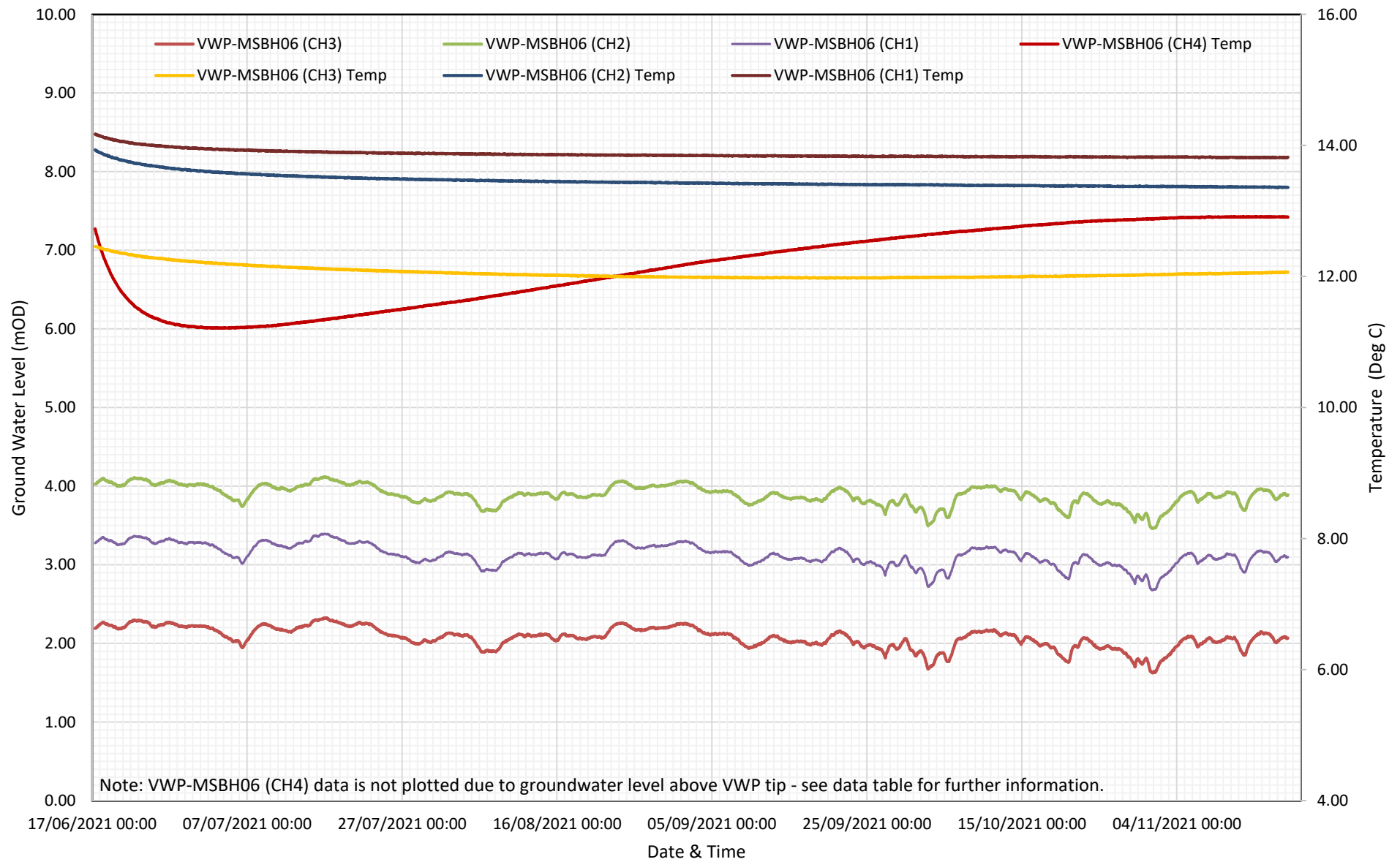
IN-SITU VIBRATING WIRE PIEZOMETER READINGS



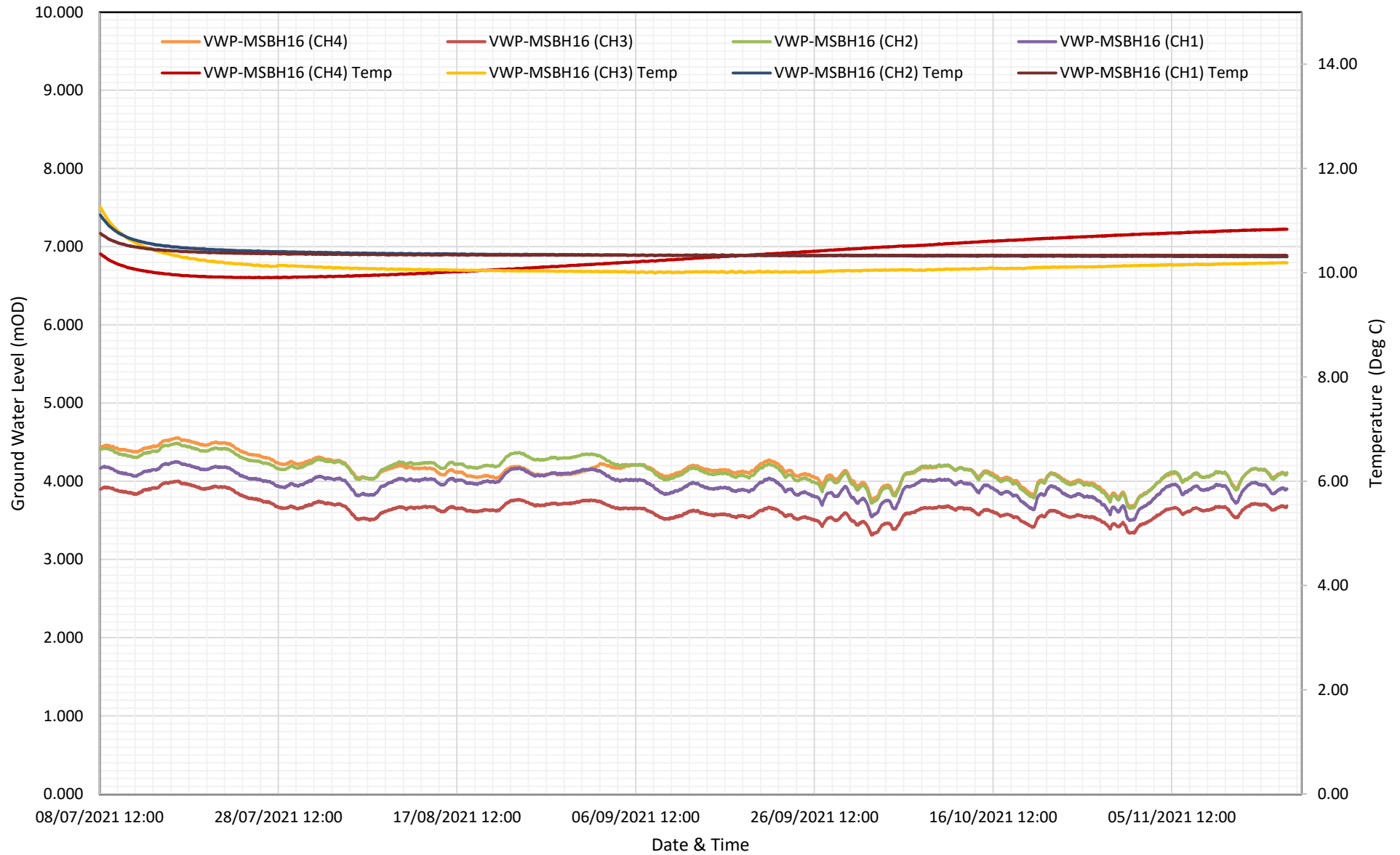
IN-SITU VIBRATING WIRE PIEZOMETER READINGS



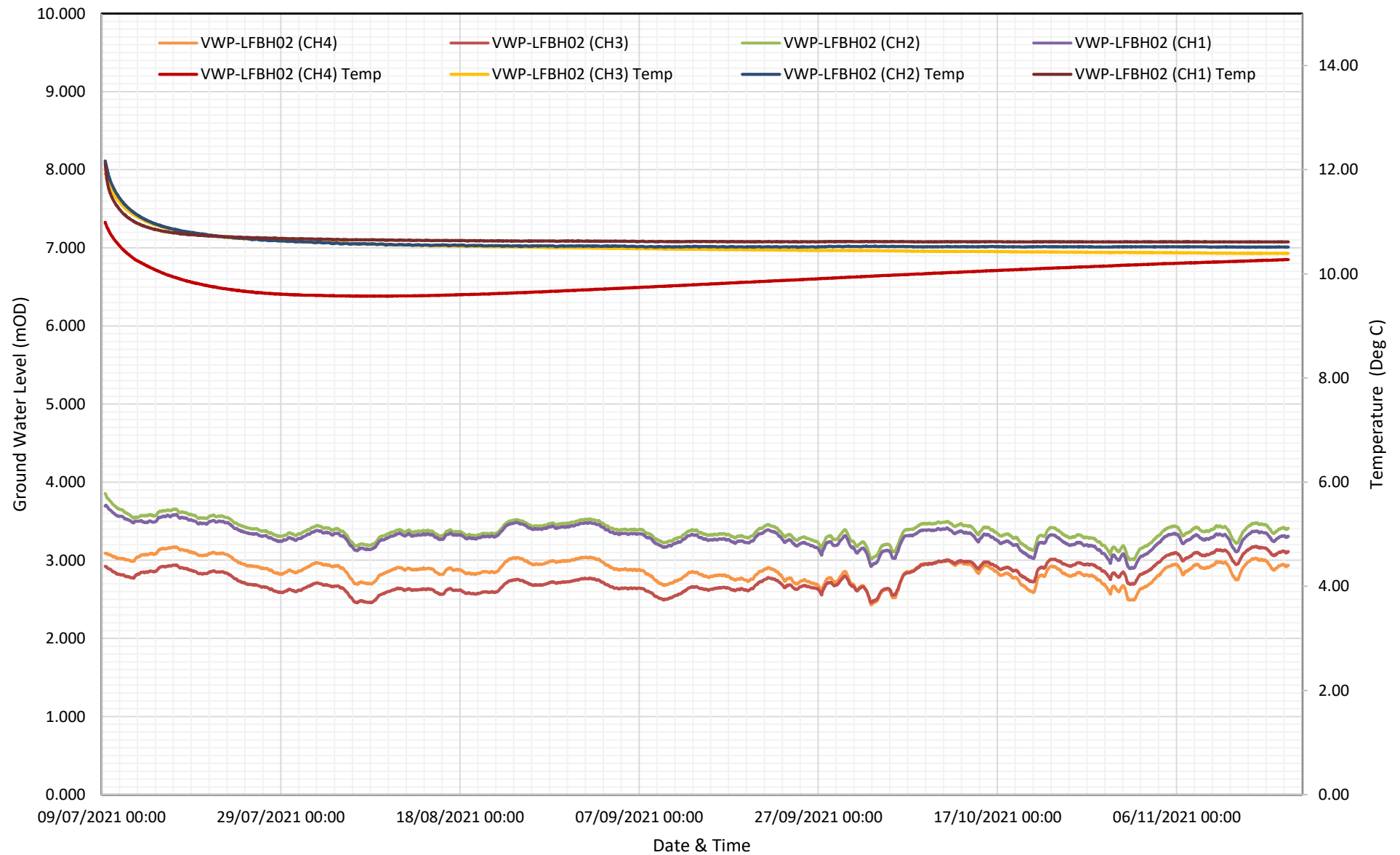
IN-SITU VIBRATING WIRE PIEZOMETER READINGS



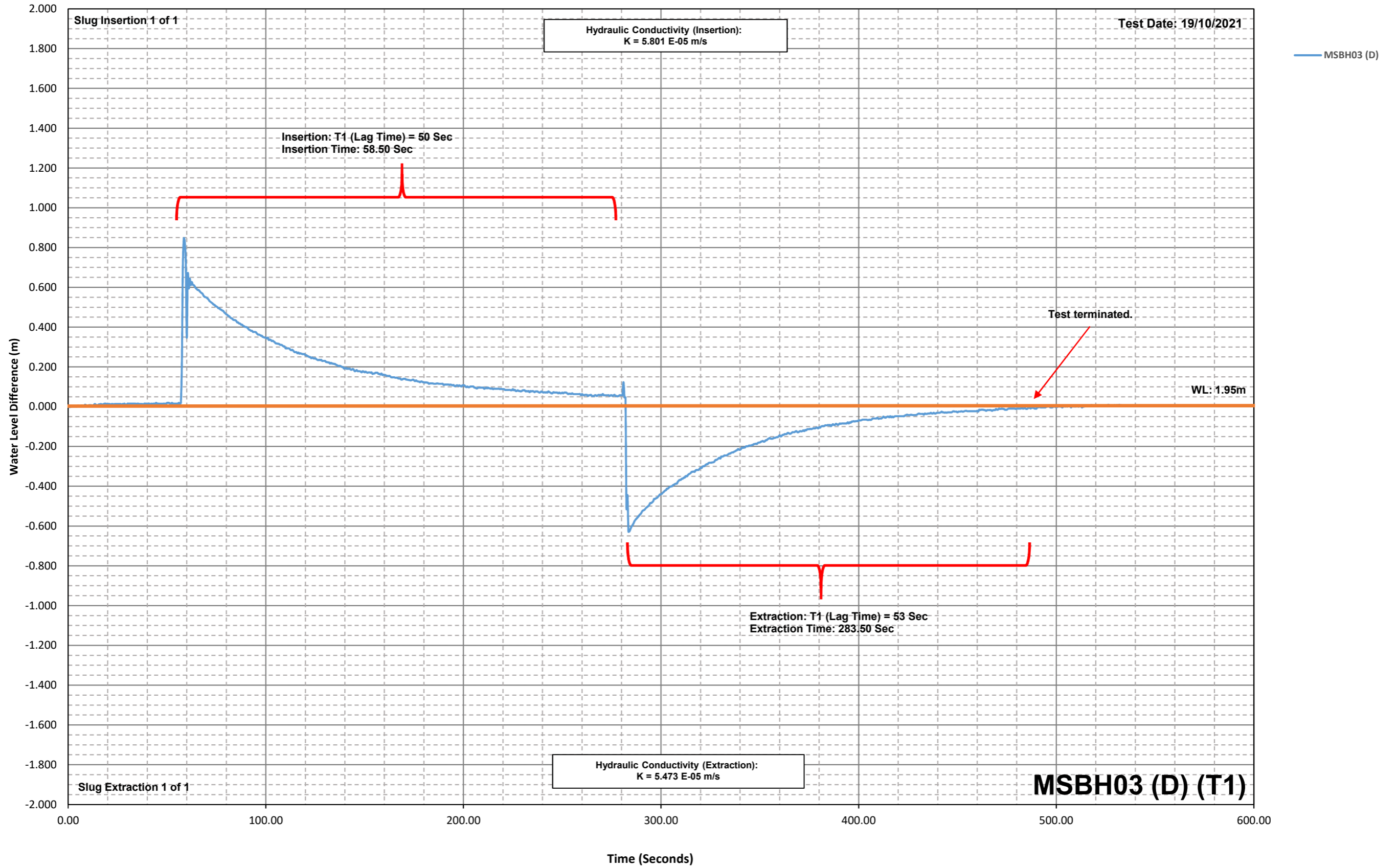
IN-SITU VIBRATING WIRE PIEZOMETER READINGS



IN-SITU VIBRATING WIRE PIEZOMETER READINGS



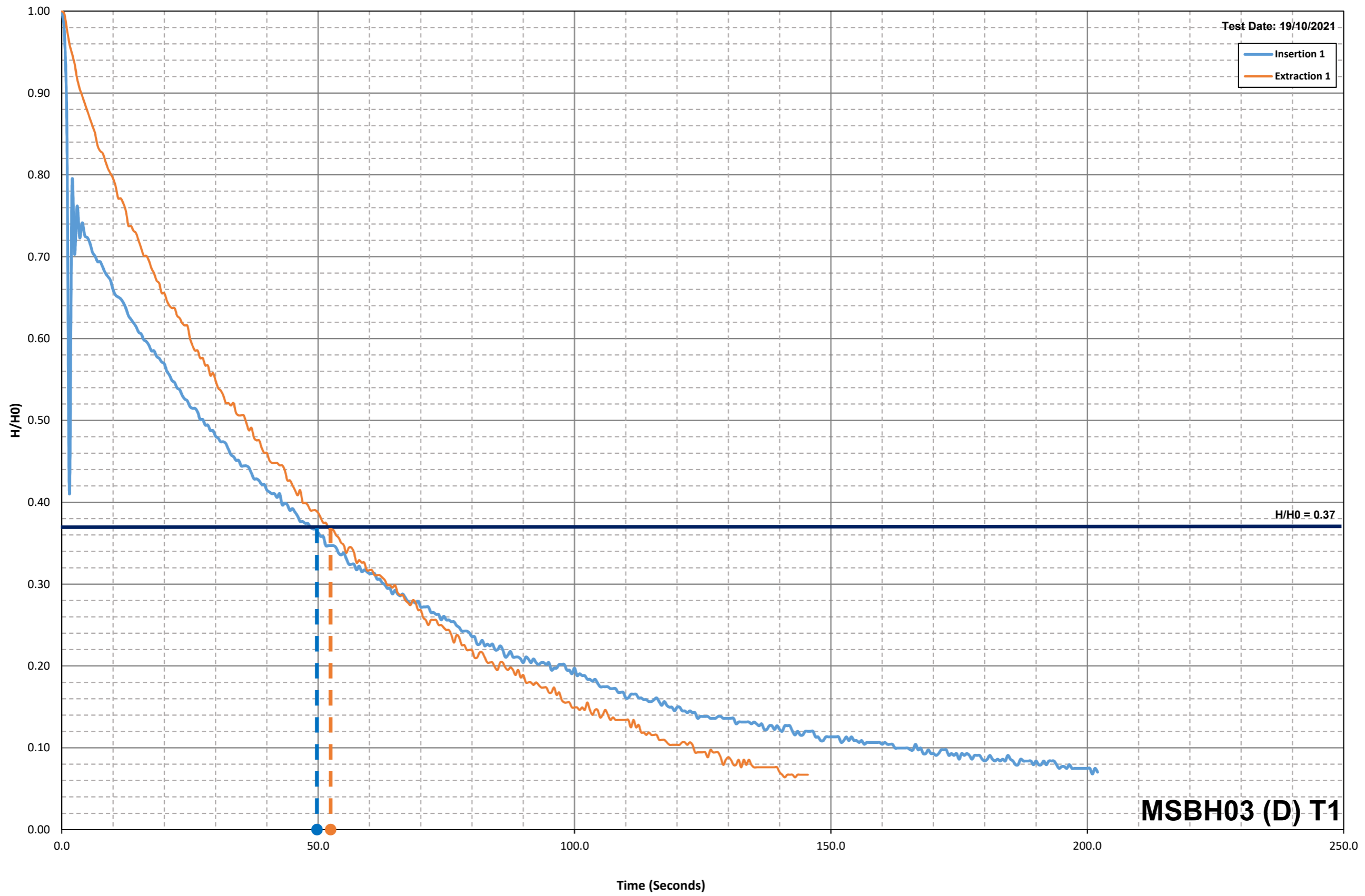
Hydraulic Conductivity: Slug Test



Hydraulic Conductivity Insertion/Extraction Data

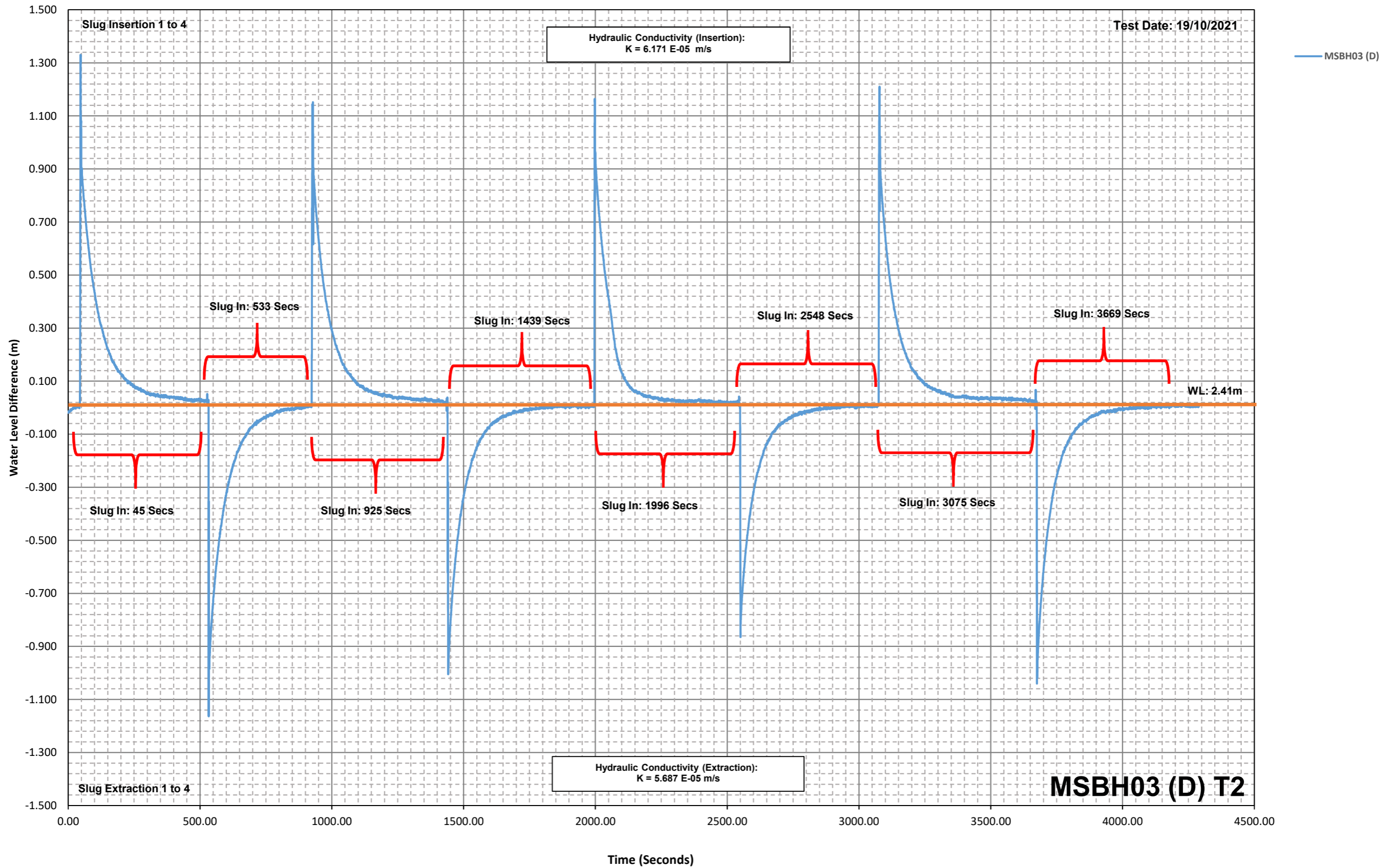
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- Insertion 1
- Extraction 1



MSBH03 (D) T1

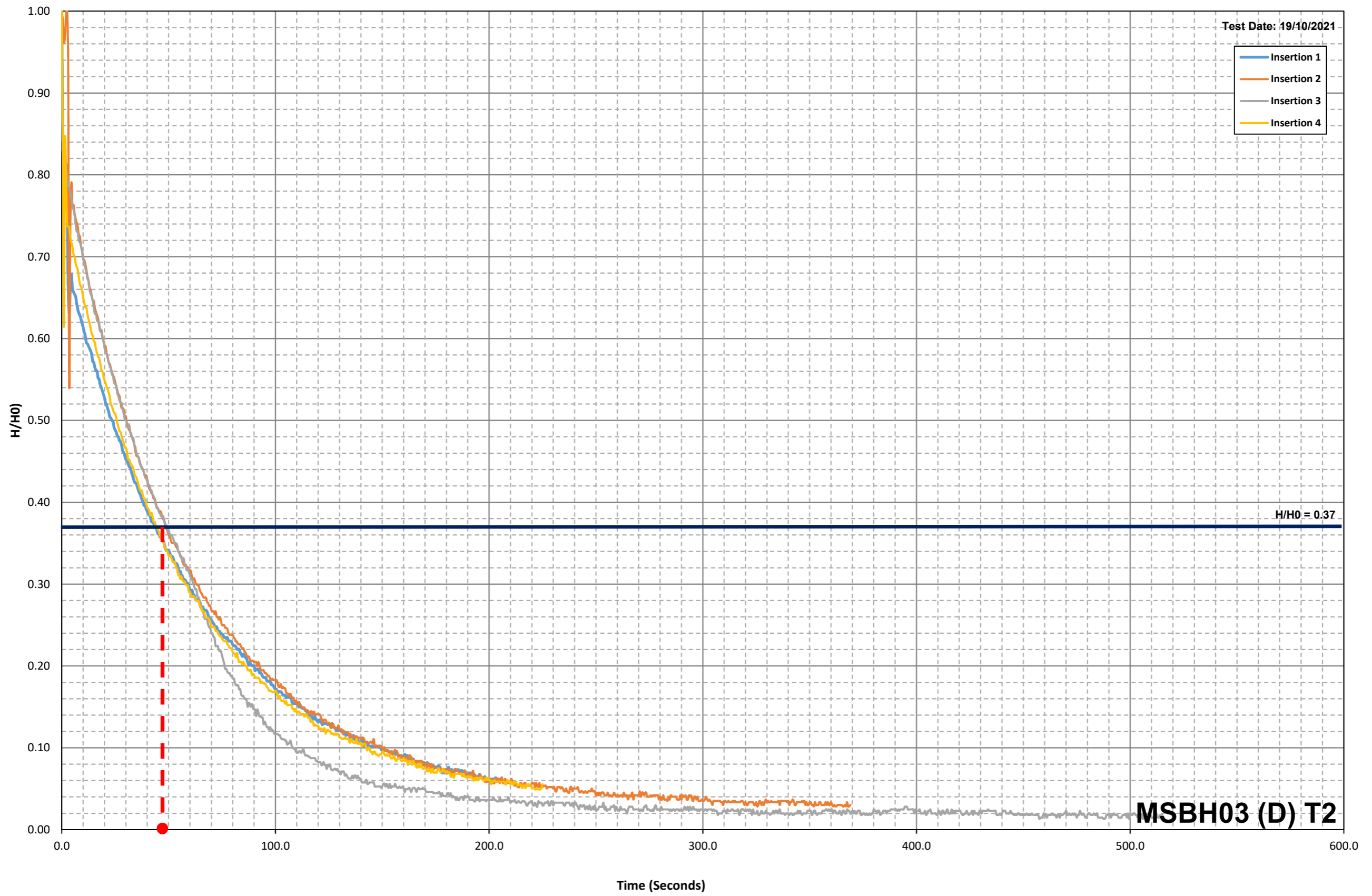
Hydraulic Conductivity: Slug Test



Hydraulic Conductivity Insertion Data

Test Date: 19/10/2021

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- Insertion 2
- Insertion 3
- Insertion 4

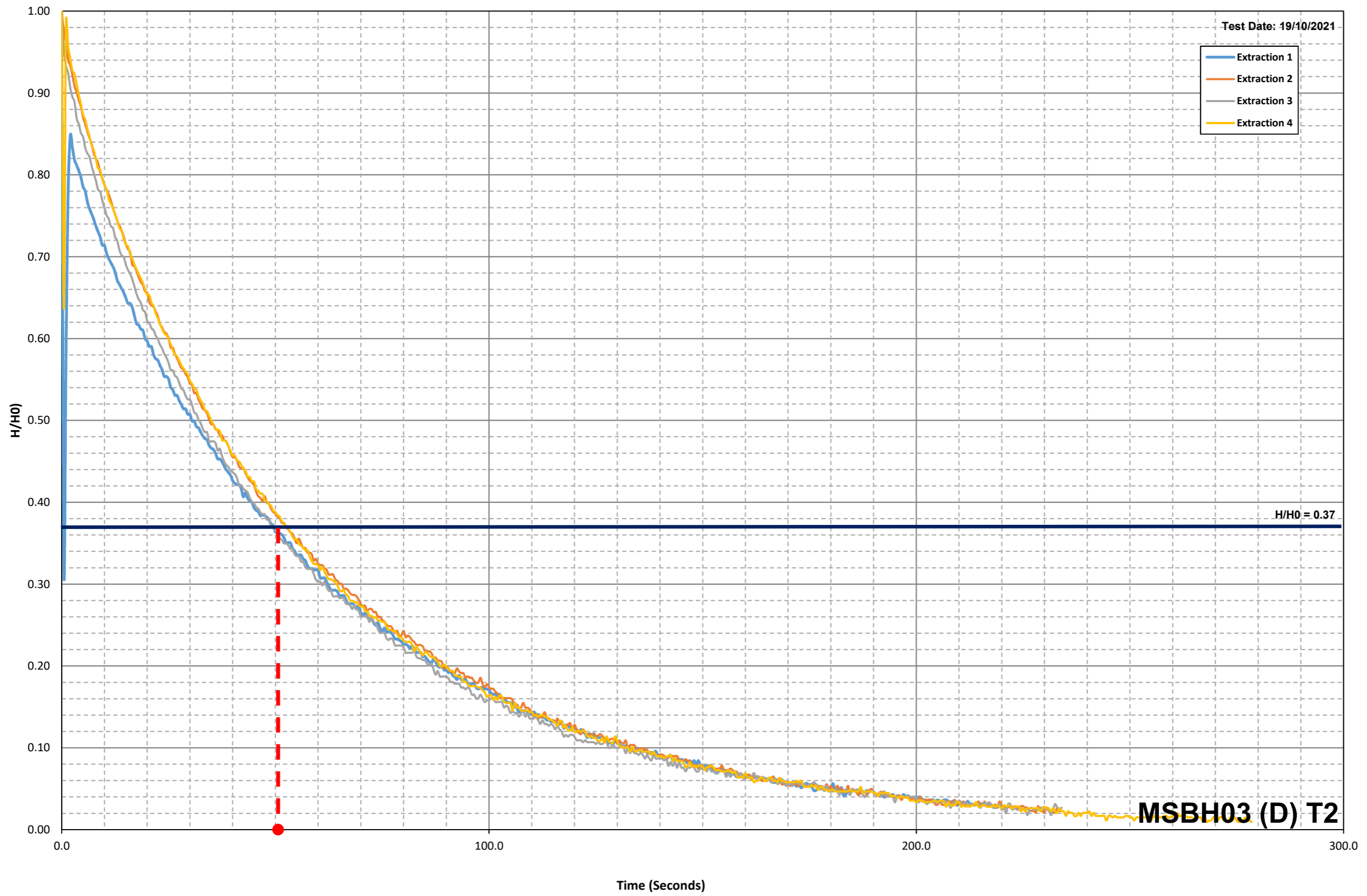


MSBH03 (D) T2

Hydraulic Conductivity Extraction Data

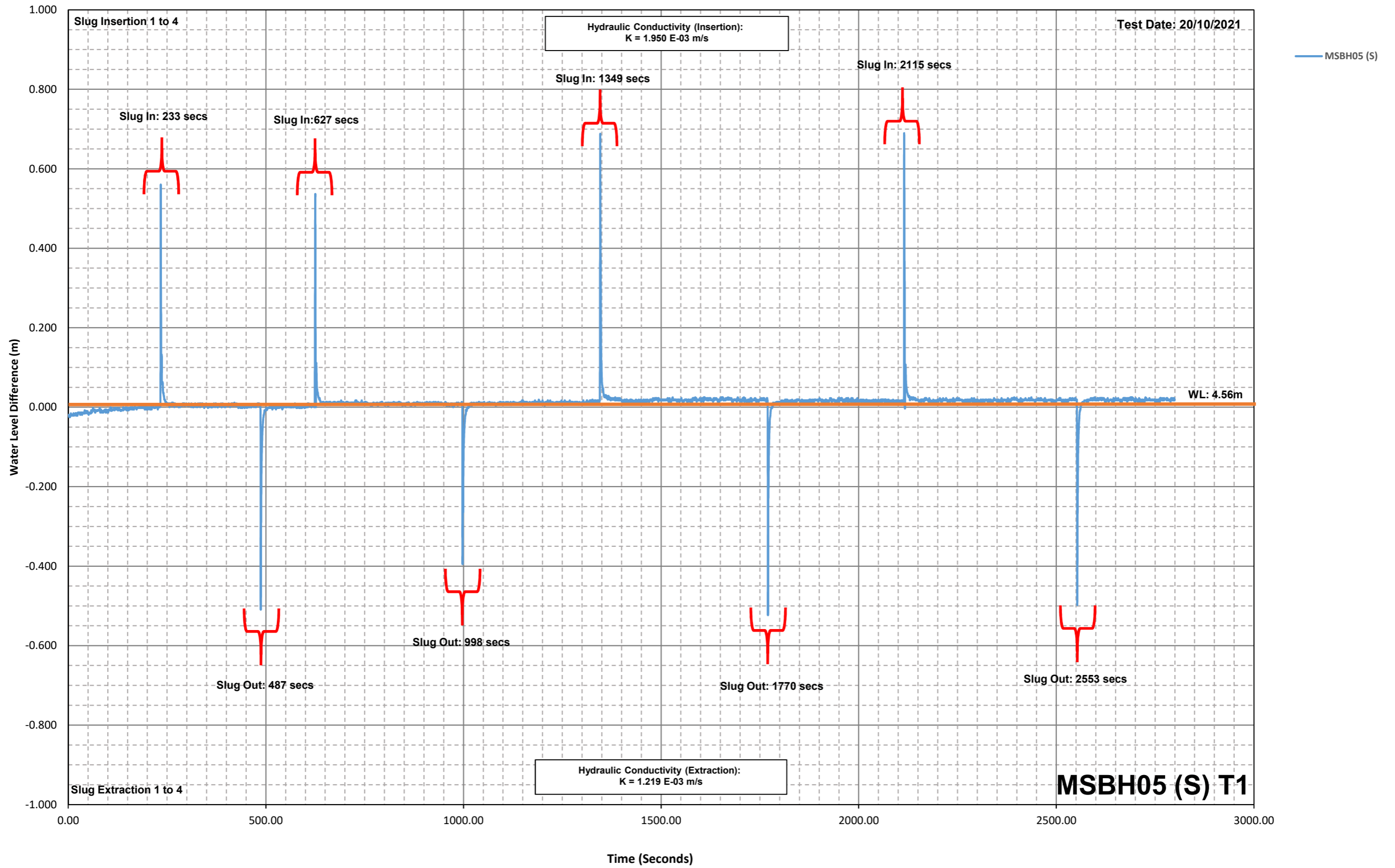
Test Date: 19/10/2021

- Extraction 1
- Extraction 2
- Extraction 3
- Extraction 4



MSBH03 (D) T2

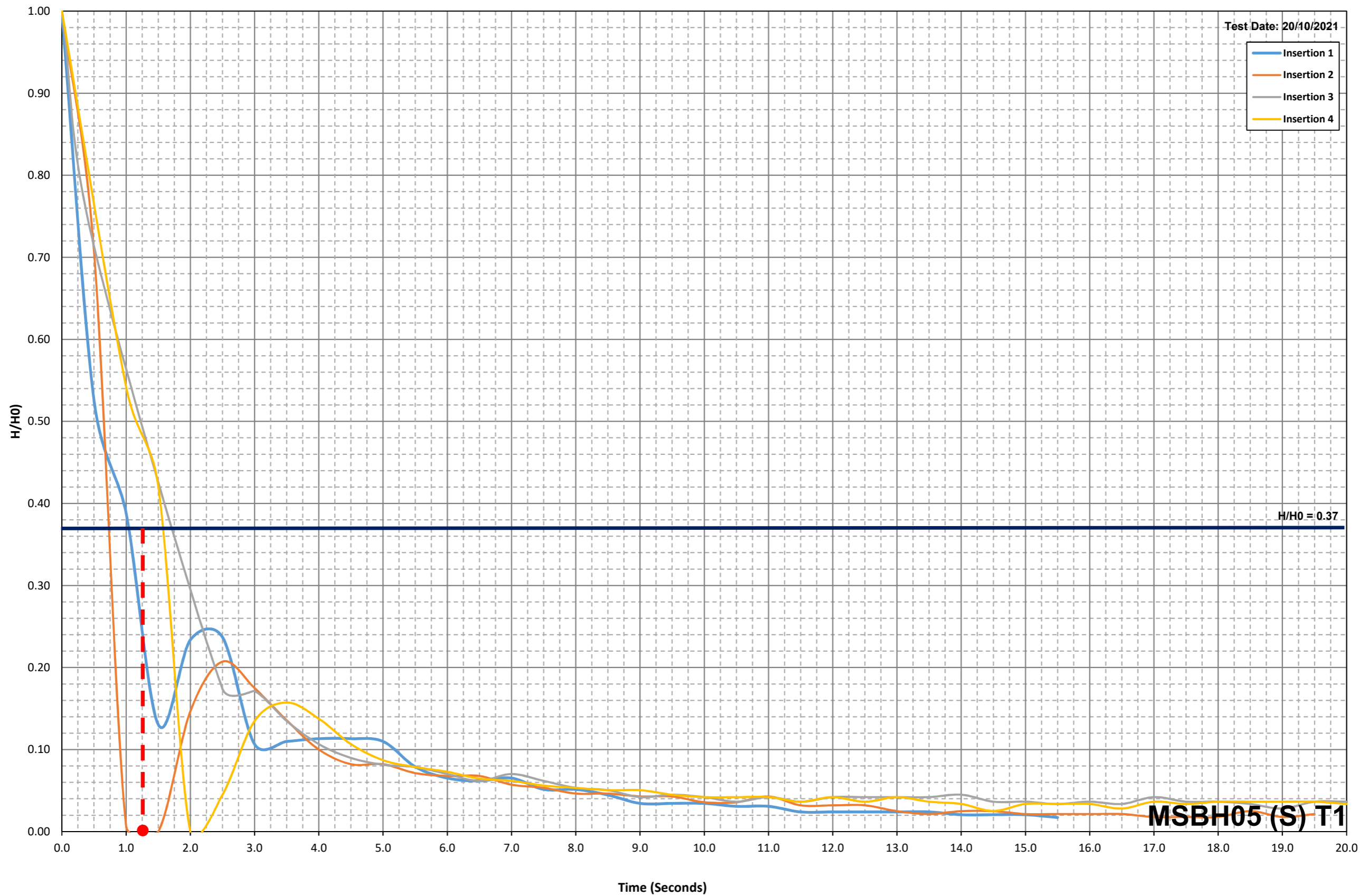
Hydraulic Conductivity: Slug Test



Hydraulic Conductivity Insertion Data

Test Date: 20/10/2021

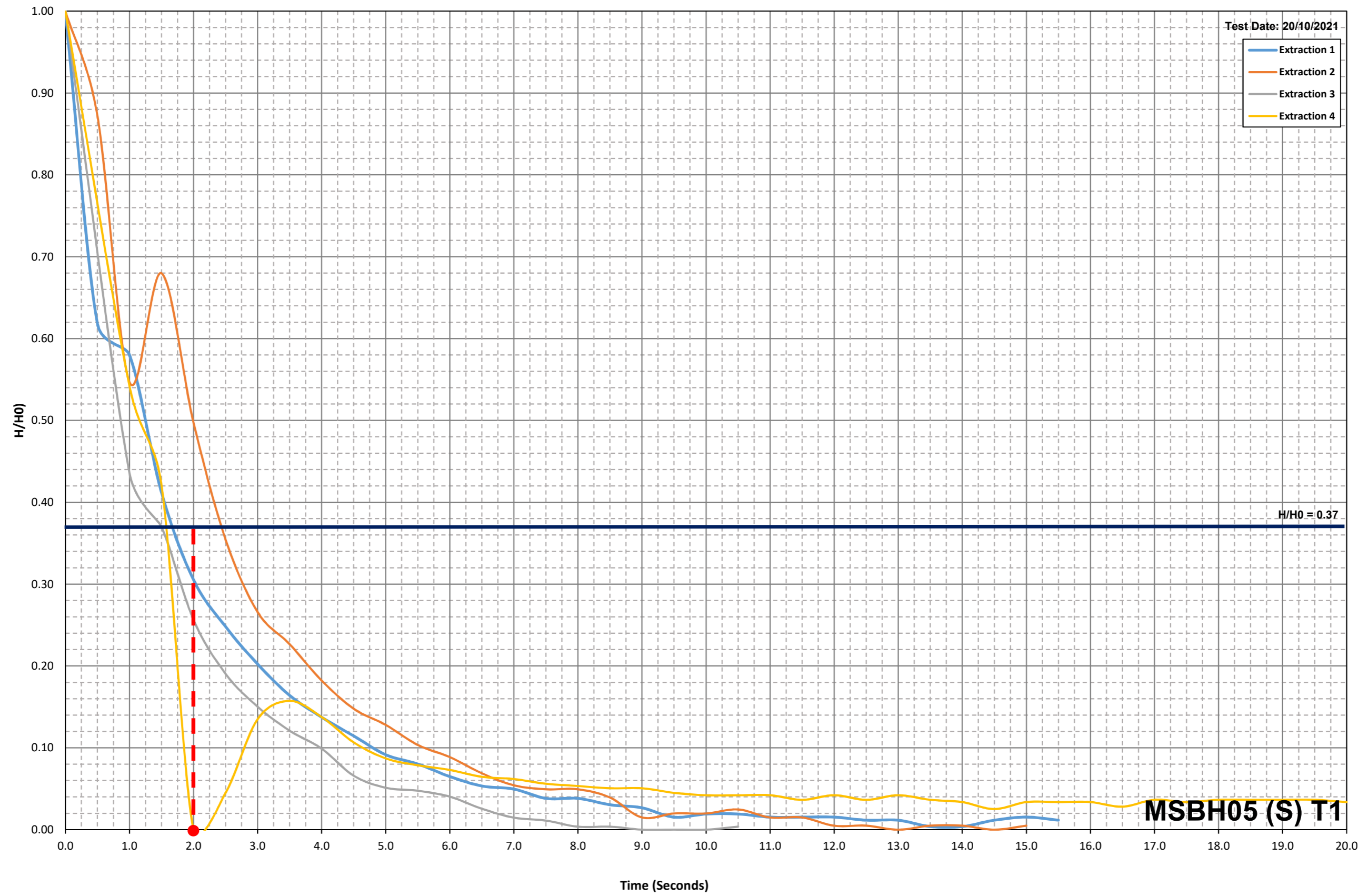
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- Insertion 4



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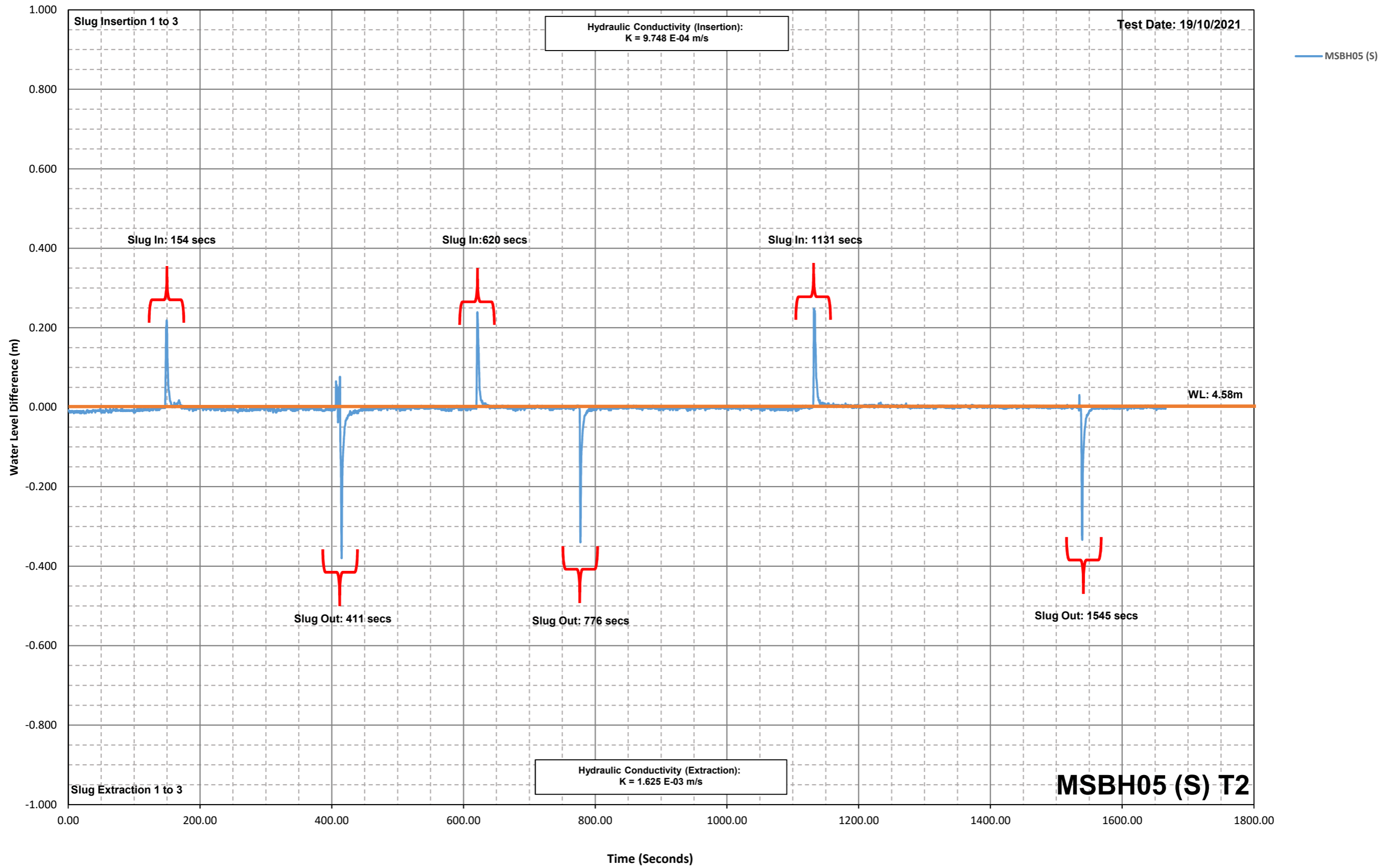
Hydraulic Conductivity Extraction Data

Test Date: 20/10/2021



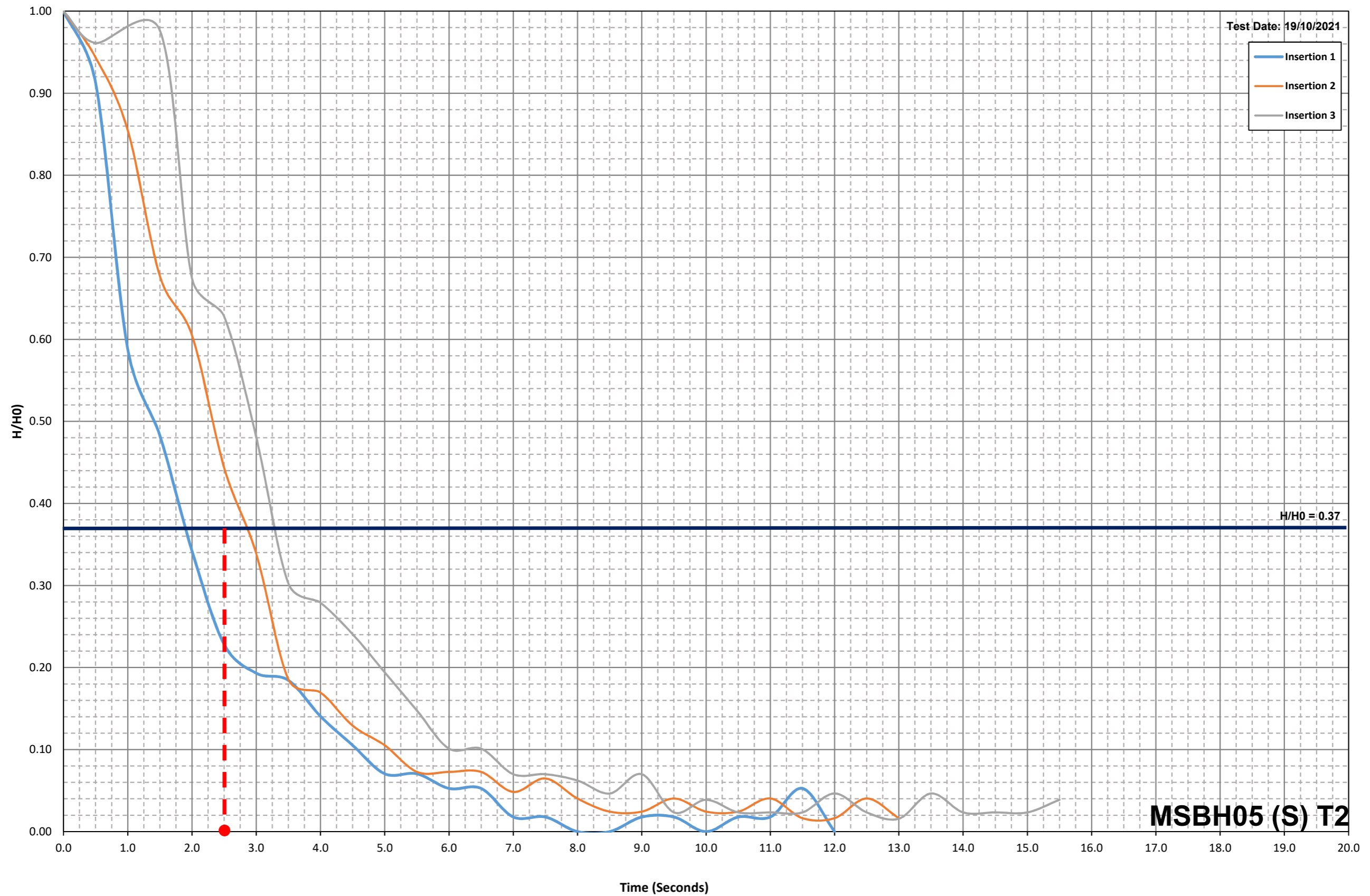
MSBH05 (S) T1

Hydraulic Conductivity: Slug Test



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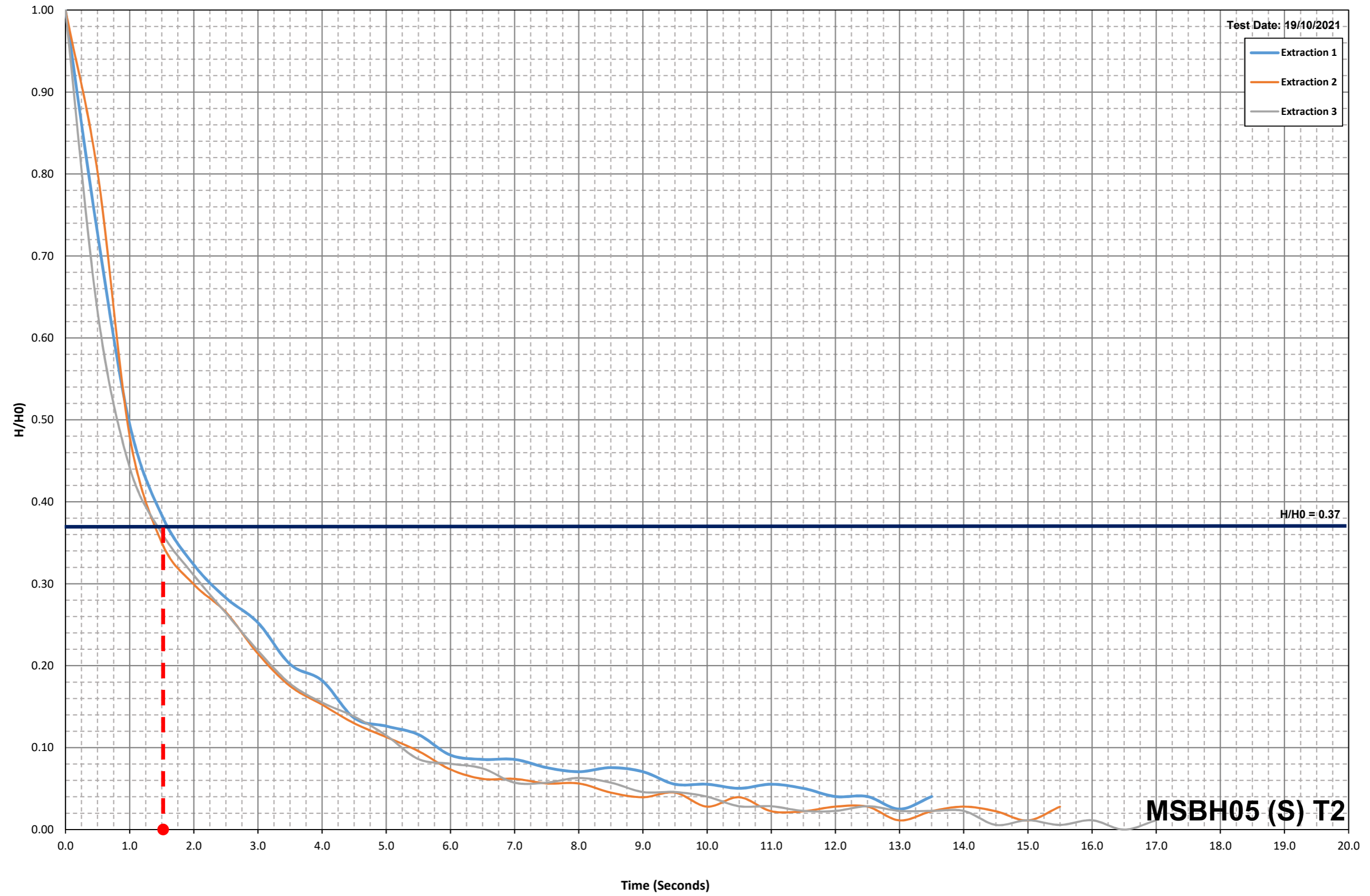
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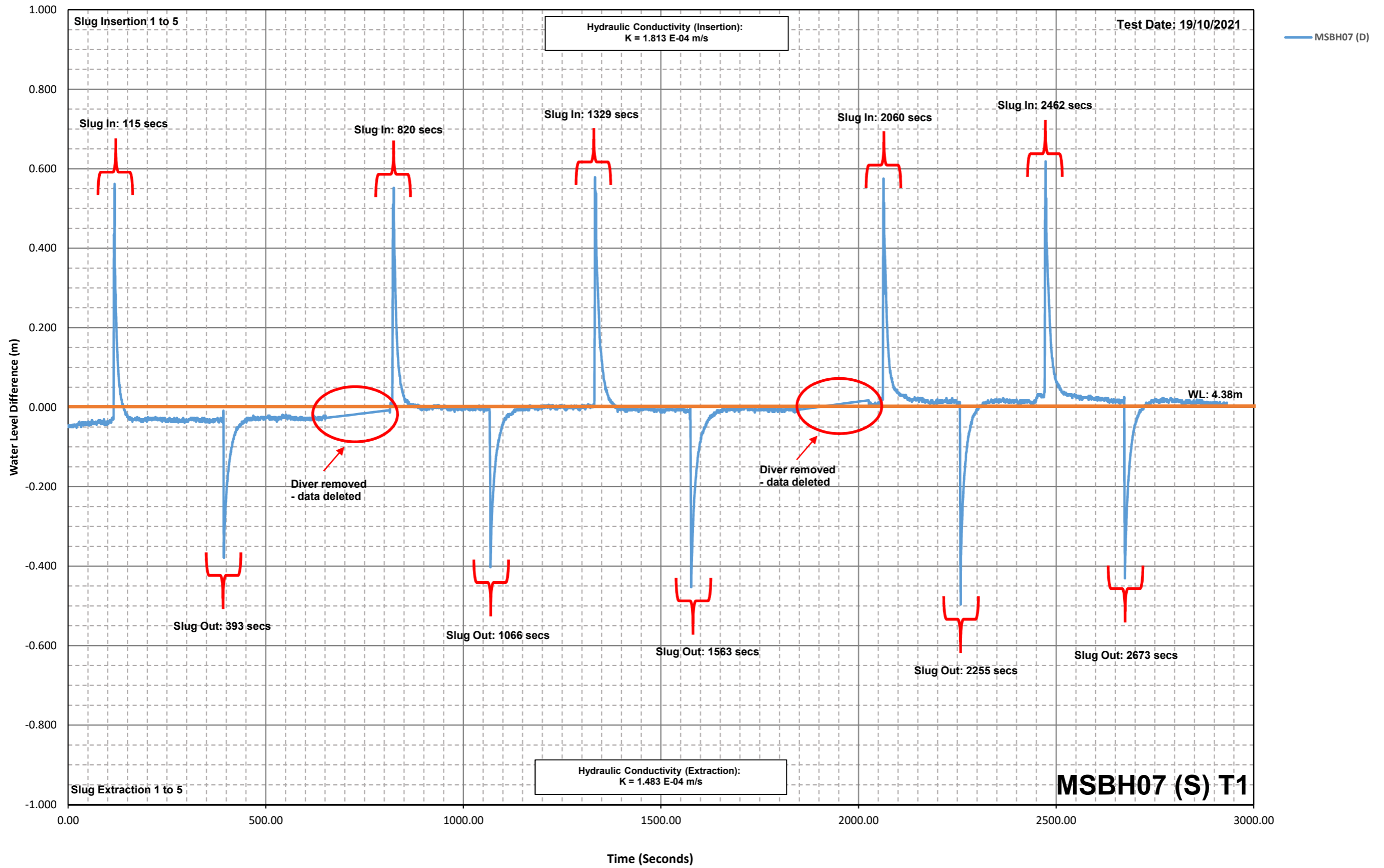
Hydraulic Conductivity Extraction Data

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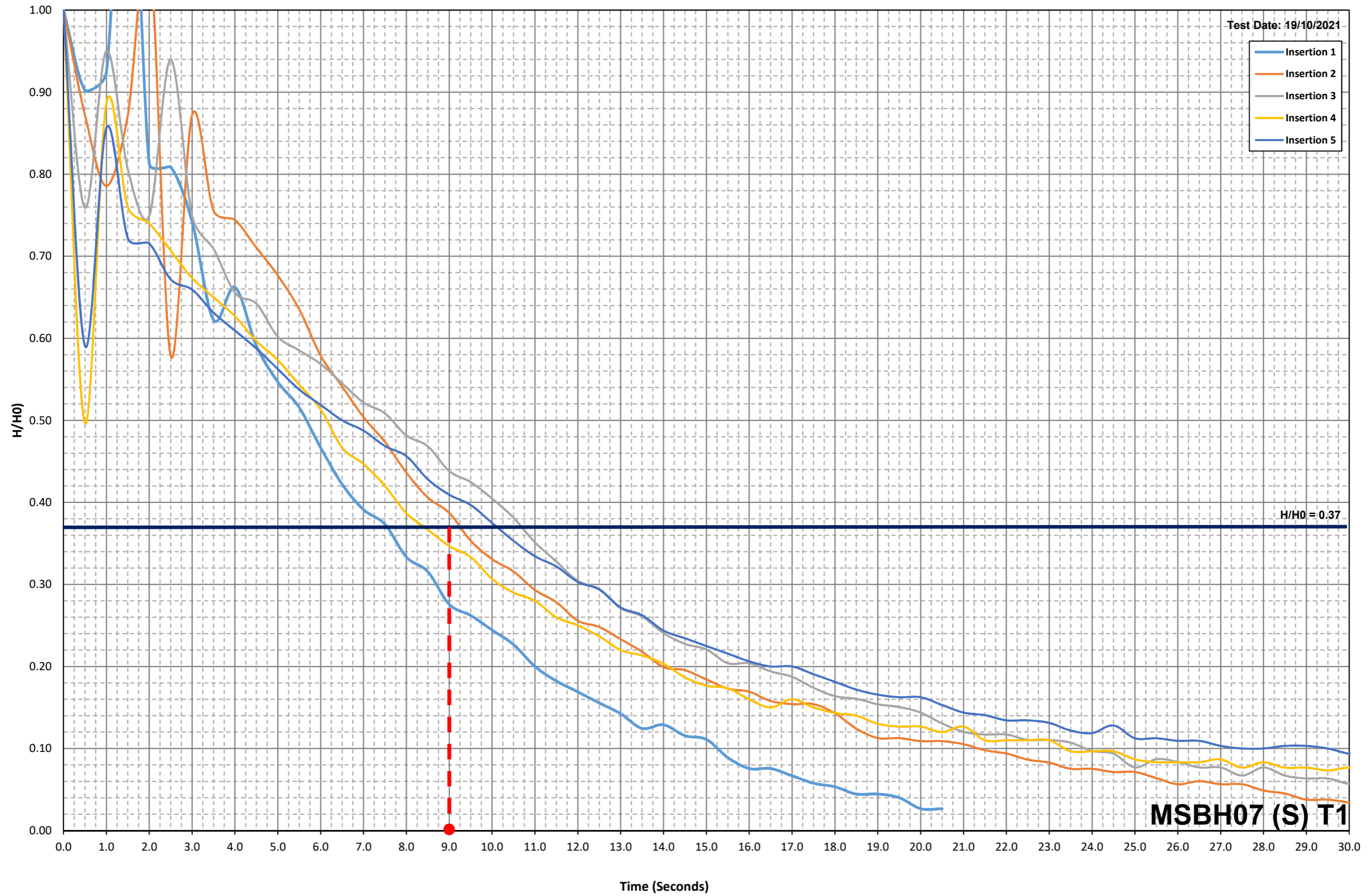
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Hydraulic Conductivity: Slug Test



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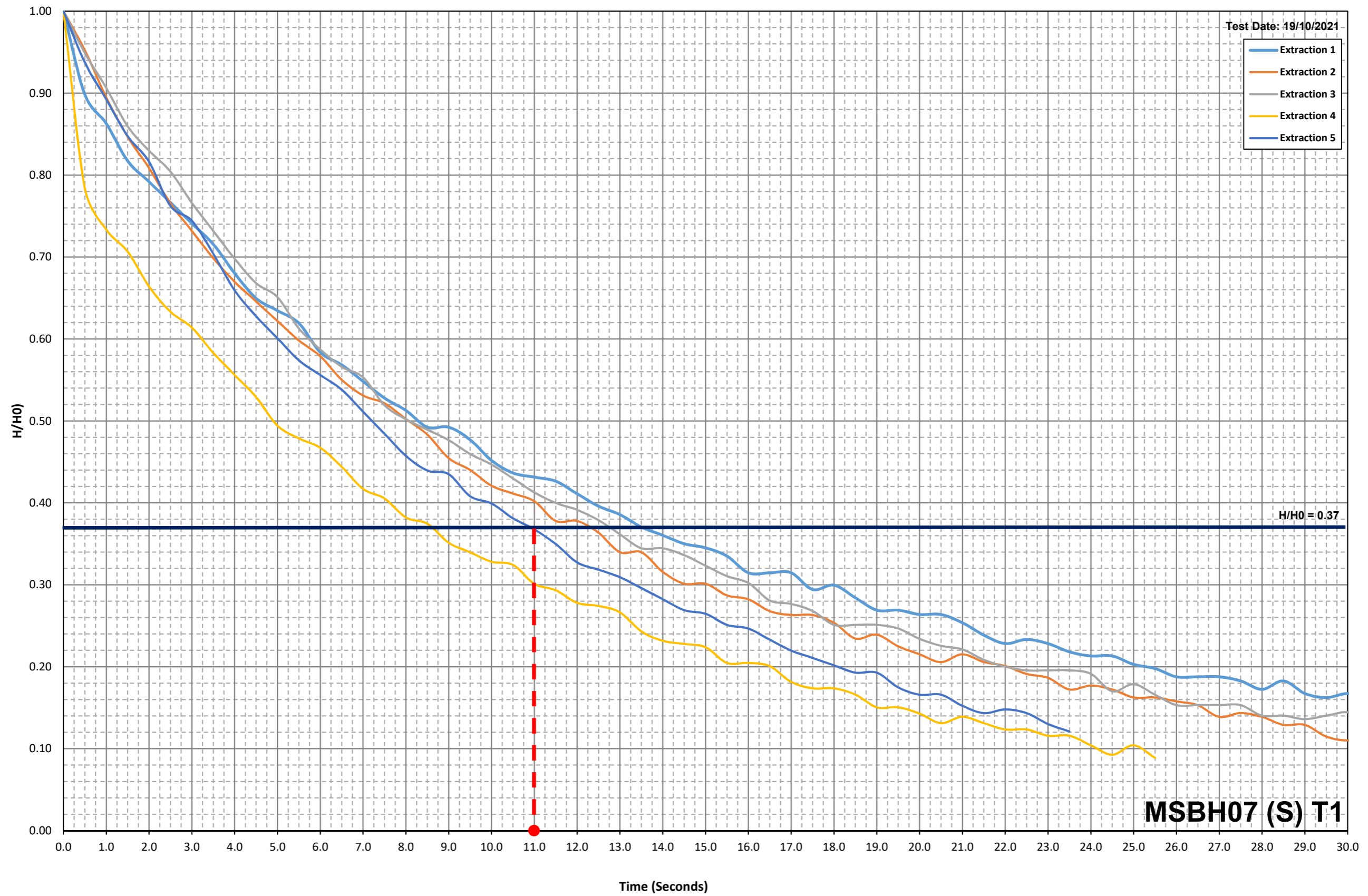
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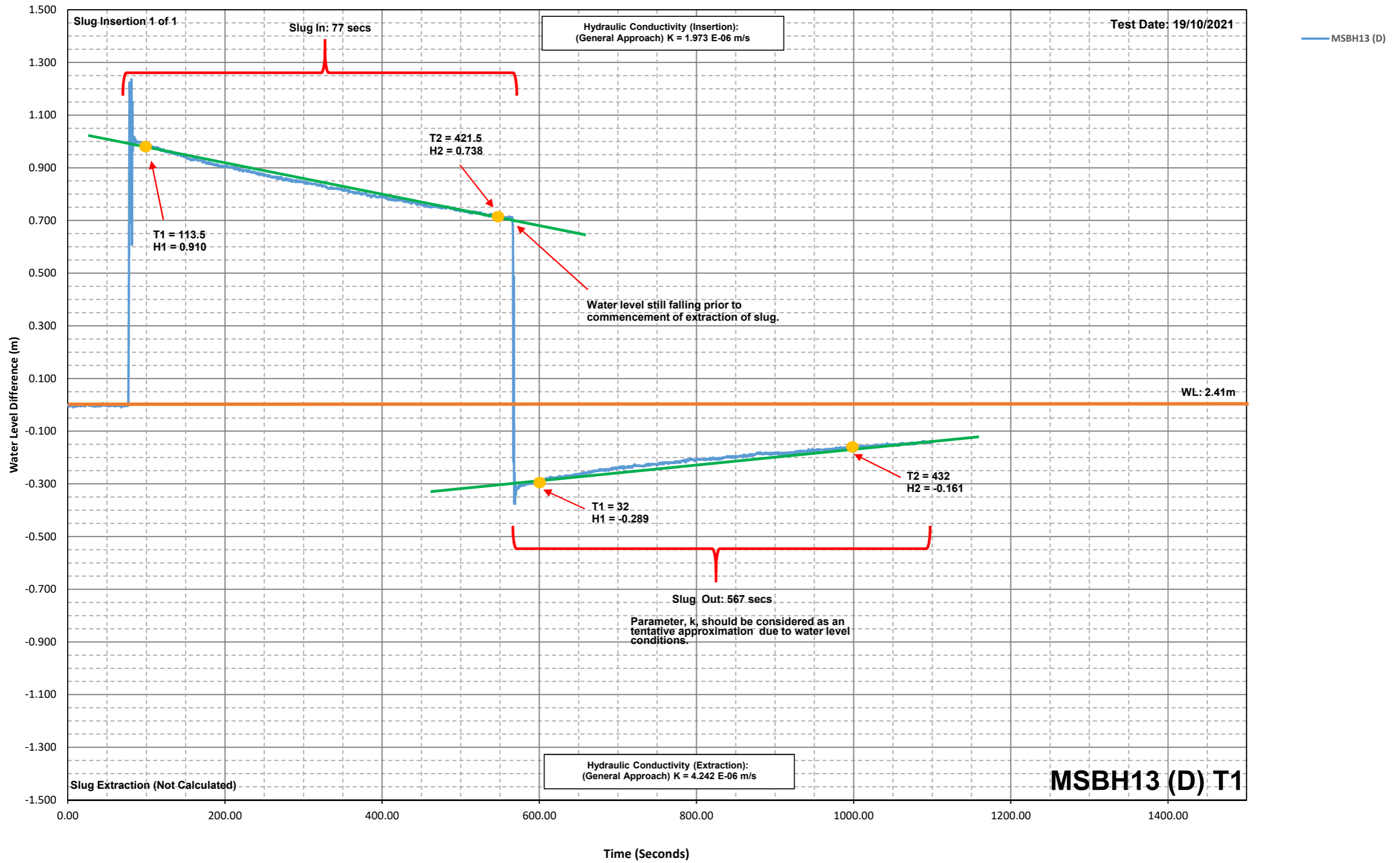
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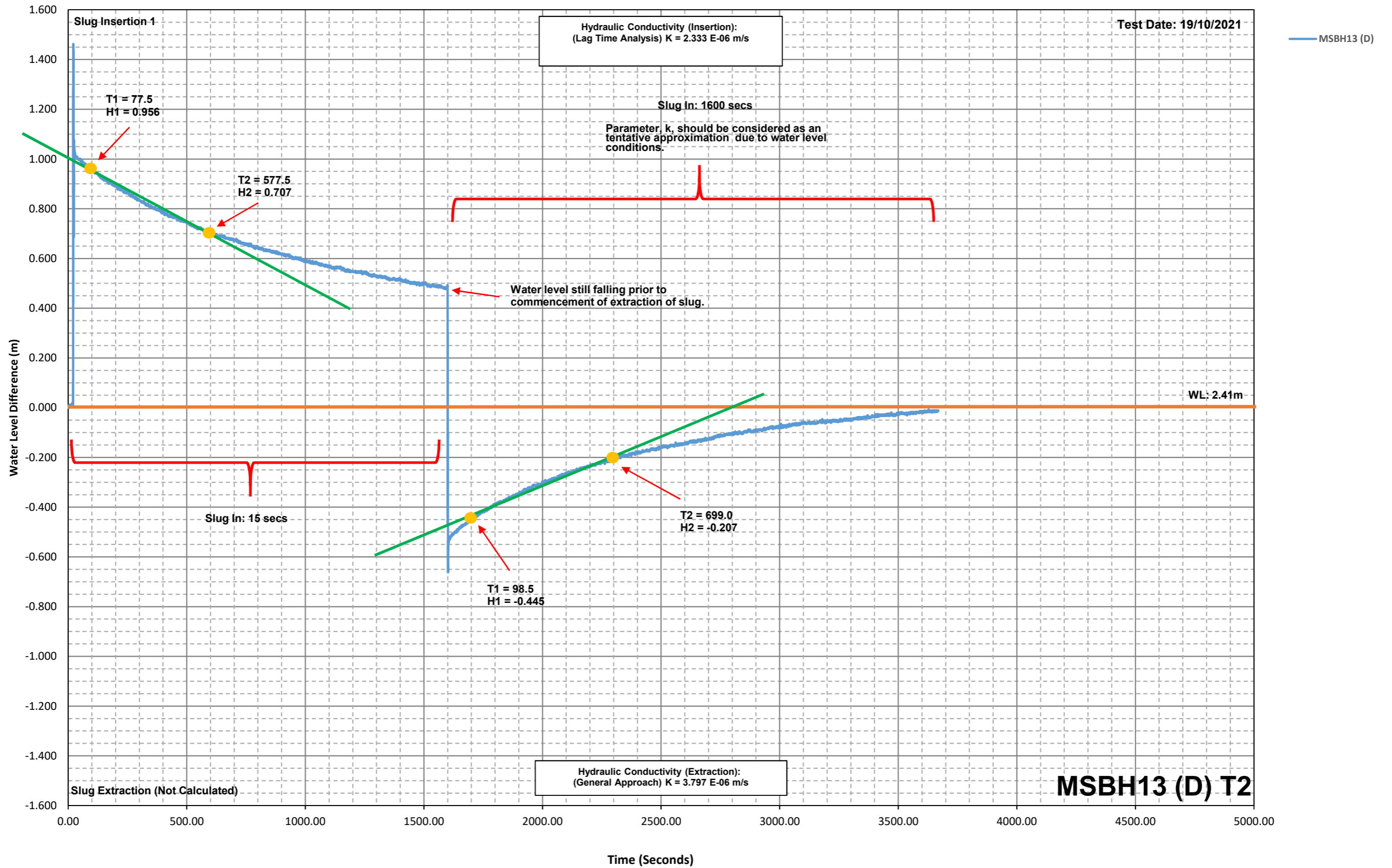


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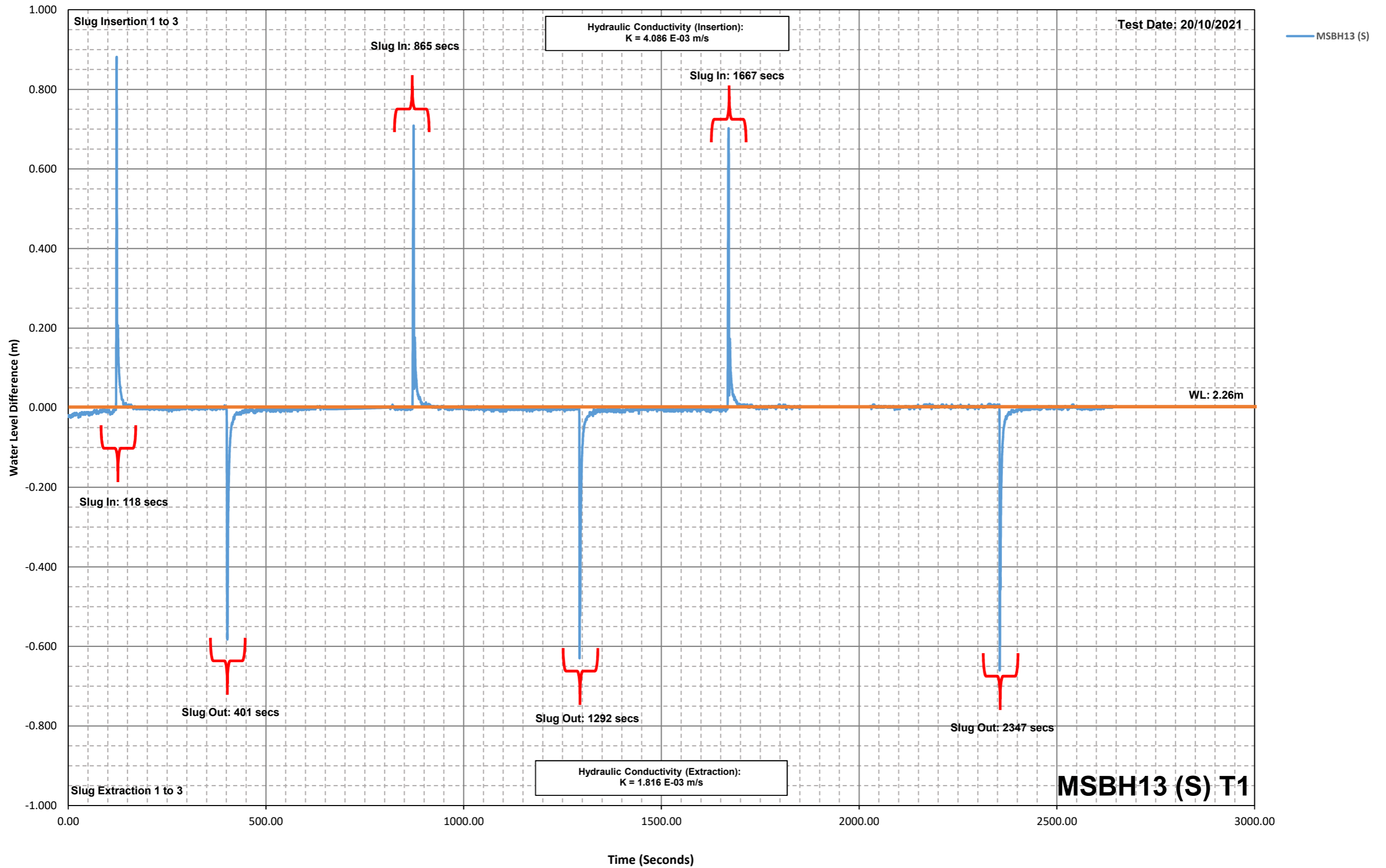
Hydraulic Conductivity: Slug Test



Hydraulic Conductivity: Slug Test

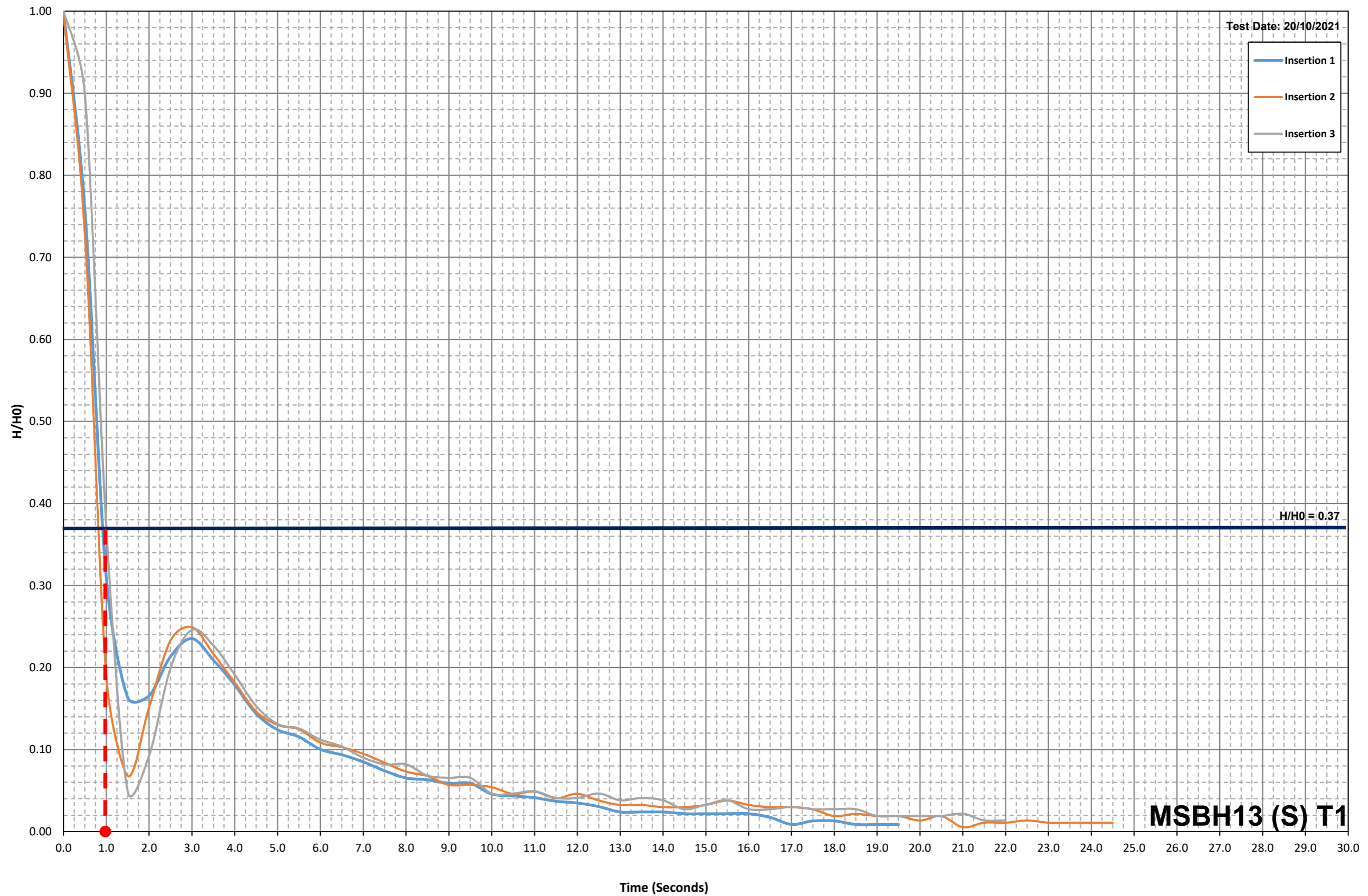


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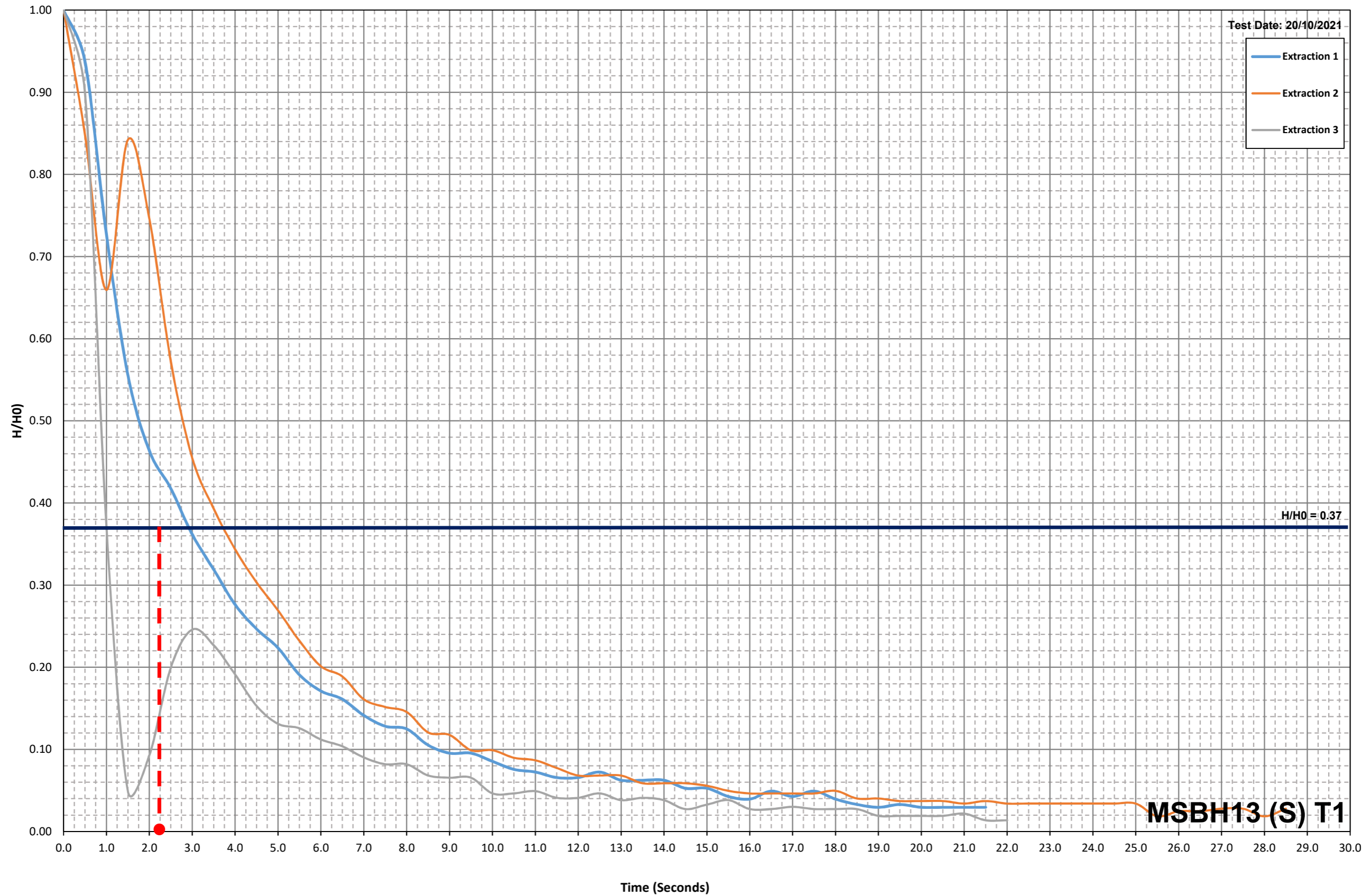
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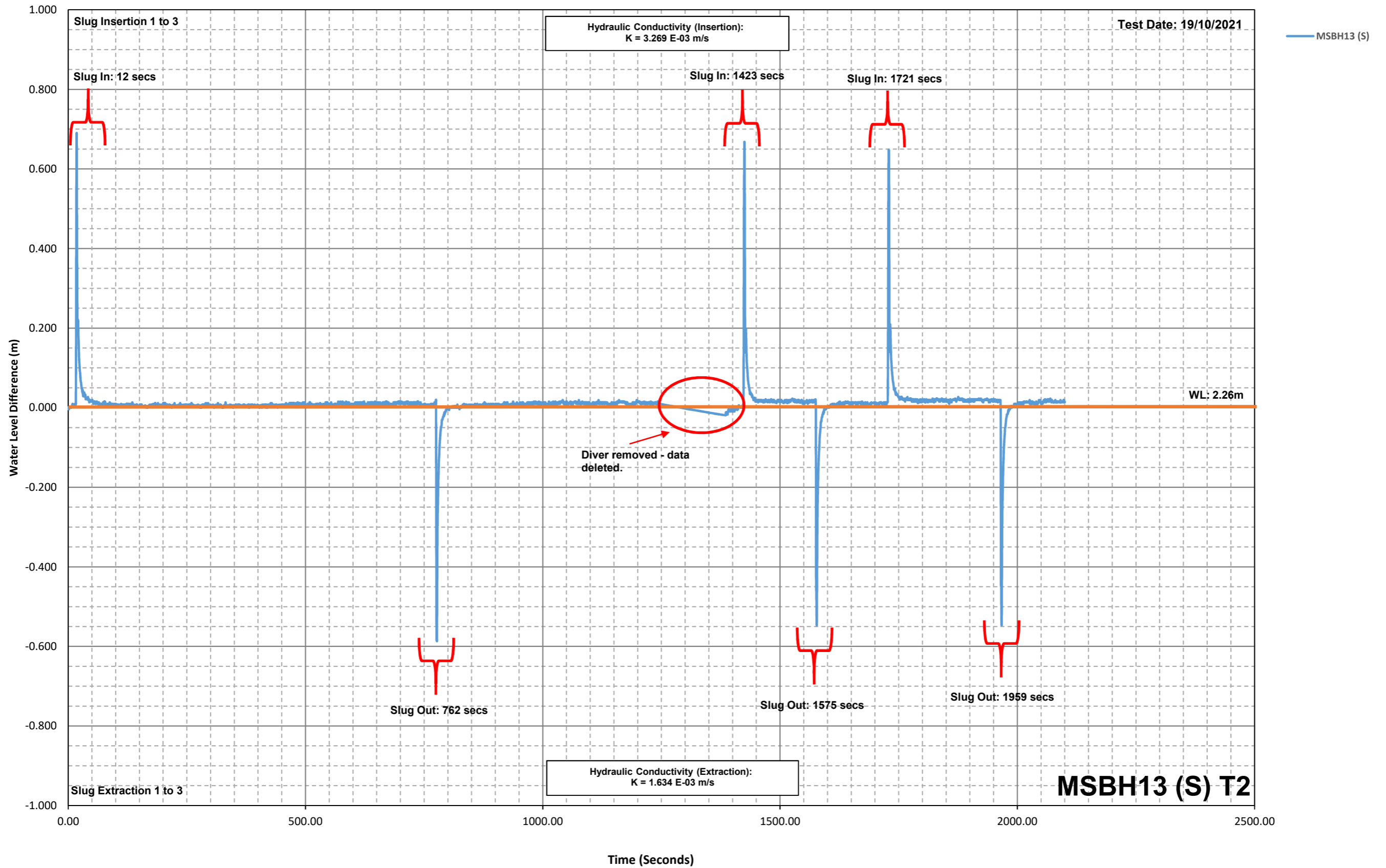
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Test Date: 20/10/2021



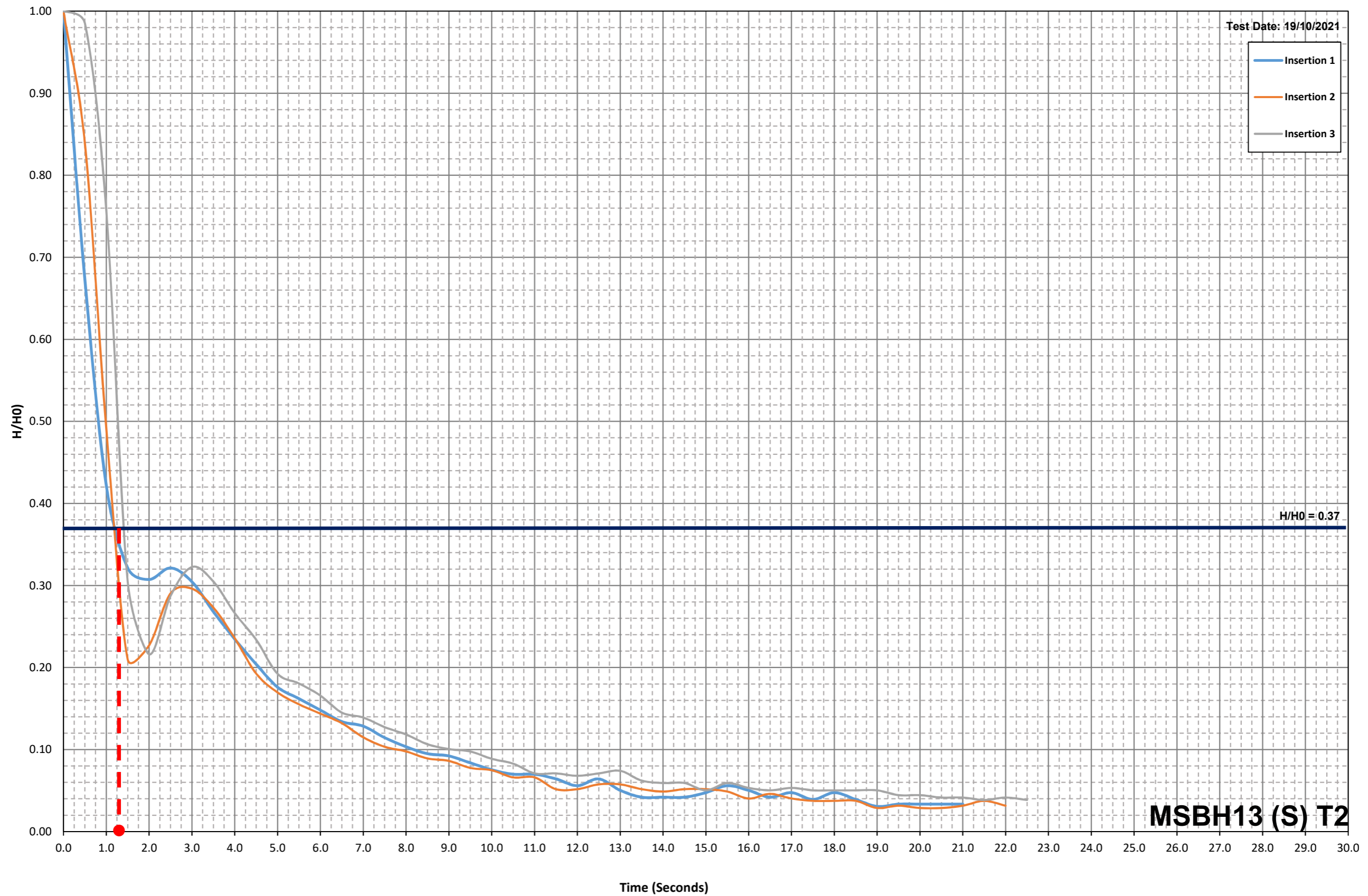
MSBH13 (S) T1

Hydraulic Conductivity: Slug Test



Hydraulic Conductivity Insertion Data

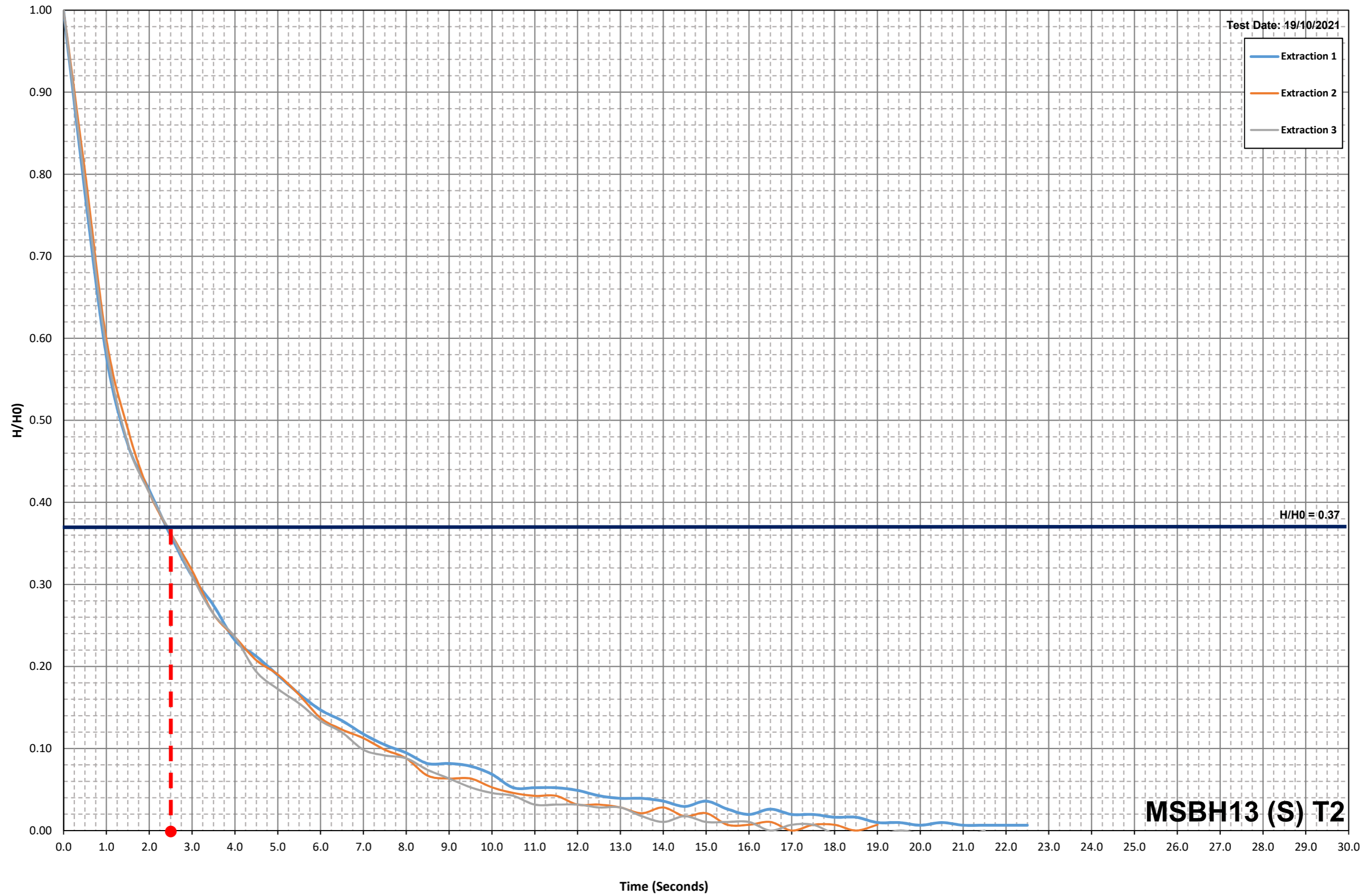
Test Date: 19/10/2021



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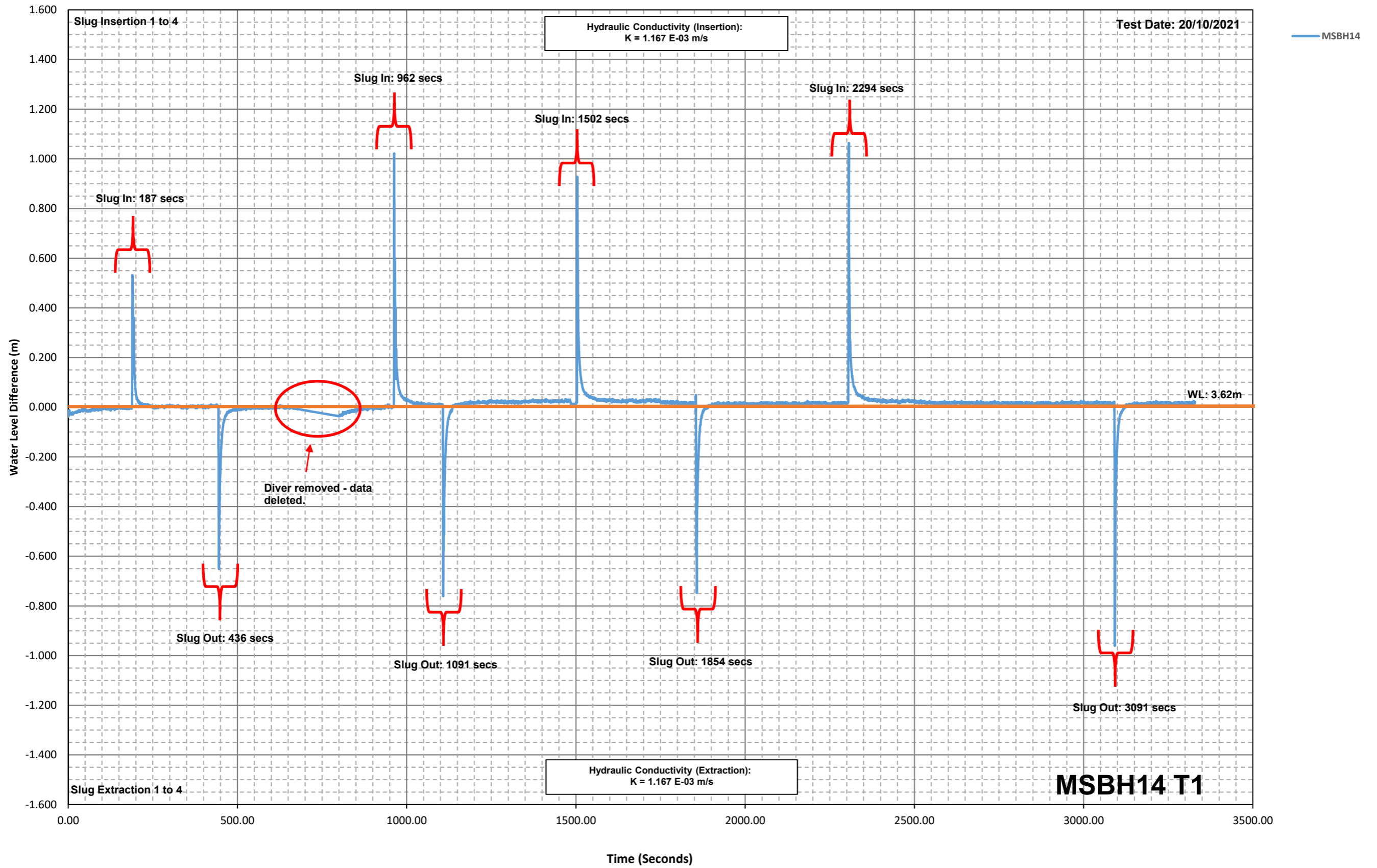
Hydraulic Conductivity Extraction Data

Test Date: 19/10/2021



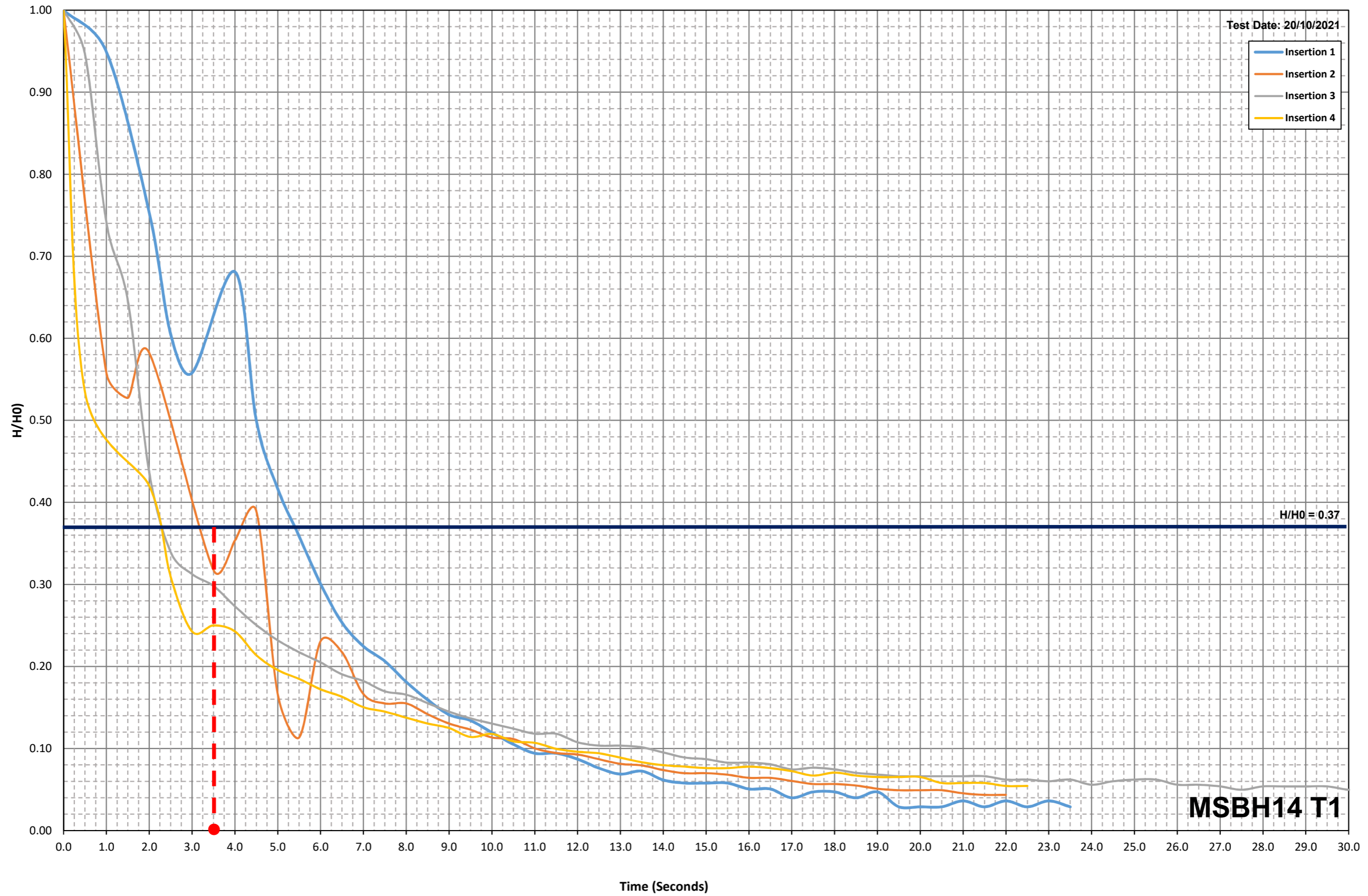
MSBH13 (S) T2

Hydraulic Conductivity: Slug Test



Hydraulic Conductivity Insertion Data

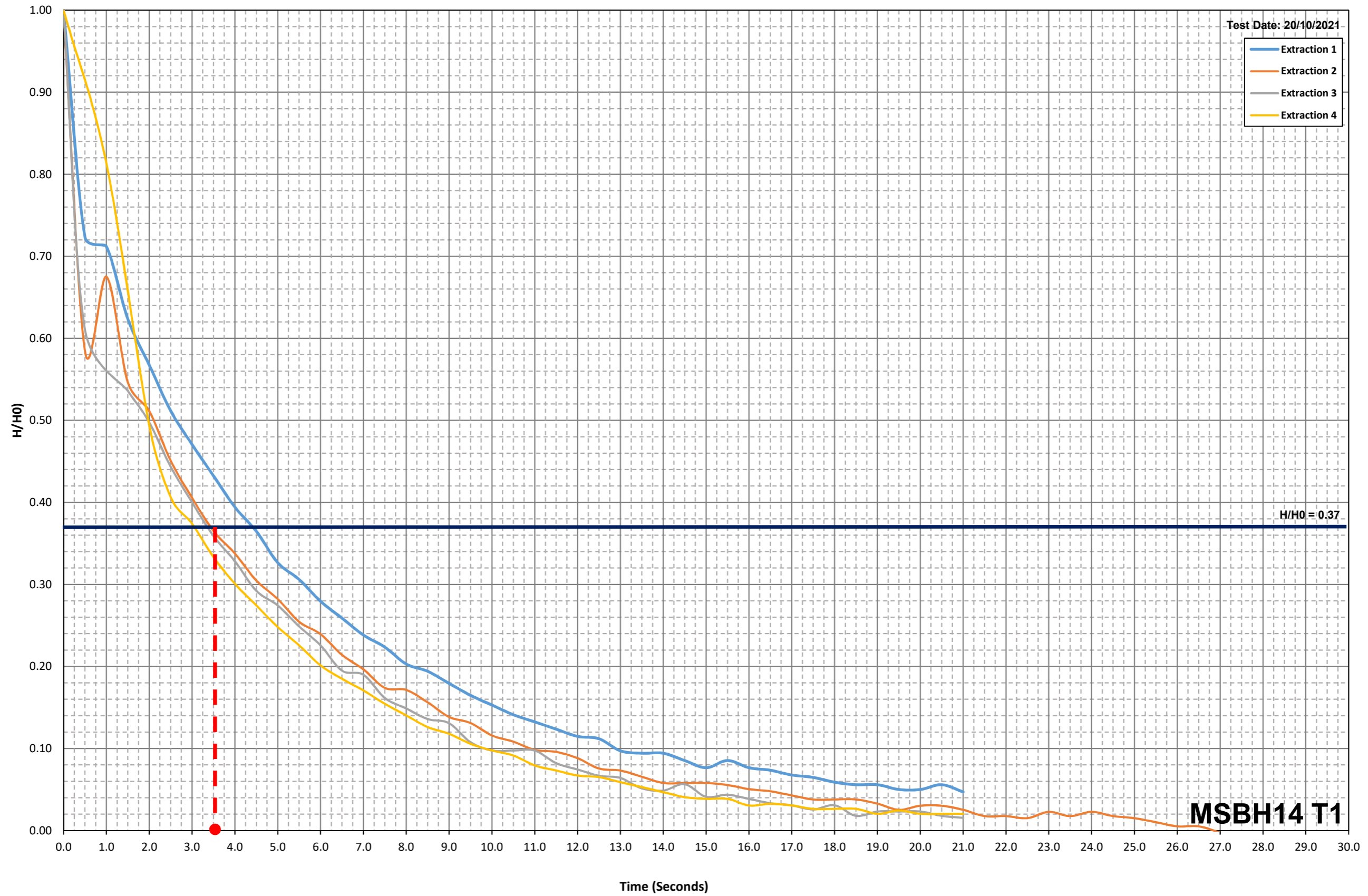
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MSBH14 T1

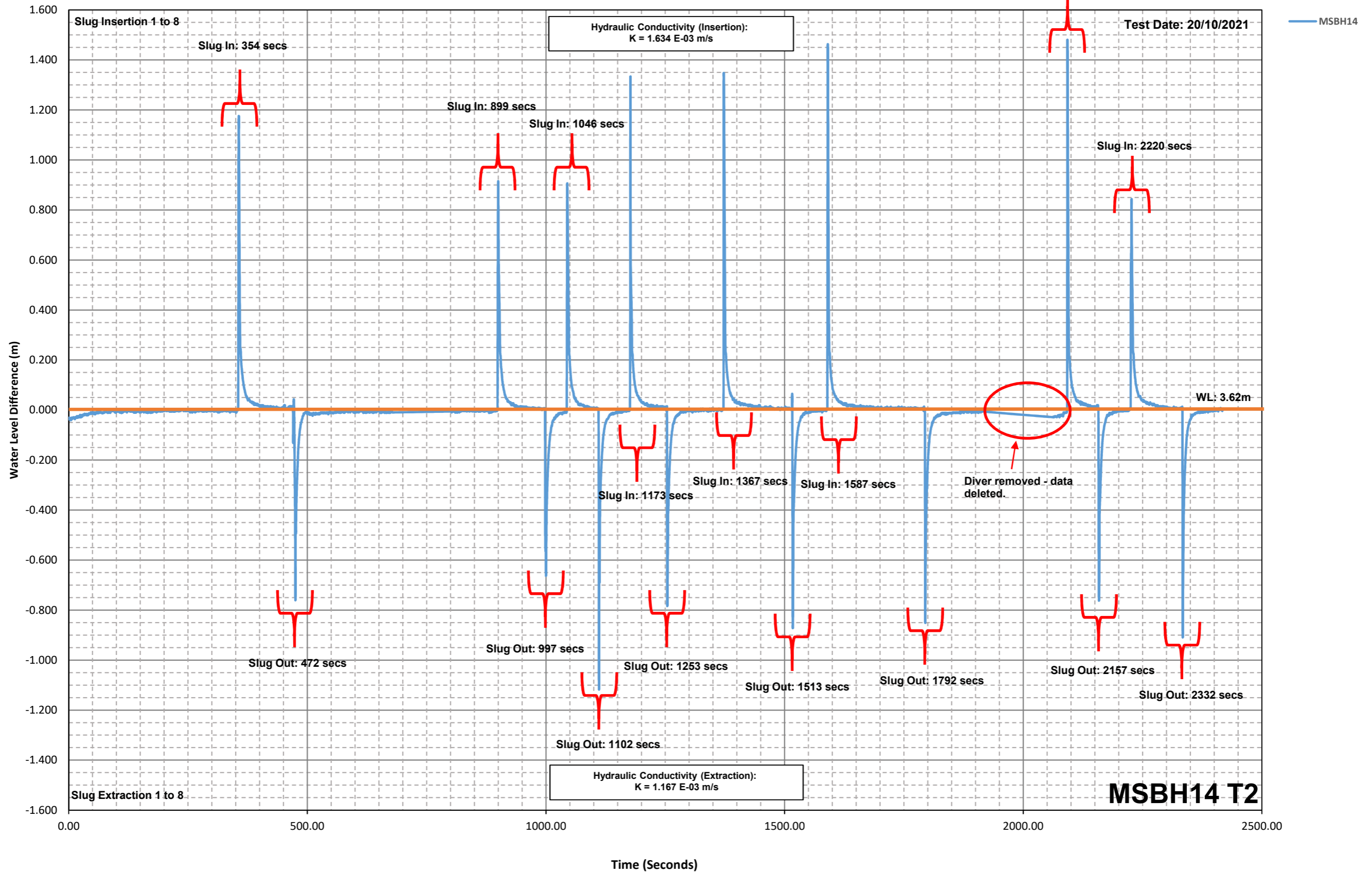
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Test Date: 20/10/2021



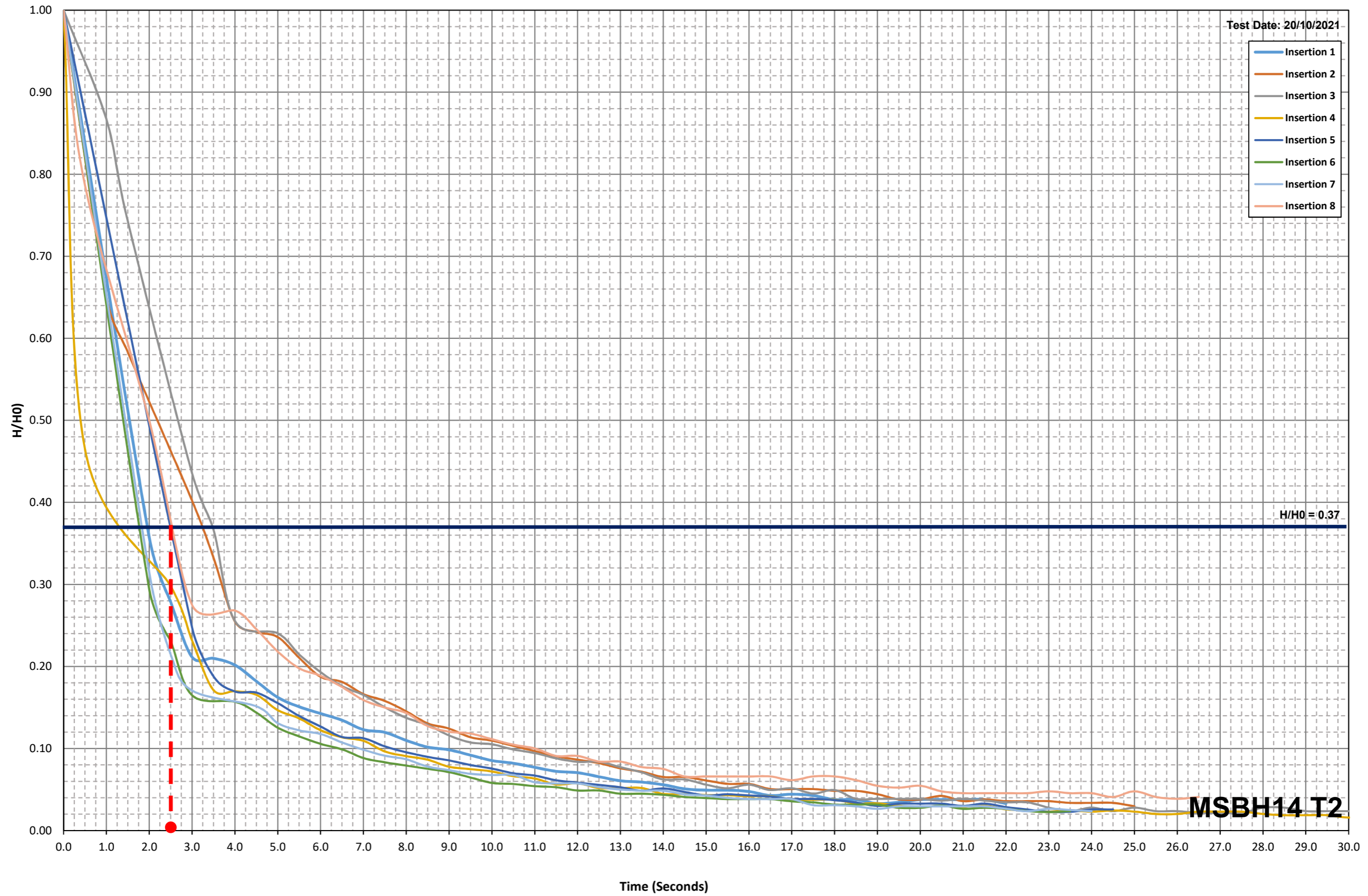
MSBH14 T1

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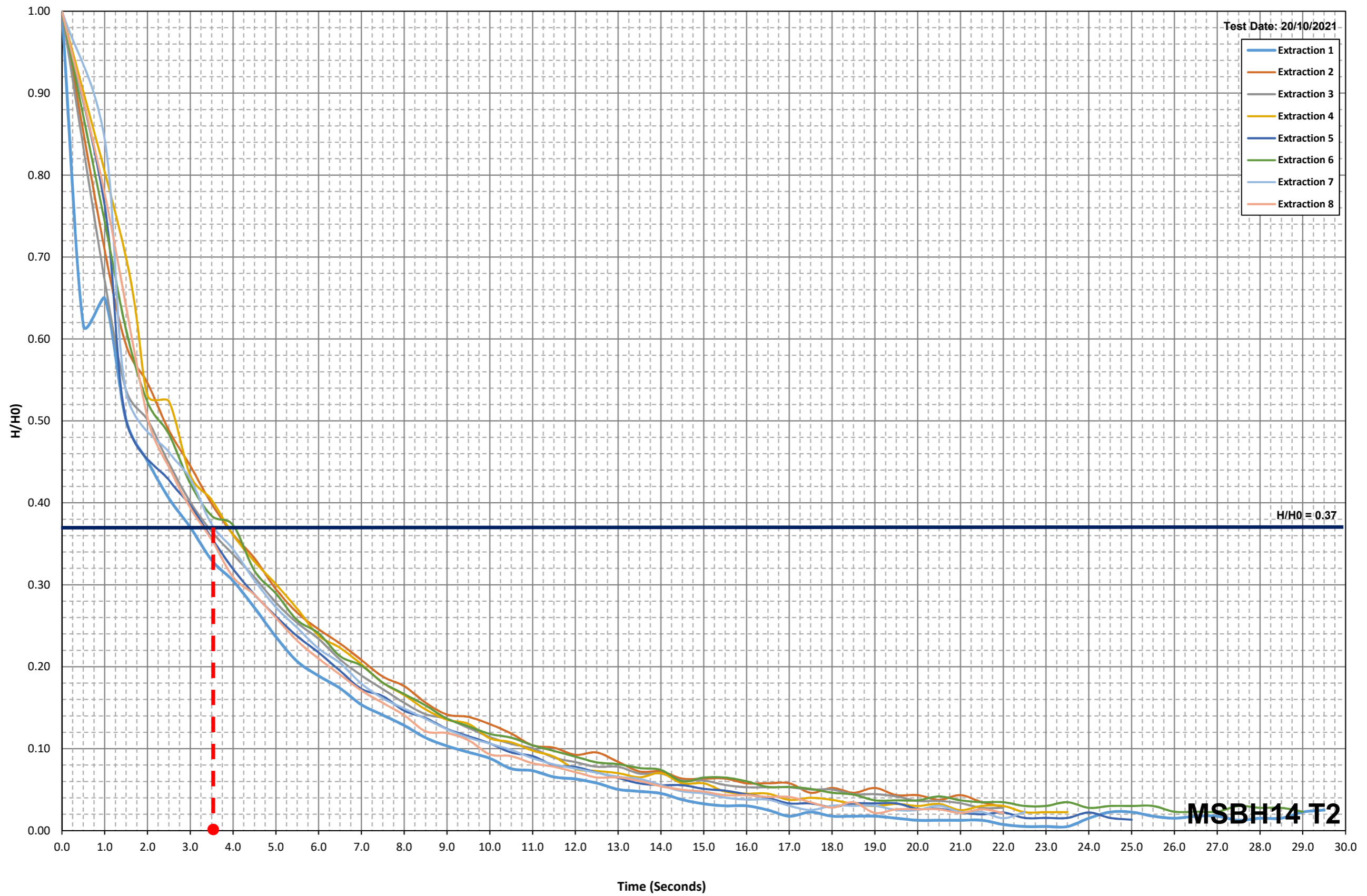
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Test Date: 20/10/2021

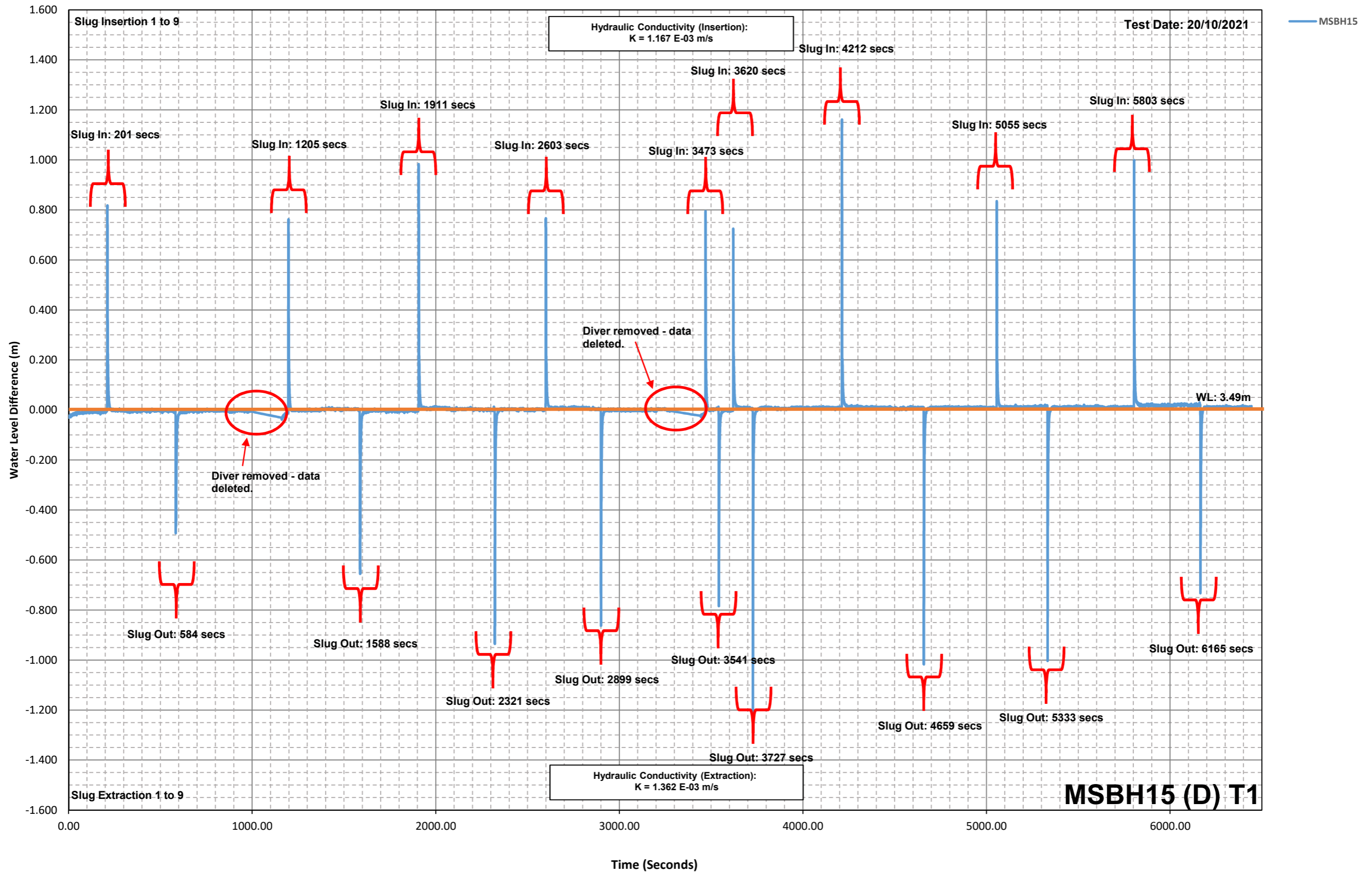


MSBH14 T2

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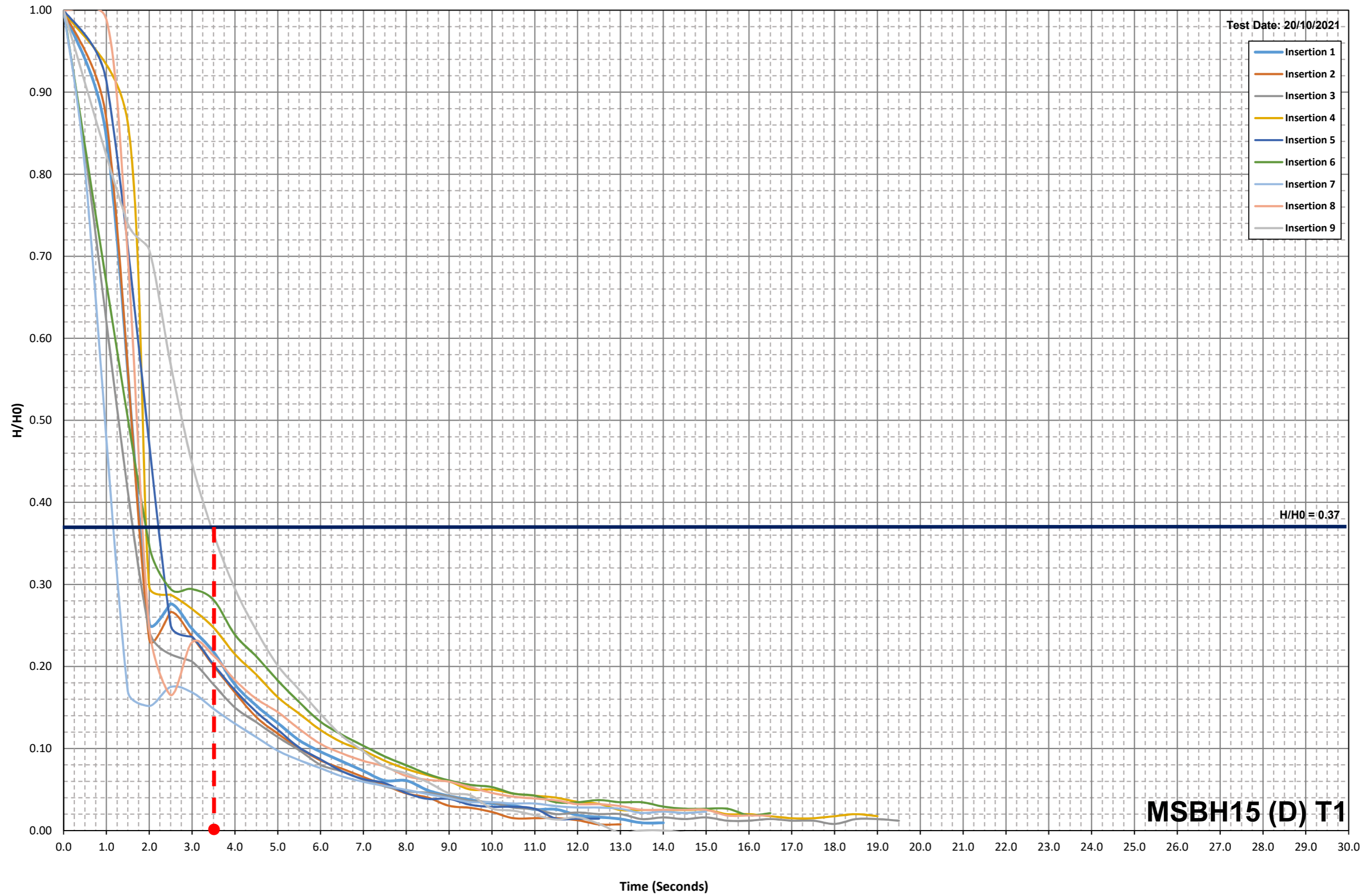


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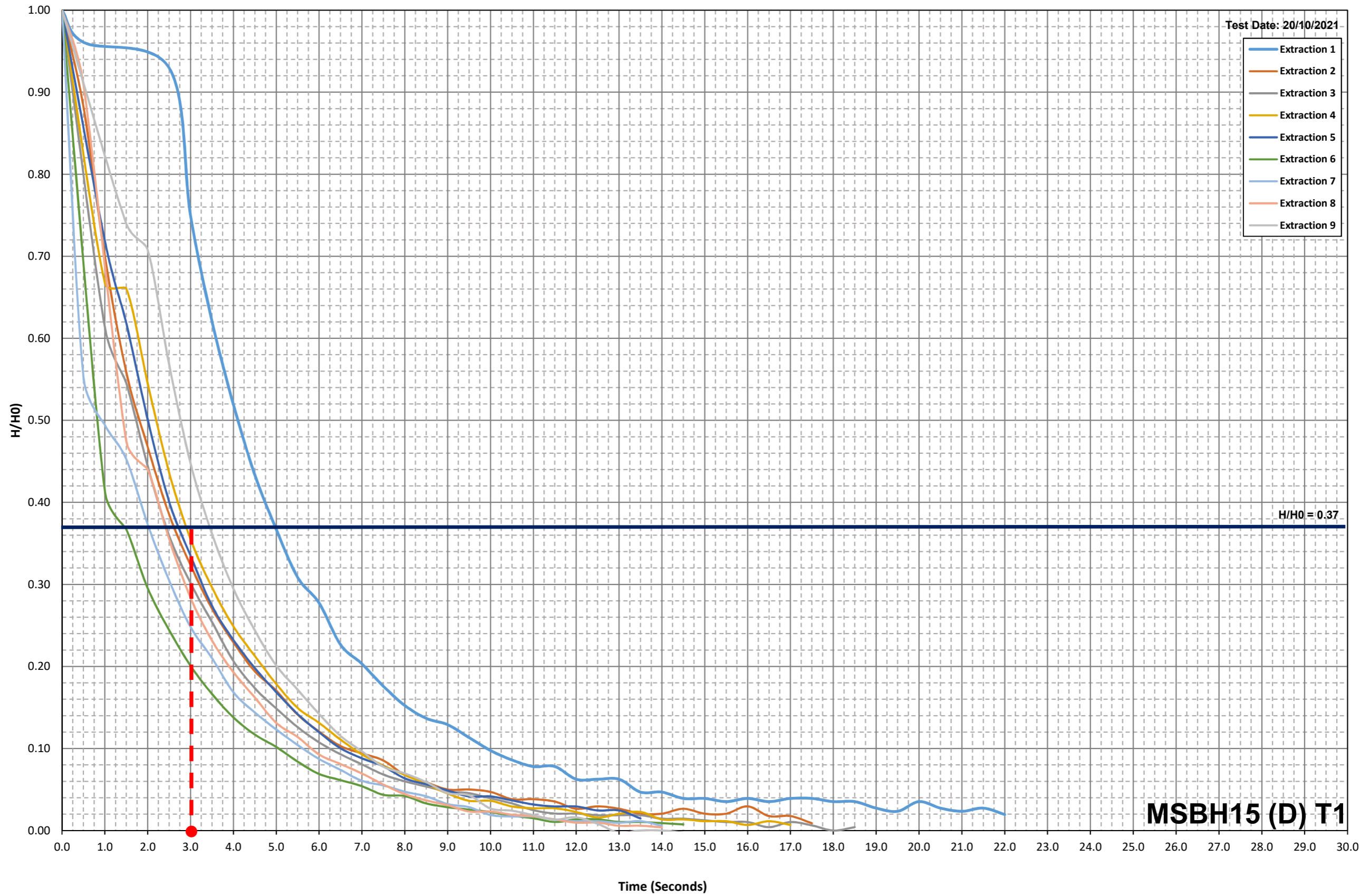


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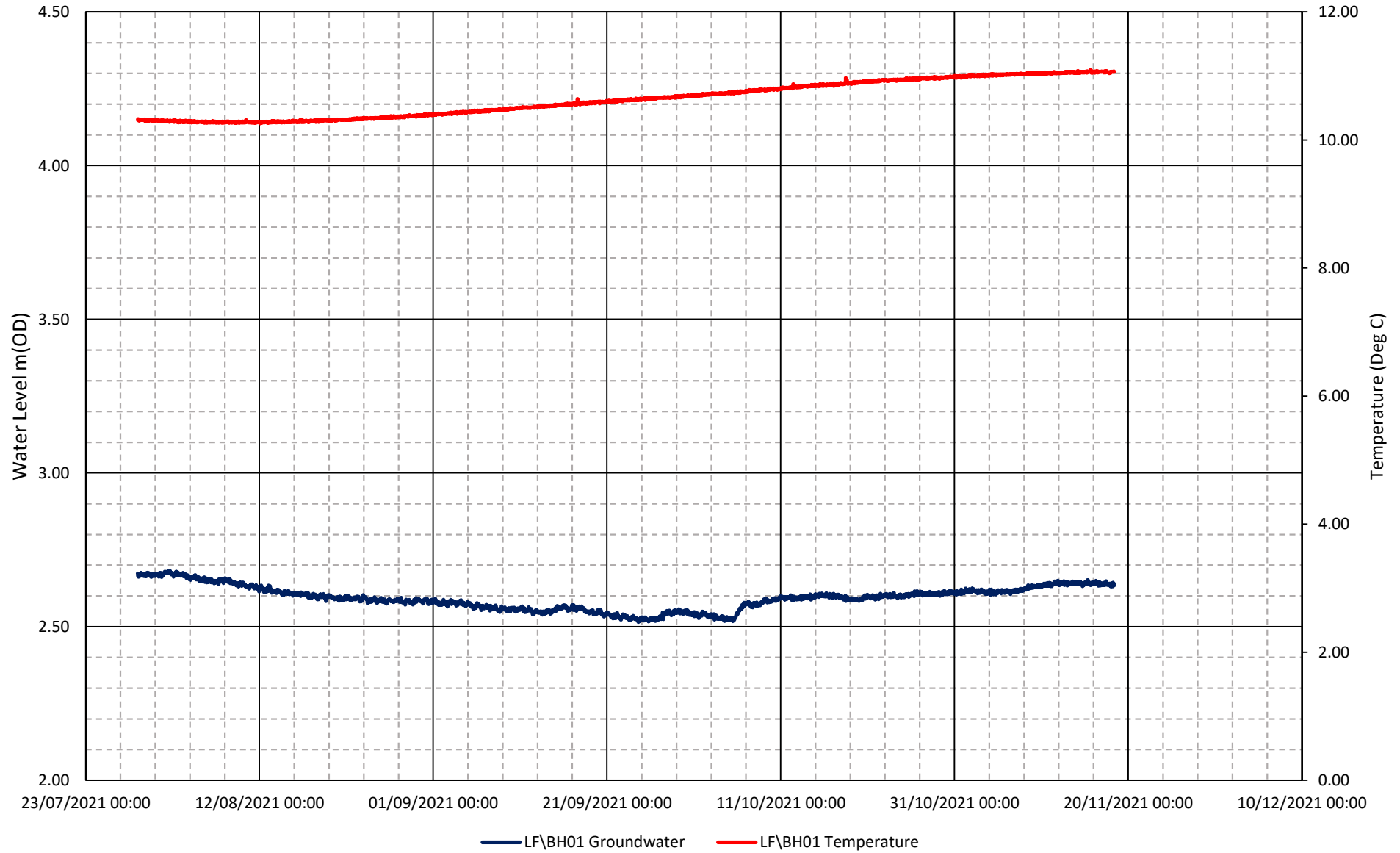


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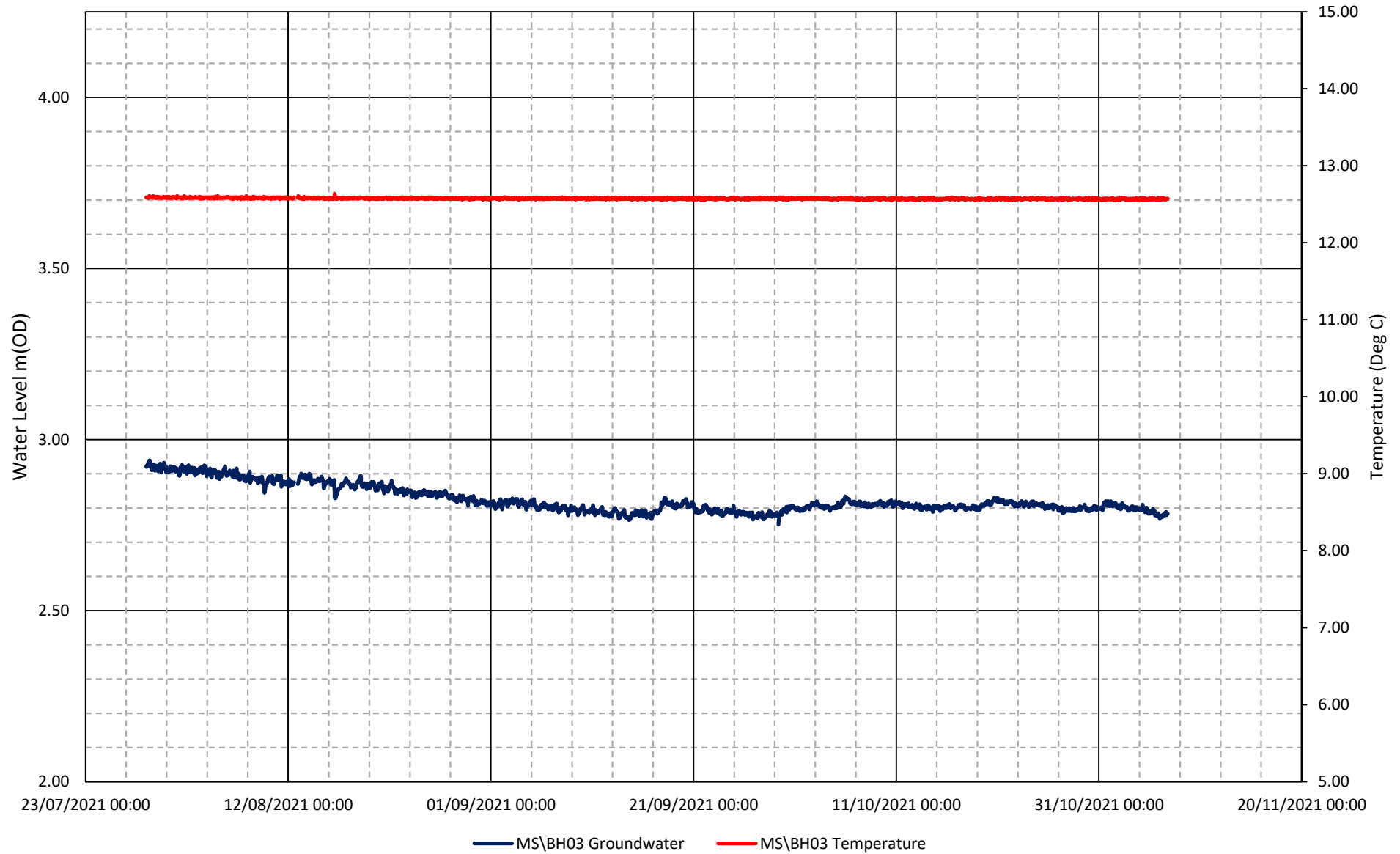
GROUNDWATER MONITORING DATA

GROUNDWATER MONITORING DATA



GROUNDWATER MONITORING DATA

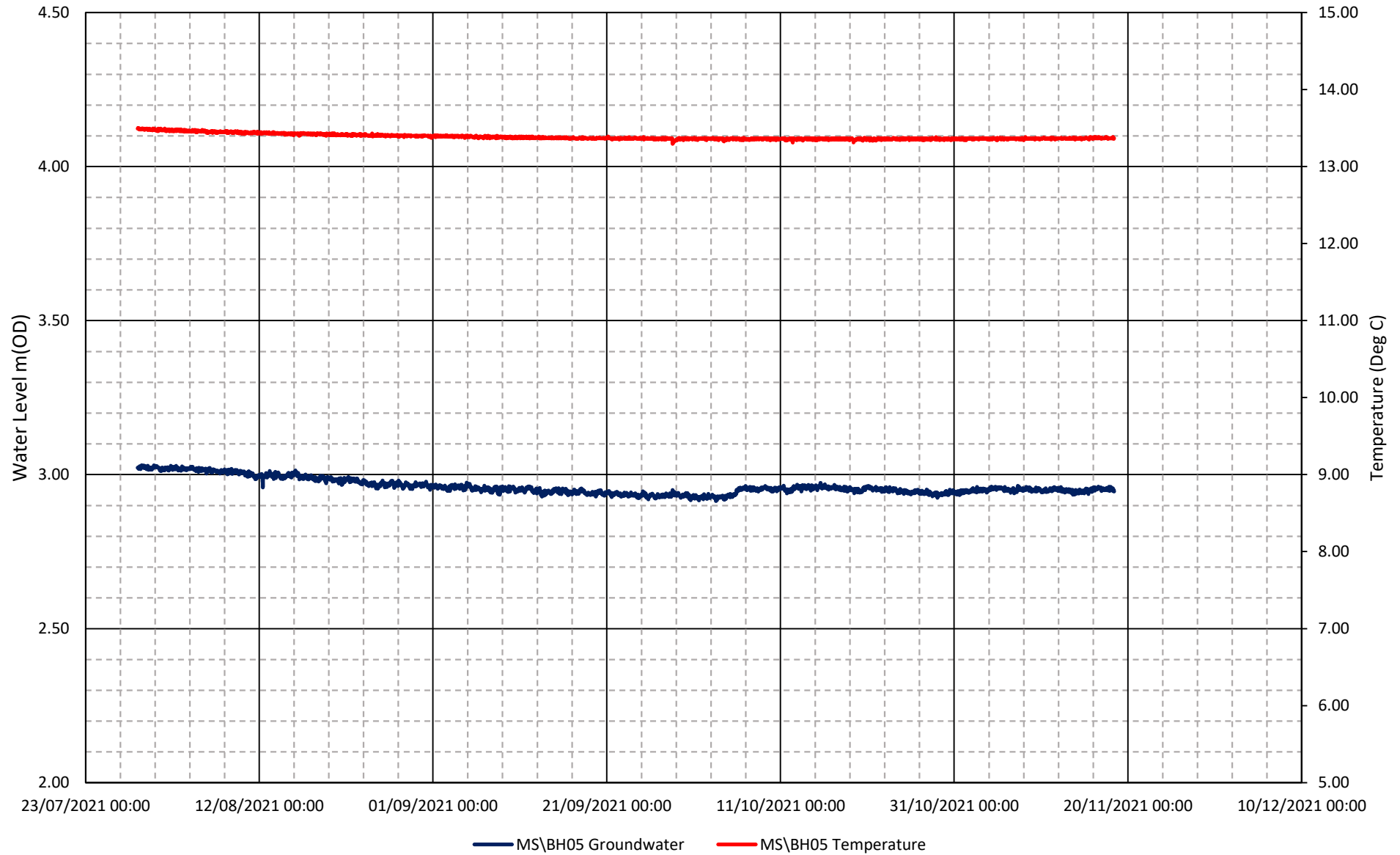
GROUNDWATER MONITORING DATA



Title: Preliminary Onshore Ground Investigation for Net Zero Teeside (NZN) - South Tees Development Corporation (STDC) 'Main Site; and Onshore CO2 Export Pipeline Corridor
Contract No: 4339
Client: AECOM
Printed: 29/11/2021

GROUNDWATER MONITORING DATA

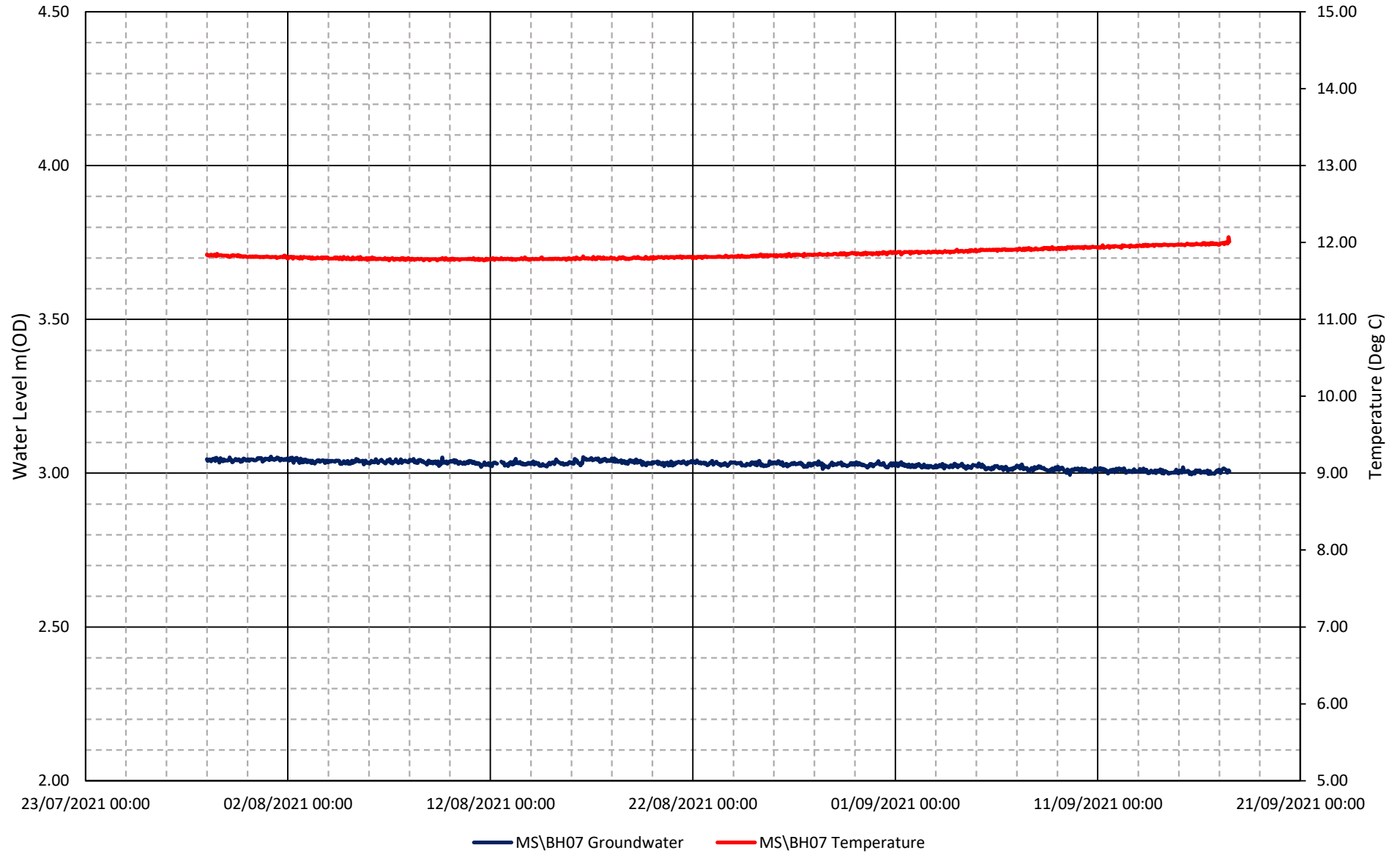
GROUNDWATER MONITORING DATA



Title: Preliminary Onshore Ground Investigation for Net Zero Teeside (NZN) - South Tees Development Corporation (STDC) 'Main Site; and Onshore CO2 Export Pipeline Corridor
Contract No: 4339
Client: AECOM
Printed: 29/11/2021

GROUNDWATER MONITORING DATA

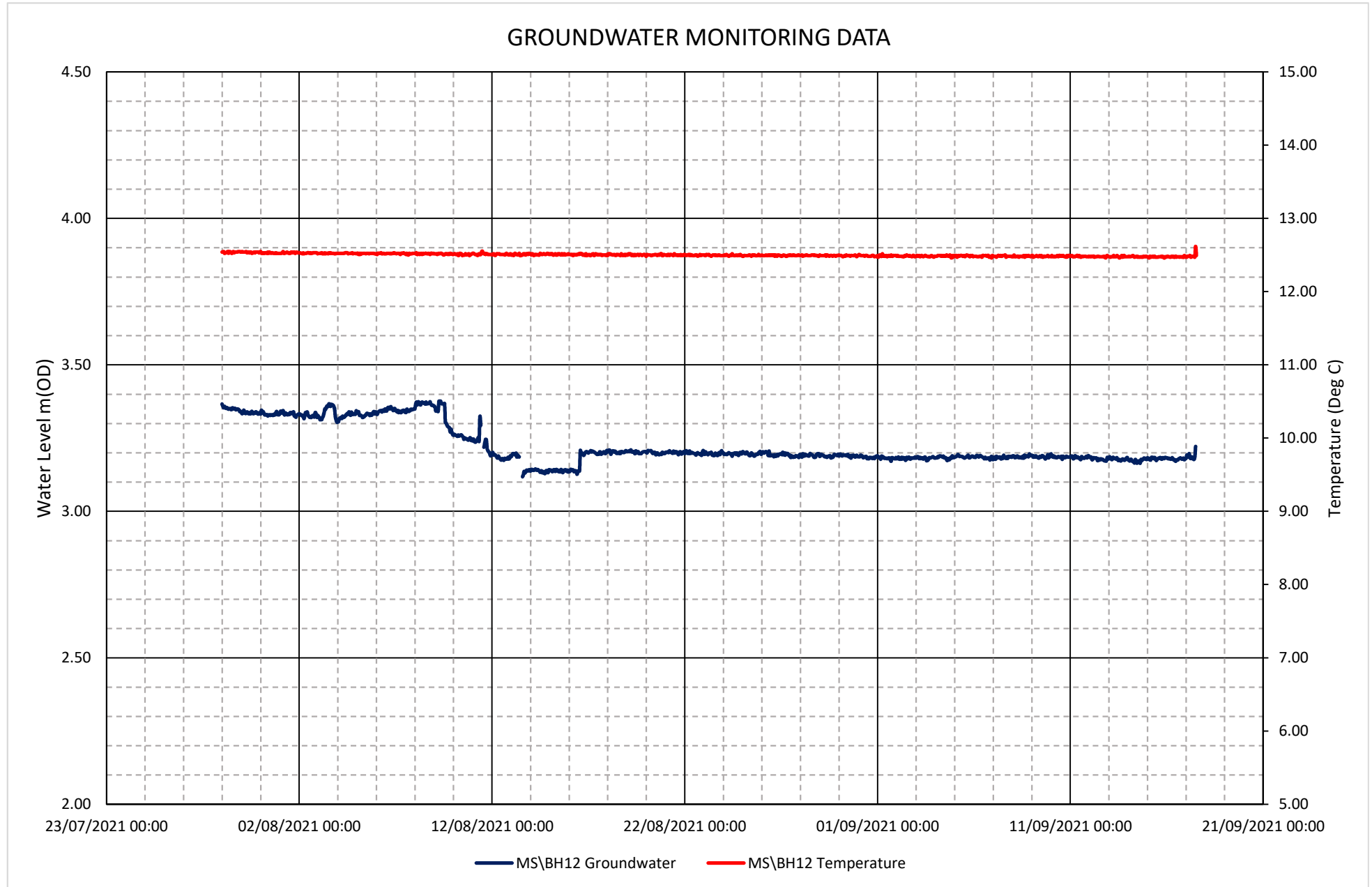
GROUNDWATER MONITORING DATA



Title: Preliminary Onshore Ground Investigation for Net Zero Teeside (NZN) - South Tees Development Corporation (STDC) 'Main Site; and Onshore CO2 Export Pipeline Corridor
Contract No: 4339
Client: AECOM
Printed: 29/11/2021

GROUNDWATER MONITORING DATA

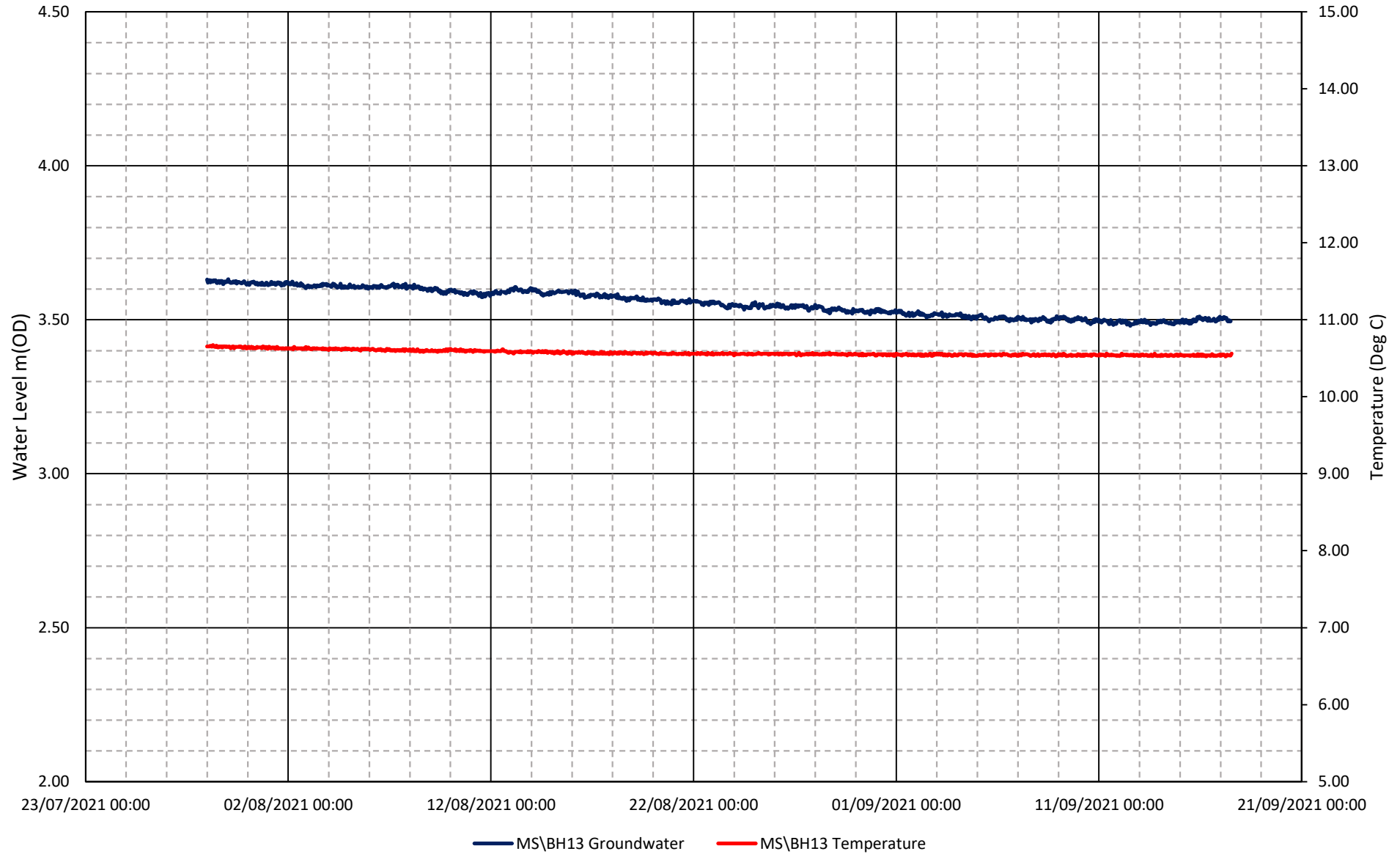
GROUNDWATER MONITORING DATA



Title: Preliminary Onshore Ground Investigation for Net Zero Teeside (NZN) - South Tees Development Corporation (STDC) 'Main Site; and Onshore CO2 Export Pipeline Corridor
Contract No: 4339
Client: AECOM
Printed: 29/11/2021

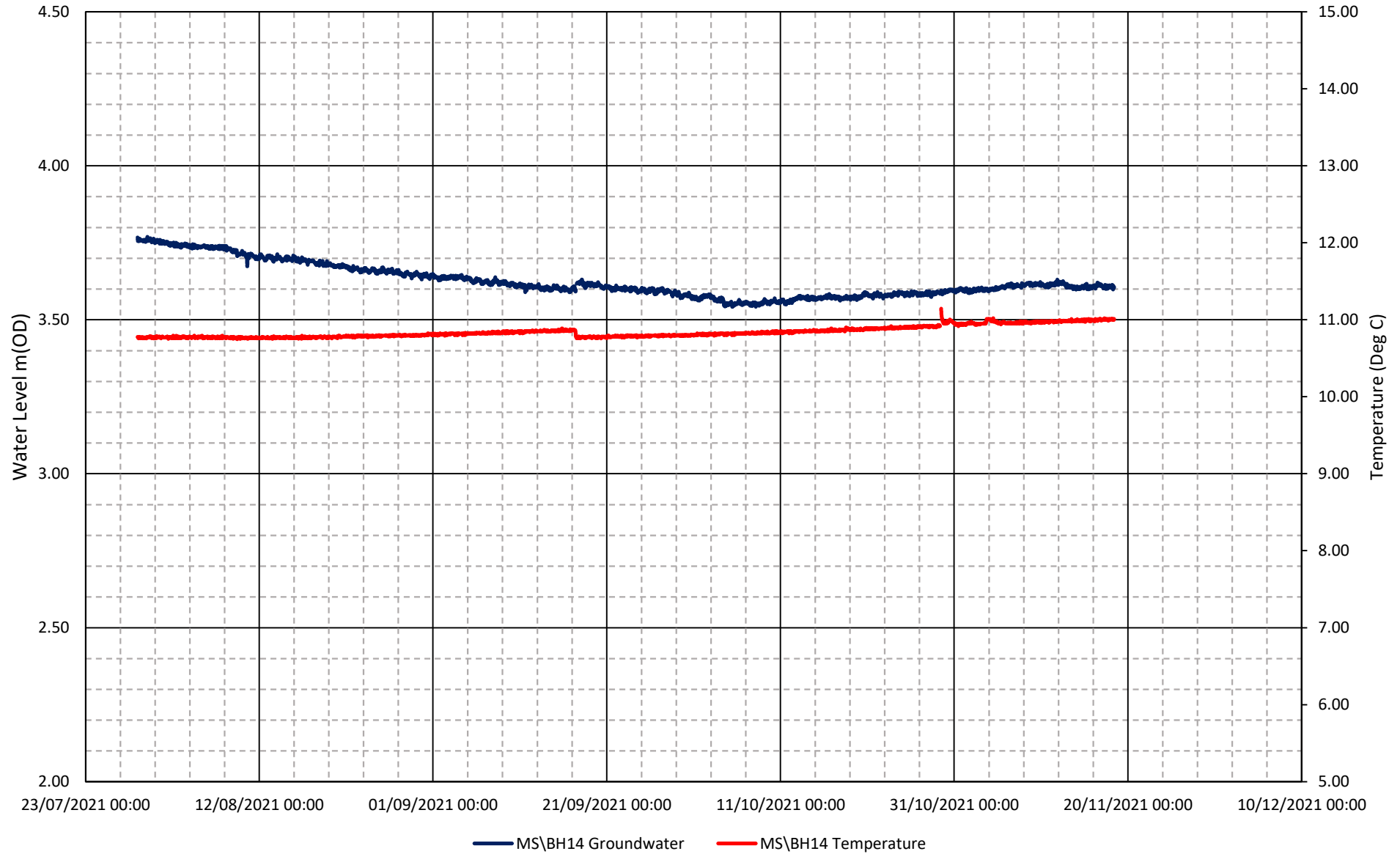
GROUNDWATER MONITORING DATA

GROUNDWATER MONITORING DATA



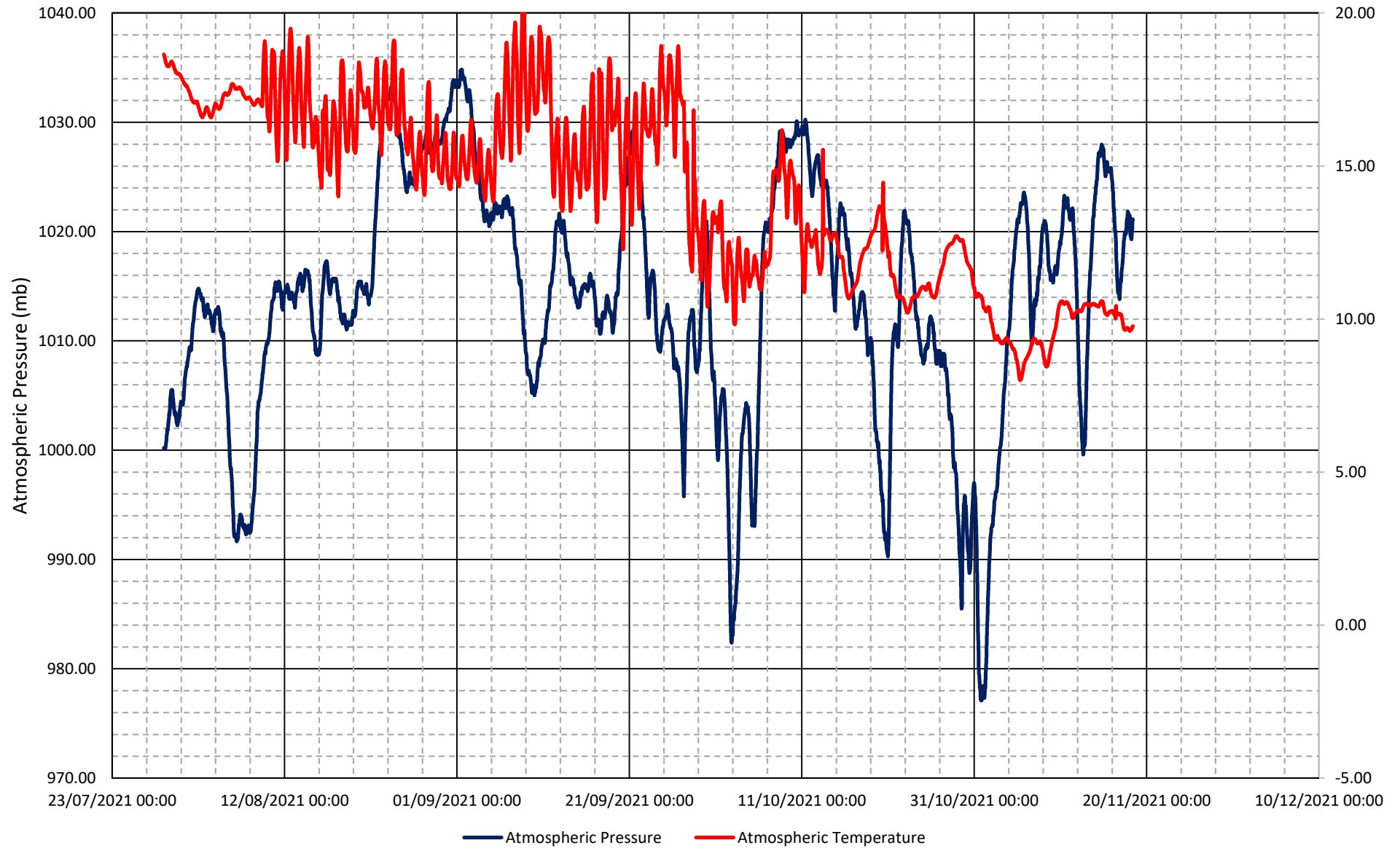
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GROUNDWATER MONITORING DATA



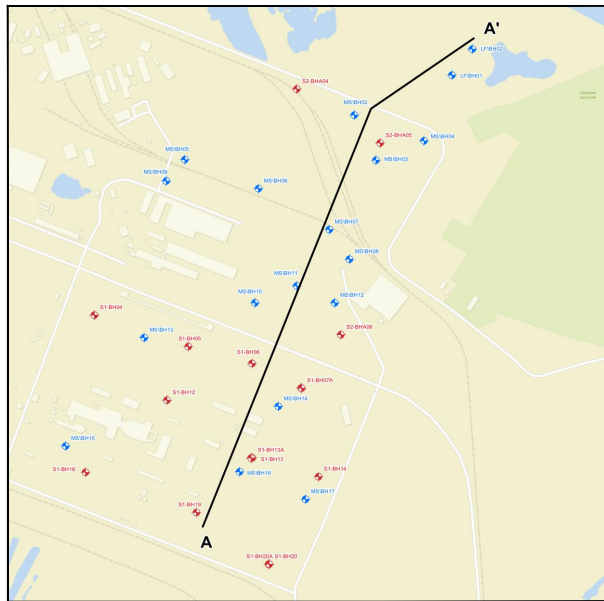
GROUNDWATER MONITORING DATA

ATMOSPHERIC PRESSURE MONITORING DATA



Appendix E

Geological Cross Sections



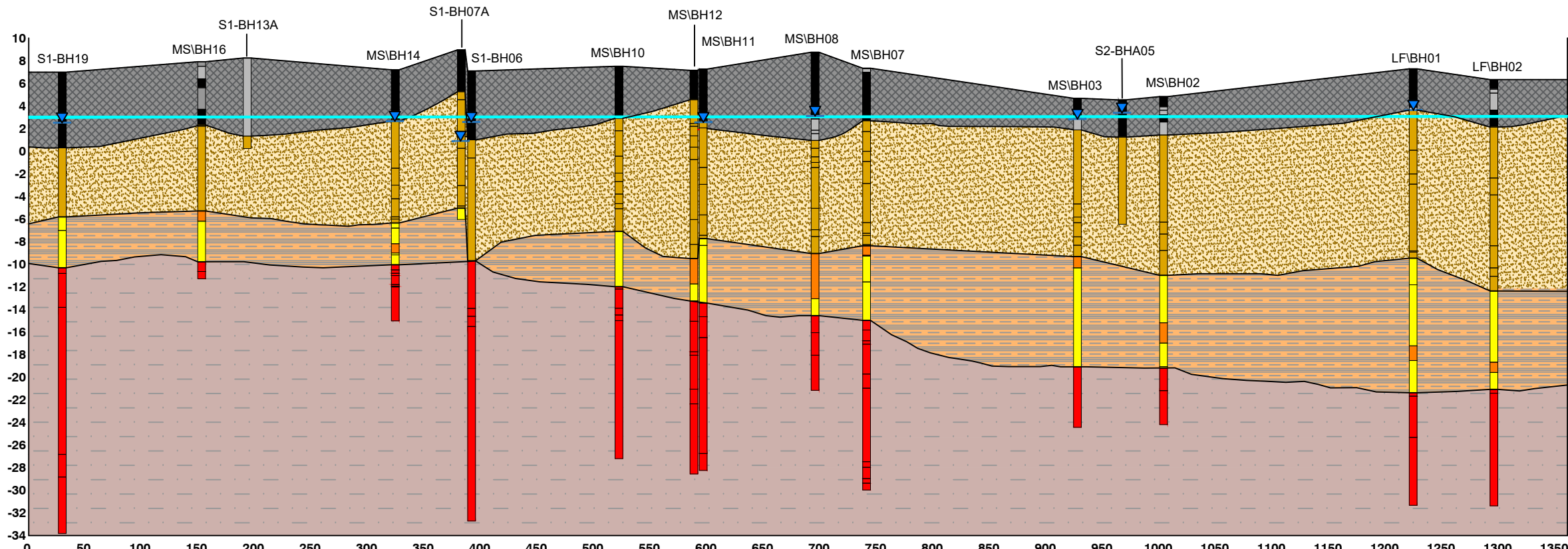
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- MADE GROUND
- TIDAL FLAT DEPOSITS
- GLACIAL DRIFT DEPOSITS
- REDCAR MUDSTONE FORMATION

- MG-G
- MG-C
- MG-SLAG
- TFD
- GLLA
- GLTL
- RCMF

MG - SLAG : MADE GROUND DOMINATED BY SLAG
 MG - G : GRANULAR MADE GROUND
 MG - C : COHESIVE MADE GROUND
 TFD: TIDAL FLAT DEPOSITS (ESTUARINE SANDS, SILTS AND CLAYS)
 GLLA: GLACIAL TILL
 GLTL: GLACIOLACUSTRINE DEPOSITS
 RCMF: REDCAR MUDSTONE FORMATION

SECTION A-A'



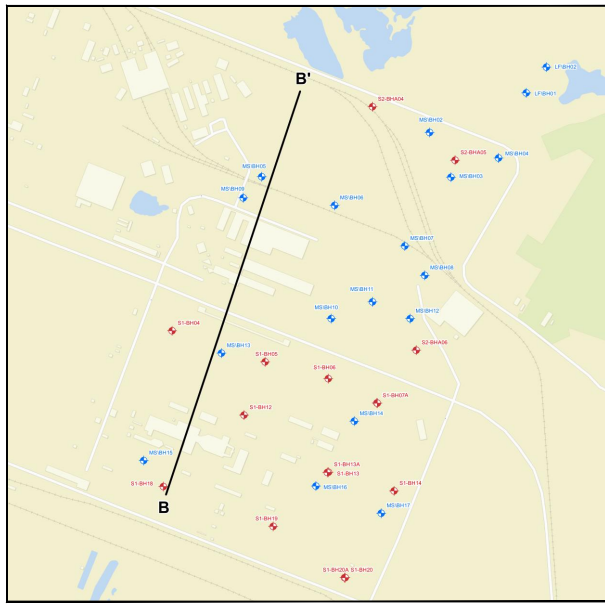
NOTES

REV	DATE	COMMENT	CAD

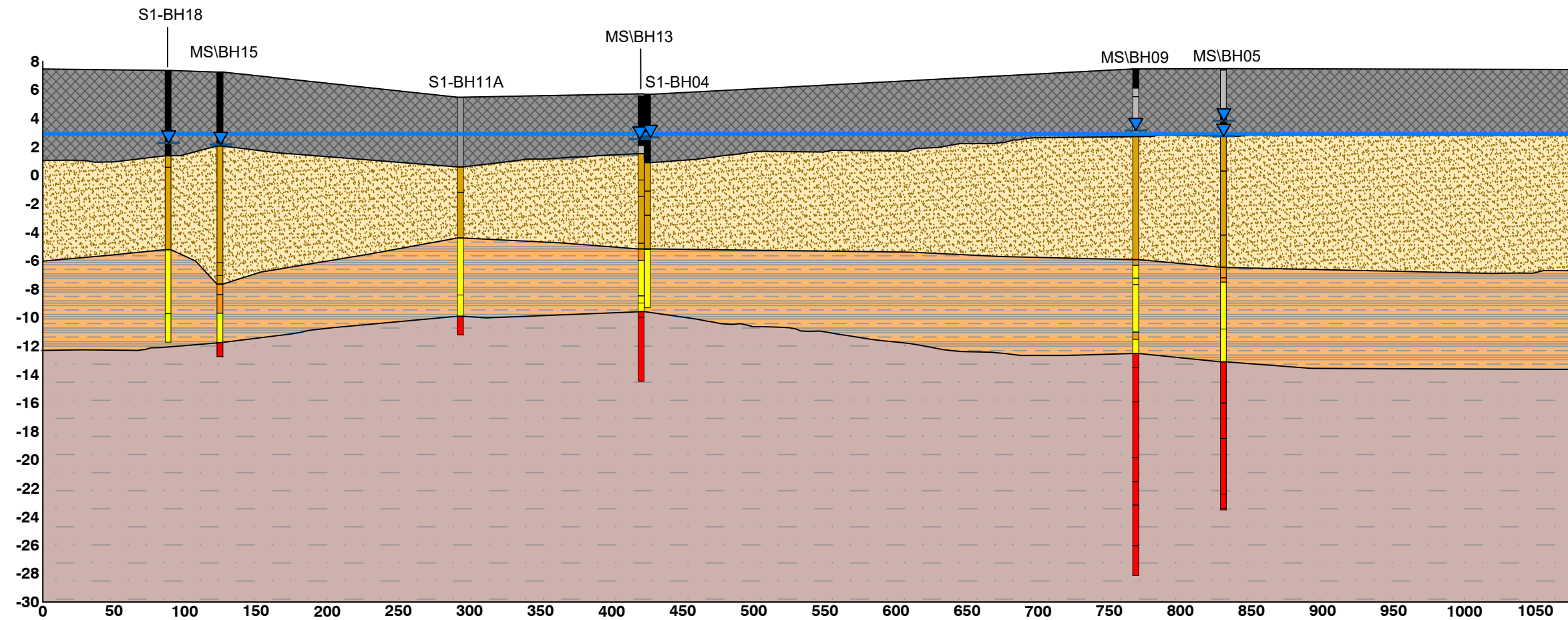
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SITE:	LAND WEST OF WARRENBY
CLIENT:	SOUTH TEES DEVELOPMENT CORPORATION
PROJECT:	10035117 APPENDIX C.1
DATE: 05/05/22	DRAWN: AP
DRG.No.: 10035117-AUK-XX-XX-DR-XX-0532-XX	REV: -
	PRINT: A3

NOTE: ALL ENTITIES SHOWN ON THIS DRAWING ARE TO BE REGARDED AS APPROXIMATE AND ARE INDICATIVE ONLY. NO MEASUREMENTS TAKEN FROM THIS DRAWING SHOULD BE USED FOR THE LOCATION OF INTRUSIVE INVESTIGATION WORKS ON SITE. SYMBOLS FOR BOREHOLES, TRIAL PITS AND OTHER SPECIFIC FEATURES ARE REPRESENTATIONS OF LOCATION ONLY AND UNLESS OTHERWISE SPECIFIED, DO NOT REPRESENT THE TRUE SIZE OF THE FEATURE. - CONTACT ARCADIS UK IN CASE OF ANY QUERY





SECTION B-B'



KEY

- MADE GROUND
- TIDAL FLAT DEPOSITS
- GLACIAL DRIFT DEPOSITS
- REDCAR MUDSTONE FORMATION

MG-G
 MG-C
 MG-SLAG
 TFD
 GLLA
 GLTL
 RCMF

MG - SLAG : MADE GROUND DOMINATED BY SLAG
 MG - G : GRANULAR MADE GROUND
 MG - C : COHESIVE MADE GROUND
 TFD: TIDAL FLAT DEPOSITS (ESTUARINE SANDS, SILTS AND CLAYS)
 GLTL: GLACIAL TILL
 GLLA: GLACIOLACUSTRINE DEPOSITS
 RCMF: REDCAR MUDSTONE FORMATION

NOTES

REV	DATE	COMMENT	CAD

TITLE: CROSS SECTION B-B'

SITE: LAND WEST OF WARRENBY

CLIENT: SOUTH TEES DEVELOPMENT CORPORATION

PROJECT: 10035117 APPENDIX C.2

DATE: 05/05/22 DRAWN: AP REV: -

DRG.No.: 10035117-AUK-XX-XX-DR-XX-0533-XX PRINT: A3



NOTE: ALL ENTITIES SHOWN ON THIS DRAWING ARE TO BE REGARDED AS APPROXIMATE AND ARE INDICATIVE ONLY. NO MEASUREMENTS TAKEN FROM THIS DRAWING SHOULD BE USED FOR THE LOCATION OF INTRUSIVE INVESTIGATION WORKS ON SITE. SYMBOLS FOR BOREHOLES, TRIAL PITS AND OTHER SPECIFIC FEATURES ARE REPRESENTATIONS OF LOCATION ONLY AND UNLESS OTHERWISE SPECIFIED, DO NOT REPRESENT THE TRUE SIZE OF THE FEATURE. - CONTACT ARCADIS UK IN CASE OF ANY QUERY

Appendix F

Groundwater Elevation Data

Appendix F, Table 1: Groundwater Elevation Levels by Geological Unit

Geology Screened	Date	Location Code	Reference Elevation	Top of Screen Depth	Bottom of Screen Depth	Water Level (m AOD)	Water Depth (m bTOC)	Comments
MG	19/10/2017	S1-BH04	5.68	1	5	3.46	2.22	No Comment
MG	20/10/2017	S1-BH04	5.68	1	5	3.48	2.2	No Comment
MG	23/10/2017	S1-BH04	5.68	1	5	3.53	2.15	No Comment
MG	24/10/2017	S1-BH04	5.68	1	5	3.55	2.13	No Comment
MG	25/10/2017	S1-BH04	5.68	1	5	3.5	2.18	No Comment
MG	26/10/2017	S1-BH04	5.68	1	5	3.38	2.3	No Comment
MG	27/10/2017	S1-BH04	5.68	1	5	3.38	2.3	No Comment
MG	30/10/2017	S1-BH04	5.68	1	5	3.39	2.29	No Comment
MG	31/10/2017	S1-BH04	5.68	1	5	3.4	2.28	No Comment
MG	01/11/2017	S1-BH04	5.68	1	5	3.38	2.3	No Comment
MG	02/11/2017	S1-BH04	5.68	1	5	3.38	2.3	No Comment
MG	03/11/2017	S1-BH04	5.68	1	5	3.38	2.3	No Comment
MG	06/11/2017	S1-BH04	5.68	1	5	3.37	2.31	No Comment
MG	07/11/2017	S1-BH04	5.68	1	5	3.38	2.3	No Comment
MG	08/11/2017	S1-BH04	5.68	1	5	3.38	2.3	No Comment
MG	09/11/2017	S1-BH04	5.68	1	5	3.37	2.31	No Comment
MG	10/11/2017	S1-BH04	5.68	1	5	3.38	2.3	No Comment
MG	13/11/2017	S1-BH04	5.68	1	5	3.38	2.3	No Comment
MG	21/12/2017	S1-BH04	5.68	1	5	3.68	2	No Comment
MG	21/02/2018	S1-BH04	5.68	1	5	3.72	1.96	No Comment
MG	01/05/2018	S1-BH04	5.68	1	5	3.65	2.03	No Comment
MG	17/10/2017	S1-BH05	5.72	1	5	3.72	2	No Comment
MG	18/10/2017	S1-BH05	5.72	1	5	3.71	2.01	No Comment
MG	19/10/2017	S1-BH05	5.72	1	5	3.74	1.98	No Comment
MG	20/10/2017	S1-BH05	5.72	1	5	3.72	2	No Comment
MG	23/10/2017	S1-BH05	5.72	1	5	3.72	2	No Comment
MG	24/10/2017	S1-BH05	5.72	1	5	3.7	2.02	No Comment
MG	25/10/2017	S1-BH05	5.72	1	5	3.72	2	No Comment
MG	26/10/2017	S1-BH05	5.72	1	5	3.72	2	No Comment
MG	27/10/2017	S1-BH05	5.72	1	5	3.71	2.01	No Comment
MG	30/10/2017	S1-BH05	5.72	1	5	3.72	2	No Comment
MG	31/10/2017	S1-BH05	5.72	1	5	3.69	2.03	No Comment
MG	01/11/2017	S1-BH05	5.72	1	5	3.68	2.04	No Comment
MG	02/11/2017	S1-BH05	5.72	1	5	3.68	2.04	No Comment
MG	03/11/2017	S1-BH05	5.72	1	5	3.67	2.05	No Comment
MG	06/11/2017	S1-BH05	5.72	1	5	3.67	2.05	No Comment
MG	07/11/2017	S1-BH05	5.72	1	5	3.68	2.04	No Comment
MG	08/11/2017	S1-BH05	5.72	1	5	3.68	2.04	No Comment
MG	09/11/2017	S1-BH05	5.72	1	5	3.67	2.05	No Comment
MG	10/11/2017	S1-BH05	5.72	1	5	3.69	2.03	No Comment
MG	13/11/2017	S1-BH05	5.72	1	5	3.7	2.02	No Comment
MG	15/12/2017	S1-BH05	5.72	1	5	3.87	1.85	No Comment
MG	21/12/2017	S1-BH05	5.72	1	5	3.92	1.8	No Comment
MG	21/02/2018	S1-BH05	5.72	1	5	3.92	1.8	No Comment
MG	01/05/2018	S1-BH05	5.72	1	5	4.04	1.68	No Comment
MG	19/10/2017	S1-BH06	7.09	1	6	3.51	3.58	No Comment
MG	20/10/2017	S1-BH06	7.09	1	6	3.51	3.58	No Comment
MG	23/10/2017	S1-BH06	7.09	1	6	3.54	3.55	No Comment
MG	24/10/2017	S1-BH06	7.09	1	6	3.53	3.56	No Comment
MG	25/10/2017	S1-BH06	7.09	1	6	3.54	3.55	No Comment
MG	26/10/2017	S1-BH06	7.09	1	6	3.49	3.6	No Comment
MG	27/10/2017	S1-BH06	7.09	1	6	3.51	3.58	No Comment
MG	30/10/2017	S1-BH06	7.09	1	6	3.52	3.57	No Comment
MG	31/10/2017	S1-BH06	7.09	1	6	3.51	3.58	No Comment
MG	01/11/2017	S1-BH06	7.09	1	6	3.49	3.6	No Comment
MG	02/11/2017	S1-BH06	7.09	1	6	3.52	3.57	No Comment
MG	03/11/2017	S1-BH06	7.09	1	6	3.51	3.58	No Comment
MG	06/11/2017	S1-BH06	7.09	1	6	3.51	3.58	No Comment
MG	07/11/2017	S1-BH06	7.09	1	6	3.52	3.57	No Comment
MG	08/11/2017	S1-BH06	7.09	1	6	3.51	3.58	No Comment
MG	09/11/2017	S1-BH06	7.09	1	6	3.5	3.59	No Comment
MG	10/11/2017	S1-BH06	7.09	1	6	3.51	3.58	No Comment
MG	13/11/2017	S1-BH06	7.09	1	6	3.52	3.57	No Comment
MG	14/12/2017	S1-BH06	7.09	1	6	3.79	3.3	No Comment
MG	21/12/2017	S1-BH06	7.09	1	6	3.79	3.3	No Comment
MG	21/02/2018	S1-BH06	7.09	1	6	3.62	3.47	No Comment
MG	01/05/2018	S1-BH06	7.09	1	6	3.99	3.1	No Comment

Appendix F, Table 1: Groundwater Elevation Levels by Geological Unit

Geology Screened	Date	Location Code	Reference Elevation	Top of Screen Depth	Bottom of Screen Depth	Water Level (m AOD)	Water Depth (m bTOC)	Comments
MG	13/10/2017	S1-BH12	5.73	1	5	3.83	1.9	No Comment
MG	16/10/2017	S1-BH12	5.73	1	5	3.83	1.9	No Comment
MG	17/10/2017	S1-BH12	5.73	1	5	3.82	1.91	No Comment
MG	18/10/2017	S1-BH12	5.73	1	5	3.83	1.9	No Comment
MG	19/10/2017	S1-BH12	5.73	1	5	3.82	1.91	No Comment
MG	20/10/2017	S1-BH12	5.73	1	5	3.82	1.91	No Comment
MG	23/10/2017	S1-BH12	5.73	1	5	3.78	1.95	No Comment
MG	24/10/2017	S1-BH12	5.73	1	5	3.75	1.98	No Comment
MG	25/10/2017	S1-BH12	5.73	1	5	3.78	1.95	No Comment
MG	26/10/2017	S1-BH12	5.73	1	5	3.73	2	No Comment
MG	27/10/2017	S1-BH12	5.73	1	5	3.75	1.98	No Comment
MG	30/10/2017	S1-BH12	5.73	1	5	3.74	1.99	No Comment
MG	31/10/2017	S1-BH12	5.73	1	5	3.76	1.97	No Comment
MG	01/11/2017	S1-BH12	5.73	1	5	3.75	1.98	No Comment
MG	02/11/2017	S1-BH12	5.73	1	5	3.76	1.97	No Comment
MG	03/11/2017	S1-BH12	5.73	1	5	3.75	1.98	No Comment
MG	06/11/2017	S1-BH12	5.73	1	5	3.75	1.98	No Comment
MG	07/11/2017	S1-BH12	5.73	1	5	3.74	1.99	No Comment
MG	08/11/2017	S1-BH12	5.73	1	5	3.75	1.98	No Comment
MG	09/11/2017	S1-BH12	5.73	1	5	3.76	1.97	No Comment
MG	10/11/2017	S1-BH12	5.73	1	5	3.75	1.98	No Comment
MG	15/12/2017	S1-BH12	5.73	1	5	4.13	1.6	No Comment
MG	21/12/2017	S1-BH12	5.73	1	5	4.03	1.7	No Comment
MG	21/02/2018	S1-BH12	5.73	1	5	3.63	2.1	No Comment
MG	01/05/2018	S1-BH12	5.73	1	5	4.41	1.32	No Comment
MG	10/10/2017	S1-BH14	8.31	1	8	3.51	4.8	No Comment
MG	11/10/2017	S1-BH14	8.31	1	8	3.56	4.75	No Comment
MG	12/10/2017	S1-BH14	8.31	1	8	3.48	4.83	No Comment
MG	13/10/2017	S1-BH14	8.31	1	8	3.53	4.78	No Comment
MG	16/10/2017	S1-BH14	8.31	1	8	3.5	4.81	No Comment
MG	17/10/2017	S1-BH14	8.31	1	8	3.52	4.79	No Comment
MG	18/10/2017	S1-BH14	8.31	1	8	3.55	4.76	No Comment
MG	19/10/2017	S1-BH14	8.31	1	8	3.55	4.76	No Comment
MG	20/10/2017	S1-BH14	8.31	1	8	3.61	4.7	No Comment
MG	23/10/2017	S1-BH14	8.31	1	8	3.48	4.83	No Comment
MG	24/10/2017	S1-BH14	8.31	1	8	3.5	4.81	No Comment
MG	25/10/2017	S1-BH14	8.31	1	8	3.55	4.76	No Comment
MG	26/10/2017	S1-BH14	8.31	1	8	3.46	4.85	No Comment
MG	27/10/2017	S1-BH14	8.31	1	8	3.48	4.83	No Comment
MG	30/10/2017	S1-BH14	8.31	1	8	3.47	4.84	No Comment
MG	31/10/2017	S1-BH14	8.31	1	8	3.48	4.83	No Comment
MG	01/11/2017	S1-BH14	8.31	1	8	3.49	4.82	No Comment
MG	02/11/2017	S1-BH14	8.31	1	8	3.49	4.82	No Comment
MG	03/11/2017	S1-BH14	8.31	1	8	3.48	4.83	No Comment
MG	06/11/2017	S1-BH14	8.31	1	8	3.47	4.84	No Comment
MG	07/11/2017	S1-BH14	8.31	1	8	3.46	4.85	No Comment
MG	08/11/2017	S1-BH14	8.31	1	8	3.47	4.84	No Comment
MG	09/11/2017	S1-BH14	8.31	1	8	3.46	4.85	No Comment
MG	10/11/2017	S1-BH14	8.31	1	8	3.47	4.84	No Comment
MG	13/11/2017	S1-BH14	8.31	1	8	3.47	4.84	No Comment
MG	14/12/2017	S1-BH14	8.31	1	8	3.71	4.6	No Comment
MG	21/12/2017	S1-BH14	8.31	1	8	3.71	4.6	No Comment
MG	21/02/2018	S1-BH14	8.31	1	8	3.71	4.6	No Comment
MG	01/05/2018	S1-BH14	8.31	1	8	3.96	4.35	No Comment
MG	23/10/2017	S1-BH18	7.36	1	6	3.66	3.7	No Comment
MG	24/10/2017	S1-BH18	7.36	1	6	3.71	3.65	No Comment
MG	25/10/2017	S1-BH18	7.36	1	6	3.74	3.62	No Comment
MG	26/10/2017	S1-BH18	7.36	1	6	3.66	3.7	No Comment
MG	27/10/2017	S1-BH18	7.36	1	6	3.68	3.68	No Comment
MG	30/10/2017	S1-BH18	7.36	1	6	3.67	3.69	No Comment
MG	31/10/2017	S1-BH18	7.36	1	6	3.66	3.7	No Comment
MG	01/11/2017	S1-BH18	7.36	1	6	3.68	3.68	No Comment
MG	02/11/2017	S1-BH18	7.36	1	6	3.68	3.68	No Comment
MG	03/11/2017	S1-BH18	7.36	1	6	3.68	3.68	No Comment
MG	06/11/2017	S1-BH18	7.36	1	6	3.69	3.67	No Comment
MG	07/11/2017	S1-BH18	7.36	1	6	3.67	3.69	No Comment
MG	08/11/2017	S1-BH18	7.36	1	6	3.68	3.68	No Comment
MG	09/11/2017	S1-BH18	7.36	1	6	3.69	3.67	No Comment
MG	10/11/2017	S1-BH18	7.36	1	6	3.69	3.67	No Comment
MG	13/11/2017	S1-BH18	7.36	1	6	3.68	3.68	No Comment
MG	28/11/2017	S1-BH18	7.36	1	6	3.66	3.7	No Comment
MG	02/01/2018	S1-BH18	7.36	1	6	4.16	3.2	No Comment
MG	21/02/2018	S1-BH18	7.36	1	6	4.06	3.3	No Comment
MG	01/05/2018	S1-BH18	7.36	1	6	4.44	2.92	No Comment

Appendix F, Table 1: Groundwater Elevation Levels by Geological Unit

Geology Screened	Date	Location Code	Reference Elevation	Top of Screen Depth	Bottom of Screen Depth	Water Level (m AOD)	Water Depth (m bTOC)	Comments
MG	20/10/2017	S1-BH19	6.98	1	7	3.73	3.25	No Comment
MG	23/10/2017	S1-BH19	6.98	1	7	3.73	3.25	No Comment
MG	24/10/2017	S1-BH19	6.98	1	7	3.72	3.26	No Comment
MG	25/10/2017	S1-BH19	6.98	1	7	3.68	3.3	No Comment
MG	26/10/2017	S1-BH19	6.98	1	7	3.63	3.35	No Comment
MG	27/10/2017	S1-BH19	6.98	1	7	3.64	3.34	No Comment
MG	30/10/2017	S1-BH19	6.98	1	7	3.65	3.33	No Comment
MG	31/10/2017	S1-BH19	6.98	1	7	3.66	3.32	No Comment
MG	01/11/2017	S1-BH19	6.98	1	7	3.65	3.33	No Comment
MG	02/11/2017	S1-BH19	6.98	1	7	3.65	3.33	No Comment
MG	03/11/2017	S1-BH19	6.98	1	7	3.64	3.34	No Comment
MG	06/11/2017	S1-BH19	6.98	1	7	3.63	3.35	No Comment
MG	07/11/2017	S1-BH19	6.98	1	7	3.63	3.35	No Comment
MG	08/11/2017	S1-BH19	6.98	1	7	3.62	3.36	No Comment
MG	09/11/2017	S1-BH19	6.98	1	7	3.6	3.38	No Comment
MG	10/11/2017	S1-BH19	6.98	1	7	3.61	3.37	No Comment
MG	13/11/2017	S1-BH19	6.98	1	7	3.61	3.37	No Comment
MG	28/11/2017	S1-BH19	6.98	1	7	3.73	3.25	No Comment
MG	02/01/2018	S1-BH19	6.98	1	7	4.08	2.9	No Comment
MG	21/02/2018	S1-BH19	6.98	1	7	3.98	3	No Comment
MG	01/05/2018	S1-BH19	6.98	1	7	4.26	2.72	No Comment
MG	08/11/2017	S2-BHA04S	7.53	1	4.5	2.78	4.75	No Comment
MG	09/11/2017	S2-BHA04S	7.53	1	4.5	2.78	4.75	No Comment
MG	10/11/2017	S2-BHA04S	7.53	1	4.5	2.78	4.75	No Comment
MG	13/11/2017	S2-BHA04S	7.53	1	4.5	2.8	4.73	No Comment
MG	18/12/2017	S2-BHA04S	7.53	1	4.5	2.93	4.6	No Comment
MG	03/01/2018	S2-BHA04S	7.53	1	4.5	2.93	4.6	No Comment
MG	22/02/2018	S2-BHA04S	7.53	1	4.5	2.94	4.59	No Comment
MG	30/04/2018	S2-BHA04S	7.53	1	4.5	2.92	4.61	No Comment
MG	08/07/2021	MS\BH17S	9.25	2	5	Dry	Dry	No Comment
MG	09/07/2021	MS\BH17S	9.25	2	5	Dry	Dry	No Comment
MG	12/07/2021	MS\BH17S	9.25	2	5	Dry	Dry	No Comment
MG	13/07/2021	MS\BH17S	9.25	2	5	Dry	Dry	No Comment
MG	09/08/2021	MS\BH17S	9.25	2	5	Dry	Dry	No Comment
MG	17/09/2021	MS\BH17S	9.25	2	5	Dry	Dry	No Comment
MG	12/10/2021	MS\BH17S	9.25	2	5	Damp	Damp	No Comment
MG	15/11/2021	MS\BH17S	9.25	2	5	Dry	Dry	No Comment
SMG	30/06/2021	MS\BH03S	4.67	1.2	2.7	3.32	1.35	No LNAPL/DNAPL detected.
SMG	01/07/2021	MS\BH03S	4.67	1.2	2.7	3.29	1.38	No LNAPL/DNAPL detected.
SMG	02/07/2021	MS\BH03S	4.67	1.2	2.7	3.31	1.36	No LNAPL/DNAPL detected.
SMG	05/07/2021	MS\BH03S	4.67	1.2	2.7	3.32	1.35	No LNAPL/DNAPL detected.
SMG	06/07/2021	MS\BH03S	4.67	1.2	2.7	3.32	1.35	No LNAPL/DNAPL detected.
SMG	07/07/2021	MS\BH03S	4.67	1.2	2.7	3.32	1.35	No LNAPL/DNAPL detected.
SMG	08/07/2021	MS\BH03S	4.67	1.2	2.7	3.32	1.35	No LNAPL/DNAPL detected.
SMG	09/07/2021	MS\BH03S	4.67	1.2	2.7	3.27	1.4	No LNAPL/DNAPL detected.
SMG	12/07/2021	MS\BH03S	4.67	1.2	2.7	2.97	1.7	No LNAPL/DNAPL detected.
SMG	13/07/2021	MS\BH03S	4.67	1.2	2.7	2.97	1.7	No LNAPL/DNAPL detected.
SMG	09/08/2021	MS\BH03S	4.67	1.2	2.7	2.78	1.89	No LNAPL/DNAPL detected.
SMG	17/09/2021	MS\BH03S	4.67	1.2	2.7	2.7	1.97	No LNAPL/DNAPL detected.
SMG	12/10/2021	MS\BH03S	4.67	1.2	2.7	2.8	1.87	No LNAPL/DNAPL detected.
SMG	15/11/2021	MS\BH03S	4.67	1.2	2.7	2.76	1.91	No LNAPL/DNAPL detected.
SMG	13/07/2021	MS\BH07S	7.33	1.7	4.6	3.12	4.21	No LNAPL/DNAPL detected.
SMG	09/08/2021	MS\BH07S	7.33	1.7	4.6	3.04	4.29	No LNAPL/DNAPL detected.
SMG	17/09/2021	MS\BH07S	7.33	1.7	4.6	3.02	4.31	No LNAPL/DNAPL detected.
SMG	12/10/2021	MS\BH07S	7.33	1.7	4.6	Damp	Damp	No LNAPL/DNAPL detected.
SMG	15/11/2021	MS\BH07S	7.33	1.7	4.6	2.94	4.39	No LNAPL/DNAPL detected.

Appendix F, Table 1: Groundwater Elevation Levels by Geological Unit

Geology Screened	Date	Location Code	Reference Elevation	Top of Screen Depth	Bottom of Screen Depth	Water Level (m AOD)	Water Depth (m bTOC)	Comments
SMG	14/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	15/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	16/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	17/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	18/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	21/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	22/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	23/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	24/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	25/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	28/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	29/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	30/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	01/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	02/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	05/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	06/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	07/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	08/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	09/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	12/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	13/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	09/08/2021	MS\BH08S	8.745	1.2	5.7	Damp	Damp	No LNAPL/DNAPL detected.
SMG	17/09/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	12/10/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	15/11/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
SMG	09/08/2021	MS\BH09S	7.466	1.7	4.5	Damp	Damp	No LNAPL/DNAPL detected.
SMG	17/09/2021	MS\BH09S	7.466	1.7	4.5	Dry	Dry	No LNAPL/DNAPL detected.
SMG	12/10/2021	MS\BH09S	7.466	1.7	4.5	Dry	Dry	No LNAPL/DNAPL detected.
SMG	15/11/2021	MS\BH09S	7.466	1.7	4.5	Dry	Dry	No LNAPL/DNAPL detected.
SMG	16/06/2021	MS\BH11S	7.26	1.2	4.4	3.58	3.68	No LNAPL/DNAPL detected.
SMG	17/06/2021	MS\BH11S	7.26	1.2	4.4	3.56	3.7	No LNAPL/DNAPL detected.
SMG	18/06/2021	MS\BH11S	7.26	1.2	4.4	3.54	3.72	No LNAPL/DNAPL detected.
SMG	21/06/2021	MS\BH11S	7.26	1.2	4.4	3.55	3.71	No LNAPL/DNAPL detected.
SMG	22/06/2021	MS\BH11S	7.26	1.2	4.4	3.54	3.72	No LNAPL/DNAPL detected.
SMG	23/06/2021	MS\BH11S	7.26	1.2	4.4	3.51	3.75	No LNAPL/DNAPL detected.
SMG	24/06/2021	MS\BH11S	7.26	1.2	4.4	3.5	3.76	No LNAPL/DNAPL detected.
SMG	25/06/2021	MS\BH11S	7.26	1.2	4.4	3.26	4	No LNAPL/DNAPL detected.
SMG	28/06/2021	MS\BH11S	7.26	1.2	4.4	3.48	3.78	No LNAPL/DNAPL detected.
SMG	29/06/2021	MS\BH11S	7.26	1.2	4.4	3.48	3.78	No LNAPL/DNAPL detected.
SMG	30/06/2021	MS\BH11S	7.26	1.2	4.4	3.48	3.78	No LNAPL/DNAPL detected.
SMG	01/07/2021	MS\BH11S	7.26	1.2	4.4	3.48	3.78	No LNAPL/DNAPL detected.
SMG	02/07/2021	MS\BH11S	7.26	1.2	4.4	3.48	3.78	No LNAPL/DNAPL detected.
SMG	05/07/2021	MS\BH11S	7.26	1.2	4.4	3.46	3.8	No LNAPL/DNAPL detected.
SMG	06/07/2021	MS\BH11S	7.26	1.2	4.4	3.46	3.8	No LNAPL/DNAPL detected.
SMG	07/07/2021	MS\BH11S	7.26	1.2	4.4	3.46	3.8	No LNAPL/DNAPL detected.
SMG	08/07/2021	MS\BH11S	7.26	1.2	4.4	3.46	3.8	No LNAPL/DNAPL detected.
SMG	09/07/2021	MS\BH11S	7.26	1.2	4.4	3.51	3.75	No LNAPL/DNAPL detected.
SMG	12/07/2021	MS\BH11S	7.26	1.2	4.4	3.56	3.7	No LNAPL/DNAPL detected.
SMG	13/07/2021	MS\BH11S	7.26	1.2	4.4	3.56	3.7	No LNAPL/DNAPL detected.
SMG	09/08/2021	MS\BH11S	7.26	1.2	4.4	3.31	3.95	No LNAPL/DNAPL detected.
SMG	17/09/2021	MS\BH11S	7.26	1.2	4.4	Dry	Dry	No LNAPL/DNAPL detected.
SMG	12/10/2021	MS\BH11S	7.26	1.2	4.4	Dry	Dry	No LNAPL/DNAPL detected.
SMG	15/11/2021	MS\BH11S	7.26	1.2	4.4	Dry	Dry	No LNAPL/DNAPL detected.

Appendix F, Table 1: Groundwater Elevation Levels by Geological Unit

Geology Screened	Date	Location Code	Reference Elevation	Top of Screen Depth	Bottom of Screen Depth	Water Level (m AOD)	Water Depth (m bTOC)	Comments
SMG	05/07/2021	MS\BH15S	7.25	2	5	3.95	3.3	No LNAPL/DNAPL detected.
SMG	06/07/2021	MS\BH15S	7.25	2	5	3.95	3.3	No LNAPL/DNAPL detected.
SMG	07/07/2021	MS\BH15S	7.25	2	5	3.95	3.3	No LNAPL/DNAPL detected.
SMG	08/07/2021	MS\BH15S	7.25	2	5	3.95	3.3	No LNAPL/DNAPL detected.
SMG	09/07/2021	MS\BH15S	7.25	2	5	3.95	3.3	No LNAPL/DNAPL detected.
SMG	12/07/2021	MS\BH15S	7.25	2	5	3.95	3.3	No LNAPL/DNAPL detected.
SMG	13/07/2021	MS\BH15S	7.25	2	5	3.95	3.3	No LNAPL/DNAPL detected.
SMG	09/08/2021	MS\BH15S	7.25	2	5	3.97	3.28	No LNAPL/DNAPL detected.
SMG	17/09/2021	MS\BH15S	7.25	2	5	3.84	3.41	No LNAPL/DNAPL detected.
SMG	12/10/2021	MS\BH15S	7.25	2	5	3.76	3.49	No LNAPL/DNAPL detected.
SMG	15/11/2021	MS\BH15S	7.25	2	5	3.72	3.53	No LNAPL/DNAPL detected.
MG/TFD	06/10/2017	S1-BH07A	8.95	0.95	7.05	4.97	3.98	No Comment
MG/TFD	09/10/2017	S1-BH07A	8.95	0.95	7.05	5.21	3.74	No Comment
MG/TFD	10/10/2017	S1-BH07A	8.95	0.95	7.05	5.21	3.74	No Comment
MG/TFD	11/10/2017	S1-BH07A	8.95	0.95	7.05	5.17	3.78	No Comment
MG/TFD	12/10/2017	S1-BH07A	8.95	0.95	7.05	5.19	3.76	No Comment
MG/TFD	13/10/2017	S1-BH07A	8.95	0.95	7.05	5.19	3.76	No Comment
MG/TFD	16/10/2017	S1-BH07A	8.95	0.95	7.05	5.17	3.78	No Comment
MG/TFD	17/10/2017	S1-BH07A	8.95	0.95	7.05	5.15	3.8	No Comment
MG/TFD	18/10/2017	S1-BH07A	8.95	0.95	7.05	5.14	3.81	No Comment
MG/TFD	19/10/2017	S1-BH07A	8.95	0.95	7.05	5.16	3.79	No Comment
MG/TFD	20/10/2017	S1-BH07A	8.95	0.95	7.05	5.15	3.8	No Comment
MG/TFD	23/10/2017	S1-BH07A	8.95	0.95	7.05	5.14	3.81	No Comment
MG/TFD	24/10/2017	S1-BH07A	8.95	0.95	7.05	5.16	3.79	No Comment
MG/TFD	25/10/2017	S1-BH07A	8.95	0.95	7.05	5.15	3.8	No Comment
MG/TFD	26/10/2017	S1-BH07A	8.95	0.95	7.05	5.19	3.76	No Comment
MG/TFD	27/10/2017	S1-BH07A	8.95	0.95	7.05	5.2	3.75	No Comment
MG/TFD	30/10/2017	S1-BH07A	8.95	0.95	7.05	5.23	3.72	No Comment
MG/TFD	31/10/2017	S1-BH07A	8.95	0.95	7.05	5.21	3.74	No Comment
MG/TFD	01/11/2017	S1-BH07A	8.95	0.95	7.05	5.23	3.72	No Comment
MG/TFD	02/11/2017	S1-BH07A	8.95	0.95	7.05	5.25	3.7	No Comment
MG/TFD	03/11/2017	S1-BH07A	8.95	0.95	7.05	5.24	3.71	No Comment
MG/TFD	06/11/2017	S1-BH07A	8.95	0.95	7.05	5.23	3.72	No Comment
MG/TFD	07/11/2017	S1-BH07A	8.95	0.95	7.05	5.22	3.73	No Comment
MG/TFD	08/11/2017	S1-BH07A	8.95	0.95	7.05	5.21	3.74	No Comment
MG/TFD	09/11/2017	S1-BH07A	8.95	0.95	7.05	5.2	3.75	No Comment
MG/TFD	10/11/2017	S1-BH07A	8.95	0.95	7.05	5.21	3.74	No Comment
MG/TFD	13/11/2017	S1-BH07A	8.95	0.95	7.05	5.2	3.75	No Comment
MG/TFD	14/12/2017	S1-BH07A	8.95	0.95	7.05	5.45	3.5	No Comment
MG/TFD	21/12/2017	S1-BH07A	8.95	0.95	7.05	5.45	3.5	No Comment
MG/TFD	21/02/2018	S1-BH07A	8.95	0.95	7.05	5.48	3.47	No Comment
MG/TFD	01/05/2018	S1-BH07A	8.95	0.95	7.05	5.63	3.32	No Comment
MG/TFD	06/10/2017	S1-BH13A	8.23	1	8	3.47	4.76	No Comment
MG/TFD	09/10/2017	S1-BH13A	8.23	1	8	3.7	4.53	No Comment
MG/TFD	10/10/2017	S1-BH13A	8.23	1	8	3.7	4.53	No Comment
MG/TFD	11/10/2017	S1-BH13A	8.23	1	8	3.68	4.55	No Comment
MG/TFD	12/10/2017	S1-BH13A	8.23	1	8	3.72	4.51	No Comment
MG/TFD	13/10/2017	S1-BH13A	8.23	1	8	3.7	4.53	No Comment
MG/TFD	16/10/2017	S1-BH13A	8.23	1	8	3.68	4.55	No Comment
MG/TFD	17/10/2017	S1-BH13A	8.23	1	8	3.72	4.51	No Comment
MG/TFD	18/10/2017	S1-BH13A	8.23	1	8	3.74	4.49	No Comment
MG/TFD	19/10/2017	S1-BH13A	8.23	1	8	3.73	4.5	No Comment
MG/TFD	20/10/2017	S1-BH13A	8.23	1	8	3.74	4.49	No Comment
MG/TFD	23/10/2017	S1-BH13A	8.23	1	8	3.73	4.5	No Comment
MG/TFD	24/10/2017	S1-BH13A	8.23	1	8	3.72	4.51	No Comment
MG/TFD	25/10/2017	S1-BH13A	8.23	1	8	3.7	4.53	No Comment
MG/TFD	26/10/2017	S1-BH13A	8.23	1	8	3.68	4.55	No Comment
MG/TFD	27/10/2017	S1-BH13A	8.23	1	8	3.67	4.56	No Comment
MG/TFD	30/10/2017	S1-BH13A	8.23	1	8	3.66	4.57	No Comment
MG/TFD	31/10/2017	S1-BH13A	8.23	1	8	3.67	4.56	No Comment
MG/TFD	01/11/2017	S1-BH13A	8.23	1	8	3.67	4.56	No Comment
MG/TFD	02/11/2017	S1-BH13A	8.23	1	8	3.65	4.58	No Comment
MG/TFD	03/11/2017	S1-BH13A	8.23	1	8	3.64	4.59	No Comment
MG/TFD	06/11/2017	S1-BH13A	8.23	1	8	3.64	4.59	No Comment
MG/TFD	07/11/2017	S1-BH13A	8.23	1	8	3.65	4.58	No Comment
MG/TFD	08/11/2017	S1-BH13A	8.23	1	8	3.64	4.59	No Comment
MG/TFD	09/11/2017	S1-BH13A	8.23	1	8	3.65	4.58	No Comment
MG/TFD	10/11/2017	S1-BH13A	8.23	1	8	3.66	4.57	No Comment
MG/TFD	13/11/2017	S1-BH13A	8.23	1	8	3.65	4.58	No Comment
MG/TFD	14/12/2017	S1-BH13A	8.23	1	8	4.03	4.2	No Comment
MG/TFD	21/12/2017	S1-BH13A	8.23	1	8	3.93	4.3	No Comment
MG/TFD	21/02/2018	S1-BH13A	8.23	1	8	4.03	4.2	No Comment
MG/TFD	01/05/2018	S1-BH13A	8.23	1	8	4.32	3.91	No Comment

Appendix F Table 1: Groundwater Elevation Levels by Geological Unit

Geology Screened	Date	Location Code	Reference Elevation	Top of Screen Depth	Bottom of Screen Depth	Water Level (m AOD)	Water Depth (m bTOC)	Comments
MG/TFD	26/10/2017	S2-BHA05A	4.53	0.95	5.1	2.73	1.8	No Comment
MG/TFD	27/10/2017	S2-BHA05A	4.53	0.95	5.1	2.72	1.81	No Comment
MG/TFD	30/10/2017	S2-BHA05A	4.53	0.95	5.1	2.73	1.8	No Comment
MG/TFD	31/10/2017	S2-BHA05A	4.53	0.95	5.1	2.72	1.81	No Comment
MG/TFD	01/11/2017	S2-BHA05A	4.53	0.95	5.1	2.73	1.8	No Comment
MG/TFD	02/11/2017	S2-BHA05A	4.53	0.95	5.1	2.73	1.8	No Comment
MG/TFD	03/11/2017	S2-BHA05A	4.53	0.95	5.1	2.72	1.81	No Comment
MG/TFD	06/11/2017	S2-BHA05A	4.53	0.95	5.1	2.73	1.8	No Comment
MG/TFD	07/11/2017	S2-BHA05A	4.53	0.95	5.1	2.72	1.81	No Comment
MG/TFD	08/11/2017	S2-BHA05A	4.53	0.95	5.1	2.72	1.81	No Comment
MG/TFD	09/11/2017	S2-BHA05A	4.53	0.95	5.1	2.73	1.8	No Comment
MG/TFD	10/11/2017	S2-BHA05A	4.53	0.95	5.1	2.72	1.81	No Comment
MG/TFD	13/11/2017	S2-BHA05A	4.53	0.95	5.1	2.73	1.8	No Comment
MG/TFD	18/12/2017	S2-BHA05A	4.53	0.95	5.1	2.93	1.6	No Comment
MG/TFD	03/01/2018	S2-BHA05A	4.53	0.95	5.1	2.93	1.6	No Comment
MG/TFD	22/02/2018	S2-BHA05A	4.53	0.95	5.1	2.89	1.64	No Comment
MG/TFD	30/04/2018	S2-BHA05A	4.53	0.95	5.1	3	1.53	No Comment
MG/TFD	13/11/2017	S2-BHA06A	7.16	0.95	7.1	2.66	4.5	No Comment
MG/TFD	08/01/2018	S2-BHA06A	7.16	0.95	7.1	3.66	3.5	No Comment
MG/TFD	21/02/2018	S2-BHA06A	7.16	0.95	7.1	3.62	3.54	No Comment
MG/TFD	30/04/2018	S2-BHA06A	7.16	0.95	7.1	3.91	3.25	No Comment
TFD	09/07/2021	LF\BH01S	7.28	5.1	8.1	2.71	4.57	No LNAPL/DNAPL detected.
TFD	12/07/2021	LF\BH01S	7.28	5.1	8.1	2.7	4.58	No LNAPL/DNAPL detected.
TFD	13/07/2021	LF\BH01S	7.28	5.1	8.1	2.7	4.58	No LNAPL/DNAPL detected.
TFD	09/08/2021	LF\BH01S	7.28	5.1	8.1	2.6	4.68	No LNAPL/DNAPL detected.
TFD	17/09/2021	LF\BH01S	7.28	5.1	8.1	2.57	4.71	No LNAPL/DNAPL detected.
TFD	12/10/2021	LF\BH01S	7.28	5.1	8.1	2.64	4.64	No LNAPL/DNAPL detected.
TFD	15/11/2021	LF\BH01S	7.28	5.1	8.1	2.7	4.58	No LNAPL/DNAPL detected.
TFD	28/06/2021	MS\BH04S	5	2	5	2.91	2.1	No LNAPL/DNAPL detected.
TFD	29/06/2021	MS\BH04S	5	2	5	2.9	2.11	No LNAPL/DNAPL detected.
TFD	30/06/2021	MS\BH04S	5	2	5	2.9	2.11	No LNAPL/DNAPL detected.
TFD	01/07/2021	MS\BH04S	5	2	5	2.89	2.12	No LNAPL/DNAPL detected.
TFD	02/07/2021	MS\BH04S	5	2	5	2.89	2.12	No LNAPL/DNAPL detected.
TFD	05/07/2021	MS\BH04S	5	2	5	2.91	2.1	No LNAPL/DNAPL detected.
TFD	06/07/2021	MS\BH04S	5	2	5	2.91	2.1	No LNAPL/DNAPL detected.
TFD	07/07/2021	MS\BH04S	5	2	5	2.91	2.1	No LNAPL/DNAPL detected.
TFD	08/07/2021	MS\BH04S	5	2	5	2.91	2.1	No LNAPL/DNAPL detected.
TFD	09/07/2021	MS\BH04S	5	2	5	2.89	2.12	No LNAPL/DNAPL detected.
TFD	12/07/2021	MS\BH04S	5	2	5	2.88	2.13	No LNAPL/DNAPL detected.
TFD	13/07/2021	MS\BH04S	5	2	5	2.88	2.13	No LNAPL/DNAPL detected.
TFD	09/08/2021	MS\BH04S	5	2	5	2.71	2.3	No LNAPL/DNAPL detected.
TFD	17/09/2021	MS\BH04S	5	2	5	2.66	2.34	No LNAPL/DNAPL detected.
TFD	12/10/2021	MS\BH04S	5	2	5	2.68	2.32	No LNAPL/DNAPL detected.
TFD	15/11/2021	MS\BH04S	5	2	5	2.65	2.35	No LNAPL/DNAPL detected.
TFD	28/06/2021	MS\BH05S	7.48	6.5	12.5	3.08	4.4	No LNAPL/DNAPL detected.
TFD	29/06/2021	MS\BH05S	7.48	6.5	12.5	3.09	4.39	No LNAPL/DNAPL detected.
TFD	30/06/2021	MS\BH05S	7.48	6.5	12.5	3.08	4.4	No LNAPL/DNAPL detected.
TFD	01/07/2021	MS\BH05S	7.48	6.5	12.5	3.09	4.39	No LNAPL/DNAPL detected.
TFD	02/07/2021	MS\BH05S	7.48	6.5	12.5	3.09	4.39	No LNAPL/DNAPL detected.
TFD	05/07/2021	MS\BH05S	7.48	6.5	12.5	3.48	4	No LNAPL/DNAPL detected.
TFD	06/07/2021	MS\BH05S	7.48	6.5	12.5	4.09	3.39	No LNAPL/DNAPL detected.
TFD	07/07/2021	MS\BH05S	7.48	6.5	12.5	4.03	3.45	No LNAPL/DNAPL detected.
TFD	08/07/2021	MS\BH05S	7.48	6.5	12.5	4.09	3.39	No LNAPL/DNAPL detected.
TFD	09/07/2021	MS\BH05S	7.48	6.5	12.5	3.09	4.39	No LNAPL/DNAPL detected.
TFD	12/07/2021	MS\BH05S	7.48	6.5	12.5	3.1	4.38	No LNAPL/DNAPL detected.
TFD	13/07/2021	MS\BH05S	7.48	6.5	12.5	3.1	4.38	No LNAPL/DNAPL detected.
TFD	09/08/2021	MS\BH05S	7.48	6.5	12.5	3.01	4.47	No LNAPL/DNAPL detected.
TFD	17/09/2021	MS\BH05S	7.48	6.5	12.5	2.93	4.55	No LNAPL/DNAPL detected.
TFD	12/10/2021	MS\BH05S	7.48	6.5	12.5	2.87	4.61	No LNAPL/DNAPL detected.
TFD	15/11/2021	MS\BH05S	7.48	6.5	12.5	2.87	4.61	No LNAPL/DNAPL detected.
TFD	13/07/2021	MS\BH07D	7.33	5.8	7.3	3.17	4.16	No LNAPL/DNAPL detected.
TFD	09/08/2021	MS\BH07D	7.33	5.8	7.3	3.03	4.3	No LNAPL/DNAPL detected.
TFD	17/09/2021	MS\BH07D	7.33	5.8	7.3	3	4.33	No LNAPL/DNAPL detected.
TFD	12/10/2021	MS\BH07D	7.33	5.8	7.3	3.24	4.09	No LNAPL/DNAPL detected.
TFD	15/11/2021	MS\BH07D	7.33	5.8	7.3	2.95	4.38	No LNAPL/DNAPL detected.

Appendix F, Table 1: Groundwater Elevation Levels by Geological Unit

Geology Screened	Date	Location Code	Reference Elevation	Top of Screen Depth	Bottom of Screen Depth	Water Level (m AOD)	Water Depth (m bTOC)	Comments
TFD	14/06/2021	MS\BH08D	8.75	11.3	13.4	3.21	5.54	No LNAPL/DNAPL detected.
TFD	15/06/2021	MS\BH08D	8.75	11.3	13.4	3.21	5.54	No LNAPL/DNAPL detected.
TFD	16/06/2021	MS\BH08D	8.75	11.3	13.4	3.21	5.54	No LNAPL/DNAPL detected.
TFD	17/06/2021	MS\BH08D	8.75	11.3	13.4	3.21	5.54	No LNAPL/DNAPL detected.
TFD	18/06/2021	MS\BH08D	8.75	11.3	13.4	3.17	5.58	No LNAPL/DNAPL detected.
TFD	21/06/2021	MS\BH08D	8.75	11.3	13.4	3.18	5.57	No LNAPL/DNAPL detected.
TFD	22/06/2021	MS\BH08D	8.75	11.3	13.4	3.17	5.58	No LNAPL/DNAPL detected.
TFD	23/06/2021	MS\BH08D	8.75	11.3	13.4	3.15	5.6	No LNAPL/DNAPL detected.
TFD	24/06/2021	MS\BH08D	8.75	11.3	13.4	3.15	5.6	No LNAPL/DNAPL detected.
TFD	25/06/2021	MS\BH08D	8.75	11.3	13.4	3.15	5.6	No LNAPL/DNAPL detected.
TFD	28/06/2021	MS\BH08D	8.75	11.3	13.4	3.15	5.6	No LNAPL/DNAPL detected.
TFD	29/06/2021	MS\BH08D	8.75	11.3	13.4	3.15	5.6	No LNAPL/DNAPL detected.
TFD	30/06/2021	MS\BH08D	8.75	11.3	13.4	3.15	5.6	No LNAPL/DNAPL detected.
TFD	01/07/2021	MS\BH08D	8.75	11.3	13.4	3.15	5.6	No LNAPL/DNAPL detected.
TFD	02/07/2021	MS\BH08D	8.75	11.3	13.4	3.16	5.59	No LNAPL/DNAPL detected.
TFD	05/07/2021	MS\BH08D	8.75	11.3	13.4	3.13	5.62	No LNAPL/DNAPL detected.
TFD	06/07/2021	MS\BH08D	8.75	11.3	13.4	3.13	5.62	No LNAPL/DNAPL detected.
TFD	07/07/2021	MS\BH08D	8.75	11.3	13.4	3.13	5.62	No LNAPL/DNAPL detected.
TFD	08/07/2021	MS\BH08D	8.75	11.3	13.4	3.14	5.61	No LNAPL/DNAPL detected.
TFD	09/07/2021	MS\BH08D	8.75	11.3	13.4	3.16	5.59	No LNAPL/DNAPL detected.
TFD	12/07/2021	MS\BH08D	8.75	11.3	13.4	3.17	5.58	No LNAPL/DNAPL detected.
TFD	13/07/2021	MS\BH08D	8.75	11.3	13.4	3.17	5.58	No LNAPL/DNAPL detected.
TFD	09/08/2021	MS\BH08D	8.75	11.3	13.4	3.05	5.7	No LNAPL/DNAPL detected.
TFD	17/09/2021	MS\BH08D	8.75	11.3	13.4	3.02	5.73	No LNAPL/DNAPL detected.
TFD	12/10/2021	MS\BH08D	8.75	11.3	13.4	3.04	5.71	No LNAPL/DNAPL detected.
TFD	15/11/2021	MS\BH08D	8.75	11.3	13.4	Dry	Dry	No LNAPL/DNAPL detected.
TFD	09/08/2021	MS\BH09D	7.47	5.7	8.7	2.83	4.64	No LNAPL/DNAPL detected.
TFD	17/09/2021	MS\BH09D	7.47	5.7	8.7	3.04	4.43	No LNAPL/DNAPL detected.
TFD	12/10/2021	MS\BH09D	7.47	5.7	8.7	2.87	4.6	No LNAPL/DNAPL detected.
TFD	15/11/2021	MS\BH09D	7.47	5.7	8.7	3.13	4.34	No LNAPL/DNAPL detected.
TFD	16/06/2021	MS\BH11D	7.26	7	11.4	3.35	3.91	No LNAPL/DNAPL detected.
TFD	17/06/2021	MS\BH11D	7.26	7	11.4	3.31	3.95	No LNAPL/DNAPL detected.
TFD	18/06/2021	MS\BH11D	7.26	7	11.4	3.28	3.98	No LNAPL/DNAPL detected.
TFD	21/06/2021	MS\BH11D	7.26	7	11.4	3.27	3.99	No LNAPL/DNAPL detected.
TFD	22/06/2021	MS\BH11D	7.26	7	11.4	3.48	3.78	No LNAPL/DNAPL detected.
TFD	23/06/2021	MS\BH11D	7.26	7	11.4	3.37	3.89	No LNAPL/DNAPL detected.
TFD	24/06/2021	MS\BH11D	7.26	7	11.4	3.31	3.95	No LNAPL/DNAPL detected.
TFD	25/06/2021	MS\BH11D	7.26	7	11.4	3.26	4	No LNAPL/DNAPL detected.
TFD	28/06/2021	MS\BH11D	7.26	7	11.4	3.26	4	No LNAPL/DNAPL detected.
TFD	29/06/2021	MS\BH11D	7.26	7	11.4	3.21	4.05	No LNAPL/DNAPL detected.
TFD	30/06/2021	MS\BH11D	7.26	7	11.4	3.19	4.07	No LNAPL/DNAPL detected.
TFD	01/07/2021	MS\BH11D	7.26	7	11.4	3.18	4.08	No LNAPL/DNAPL detected.
TFD	02/07/2021	MS\BH11D	7.26	7	11.4	3.16	4.1	No LNAPL/DNAPL detected.
TFD	05/07/2021	MS\BH11D	7.26	7	11.4	3.15	4.11	No LNAPL/DNAPL detected.
TFD	06/07/2021	MS\BH11D	7.26	7	11.4	3.15	4.11	No LNAPL/DNAPL detected.
TFD	07/07/2021	MS\BH11D	7.26	7	11.4	3.15	4.11	No LNAPL/DNAPL detected.
TFD	08/07/2021	MS\BH11D	7.26	7	11.4	3.15	4.11	No LNAPL/DNAPL detected.
TFD	09/07/2021	MS\BH11D	7.26	7	11.4	3.21	4.05	No LNAPL/DNAPL detected.
TFD	12/07/2021	MS\BH11D	7.26	7	11.4	3.36	3.9	No LNAPL/DNAPL detected.
TFD	13/07/2021	MS\BH11D	7.26	7	11.4	3.36	3.9	No LNAPL/DNAPL detected.
TFD	09/08/2021	MS\BH11D	7.26	7	11.4	3.19	4.07	No LNAPL/DNAPL detected.
TFD	17/09/2021	MS\BH11D	7.26	7	11.4	3.14	4.12	No LNAPL/DNAPL detected.
TFD	12/10/2021	MS\BH11D	7.26	7	11.4	3.07	4.19	No LNAPL/DNAPL detected.
TFD	15/11/2021	MS\BH11D	7.26	7	11.4	3.09	4.17	No LNAPL/DNAPL detected.

Appendix F, Table 1: Groundwater Elevation Levels by Geological Unit

Geology Screened	Date	Location Code	Reference Elevation	Top of Screen Depth	Bottom of Screen Depth	Water Level (m AOD)	Water Depth (m bTOC)	Comments
TFD	30/06/2021	MS\BH13S	5.71	6.5	9.5	2.93	2.78	No LNAPL/DNAPL detected.
TFD	01/07/2021	MS\BH13S	5.71	6.5	9.5	3.51	2.2	No LNAPL/DNAPL detected.
TFD	02/07/2021	MS\BH13S	5.71	6.5	9.5	3.71	2	No LNAPL/DNAPL detected.
TFD	05/07/2021	MS\BH13S	5.71	6.5	9.5	3.46	2.25	No LNAPL/DNAPL detected.
TFD	06/07/2021	MS\BH13S	5.71	6.5	9.5	3.46	2.25	No LNAPL/DNAPL detected.
TFD	07/07/2021	MS\BH13S	5.71	6.5	9.5	3.46	2.25	No LNAPL/DNAPL detected.
TFD	08/07/2021	MS\BH13S	5.71	6.5	9.5	3.46	2.25	No LNAPL/DNAPL detected.
TFD	09/07/2021	MS\BH13S	5.71	6.5	9.5	3.52	2.19	No LNAPL/DNAPL detected.
TFD	12/07/2021	MS\BH13S	5.71	6.5	9.5	3.53	2.18	No LNAPL/DNAPL detected.
TFD	13/07/2021	MS\BH13S	5.71	6.5	9.5	3.53	2.18	No LNAPL/DNAPL detected.
TFD	09/08/2021	MS\BH13S	5.71	6.5	9.5	3.6	2.11	No LNAPL/DNAPL detected.
TFD	17/09/2021	MS\BH13S	5.71	6.5	9.5	3.51	2.2	No LNAPL/DNAPL detected.
TFD	12/10/2021	MS\BH13S	5.71	6.5	9.5	3.42	2.29	No LNAPL/DNAPL detected.
TFD	15/11/2021	MS\BH13S	5.71	6.5	9.5	3.43	2.28	No LNAPL/DNAPL detected.
TFD	01/07/2021	MS\BH14	7.19	5	8	3.54	3.65	No LNAPL/DNAPL detected.
TFD	02/07/2021	MS\BH14	7.19	5	8	3.65	3.54	No LNAPL/DNAPL detected.
TFD	05/07/2021	MS\BH14	7.19	5	8	3.79	3.4	No LNAPL/DNAPL detected.
TFD	06/07/2021	MS\BH14	7.19	5	8	3.79	3.4	No LNAPL/DNAPL detected.
TFD	07/07/2021	MS\BH14	7.19	5	8	3.79	3.4	No LNAPL/DNAPL detected.
TFD	08/07/2021	MS\BH14	7.19	5	8	3.79	3.4	No LNAPL/DNAPL detected.
TFD	09/07/2021	MS\BH14	7.19	5	8	3.81	3.38	No LNAPL/DNAPL detected.
TFD	12/07/2021	MS\BH14	7.19	5	8	3.8	3.39	No LNAPL/DNAPL detected.
TFD	13/07/2021	MS\BH14	7.19	5	8	3.8	3.39	No LNAPL/DNAPL detected.
TFD	09/08/2021	MS\BH14	7.19	5	8	3.69	3.5	No LNAPL/DNAPL detected.
TFD	17/09/2021	MS\BH14	7.19	5	8	3.64	3.55	No LNAPL/DNAPL detected.
TFD	12/10/2021	MS\BH14	7.19	5	8	3.56	3.63	No LNAPL/DNAPL detected.
TFD	15/11/2021	MS\BH14	7.19	5	8	3.59	3.6	No LNAPL/DNAPL detected.
TFD	05/07/2021	MS\BH15D	7.25	9	12	3.95	3.3	No Comment
TFD	06/07/2021	MS\BH15D	7.25	9	12	3.95	3.3	No LNAPL/DNAPL detected.
TFD	07/07/2021	MS\BH15D	7.25	9	12	3.95	3.3	No LNAPL/DNAPL detected.
TFD	08/07/2021	MS\BH15D	7.25	9	12	3.95	3.3	No LNAPL/DNAPL detected.
TFD	09/07/2021	MS\BH15D	7.25	9	12	3.95	3.3	No LNAPL/DNAPL detected.
TFD	12/07/2021	MS\BH15D	7.25	9	12	3.95	3.3	No Comment
TFD	13/07/2021	MS\BH15D	7.25	9	12	3.95	3.3	No LNAPL/DNAPL detected.
TFD	09/08/2021	MS\BH15D	7.25	9	12	3.97	3.28	No LNAPL/DNAPL detected.
TFD	17/09/2021	MS\BH15D	7.25	9	12	3.84	3.41	No LNAPL/DNAPL detected.
TFD	12/10/2021	MS\BH15D	7.25	9	12	3.74	3.51	No LNAPL/DNAPL detected.
TFD	15/11/2021	MS\BH15D	7.25	9	12	3.68	3.57	No LNAPL/DNAPL detected.
TFD	08/11/2017	S2-BHA04D	7.53	8	10	2.8	4.73	No Comment
TFD	09/11/2017	S2-BHA04D	7.53	8	10	2.81	4.72	No Comment
TFD	10/11/2017	S2-BHA04D	7.53	8	10	2.81	4.72	No Comment
TFD	13/11/2017	S2-BHA04D	7.53	8	10	2.82	4.71	No Comment
TFD	18/12/2017	S2-BHA04D	7.53	8	10	3.03	4.5	No Comment
TFD	03/01/2018	S2-BHA04D	7.53	8	10	2.93	4.6	No Comment
TFD	22/02/2018	S2-BHA04D	7.53	8	10	2.93	4.6	No Comment
TFD	30/04/2018	S2-BHA04D	7.53	8	10	3.08	4.45	No Comment
TFD/GT	21/06/2021	MS\BH12S	7.15	18.2	20.5	3.3	3.85	No LNAPL/DNAPL detected.
TFD/GT	22/06/2021	MS\BH12S	7.15	18.2	20.5	3.43	3.72	No LNAPL/DNAPL detected.
TFD/GT	23/06/2021	MS\BH12S	7.15	18.2	20.5	3.44	3.71	No LNAPL/DNAPL detected.
TFD/GT	24/06/2021	MS\BH12S	7.15	18.2	20.5	3.45	3.7	No LNAPL/DNAPL detected.
TFD/GT	25/06/2021	MS\BH12S	7.15	18.2	20.5	3.45	3.7	No LNAPL/DNAPL detected.
TFD/GT	28/06/2021	MS\BH12S	7.15	18.2	20.5	3.45	3.7	No LNAPL/DNAPL detected.
TFD/GT	29/06/2021	MS\BH12S	7.15	18.2	20.5	3.43	3.72	No LNAPL/DNAPL detected.
TFD/GT	30/06/2021	MS\BH12S	7.15	18.2	20.5	3.43	3.72	No LNAPL/DNAPL detected.
TFD/GT	01/07/2021	MS\BH12S	7.15	18.2	20.5	3.41	3.74	No LNAPL/DNAPL detected.
TFD/GT	02/07/2021	MS\BH12S	7.15	18.2	20.5	3.41	3.74	No LNAPL/DNAPL detected.
TFD/GT	05/07/2021	MS\BH12S	7.15	18.2	20.5	3.43	3.72	No LNAPL/DNAPL detected.
TFD/GT	06/07/2021	MS\BH12S	7.15	18.2	20.5	3.43	3.72	No LNAPL/DNAPL detected.
TFD/GT	07/07/2021	MS\BH12S	7.15	18.2	20.5	3.43	3.72	No LNAPL/DNAPL detected.
TFD/GT	08/07/2021	MS\BH12S	7.15	18.2	20.5	3.43	3.72	No LNAPL/DNAPL detected.
TFD/GT	09/07/2021	MS\BH12S	7.15	18.2	20.5	3.45	3.7	No LNAPL/DNAPL detected.
TFD/GT	12/07/2021	MS\BH12S	7.15	18.2	20.5	3.44	3.71	No LNAPL/DNAPL detected.
TFD/GT	13/07/2021	MS\BH12S	7.15	18.2	20.5	3.44	3.71	No LNAPL/DNAPL detected.
TFD/GT	09/08/2021	MS\BH12S	7.15	18.2	20.5	3.34	3.81	No LNAPL/DNAPL detected.
TFD/GT	17/09/2021	MS\BH12S	7.15	18.2	20.5	3.1	4.05	No LNAPL/DNAPL detected.
TFD/GT	12/10/2021	MS\BH12S	7.15	18.2	20.5	3.06	4.09	No LNAPL/DNAPL detected.
TFD/GT	15/11/2021	MS\BH12S	7.15	18.2	20.5	3.14	4.01	No LNAPL/DNAPL detected.

Appendix F, Table 1: Groundwater Elevation Levels by Geological Unit

Geology Screened	Date	Location Code	Reference Elevation	Top of Screen Depth	Bottom of Screen Depth	Water Level (m AOD)	Water Depth (m bTOC)	Comments
GT	28/06/2021	MS\BH04D	5	15	18	2.84	2.17	No LNAPL/DNAPL detected.
GT	29/06/2021	MS\BH04D	5	15	18	2.84	2.17	No LNAPL/DNAPL detected.
GT	30/06/2021	MS\BH04D	5	15	18	2.83	2.18	No LNAPL/DNAPL detected.
GT	01/07/2021	MS\BH04D	5	15	18	2.86	2.15	No LNAPL/DNAPL detected.
GT	02/07/2021	MS\BH04D	5	15	18	2.85	2.16	No LNAPL/DNAPL detected.
GT	05/07/2021	MS\BH04D	5	15	18	2.86	2.15	No LNAPL/DNAPL detected.
GT	06/07/2021	MS\BH04D	5	15	18	2.86	2.15	No LNAPL/DNAPL detected.
GT	07/07/2021	MS\BH04D	5	15	18	2.87	2.14	No LNAPL/DNAPL detected.
GT	08/07/2021	MS\BH04D	5	15	18	2.86	2.15	No LNAPL/DNAPL detected.
GT	09/07/2021	MS\BH04D	5	15	18	2.87	2.14	No LNAPL/DNAPL detected.
GT	12/07/2021	MS\BH04D	5	15	18	2.87	2.14	No LNAPL/DNAPL detected.
GT	13/07/2021	MS\BH04D	5	15	18	2.87	2.14	No LNAPL/DNAPL detected.
GT	09/08/2021	MS\BH04D	5	15	18	2.72	2.29	No LNAPL/DNAPL detected.
GT	17/09/2021	MS\BH04D	5	15	18	2.66	2.34	No LNAPL/DNAPL detected.
GT	12/10/2021	MS\BH04D	5	15	18	2.49	2.51	No LNAPL/DNAPL detected.
GT	15/11/2021	MS\BH04D	5	15	18	2.6	2.4	No LNAPL/DNAPL detected.
RMS	09/07/2021	LF\BH01D	7.28	35	38	2.76	4.52	No LNAPL/DNAPL detected.
RMS	12/07/2021	LF\BH01D	7.28	35	38	2.76	4.52	No LNAPL/DNAPL detected.
RMS	13/07/2021	LF\BH01D	7.28	35	38	2.76	4.52	No LNAPL/DNAPL detected.
RMS	09/08/2021	LF\BH01D	7.28	35	38	2.55	4.73	No LNAPL/DNAPL detected.
RMS	17/09/2021	LF\BH01D	7.28	35	38	2.73	4.55	No LNAPL/DNAPL detected.
RMS	12/10/2021	LF\BH01D	7.28	35	38	2.67	4.61	No LNAPL/DNAPL detected.
RMS	15/11/2021	LF\BH01D	7.28	35	38	2.72	4.56	No LNAPL/DNAPL detected.
RMS	30/06/2021	MS\BH03D	4.67	25.5	28.5	3.29	1.38	No LNAPL/DNAPL detected.
RMS	01/07/2021	MS\BH03D	4.67	25.5	28.5	3.29	1.38	No LNAPL/DNAPL detected.
RMS	02/07/2021	MS\BH03D	4.67	25.5	28.5	3.3	1.37	No LNAPL/DNAPL detected.
RMS	05/07/2021	MS\BH03D	4.67	25.5	28.5	3.3	1.37	No LNAPL/DNAPL detected.
RMS	06/07/2021	MS\BH03D	4.67	25.5	28.5	3.3	1.37	No LNAPL/DNAPL detected.
RMS	07/07/2021	MS\BH03D	4.67	25.5	28.5	3.3	1.37	No LNAPL/DNAPL detected.
RMS	08/07/2021	MS\BH03D	4.67	25.5	28.5	3.3	1.37	No LNAPL/DNAPL detected.
RMS	09/07/2021	MS\BH03D	4.67	25.5	28.5	3.22	1.45	No LNAPL/DNAPL detected.
RMS	12/07/2021	MS\BH03D	4.67	25.5	28.5	3.17	1.5	No LNAPL/DNAPL detected.
RMS	13/07/2021	MS\BH03D	4.67	25.5	28.5	3.17	1.5	No LNAPL/DNAPL detected.
RMS	09/08/2021	MS\BH03D	4.67	25.5	28.5	2.9	1.77	No LNAPL/DNAPL detected.
RMS	17/09/2021	MS\BH03D	4.67	25.5	28.5	2.77	1.9	No LNAPL/DNAPL detected.
RMS	12/10/2021	MS\BH03D	4.67	25.5	28.5	2.8	1.87	No LNAPL/DNAPL detected.
RMS	15/11/2021	MS\BH03D	4.67	25.5	28.5	2.69	1.98	No LNAPL/DNAPL detected. Sulphur Odour.
RMS	28/06/2021	MS\BH05D	7.48	23.5	29.9	2.38	5.1	No LNAPL/DNAPL detected.
RMS	29/06/2021	MS\BH05D	7.48	23.5	29.9	2.37	5.11	No LNAPL/DNAPL detected.
RMS	30/06/2021	MS\BH05D	7.48	23.5	29.9	2.38	5.1	No LNAPL/DNAPL detected.
RMS	01/07/2021	MS\BH05D	7.48	23.5	29.9	2.38	5.1	No LNAPL/DNAPL detected.
RMS	02/07/2021	MS\BH05D	7.48	23.5	29.9	2.37	5.11	No LNAPL/DNAPL detected.
RMS	05/07/2021	MS\BH05D	7.48	23.5	29.9	2.39	5.09	No LNAPL/DNAPL detected.
RMS	06/07/2021	MS\BH05D	7.48	23.5	29.9	2.39	5.09	No LNAPL/DNAPL detected.
RMS	07/07/2021	MS\BH05D	7.48	23.5	29.9	2.39	5.09	No LNAPL/DNAPL detected.
RMS	08/07/2021	MS\BH05D	7.48	23.5	29.9	2.38	5.1	No LNAPL/DNAPL detected.
RMS	09/07/2021	MS\BH05D	7.48	23.5	29.9	2.33	5.15	No LNAPL/DNAPL detected.
RMS	12/07/2021	MS\BH05D	7.48	23.5	29.9	2.34	5.14	No LNAPL/DNAPL detected.
RMS	13/07/2021	MS\BH05D	7.48	23.5	29.9	2.34	5.14	No LNAPL/DNAPL detected.
RMS	09/08/2021	MS\BH05D	7.48	23.5	29.9	2.23	5.25	No LNAPL/DNAPL detected.
RMS	17/09/2021	MS\BH05D	7.48	23.5	29.9	1.87	5.61	No LNAPL/DNAPL detected.
RMS	12/10/2021	MS\BH05D	7.48	23.5	29.9	1.84	5.64	No LNAPL/DNAPL detected.
RMS	15/11/2021	MS\BH05D	7.48	23.5	29.9	1.79	5.69	No LNAPL/DNAPL detected.

Appendix F Table 1: Groundwater Elevation Levels by Geological Unit

Geology Screened	Date	Location Code	Reference Elevation	Top of Screen Depth	Bottom of Screen Depth	Water Level (m AOD)	Water Depth (m bTOC)	Comments
RMS	22/06/2021	MS\BH12D	7.15	30.7	34.5	3.3	3.85	No LNAPL/DNAPL detected.
RMS	23/06/2021	MS\BH12D	7.15	30.7	34.5	3.43	3.72	No LNAPL/DNAPL detected.
RMS	24/06/2021	MS\BH12D	7.15	30.7	34.5	3.44	3.71	No LNAPL/DNAPL detected.
RMS	25/06/2021	MS\BH12D	7.15	30.7	34.5	3.45	3.7	No LNAPL/DNAPL detected.
RMS	28/06/2021	MS\BH12D	7.15	30.7	34.5	3.45	3.7	No LNAPL/DNAPL detected.
RMS	29/06/2021	MS\BH12D	7.15	30.7	34.5	3.43	3.72	No LNAPL/DNAPL detected.
RMS	30/06/2021	MS\BH12D	7.15	30.7	34.5	3.43	3.72	No LNAPL/DNAPL detected.
RMS	01/07/2021	MS\BH12D	7.15	30.7	34.5	3.41	3.74	No LNAPL/DNAPL detected.
RMS	02/07/2021	MS\BH12D	7.15	30.7	34.5	3.41	3.74	No LNAPL/DNAPL detected.
RMS	05/07/2021	MS\BH12D	7.15	30.7	34.5	3.43	3.72	No LNAPL/DNAPL detected.
RMS	06/07/2021	MS\BH12D	7.15	30.7	34.5	3.43	3.72	No LNAPL/DNAPL detected.
RMS	07/07/2021	MS\BH12D	7.15	30.7	34.5	3.43	3.72	No LNAPL/DNAPL detected.
RMS	08/07/2021	MS\BH12D	7.15	30.7	34.5	3.43	3.72	No LNAPL/DNAPL detected.
RMS	09/07/2021	MS\BH12D	7.15	30.7	34.5	3.45	3.7	No LNAPL/DNAPL detected.
RMS	12/07/2021	MS\BH12D	7.15	30.7	34.5	3.44	3.71	No LNAPL/DNAPL detected.
RMS	13/07/2021	MS\BH12D	7.15	30.7	34.5	3.44	3.71	No LNAPL/DNAPL detected.
RMS	09/08/2021	MS\BH12D	7.15	30.7	34.5	3.52	3.63	No LNAPL/DNAPL detected.
RMS	17/09/2021	MS\BH12D	7.15	30.7	34.5	3.16	3.99	No LNAPL/DNAPL detected.
RMS	12/10/2021	MS\BH12D	7.15	30.7	34.5	3.04	4.11	No LNAPL/DNAPL detected.
RMS	15/11/2021	MS\BH12D	7.15	30.7	34.5	3.17	3.98	No LNAPL/DNAPL detected.
RMS	30/06/2021	MS\BH13D	5.71	17	20	3.06	2.65	No LNAPL/DNAPL detected.
RMS	01/07/2021	MS\BH13D	5.71	17	20	3.02	2.69	No LNAPL/DNAPL detected.
RMS	02/07/2021	MS\BH13D	5.71	17	20	3.47	2.24	No LNAPL/DNAPL detected.
RMS	05/07/2021	MS\BH13D	5.71	17	20	3.76	1.95	No LNAPL/DNAPL detected.
RMS	06/07/2021	MS\BH13D	5.71	17	20	3.81	1.9	No LNAPL/DNAPL detected.
RMS	07/07/2021	MS\BH13D	5.71	17	20	3.81	1.9	No LNAPL/DNAPL detected.
RMS	08/07/2021	MS\BH13D	5.71	17	20	3.81	1.9	No LNAPL/DNAPL detected.
RMS	09/07/2021	MS\BH13D	5.71	17	20	3.86	1.85	No LNAPL/DNAPL detected.
RMS	12/07/2021	MS\BH13D	5.71	17	20	3.93	1.78	No LNAPL/DNAPL detected.
RMS	13/07/2021	MS\BH13D	5.71	17	20	3.93	1.78	No LNAPL/DNAPL detected.
RMS	09/08/2021	MS\BH13D	5.71	17	20	3.74	1.97	No LNAPL/DNAPL detected.
RMS	17/09/2021	MS\BH13D	5.71	17	20	3.58	2.13	No LNAPL/DNAPL detected.
RMS	12/10/2021	MS\BH13D	5.71	17	20	3.43	2.28	No LNAPL/DNAPL detected.
RMS	15/11/2021	MS\BH13D	5.71	17	20	3.36	2.35	No LNAPL/DNAPL detected.
RMS	08/07/2021	MS\BH17D	9.25	18.5	20	3.8	5.45	No LNAPL/DNAPL detected.
RMS	09/07/2021	MS\BH17D	9.25	18.5	20	3.8	5.45	No LNAPL/DNAPL detected.
RMS	12/07/2021	MS\BH17D	9.25	18.5	20	3.8	5.45	No LNAPL/DNAPL detected.
RMS	13/07/2021	MS\BH17D	9.25	18.5	20	3.8	5.45	No LNAPL/DNAPL detected.
RMS	09/08/2021	MS\BH17D	9.25	18.5	20	3.84	5.41	No LNAPL/DNAPL detected.
RMS	17/09/2021	MS\BH17D	9.25	18.5	20	3.71	5.54	No LNAPL/DNAPL detected.
RMS	12/10/2021	MS\BH17D	9.25	18.5	20	3.6	5.65	No LNAPL/DNAPL detected.
RMS	15/11/2021	MS\BH17D	9.25	18.5	20	3.61	5.64	No LNAPL/DNAPL detected.

Notes:

LF Series

LF Series boreholes are offsite, however, have been included here as part of the groundwater elevation studies as a point between the site and the estuary.

m AOD Meters Above Ordnance Datum

m TOC m from Top of Cover

LNAPL / DNAPL Light Non-Aqueous Phase Liquid / Dense Non-Aqueous Phase Liquid

SMG Slag Made Ground

MG Made Ground

TFD Tidal Flat Deposits

GT Glacial Till

RMS Redcar Mudstone

Appendix G

Schedule of Laboratory Analysis

Appendix G - Schedule of Analysis (Soil)

Chemical Group			Metals			TPH	PAH	VOC	SVOC	PCB	BTEX	Phenols	Sulphate	Nitrate	Thiocyanate	Cyanide (Total)	Cyanide (Free)	Asbestos
Location	Sample Depth (m bgl)	Date	CLEA	Cr (VI)	Other													
12AB2	6-6	22/04/2004	✓				✓				✓	✓				✓	✓	
12AT10	0.3-0.3	16/04/2004	✓				✓				✓	✓				✓	✓	
	4-4	16/04/2004	✓				✓				✓	✓				✓	✓	
12AT11	0.3-0.3	16/04/2004	✓				✓				✓	✓				✓	✓	
	4-4	16/04/2004	✓				✓				✓	✓				✓	✓	
12AT13	0.2-0.2	16/04/2004	✓				✓				✓	✓				✓	✓	
	4-4	16/04/2004	✓				✓				✓	✓				✓	✓	
12AT16	0.3-0.3	16/04/2004	✓				✓				✓	✓				✓	✓	
	2.2-2.2	16/04/2004	✓				✓				✓	✓				✓	✓	
12AT17	0.3-0.3	16/04/2004	✓				✓				✓	✓				✓	✓	
	2-2	16/04/2004	✓				✓				✓	✓				✓	✓	
12AT7	0.25-0.25	16/04/2004	✓				✓				✓	✓				✓	✓	
	4-4	16/04/2004	✓				✓				✓	✓				✓	✓	
12AT8	2-2	16/04/2004	✓				✓				✓	✓				✓	✓	
	4.2-4.2	16/04/2004	✓				✓				✓	✓				✓	✓	
12BB1	5.5-5.5	22/04/2004	✓				✓				✓	✓				✓	✓	
	7.5-7.5	22/04/2004	✓				✓				✓	✓				✓	✓	
12BT12	0.4-0.4	21/04/2004	✓				✓				✓	✓				✓	✓	
	4-4	21/04/2004	✓				✓				✓	✓				✓	✓	
12BT14	0.3-0.3	21/04/2004	✓				✓				✓	✓				✓	✓	
	3.9-3.9	21/04/2004	✓				✓				✓	✓				✓	✓	
12BT15	1-1	21/04/2004	✓				✓				✓	✓				✓	✓	
12BT9	0.5-0.5	20/04/2004	✓				✓				✓	✓				✓	✓	
	3.2-3.2	20/04/2004	✓				✓				✓	✓				✓	✓	
13AT1	0.1-0.1	13/04/2004	✓				✓				✓	✓				✓	✓	
	4.3-4.3	13/04/2004	✓				✓				✓	✓				✓	✓	
13AT2	0.15-0.15	13/04/2004	✓				✓				✓	✓				✓	✓	
	4.1-4.1	13/04/2004	✓				✓				✓	✓				✓	✓	
13AT3	0.2-0.2	14/04/2004	✓				✓				✓	✓				✓	✓	
	4-4	14/04/2004	✓				✓				✓	✓				✓	✓	
13AT4	0.25-0.25	14/04/2004	✓				✓				✓	✓				✓	✓	
	4.1-4.1	14/04/2004	✓				✓				✓	✓				✓	✓	
13AT5	0.8-0.8	14/04/2004	✓				✓				✓	✓				✓	✓	
	4-4	14/04/2004	✓				✓				✓	✓				✓	✓	
13AT6	1.8-1.8	14/04/2004	✓				✓				✓	✓				✓	✓	
13BT10	3.3-3.3	14/04/2004	✓				✓				✓	✓				✓	✓	
	0.2-0.2	14/04/2004	✓				✓				✓	✓				✓	✓	
13BT11	0.2-0.2	14/04/2004	✓				✓				✓	✓				✓	✓	
	0.5-0.5	14/04/2004	✓				✓				✓	✓				✓	✓	
13BT12	0.3-0.3	14/04/2004	✓				✓				✓	✓				✓	✓	
	2-2	14/04/2004	✓				✓				✓	✓				✓	✓	
13BT8	0.3-0.3	14/04/2004	✓				✓				✓	✓				✓	✓	
13BT9	0.1-0.1	14/04/2004	✓				✓				✓	✓				✓	✓	
13CB1	5.5-5.5	21/04/2004	✓				✓				✓	✓				✓	✓	
13CT14	0.3-0.3	14/04/2004	✓				✓				✓	✓				✓	✓	
	3.6-3.6	14/04/2004	✓				✓				✓	✓				✓	✓	
13CT15	0.2-0.2	14/04/2004	✓				✓				✓	✓				✓	✓	
	3.8-3.8	14/04/2004	✓				✓				✓	✓				✓	✓	
13CT16	0.3-0.3	14/04/2004	✓				✓				✓	✓				✓	✓	
	4-4	14/04/2004	✓				✓				✓	✓				✓	✓	
13CT17	0.5-0.5	14/04/2004	✓				✓				✓	✓				✓	✓	
14AT7	4-4	21/04/2004	✓				✓				✓	✓				✓	✓	
LFBH01	0.3	23/06/2021	✓	✓			✓				✓		✓	✓	✓	✓	✓	✓
	0.5	23/06/2021	✓	✓			✓				✓		✓	✓	✓	✓	✓	✓
	2	23/06/2021	✓	✓			✓				✓		✓	✓	✓	✓	✓	✓
	4	23/06/2021	✓	✓			✓				✓		✓	✓	✓	✓	✓	✓
	28.1-28.1	23/06/2021					✓	✓			✓	✓						
28.65-28.95	29/06/2021	✓	✓			✓				✓		✓	✓	✓	✓	✓	✓	
LFBH02	0.3	24/06/2021	✓	✓			✓				✓		✓	✓	✓	✓	✓	✓
	1	24/06/2021	✓	✓			✓				✓		✓	✓	✓	✓	✓	✓
	8.7-8.9	25/06/2021	✓	✓		✓	✓				✓		✓	✓	✓	✓	✓	✓
	18.4	24/07/2021	✓	✓	✓		✓				✓		✓	✓	✓	✓	✓	✓
24.9-24.9	08/07/2021					✓	✓			✓	✓							
LFVTP01	0.3	23/06/2021	✓	✓		✓	✓	✓			✓		✓	✓	✓	✓	✓	✓
	1	23/06/2021	✓	✓		✓	✓	✓			✓		✓	✓	✓	✓	✓	✓
LFVTP02	1	23/06/2021	✓	✓		✓	✓	✓			✓		✓	✓	✓	✓	✓	✓
LFVTP03	4	24/06/2021	✓	✓		✓	✓	✓			✓		✓	✓	✓	✓	✓	✓
MS\BH02	0.3-0.3	25/06/2021	✓	✓			✓				✓		✓	✓	✓	✓	✓	✓
	2.25-2.7	28/06/2021	✓	✓		✓	✓	✓			✓		✓	✓	✓	✓	✓	✓
	10.2-10.4	28/06/2021	✓	✓		✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓
	11.2-11.4	28/06/2021	✓	✓		✓	✓	✓			✓		✓	✓	✓	✓	✓	✓
MS\BH03	0.5	23/06/2021	✓	✓			✓				✓		✓	✓	✓	✓	✓	✓
	1	23/06/2021	✓	✓		✓	✓	✓			✓		✓	✓	✓	✓	✓	✓
	2	23/06/2021	✓	✓		✓	✓	✓			✓		✓	✓	✓	✓	✓	✓
	3-3.3	23/06/2021	✓	✓		✓	✓	✓			✓		✓	✓	✓	✓	✓	✓
	9.5-9.8		✓	✓			✓				✓		✓	✓	✓	✓	✓	✓
	11-11.2		✓	✓		✓	✓	✓			✓		✓	✓	✓	✓	✓	✓
11.2-11.2	23/06/2021	✓	✓			✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	
23.4		✓	✓			✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	

Appendix G - Schedule of Analysis (Soil)

Chemical Group			Metals			TPH	PAH	VOC	SVOC	PCB	BTEX	Phenols	Sulphate	Nitrate	Thiocyanate	Cyanide (Total)	Cyanide (Free)	Asbestos
Location	Sample Depth (m bgl)	Date	CLEA	Cr (VI)	Other													
S1-TP112	3.8	01/01/2016	✓	✓	✓	✓	✓								✓	✓	✓	
S1-TP113	0.7	02/02/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S1-TP114	0.6	02/02/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S1-TP116	0.7	02/02/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
	4	02/02/2017	✓	✓	✓	✓	✓	✓			✓				✓	✓	✓	✓
S1-TP117	0.2	02/02/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
	1	02/02/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S1-TP119	1	01/01/2016	✓	✓	✓	✓	✓								✓	✓	✓	✓
S1-TP121	0.9	01/01/2016																✓
S1-TP122	1	01/01/2016	✓	✓	✓	✓	✓	✓			✓				✓	✓	✓	✓
S1-TP123	2.2	01/01/2016	✓	✓	✓	✓	✓								✓	✓	✓	✓
S1-TP124	1.5	08/02/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S1-TP125	3.7	09/02/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S1-TP126	2.6	01/01/2016	✓	✓	✓	✓	✓								✓	✓	✓	✓
S1-TP127	1.3	09/02/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S1-TP128	3.5	01/01/2016																✓
S1-TP129	0.6	08/02/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S1-TP130	1	26/04/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S1-TP131	1.3	01/01/2016	✓	✓	✓	✓	✓								✓	✓	✓	✓
S1-TP132	4.1	09/02/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S1-TP133	2.8	01/01/2016	✓	✓	✓	✓	✓								✓	✓	✓	✓
S1-TP134	0.8	01/01/2016	✓	✓	✓	✓	✓											✓
S1-TP135	1.5	01/01/2016	✓	✓	✓	✓	✓								✓	✓	✓	✓
S1-TP136	1.5	01/01/2016																✓
	3.5	01/01/2016	✓	✓	✓	✓	✓											✓
S1-TP137	1	09/02/2017				✓	✓								✓	✓	✓	✓
S2-BHA04	5.8-5.8	26/10/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S2-BHA06	4.5-4.5	07/11/2017	✓	✓	✓	✓	✓	✓			✓				✓	✓	✓	✓
S2-TPA10	0.2-0.5	04/05/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
	4.1	04/05/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S2-TPA37	0.5-0.5	04/10/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
	1-1	04/10/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S2-TPA38	0.5-0.5	04/10/2017				✓	✓								✓	✓	✓	✓
	1.5-1.5	04/10/2017	✓	✓	✓	✓	✓	✓			✓				✓	✓	✓	✓
S2-TPA38	1.5	04/10/2017	✓	✓	✓	✓	✓	✓			✓				✓	✓	✓	✓
	0.5-0.5	04/10/2017	✓	✓														✓
S2-TPA39	1-1	04/10/2017	✓	✓	✓	✓	✓									✓		✓
	3-3	04/10/2017	✓	✓	✓	✓	✓								✓	✓		✓
S2-TPA40	0.3-0.3	03/10/2017	✓	✓		✓	✓								✓			✓
	2.2-2.2	03/10/2017																
	2.5-2.5	03/10/2017			✓	✓	✓											
S2-TPA45	0.6	12/05/2017				✓	✓	✓			✓					✓		✓
S2-TPA46	2	12/05/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S2-TPA48	0.8	12/05/2017	✓	✓	✓	✓	✓	✓			✓				✓	✓	✓	✓
	4.2	12/05/2017	✓	✓		✓	✓								✓	✓	✓	✓
S2-TPA49	2	12/05/2017	✓	✓		✓	✓									✓	✓	✓
S2-TPA50	0.7	17/05/2017	✓	✓		✓	✓									✓		✓
	1.4	17/05/2017	✓	✓		✓	✓									✓		✓

Appendix G - Schedule of Analysis (Soil)

Chemical Group			Metals			TPH	PAH	VOC	SVOC	PCB	BTEX	Phenols	Sulphate	Nitrate	Thiocyanate	Cyanide (Total)	Cyanide (Free)	Asbestos
Location	Sample Depth (m bgl)	Date	CLEA	Cr (VI)	Other													
S2-TPA51	1	17/05/2017																
S2-TPA51	1.4	17/05/2017	✓	✓		✓	✓									✓	✓	✓
S2-TPA52	0.5	17/05/2017	✓	✓		✓	✓								✓	✓	✓	✓
S2-TPA53	2.2	17/05/2017	✓	✓		✓	✓	✓		✓	✓				✓	✓	✓	✓
S2-TPA54	0.3	12/05/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S2-TPA55	4.4	23/05/2017	✓	✓		✓	✓									✓		✓
S2-TPA56	2.6	12/05/2017	✓	✓		✓	✓									✓		✓
S2-TPA58	1.2	17/05/2017	✓	✓		✓	✓	✓		✓	✓					✓		✓
S2-TPA58	3.6	17/05/2017	✓	✓		✓	✓									✓		✓
S2-TPA59	3	17/05/2017	✓	✓		✓	✓	✓		✓	✓				✓	✓	✓	✓
S2-TPA60	2	17/05/2017	✓	✓		✓	✓								✓	✓	✓	✓
S2-TPA61	0.2	17/05/2017	✓	✓		✓	✓	✓		✓	✓					✓		✓
S2-TPA61	2.1	17/05/2017	✓	✓		✓	✓									✓		✓
S2-TPA62	0.5	17/05/2017																✓
S2-TPA63	1.8	10/05/2017	✓	✓		✓	✓									✓		✓
S2-TPA64	0.3	17/05/2017	✓	✓		✓	✓									✓		✓
S2-TPA65	2	17/05/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S2-TPA66	2.7	17/05/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S2-TPA67	1.5	17/05/2017	✓	✓		✓	✓								✓	✓	✓	✓
S2-TPA68	1.5	18/05/2017				✓	✓	✓		✓	✓					✓	✓	✓
S2-TPA69	2	17/05/2017	✓	✓	✓	✓	✓	✓		✓	✓				✓	✓	✓	✓
S2-TPA70	0.6	22/05/2017	✓	✓		✓	✓								✓	✓	✓	✓
S2-TPA70	2.7	22/05/2017	✓	✓		✓	✓								✓	✓	✓	✓
S2-TPA71	4	22/05/2017	✓	✓	✓	✓	✓									✓	✓	✓
S2-TPA72	2.3	10/05/2017	✓	✓		✓	✓	✓		✓	✓				✓	✓	✓	✓
S2-TPA73	0.3	10/05/2017	✓	✓		✓	✓								✓	✓	✓	✓
S2-TPA74	1	18/05/2017	✓	✓		✓	✓									✓	✓	✓
S2-TPA75	0.5	18/05/2017	✓	✓	✓	✓	✓	✓		✓	✓				✓	✓	✓	✓
S2-TPA76	2.8	18/05/2017	✓	✓		✓	✓								✓	✓	✓	✓
S2-TPA78	1.2	09/05/2017	✓	✓		✓	✓									✓	✓	✓
S2-TPA79	0.02	09/05/2017	✓	✓		✓	✓	✓		✓	✓					✓	✓	✓
S2-TPA79	1	01/01/2016	✓	✓	✓	✓	✓								✓	✓	✓	✓
S2-TPA80	2.5	09/05/2017	✓	✓		✓	✓								✓	✓	✓	✓
S2-TPA81	0.5	01/01/2016	✓	✓	✓	✓	✓								✓	✓	✓	✓
S2-TPA82	0.3	10/05/2017	✓	✓		✓	✓									✓	✓	✓
S2-TPA83	3	22/05/2017	✓	✓	✓	✓	✓	✓		✓	✓				✓	✓	✓	✓
S2-TPA84	0.5	01/01/2016	✓	✓	✓	✓	✓	✓		✓	✓				✓	✓	✓	✓
S2-TPA86	0.4	08/05/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S2-TPA86	2.8	08/05/2017			✓													✓
S2-TPA87	0.3	01/01/2016	✓	✓	✓	✓	✓								✓	✓	✓	✓
S2-TPA88	1	09/05/2017	✓	✓		✓	✓									✓	✓	✓
S2-TPA89	1.2	04/05/2017	✓	✓		✓	✓									✓	✓	✓
S2-TPA90	0.5	05/05/2017	✓	✓		✓	✓									✓	✓	✓
S2-TPA92	0.4	08/05/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S2-TPA92	3.5	08/05/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S2-TPA94	0.05	04/05/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓
S2-TPA97	0.5	04/05/2017	✓	✓		✓	✓								✓	✓	✓	✓
S2-TPA97	4	04/05/2017	✓	✓	✓	✓	✓								✓	✓	✓	✓

Chemical Group			Metals			TPH	PAH	VOC	SVOC	PCB	BTEX	Phenols	Sulphate	Chloride	Ammoniacal nitrogen	Nitrate	Thiocyanate	Cyanide (Total)	Cyanide (Free)
Location	Sample Depth (m bgl)	Date	CLEA	Cr (VI)	Other														
LF/TP02	1	23/06/2021	✓	✓	✓		✓								✓	✓		✓	✓
MS/BH02	2.25-2.7	28/06/2021	✓	✓	✓		✓								✓	✓		✓	✓
MS/BH07	4.2-4.65	05/07/2021	✓	✓	✓		✓								✓	✓		✓	✓
MS/BH08	0.36	28/05/2021	✓	✓	✓		✓								✓	✓		✓	✓
MS/BH09	0.5	05/07/2021	✓	✓	✓		✓								✓	✓		✓	✓
MS/BH10	11.3	16/06/2021	✓	✓	✓		✓								✓	✓		✓	✓
MS/BH10	19.1	18/06/2021	✓	✓	✓		✓								✓	✓		✓	✓
MS/BH11	4	03/06/2021	✓	✓	✓		✓								✓	✓		✓	✓
MS/BH14	0.3	28/06/2021	✓	✓	✓		✓								✓	✓		✓	✓
MS/BH14	1	28/06/2021	✓	✓	✓		✓								✓	✓		✓	✓
MS/BH15	1	05/07/2021	✓	✓	✓		✓								✓	✓		✓	✓
MS/BH16	0.5	02/07/2021	✓	✓	✓		✓								✓	✓		✓	✓
MS/TP06	3.8-3.8	22/06/2021	✓	✓	✓		✓								✓	✓		✓	✓
MS/TP09	3	16/06/2021	✓	✓	✓		✓								✓	✓		✓	✓
MS/TP10	0.3	21/06/2021	✓	✓	✓		✓								✓	✓		✓	✓
S1-BH05	1.9	13/10/2017	✓	✓	✓										✓				
S1-BH07A	5.3	04/10/2017	✓	✓	✓										✓				
S1-BH13A	6.8	04/10/2017	✓	✓	✓										✓				
S1-TPA01	0.6	11/01/2017	✓	✓	✓														
S1-TPA04A	1.1	12/01/2017	✓	✓	✓										✓				
S1-TPA06	0.7	12/01/2016	✓	✓	✓									✓					
S1-TPA06	2	12/01/2017	✓	✓	✓									✓					
S1-TPA06	3.7	12/01/2017	✓	✓	✓														
S1-TPA12	1.8	11/01/2017	✓	✓	✓														
S1-TPA14	0.8	10/01/2017	✓	✓	✓									✓					
S1-TPA14	2.3	10/01/2017	✓	✓	✓									✓					
S1-TPA15	0.45	10/01/2017	✓	✓	✓									✓					
S1-TPA17	2.1	11/01/2017	✓	✓	✓									✓					
S1-TPA20	1.3	09/01/2017	✓	✓	✓									✓					
S1-TPA22	2.3	15/12/2016	✓	✓	✓									✓				✓	
S1-TPA25	0.3	14/12/2016	✓	✓	✓									✓				✓	
S1-TPA26	0.8	13/12/2016	✓	✓	✓													✓	
S1-TPA28	0.5	12/12/2016	✓	✓	✓										✓			✓	
S1-TPA29	1.7	09/12/2016	✓	✓	✓													✓	
S1-TPA31	0.6	15/12/2016	✓	✓	✓									✓				✓	
S1-TPB06	2.5	19/01/2017	✓	✓	✓														
S1-TPB08	0.3	18/01/2017	✓	✓	✓														
S1-TPB12	0.3	16/01/2017	✓	✓	✓														
S1-TPH04	0.9	25/04/2017	✓	✓	✓								✓						
S1-TPH06	0.5	25/04/2017	✓	✓	✓								✓						
S1-TPI02	4	02/02/2017	✓	✓	✓														
S1-TPI04	3	02/02/2017	✓	✓	✓														
S1-TPI08	0.2	25/01/2017	✓	✓	✓									✓					
S1-TPI09	3	25/01/2017	✓	✓	✓									✓					
S1-TPI12	3.8	01/01/2016	✓	✓	✓									✓					
S1-TPI13	0.7	02/02/2017	✓	✓	✓									✓					

Chemical Group	Sample			Metals			TPH	PAH	VOC	SVOC	PCB	BTEX	Phenols	Sulphate	Chloride	Ammoniacal nitrogen	Nitrate	Thiocyanate	Cyanide (Total)	Cyanide (Free)
	Location	Sample Depth (m bgl)	Date	CLEA	Cr (VI)	Other														
S1-TPI16	0.7	02/02/2017	✓	✓	✓											✓				
	4	02/02/2017	✓	✓	✓											✓				
S1-TPI19	1	01/01/2016	✓	✓	✓											✓				
S1-TPI22	1	01/01/2016	✓	✓	✓										✓	✓				
S1-TPI24	1.5	08/02/2017	✓	✓	✓											✓				
S1-TPI25	3.7	09/02/2017	✓	✓	✓											✓				
S1-TPI27	1.3	09/02/2017	✓	✓	✓											✓				
S1-TPI29	0.6	08/02/2017	✓	✓	✓											✓				
S1-TPI30	1.5	26/04/2017	✓	✓	✓											✓				
S1-TPI35	1.5	01/01/2016	✓	✓	✓											✓				
S1-TPI36	3.5	01/01/2016	✓	✓	✓										✓	✓				
S1-TPI37	1	09/02/2017	✓	✓	✓											✓				
S2-TPA38	3.6	01/06/2017	✓	✓	✓											✓				
S2-TPA38A	1.5	04/10/2017	✓	✓	✓											✓				
S2-TPA40	0.3-0.3	03/10/2017	✓	✓	✓	✓	✓	✓					✓						✓	
S2-TPA46	2	12/05/2017	✓	✓	✓										✓	✓				
S2-TPA48	0.8	12/05/2017	✓	✓	✓										✓	✓				
	4.2	12/05/2017	✓	✓	✓										✓	✓				
S2-TPA50	1.4	17/05/2017	✓	✓	✓										✓	✓				
S2-TPA52	0.5	17/05/2017	✓	✓	✓										✓	✓				
S2-TPA53	2.2	17/05/2017	✓	✓	✓										✓	✓				
S2-TPA54	0.3	12/05/2017	✓	✓	✓										✓	✓				
S2-TPA58	3.6	17/05/2017	✓	✓	✓										✓	✓				
S2-TPA59	3	17/05/2017	✓	✓	✓										✓	✓				
S2-TPA60	2	17/05/2017	✓	✓	✓															
	2	17/05/2017	✓	✓	✓										✓	✓				
S2-TPA65	2.7	17/05/2017	✓	✓	✓															
S2-TPA66	2.7	17/05/2017	✓	✓	✓										✓	✓				
S2-TPA70	2.6	22/05/2017	✓	✓	✓										✓	✓				
S2-TPA72	2.3	10/05/2017	✓	✓	✓										✓	✓				
S2-TPA73	0.3	10/05/2017	✓	✓	✓										✓	✓				
S2-TPA74	1	18/05/2017	✓	✓	✓															
S2-TPA76	2.8	18/05/2017	✓	✓	✓										✓	✓				
S2-TPA79	1	01/01/2016	✓	✓	✓											✓				
S2-TPA80	2.5	09/05/2017	✓	✓	✓										✓	✓				
S2-TPA81	0.5	01/01/2016	✓	✓	✓											✓				
S2-TPA83	3	22/05/2017	✓	✓	✓										✓	✓				
S2-TPA84	0.5	01/01/2016	✓	✓	✓											✓				
S2-TPA87	0.3	01/01/2016	✓	✓	✓											✓				
S2-TPA89	1.2	04/05/2017	✓	✓	✓															
S2-TPA92	0.4	08/05/2017	✓	✓	✓										✓	✓				
	3.7	08/05/2017	✓	✓	✓										✓	✓				

Chemical Group			Metals														Ammoniacal nitrogen		Nitrate		Thiocyanate		Cyanide (Total)		Cyanide (Free)	
Location	Geology Screened	Date	CLEA	Cr (VI)	Other	TPH	PAH	VOC	SVOC	PCB	BTEX	Phenols	Sulphate	Chloride	Ammoniacal nitrogen	Nitrate	Thiocyanate	Cyanide (Total)	Cyanide (Free)							
12AB2	MG	29/04/2004	✓				✓				✓	✓							✓	✓						
12BB1	MG	28/04/2004	✓				✓				✓	✓							✓	✓						
13CB1	MG	29/04/2004	✓				✓				✓	✓							✓	✓						
MSIBH03	RMS	12/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	SMG	12/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	RMS	16/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	SMG	17/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
MSIBH04	GT	12/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	12/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	GT	16/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	16/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
MSIBH05	RMS	12/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	12/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	RMS	12/10/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	12/10/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
MSIBH07	RMS	15/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	12/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	SMG	12/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	12/10/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
MSIBH08	TFD	15/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	11/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	12/10/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	15/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
MSIBH09	SMG	13/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	SMG	12/10/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	SMG	15/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	SMG	15/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
MSIBH11	TFD	11/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	SMG	12/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
MSIBH12	TFD	17/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	RMS	13/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD/GT	11/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	RMS	18/10/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
MSIBH13	TFD/GT	12/10/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	RMS	17/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD/GT	17/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	RMS	12/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
MSIBH14	TFD	12/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	RMS	12/10/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	12/10/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	RMS	16/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
MSIBH15	TFD	16/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	10/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	16/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	16/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
MSIBH17	TFD	13/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	SMG	13/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	16/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	SMG	16/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
MSIBH17	RMS	10/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	RMS	16/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
MSITP06	N/A	22/06/2021	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S1-BH04	MG	08/01/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S1-BH05	MG	08/01/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S1-BH05	MG	22/02/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S1-BH06	MG	08/01/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S1-BH06	MG	22/02/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S1-BH07A	MG/TFD	08/01/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S1-BH12	MG	09/01/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S1-BH13A	MG/TFD	09/01/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S1-BH13A	MG/TFD	22/02/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S1-BH14	MG	09/01/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S1-BH18	MG	09/01/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S1-BH18	MG	22/02/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S1-BH19	MG	09/01/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S2-BHA04	TFD	09/01/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	MG	09/01/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	MG	23/02/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S2-BHA05	MG/TFD	09/01/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
S2-BHA06	MG/TFD	09/01/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	MG/TFD	23/02/2018	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
LFBH01	RMS	13/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	13/08/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	RMS	18/10/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	18/10/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						
	TFD	17/11/2021	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						

Notes:

✓ Contaminant tested for

- SMG Slag Made Ground
- MG Made Ground
- TFD Tidal Flat Deposits
- GT Glacial Till
- RMS Redcar Mudstone
- N/A Trial pit, no well

Appendix H

Summary of Sample Deviations

Appendix H: Summary of Sample Deviations at Environmental Testing Laboratory

Lab	Lab Reference	Lab No.	Sample ID	Deviation	
				Holding Time Exceeded for tests	Inappropriate container for tests
DETS	21-16494	1886083	LF\BH02 18.40 SOIL	Mercury (28 days)	-
DETS	21-16494	1886084	MS\BH09 13.00 SOIL	Mercury (28 days)	-
DETS	21-16494	1886085	MS\BH17 6.00 SOIL	Mercury (28 days)	-
DETS	21-16494	1886086	MS\BH17 7.20 SOIL	Mercury (28 days)	-
DETS	21-16494	1886087	MS\BH17 14.20 SOIL	Mercury (28 days)	-
DETS	21-13386	1867096	Trip Blank WATER	Sample date+time not supplied, VOC (7 days)	-
DETS	21-13386	1867097	Field Blank WATER	Sample date+time not supplied, VOC (7 days)	-
DETS	21-13386	1867264	MS\TP06 3.10 WATER	-	VOC
DETS	21-13302-1	1866586	MS\TP01 0.50 SOIL	Sulphur (free) (7 days), Total Sulphur ICP (7 days), pH + Conductivity (7 days)	-
DETS	21-13300	1866583	MS\TP06 0.50 SOIL	Sulphur (free) (7 days), Total Sulphur ICP (7 days), pH + Conductivity (7 days)	-
DETS	21-13296-1	1866576	MS\BH10 5.00 SOIL	Sulphur (free) (7 days), Total Sulphur ICP (7 days), pH + Conductivity (7 days)	-
DETS	21-13296-1	1866577	MS\TP04 0.50 SOIL	Sulphur (free) (7 days), Total Sulphur ICP (7 days), pH + Conductivity (7 days)	-
DETS	21-16962	1888857	MS\BH17 5.41-20.00 WATER	pH/Cond/TDS (1 days)	-
DETS	21-16962	1888858	MS\BH14 3.50-8.00 WATER	pH/Cond/TDS (1 days)	-
DETS	18-01494	1286721	S1-BH12 WATER	Alkalinity (7 days), pH/Cond/TDS (2 days), Cyanide/Mono pHoh (7 days), SVOC (7 days)	-
DETS	18-01494	1286722	S1-BH13 WATER	Alkalinity (7 days), pH/Cond/TDS (2 days), Cyanide/Mono pHoh (7 days), SVOC (7 days)	-
DETS	18-01494	1286723	S1-BH14 WATER	Alkalinity (7 days), pH/Cond/TDS (2 days), Cyanide/Mono pHoh (7 days), SVOC (7 days)	-
DETS	18-00922	1283667	S1-BH18 1 WATER	pH/Cond/TDS (2 days)	-
DETS	18-00922	1283668	S1-BH19 1 WATER	pH/Cond/TDS (2 days)	-
DETS	18-00922	1283669	S1-BH20 1 4.00 WATER	pH/Cond/TDS (2 days)	-
DETS	18-00922	1283670	S1-BH20 1 9.00 WATER	pH/Cond/TDS (2 days)	-
DETS	18-00766	1282811	S1-BH04 1 EW	pH/Cond/TDS (2 days)	-
DETS	18-00766	1282812	S1-BH05 1 EW	pH/Cond/TDS (2 days)	-
DETS	18-00766	1282813	S1-BH06 1 EW	pH/Cond/TDS (2 days)	-
DETS	18-00766	1282814	S1-BH07 1 EW	pH/Cond/TDS (2 days)	-
DETS	4153 Combined Report	1242425	S1-BH7A 5.30 SOIL	pH + Conductivity (7 days), VOC (7 days)	-
DETS	4153 Combined Report	1242426	S1-BH13A 6.80 SOIL	pH + Conductivity (7 days), VOC (7 days)	-
DETS	4153 Combined Report	1252910	S1-BH06 7.00 SOIL	pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1252911	S1-BH06 11.50 SOIL	pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1252912	S1-BH06 18.50 SOIL	pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1252913	S1-BH07A 6.00 SOIL	pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1252914	S1-BH07A 10.00 SOIL	pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1252915	S1-BH07A 14.00 SOIL	pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1252916	S1-BH12 9.00 SOIL	pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1252917	S1-BH12 14.50 SOIL	pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1252918	S1-BH12 17.00 SOIL	pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1252919	S1-BH14 6.50 SOIL	pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1252920	S1-BH14 9.00 SOIL	pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1252921	S1-BH14 13.50 SOIL	pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1273337	S1-BH13A 6.00 SOIL	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1273339	S1-BH18 10.00 SOIL	Sample date not supplied, Anions 2:1 (365 days), pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1276855	S1-BH04 6.00 SOIL	Sample date not supplied, Anions 2:1 (365 days), pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1276856	S1-BH04 11.40 SOIL	Sample date not supplied, Anions 2:1 (365 days), pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1276860	S1-BH18 5.60 SOIL	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), Organic Matter (Manual) (28 days), pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1276861	S1-BH18 8.00 SOIL	Sample date not supplied, Anions 2:1 (365 days), pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1276862	S1-BH20B 7.50 SOIL	Sample date not supplied, Anions 2:1 (365 days), pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1276863	S1-BH20B 12.00 SOIL	Sample date not supplied, Anions 2:1 (365 days), pH + Conductivity (7 days)	-
DETS	4153 Combined Report	1276864	S1-BH20B 15.00 SOIL	Sample date not supplied, Anions 2:1 (365 days), pH + Conductivity (7 days)	-
DETS	4154 A Combined Report	1255651	S2-TPA37 0.50 SOIL	Organic Matter (Manual) (28 days), pH + Conductivity (7 days)	-
DETS	4154 A Combined Report	1255653	S2-TPA39 0.50 SOIL	Organic Matter (Manual) (28 days), pH + Conductivity (7 days)	-
DETS	4154 A Combined Report	1255654	S2-TPA40 0.20 SOIL	pH + Conductivity (7 days)	-
DETS	4154 A Combined Report	1255655	S2-TPA40 2.20 SOIL	Organic Matter (Manual) (28 days), pH + Conductivity (7 days)	-
DETS	4154 A Combined Report	1260997	S2-BHA06 4.50 SOIL	pH + Conductivity (7 days), VOC (7 days)	-
DETS	4154 A Combined Report	1267770	S2-BHA05 4.50 SOIL	pH + Conductivity (7 days)	-
DETS	4154 A Combined Report	1267771	S2-BHA05 8.50 SOIL	pH + Conductivity (7 days)	-
DETS	4154 A Combined Report	1276876	S2-BHA06 4.60 SOIL	Sample date not supplied, Anions 2:1 (365 days), pH + Conductivity (7 days)	-
DETS	4154 A Combined Report	1276877	S2-BHA06 6.00 SOIL	Sample date not supplied, Anions 2:1 (365 days), pH + Conductivity (7 days)	-
DETS	4154 A Combined Report	1276878	S2-BHA06 12.00 SOIL	Sample date not supplied, Anions 2:1 (365 days), pH + Conductivity (7 days)	-
DETS	4154 A Combined Report	1276879	S2-BHA06 16.00 SOIL	Sample date not supplied, Anions 2:1 (365 days), pH + Conductivity (7 days)	-
DETS	17-90043	1117386	TPB12 0.30 SOIL	pH + Conductivity (7 days)	-
DETS	17-90043	1117391	TPB08 0.30 SOIL	pH + Conductivity (7 days)	-
DETS	17-90043	1117392	TPB08 3.00 SOIL	pH + Conductivity (7 days)	-

Lab	Lab Reference	Lab No.	Sample ID	Deviation	
				Holding Time Exceeded for tests	Inappropriate container for tests
DETS	17-90043	1117393	TPB02 2.60 SOIL	pH + Conductivity (7 days)	-
DETS	17-90043	1117394	TPB04 0.50 SOIL	pH + Conductivity (7 days)	-
DETS	17-90043	1117395	TPB06 0.20 SOIL	pH + Conductivity (7 days)	-
DETS	17-90043	1117396	TPB06 2.50 SOIL	pH + Conductivity (7 days)	-
DETS	17-90393-1	1119385	TPB05 0.70 SOIL	pH + Conductivity (7 days)	-
DETS	17-90393-1	1119386	TPB03 0.40 SOIL	pH + Conductivity (7 days)	-
DETS	17-90393-1	1119387	TPB03 2.60 SOIL	pH + Conductivity (7 days)	-
DETS	17-90393-1	1119390	TPI09 0.20 SOIL	pH + Conductivity (7 days)	-
DETS	17-90393-1	1119391	TPI09 3.00 SOIL	pH + Conductivity (7 days)	-
DETS	17-90393-1	1119392	TPI08 0.20 SOIL	pH + Conductivity (7 days)	-
DETS	17-90393-1	1119393	3TPI08 3.00 SOIL	pH + Conductivity (7 days)	-
DETS	17-90393-1	1119394	TPI07 1.30 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH MS (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	-
DETS	17-90393-1	1119395	TPI12 0.60 SOIL	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	-
DETS	17-90393-1	1119396	TPI12 3.80 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH MS (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	-
DETS	17-90393-1	1119397	TPI11 1.00 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH MS (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	-
DETS	17-90393-1	1119401	TPI12 3.80 LEACHATE	Sample date not supplied	-
DETS	17-91184	1124258	TPI22 1.00 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH MS (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days), VOC (14 days)	-
DETS	17-91184	1124259	TPI34 0.80 SOIL	Sample date not supplied, Anions 2:1 (365 days), Chromium, Hexavalent (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), pH + Conductivity (7 days)	-
DETS	17-91184	1124260	TPI36 1.50 SOIL	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	-
DETS	17-91184	1124261	TPI36 3.50 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH MS (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	-
DETS	17-91184	1124262	TPI22 1.00 LEACHATE	Sample date not supplied	-
DETS	17-91184	1124263	TPI36 3.50 LEACHATE	Sample date not supplied	-
DETS	17-91559-1	1126374	TPI 31 1.30 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH MS (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	-
DETS	17-91559-1	1126376	TPI 33 2.80 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH MS (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	-

Lab	Lab Reference	Lab No.	Sample ID	Deviation	
				Holding Time Exceeded for tests	Inappropriate container for tests
DETS	17-91559-1	1126377	TPI 35 1.50 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH MS (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	-
DETS	17-91559-1	1126379	TPI 19 1.00 LEACHATE	Sample date not supplied	-
DETS	17-91559-1	1126384	TPI 35 1.50 LEACHATE	Sample date not supplied	-
DETS	17-92379-1	1131599	TPH07 0.50 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH FID (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	-
DETS	17-92379-1	1131600	TPH07 2.00 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH FID (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days), SVOC (14 days)	-
DETS	17-92379-1	1131603	TPH11 1.70 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH FID (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days), SVOC (14 days)	-
DETS	17-92379-1	1131604	TPH13 0.50 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH FID (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	-
DETS	17-92379-1	1131605	TPH14 2.00 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH FID (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	-
DETS	17-92379-1	1131610	TPH21 1.60 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH FID (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	Aliphatics/Aromatics, BTEX, Naphthalene, PAH FID
DETS	17-92379-1	1131615	TPH27 1.20 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH FID (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	-
DETS	17-92379-1	1131617	TPH33 2.00 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH FID (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days), SVOC (14 days)	-
DETS	17-92379-1	1131618	TPH07 2.00 LEACHATE	Sample date not supplied	-
DETS	17-92379-1	1131623	TPH27 1.20 LEACHATE	Sample date not supplied	-
DETS	17-92379-1	1131624	TPH33 2.00 LEACHATE	Sample date not supplied	-
DETS	17-00243-2	1176070	S2TPA48 0.80 SOIL	pH + Conductivity (7 days)	-
DETS	17-00243-2	1176071	S2TPA48 4.20 SOIL	pH + Conductivity (7 days)	-
DETS	17-00243-2	1176073	S2TPA49 2.00 SOIL	pH + Conductivity (7 days)	-
DETS	17-00243-2	1176077	S2TPA54 0.20-0.30 SOIL	pH + Conductivity (7 days)	-
DETS	17-00243-2	1176078	S2TPA56 2.60 SOIL	pH + Conductivity (7 days)	-
DETS	17-00352	1176722	S2-TPA47 0.50 SOIL	pH + Conductivity (7 days)	-

Lab	Lab Reference	Lab No.	Sample ID	Deviation	
				Holding Time Exceeded for tests	Inappropriate container for tests
DETS	17-99406-1	1171700	S2TPA79 1.00 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH MS (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	-
DETS	17-99406-1	1171701	S2TPA81 0.50 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH MS (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	-
DETS	17-99406-1	1171702	S2TPA84 0.50 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH MS (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	-
DETS	17-99406-1	1171703	S2TPA87 0.30 SOIL	Sample date not supplied, Anions 2:1 (365 days), Aliphatics/Aromatics (14 days), Boron (365 days), BTEX (14 days), Chromium, Hexavalent (365 days), Mercury (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP (365 days), Metals ICP Prep (365 days), Kone Cr6 (1095 days), Naphthalene (14 days), Organic Matter (Manual) (730 days), PAH MS (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (365 days)	-
DETS	17-99406-1	1171707	S2TPA79 1.00 LEACHATE	Sample date not supplied	-
DETS	17-99406-1	1171708	S2TPA81 0.50 LEACHATE	Sample date not supplied	-
DETS	17-99406-1	1171709	S2TPA84 0.50 LEACHATE	Sample date not supplied	-
DETS	17-99406-1	1171710	S2TPA87 0.30 LEACHATE	Sample date not supplied	-
DETS	21-17182	1890311	MS\BH04 2.30-2.70 WATER	pH/Cond/TDS (1 days), Nitrite as N (2 days)	-
DETS	21-17182	1890312	MS\BH13 1.97-20.00 WATER	pH/Cond/TDS (1 days), Nitrite as N (2 days)	-
DETS	21-17182	1890313	MS\BH13 2.11-9.50 WATER	pH/Cond/TDS (1 days), Nitrite as N (2 days)	-
DETS	21-17182	1890314	MS\BH11 3.95-4.40 WATER	pH/Cond/TDS (1 days), Nitrite as N (2 days)	-
DETS	21-17182	1890315	MS\BH05 5.25-29.90 WATER	pH/Cond/TDS (1 days), Nitrite as N (2 days)	-
DETS	21-17182	1890316	MS\BH05 4.47-12.50 WATER	pH/Cond/TDS (1 days), Nitrite as N (2 days)	-
DETS	21-17182	1890317	MS\BH03 1.77-28.50 WATER	pH/Cond/TDS (1 days), Nitrite as N (2 days)	-
DETS	21-17182	1890318	Duplicate B 4.30-7.30 WATER	pH/Cond/TDS (1 days), Nitrite as N (2 days)	-
DETS	21-17182	1890319	MS\BH04 2.30-28.50 WATER	pH/Cond/TDS (1 days), Nitrite as N (2 days)	-
DETS	21-17182	1890320	MS\BH07 4.30-7.30 WATER	pH/Cond/TDS (1 days), Nitrite as N (2 days)	-
DETS	21-17182	1890321	MS\BH07 4.29-4.60 WATER	pH/Cond/TDS (1 days), Nitrite as N (2 days)	-
DETS	21-17182	1890322	MS\BH03 1.89-2.70 WATER	pH/Cond/TDS (1 days), Nitrite as N (2 days)	-
DETS	21-17182	1890323	Trip Blank WATER		VOC
DETS	21-24680	1936445	MS\BH14 3.60-8.00 WATER	pH/Cond/TDS (1 days)	-
DETS	21-24680	1936446	MS\BH17 5.64-20.00 WATER	pH/Cond/TDS (1 days)	-
DETS	21-24680	1936447	MS\BH13 2.35-20.00 WATER	pH/Cond/TDS (1 days)	-
DETS	21-24680	1936448	MS\BH13 2.28-9.50 WATER	pH/Cond/TDS (1 days)	-
DETS	21-24680	1936449	MS\BH04 2.40-28.50 WATER	pH/Cond/TDS (1 days)	-
DETS	21-24680	1936450	MS\BH04 2.35-5.00 WATER	pH/Cond/TDS (1 days)	-
DETS	21-24680	1936451	MS\BH03 1.98-28.50 WATER	pH/Cond/TDS (1 days)	-
DETS	21-24680	1936452	MS\BH15 3.57-12.00 WATER	pH/Cond/TDS (1 days)	-
DETS	21-24680	1936453	MS\BH15 3.53-5.00 WATER	pH/Cond/TDS (1 days)	-
DETS	21-24680	1936454	DUPLICATE B 3.60-8.00 WATER	pH/Cond/TDS (1 days)	-

Appendix I

Soil, Leachate and Groundwater Data (Enviros 2004, AEG 2018 and AEG 2022)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	12AB2	12AT10	12AT11	12AT13	12AT16	12AT17	12AT7	12AT8	12E							
		Sample Depth (m bgl)	Sample Depth (m bgl)	6-6	0.3-0.3	4-4	0.3-0.3	4-4	0.2-0.2	4-4	0.3-0.3	2.2-2.2	0.3-0.3	2-2	0.25-0.25	4-4	2-2	4.2-4.2	5.5-5.5
		Unit	Sample_Date	22/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	22/04/2004
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Arsenic	mg/kg	5.2	8.5	9.3	11.7	5.1	15.9	11	14.5	9.9	2.1	3.4	4.8	5.6	18.5	23.7	10.6	
	Barium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Beryllium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Boron	mg/kg	0.6	1.2	1.5	1.6	2.3	0.7	0.8	1.3	1.5	1.4	0.7	1.1	3	1	0.9	0.8	
	Cadmium	mg/kg	<0.1	0.7	0.6	0.4	0.2	0.7	0.6	0.2	0.2	0.5	0.5	0.8	0.5	0.4	2.7	0.2	
	Chromium (hexavalent)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chromium	mg/kg	5.9	12.9	12.7	28.1	15	22.2	11.7	18	9.1	11.7	25.7	47.2	8.9	39.9	54.5	46.7	
	Chromium (Trivalent)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Copper	mg/kg	1.5	5.7	2.9	34.4	14.2	5.1	3.9	1.7	1.1	0.8	6.2	7	0.8	37.2	29.5	9.4	
	Iron	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Lead	mg/kg	9.2	43.9	24.6	37.4	14	59.9	398.3	20.6	12.8	10.6	507.4	30.1	5.4	190.1	600.5	52	
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Molybdenum	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nickel	mg/kg	3.9	3.5	2.9	20.4	10.1	4.8	3.5	6.3	4.3	1	2.6	4.1	1.7	18.3	19	9.3	
	Selenium	mg/kg	0.5	7	7.4	2.2	2.6	6.6	7.9	3.3	2.8	7.3	6.4	4.7	8.7	2.5	3	0.7	
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vanadium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Zinc	mg/kg	28.7	126.9	172.8	123.8	45.6	113.8	102.9	32	17.3	23.9	53.9	86.5	11.2	241.2	862.7	186.7		
Inorganics	Cyanide (Free)	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	Cyanide Total	mg/kg	<1	5	5	<1	3	<1	5	<1	<1	<1	<1	3	8	3	5	<1	
	cyanides-complex	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Nitrate (as NO3-)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphate as SO4	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphide	mg/kg	657	2589	3835	56	820	24	869	528	8	2067	1263	1130	1550	401	333	<5	
	Sulphur as S	%	0.1	0.5	1.33	0.54	0.76	0.65	0.89	0.36	0.35	1.2	0.92	0.43	1.7	0.42	0.67	0.08	
	Sulphur (free)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Thiocyanate (as SCN)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Other	Organic Matter	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Moisture	%	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Moisture Content 105C	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
pH (Lab)	pH_Units		10.3	10.2	9.6	10.5	10.6	10.2	9.6	9.6	9.4	9.4	9.7	10.8	10.1	11.1	10.6	11.4	

Appendix I Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site		
		Location ID	Location	12AB2	12AT10	12AT11	12AT13	12AT16	12AT17	12AT7	12AT8	12E									
		Sample Depth (m bgl)	Sample Depth (m bgl)	6-6	0.3-0.3	4-4	0.3-0.3	4-4	0.2-0.2	4-4	0.3-0.3	2.2-2.2	0.3-0.3	2-2	0.25-0.25	4-4	2-2	4.2-4.2	5.5-5.5		
		Unit	Sample_Date	22/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	22/04/2004
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C6-C8 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C8-C10 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C10-C12 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C12-C16 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C16-C21 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C21-C35 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Total >C5-C35 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC5-EC7 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC7-EC8 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC8-EC10 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC10-EC12 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC12-EC16 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC16-EC21 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC21-EC35 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total >EC5-EC35 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TPH >C5-C35 Aliphatics/Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	EPH >C10-40	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	GRO C5-C10	mg/kg	<5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	TPH by GCFID (AR)	mg/kg	70	72	87	427	249	548	715	202	16	45	2641	233	54	374	219	42			
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	<250	<10	<10	<10	<10	<10	<25	<25	<10	<10	<10	<10	<10	<10	<10	<10		
	Toluene	mg/kg	0.05	<250	<10	<10	<10	<10	<10	<25	<25	<10	<10	<10	<10	<10	<10	<10	<10		
	Ethylbenzene	mg/kg	0.05	<250	<10	<10	<10	<10	<10	<25	<25	<10	<10	<10	<10	<10	<10	<10	<10		
	Xylene (m & p)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Xylene (o)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Xylene Total	mg/kg		<500	<20	<20	<20	<20	<20	<50	<50	<20	<20	<20	<20	<20	<20	<20	<20		
Polycyclic Aromatic Hydrocarbons	MTBE	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Naphthalene	mg/kg	0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	Acenaphthene	mg/kg	0.01	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	Acenaphthylene	mg/kg	0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	Fluoranthene	mg/kg	0.01	<1	<1	3	4	<1	<1	5	<1	<1	<1	<1	<1	<1	9	1	<1		
	Anthracene	mg/kg	0.01	<1	<1	<1	<1	<1	5	<1	<1	<1	4	<1	<1	<1	1	<1	<1		
	Phenanthrene	mg/kg	0.01	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	Fluorene	mg/kg	0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	Chrysene	mg/kg	0.01	<1	<1	2	4	<1	12	5	<1	<1	11	<1	<1	<1	6	1	<1		
	Pyrene	mg/kg	0.01	<1	<1	3	4	<1	25	5	<1	<1	21	<1	<1	<1	6	<1	<1		
	Benzo(a)anthracene	mg/kg	0.01	<1	<1	2	3	<1	13	4	<1	<1	11	<1	<1	<1	6	<1	<1		
	Benzo(b)fluoranthene	mg/kg	0.01	<1	<1	1	5	<1	13	6	<1	<1	11	<1	<1	<1	6	<1	<1		
	Benzo(k)fluoranthene	mg/kg	0.01	1	<1	1	2	<1	5	3	<1	<1	4	<1	<1	2	3	<1	<1		
	Benzo(a)pyrene	mg/kg	0.01	<1	<1	1	5	<1	11	6	<1	<1	9	<1	<1	<1	5	<1	<1		
	Dibenz(a,h)anthracene	mg/kg	0.01	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	Benzo(g,h,i)perylene	mg/kg	0.01	<1	<1	<1	3	<1	7	4	<1	<1	5	<1	<1	<1	3	<1	<1		
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	<1	<1	<1	3	<1	6	4	<1	<1	6	<1	<1	<1	3	<1	<1		
	PAH 16 Total	mg/kg		<16	<16	<22	<41	<16	<120	<50	<16	<16	<100	<16	<16	<17	<56	<16	<16		
	PAHs (Sum of total)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Phenolics	Xylenols	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	3-&4-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Phenol	mg/kg	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	5.1	2.2	<0.5	<0.5	<0.5		
	Phenols Monohydric	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

Appendix I Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	12AB2	12AT10	12AT11	12AT13	12AT16	12AT17	12AT7	12AT8	12E							
		Sample Depth (m bgl)	Sample Depth (m bgl)	6-6	0.3-0.3	4-4	0.3-0.3	4-4	0.2-0.2	4-4	0.3-0.3	2.2-2.2	0.3-0.3	2-2	0.25-0.25	4-4	2-2	4.2-4.2	5.5-5.5
		Unit	Sample Date	22/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	22/04/2004
Volatile Organic Carbon	Styrene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	cis-1,3-dichloropropene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	trans-1,3-dichloropropene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,1,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,1-trichloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,2-trichloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1-dichloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1-dichloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1-dichloropropene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2,3-trichloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2,4-trimethylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dibromo-3-chloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dibromoethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dichloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-Dichloropropene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dichloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3,5-trimethylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-dichloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,2-dichloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-chlorotoluene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chlorotoluene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromobenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromochloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromodichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromoform	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Carbon tetrachloride	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chlorodibromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloroform	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	cis-1,2-dichloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dibromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Isopropylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
n-butylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
n-propylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
p-isopropyltoluene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
sec-butylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Trichloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
tert-butylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Tetrachloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
trans-1,2-dichloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Vinyl chloride	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	1,2-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	1,3-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	1,4-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Chlorobenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachlorobutadiene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Appendix I Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	12AB2	12AT10	12AT11	12AT13	12AT16	12AT17	12AT7	12AT8	12B							
		Sample Depth (m bgl)	Sample Depth (m bgl)	6-6	0.3-0.3	4-4	0.3-0.3	4-4	0.2-0.2	4-4	0.3-0.3	2.2-2.2	0.3-0.3	2-2	0.25-0.25	4-4	2-2	4.2-4.2	5.5-5.5
		Unit	Sample_Date	22/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	22/04/2004
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Benzyl alcohol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-bromophenyl phenyl ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-nitroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-Dinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-Dinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,3,4,6-tetrachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,3,5,6-Tetrachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4,5-trichlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4,6-trichlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-dichlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-dimethylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-dinitrotoluene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,6-dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,6-dinitrotoluene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-chloronaphthalene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-chlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-methylnaphthalene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-nitroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3-nitroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chloro-3-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chlorophenyl phenyl ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Aniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Azobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroethoxy) methane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroisopropyl) ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Butyl benzyl phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Carbazole	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Dibenzofuran	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Diethylphthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Dimethyl phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Di-n-butyl phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Di-n-octyl phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Diphenylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachlorocyclopentadiene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Isophorone	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Pentachlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
		Location ID	Location	12AB2	12AT10	12AT11	12AT13	12AT16	12AT17	12AT7	12AT8	12E						
		Sample Depth (m bgl)	Sample Depth (m bgl)	6-6	0.3-0.3	4-4	0.3-0.3	4-4	0.3-0.3	2.2-2.2	0.3-0.3	2-2	0.25-0.25	4-4	2-2	4.2-4.2	5.5-5.5	
		Unit	Sample_Date	22/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	16/04/2004	22/04/2004
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,4,4,5,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 3,3,4,4,5,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 101	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 118	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 138	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 153	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 180	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 28 + PCB 31	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 52	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total PCB 7 Congeners	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Notes

- Not analysed
- # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	12BT12	12BT14	12BT15	12BT9	13AT1	13AT2	13AT3	13AT4	13AT5									
		Sample Depth (m bgl)	Sample Depth (m bgl)	7.5-7.5	0.4-0.4	4-4	0.3-0.3	3.9-3.9	1-1	0.5-0.5	3.2-3.2	0.1-0.1	4.3-4.3	0.15-0.15	4.1-4.1	0.2-0.2	4-4	0.25-0.25	4.1-4.1	0.8-0.8	4-4
		Unit	Sample_Date	22/04/2004	21/04/2004	21/04/2004	21/04/2004	21/04/2004	21/04/2004	20/04/2004	20/04/2004	13/04/2004	13/04/2004	13/04/2004	13/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Arsenic	mg/kg	6	17.4	28.3	3.5	3.5	27.2	34.1	40.8	14.1	92.5	8.8	10.2	25.6	468.7	19.3	20.3	39.2	19.9	
	Barium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Beryllium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Boron	mg/kg	<0.5	0.6	1.1	1.3	1.3	0.6	<0.5	0.7	1.7	0.8	1.4	2.6	1.2	1.6	1.7	0.7	2.6	3	
	Cadmium	mg/kg	<0.1	0.6	0.4	0.6	0.5	1.7	0.6	0.6	0.7	16.4	0.2	0.1	0.4	5.6	0.4	2	1	0.8	
	Chromium (hexavalent)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chromium	mg/kg	8.9	75.4	165.2	9.5	7.1	786.6	265	325.5	361.4	441.6	61.4	29.7	184.2	173.6	29.3	1340	42.8	14.1	
	Chromium (Trivalent)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Copper	mg/kg	2.8	13.5	31.2	1.2	0.5	65.3	41.2	46.4	20	160.5	2.9	2.7	9.6	10.7	1.4	23	4.3	5.8	
	Iron	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Lead	mg/kg	10.3	93.7	281.3	30.8	6.3	367	102.9	106.8	124.3	2030	46.9	28.5	33.8	499.1	18.3	31.8	98.1	80.5	
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.2	0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Molybdenum	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nickel	mg/kg	6.7	7	13.4	0.9	1	23.2	20.2	21.8	13.4	40.8	5	4.1	9.5	30.1	2.6	18.1	10.4	3.3	
	Selenium	mg/kg	0.5	4.1	2.9	7	7	3.1	2.9	3.1	3.1	1.7	6.2	5.9	3.9	4.5	6.9	2.1	5.1	6.1	
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Vanadium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Zinc	mg/kg	38.7	177.4	83.7	44.8	11.9	1720	161	267.6	331.3	2710	91.2	82.1	107.4	4160	211.1	145.7	609.7	292.9		
Inorganics	Cyanide (Free)	mg/kg	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	Cyanide Total	mg/kg	<1	3	6	3	7	3	18	3	<1	<1	<1	<1	2	<1	2	3	14		
	cyanides-complex	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Nitrate (as NO3-)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphate as SO4	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphide	mg/kg	<5	1710	414	2039	1509	297	1020	604	409	68	3448	2468	399	<5	654	16	1921		
	Sulphur as S	%	<0.04	0.67	0.69	0.87	1.06	0.41	0.58	0.45	0.47	0.33	0.88	0.99	0.76	2.61	0.91	0.31	1.18		
	Sulphur (free)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Thiocyanate (as SCN)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Other	Organic Matter	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Moisture	%	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Moisture Content 105C	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	pH (Lab)	pH_Units	10.1	10.6	11	10	9.6	11.4	10.4	10.3	11.5	11.7	11.3	10.9	10.8	10	10.2	12.1	10.6		

Appendix I, Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	12BT11	12BT12	12BT14	12BT15	12BT9	13AT1	13AT2	13AT3	13AT4	13AT5								
		Sample Depth (m bgl)	Sample Depth (m bgl)	7.5-7.5	0.4-0.4	4-4	0.3-0.3	3.9-3.9	1-1	0.5-0.5	3.2-3.2	0.1-0.1	4.3-4.3	0.15-0.15	4.1-4.1	0.2-0.2	4-4	0.25-0.25	4.1-4.1	0.8-0.8	4-4
		Unit	Sample_Date	22/04/2004	21/04/2004	21/04/2004	21/04/2004	21/04/2004	21/04/2004	20/04/2004	20/04/2004	13/04/2004	13/04/2004	13/04/2004	13/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C6-C8 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C8-C10 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C10-C12 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C12-C16 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C16-C21 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C21-C35 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Total >C5-C35 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC5-EC7 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC7-EC8 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC8-EC10 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC10-EC12 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC12-EC16 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC16-EC21 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC21-EC35 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total >EC5-EC35 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TPH >C5-C35 Aliphatics/Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	EPH >C10-40	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	GRO C5-C10	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	TPH by GCFID (AR)	mg/kg	23	138	<10	1650	94	318	242	31	181	325	39	14	173	23	33	60	41		
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	<10	<10	<10	<10	<10	<10	<10	<10	<10	<25	<10	<25	<10	<10	<10	<10		
	Toluene	mg/kg	0.05	<10	<10	<10	<10	<10	<10	<10	<10	<10	<25	<10	<25	<10	<10	<10	<10		
	Ethylbenzene	mg/kg	0.05	<10	<10	<10	<10	<10	<10	<10	<10	<10	<25	<10	<25	<10	<10	<10	<10		
	Xylene (m & p)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Xylene (o)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Xylene Total	mg/kg		<20	<20	<20	<20	<20	<20	<20	<20	<50	<20	<50	<20	<20	<20	<20	<20		
	MTBE	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
	Acenaphthene	mg/kg	0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
	Acenaphthylene	mg/kg	0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
	Fluoranthene	mg/kg	0.01	<1	3	<1	47	3	2	<1	<1	1	<1	<1	<1	2	<1	<1			
	Anthracene	mg/kg	0.01	<1	<1	<1	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
	Phenanthrene	mg/kg	0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1			
	Fluorene	mg/kg	0.01	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
	Chrysene	mg/kg	0.01	<1	2	<1	30	2	1	<1	<1	<1	<1	<1	1	<1	<1				
	Pyrene	mg/kg	0.01	<1	2	<1	37	3	1	<1	<1	<1	<1	<1	2	<1	<1				
	Benzo(a)anthracene	mg/kg	0.01	<1	1	<1	26	2	<1	<1	<1	<1	<1	<1	1	<1	<1				
	Benzo(b)fluoranthene	mg/kg	0.01	<1	2	<1	34	3	2	1	<1	<1	<1	<1	1	<1	<1				
	Benzo(k)fluoranthene	mg/kg	0.01	<1	1	<1	14	<1	<1	1	<1	<1	<1	<1	1	<1	<1				
	Benzo(a)pyrene	mg/kg	0.01	<1	1	<1	29	2	1	<1	<1	<1	<1	<1	1	<1	<1				
	Dibenz(a,h)anthracene	mg/kg	0.01	<1	<1	<1	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
	Benzo(g,h,i)perylene	mg/kg	0.01	<1	<1	<1	22	1	1	<1	<1	<1	<1	<1	<1	<1	<1				
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	<1	<1	<1	21	1	1	<1	<1	<1	<1	<1	<1	<1	<1				
	PAH 16 Total	mg/kg		<16	<22	<16	<309	<26	<18	<16	<16	<16	<16	<16	<18	<16	<16				
	PAHs (Sum of total)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Phenolics	Xylenols	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	3-&4-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	Phenol	mg/kg	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5				
	Phenols Monohydric	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	12BT12	12BT14	12BT15	12BT9	13AT1	13AT2	13AT3	13AT4	13AT5									
		Sample Depth (m bgl)	Sample Depth (m bgl)	7.5-7.5	0.4-0.4	4-4	0.3-0.3	3.9-3.9	1-1	0.5-0.5	3.2-3.2	0.1-0.1	4.3-4.3	0.15-0.15	4.1-4.1	0.2-0.2	4-4	0.25-0.25	4.1-4.1	0.8-0.8	4-4
		Unit	Sample Date	22/04/2004	21/04/2004	21/04/2004	21/04/2004	21/04/2004	21/04/2004	20/04/2004	20/04/2004	13/04/2004	13/04/2004	13/04/2004	13/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004
Volatile Organic Carbon	Styrene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	cis-1,3-dichloropropene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	trans-1,3-dichloropropene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,1,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,1-trichloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1,2-trichloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1-dichloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1-dichloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,1-dichloropropene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2,3-trichloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2,4-trimethylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dibromo-3-chloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dibromoethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dichloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-Dichloropropene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dichloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3,5-trimethylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-dichloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,2-dichloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-chlorotoluene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chlorotoluene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromobenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromochloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromodichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromoform	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Carbon tetrachloride	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chlorodibromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloroform	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	cis-1,2-dichloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Dibromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Isopropylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	n-butylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	n-propylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	p-isopropyltoluene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
sec-butylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Trichloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
tert-butylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Tetrachloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
trans-1,2-dichloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Vinyl chloride	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	1,2-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	1,3-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	1,4-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Chlorobenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Hexachlorobutadiene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Appendix I, Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	12BT11	12BT12	12BT14	12BT15	12BT9	13AT1	13AT2	13AT3	13AT4	13AT5								
		Sample Depth (m bgl)	Sample Depth (m bgl)	7.5-7.5	0.4-0.4	4-4	0.3-0.3	3.9-3.9	1-1	0.5-0.5	3.2-3.2	0.1-0.1	4.3-4.3	0.15-0.15	4.1-4.1	0.2-0.2	4-4	0.25-0.25	4.1-4.1	0.8-0.8	4-4
	Unit	Sample_Date	22/04/2004	21/04/2004	21/04/2004	21/04/2004	21/04/2004	21/04/2004	20/04/2004	20/04/2004	13/04/2004	13/04/2004	13/04/2004	13/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Benzyl alcohol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-bromophenyl phenyl ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-nitroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-Dinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-Dinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,3,4,6-tetrachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,3,5,6-Tetrachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4,5-trichlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4,6-trichlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-dichlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-dimethylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-dinitrotoluene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,6-dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,6-dinitrotoluene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-chloronaphthalene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-chlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-methylnaphthalene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-nitroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3-nitroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chloro-3-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chlorophenyl phenyl ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Aniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Azobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroethoxy) methane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroisopropyl) ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Butyl benzyl phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Carbazole	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Dibenzofuran	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Diethylphthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Dimethyl phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Di-n-butyl phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Di-n-octyl phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Diphenylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachlorocyclopentadiene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Isophorone	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Pentachlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Appendix I Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	12BT1	12BT12	12BT14	12BT15	12BT9	13AT1	13AT2	13AT3	13AT4	13AT5								
		Sample Depth (m bgl)	Sample Depth (m bgl)	7.5-7.5	0.4-0.4	4-4	0.3-0.3	3.9-3.9	1-1	0.5-0.5	3.2-3.2	0.1-0.1	4.3-4.3	0.15-0.15	4.1-4.1	0.2-0.2	4-4	0.25-0.25	4.1-4.1	0.8-0.8	4-4
		Unit	Sample_Date	22/04/2004	21/04/2004	21/04/2004	21/04/2004	21/04/2004	21/04/2004	20/04/2004	20/04/2004	13/04/2004	13/04/2004	13/04/2004	13/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,4,4,5,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 3,3,4,4,5,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 101	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 118	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 138	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 153	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 180	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 28 + PCB 31	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 52	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total PCB 7 Congeners	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Notes

- Not analysed
- # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	13AT6	13BT10	13BT11	13BT12	13BT8	13BT9	13CB1	13CT14	13CT15	13CT16	13CT17	14AT7						
		Sample Depth (m bgl)	Sample Depth (m bgl)	1.8-1.8	3.3-3.3	0.2-0.2	0.2-0.2	0.5-0.5	0.3-0.3	2-2	0.3-0.3	0.1-0.1	5.5-5.5	0.3-0.3	3.6-3.6	0.2-0.2	3.8-3.8	0.3-0.3	4-4	0.5-0.5	4-4
		Unit	Sample_Date	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	21/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	21/04/2004
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Arsenic	mg/kg	34.7	18.3	31.3	6.8	12.1	8	17.5	12.7	9.5	2.4	13.6	21.4	9.4	26.3	6.9	12.2	5.3	8.1	
	Barium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Beryllium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Boron	mg/kg	2.1	2.7	1.7	1.2	2.3	0.6	0.8	1.9	2.6	1.9	1.3	1.2	0.7	1.8	1.4	1.5	1	0.6	
	Cadmium	mg/kg	0.6	0.4	3.2	0.4	0.3	0.4	0.4	0.7	0.5	0.2	0.5	0.7	0.7	1	0.6	0.7	0.6	0.6	
	Chromium (hexavalent)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chromium	mg/kg	38.1	31.7	586.1	658.1	335.9	2580.4	298.9	308.5	623	5.1	311.4	468.2	200	334.9	22.1	196	35.9	18.8	
	Chromium (Trivalent)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Copper	mg/kg	6.8	0.9	49.5	19.2	26.3	36.2	20.9	30.1	27	1.1	10.1	18.1	13.1	13.6	12.8	8.4	16.4	2.1	
	Iron	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Lead	mg/kg	77.7	24	105.3	31.2	58.9	50.6	61	93.6	62.8	12.9	47.4	71.6	47	88	26.5	61.4	29	11.9	
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.4	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Molybdenum	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nickel	mg/kg	9.9	3.7	38.9	15.3	17.6	12.9	26.5	21.8	15.5	1.1	7.1	9.5	8.2	5.9	12.4	5.2	11.9	2.6	
	Selenium	mg/kg	4.8	7	1.5	1.8	1.9	2.8	1.1	2	2.8	5	4.1	3.7	4.3	4.5	2.1	4	1.6	7.4	
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vanadium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Zinc	mg/kg	292.6	93.2	372.2	80.2	146.1	102.5	220	212.2	205.3	7.5	235.5	203.1	141.4	660.6	191.1	106.5	194.2	75		
Inorganics	Cyanide (Free)	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	Cyanide Total	mg/kg	8	5	<1	<1	<1	<1	<1	<1	1	7	2	<1	<1	5	<1	<1	<1		
	cyanides-complex	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Nitrate (as NO3-)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphate as SO4	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphide	mg/kg	803	1919	<5	101	156	<5	5	415	30	3060	524	290	439	571	447	267	127		
	Sulphur as S	%	1.46	1.36	0.24	0.37	0.31	0.34	0.12	0.36	0.37	0.71	0.81	0.47	0.33	0.91	0.42	0.59	0.24		
	Sulphur (free)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Thiocyanate (as SCN)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Other	Organic Matter	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Moisture	%	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Moisture Content 105C	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
pH (Lab)	pH_Units		10.3	10.5	10.8	11.6	10.8	12.7	11.2	11.3	11.2	10.5	11.2	11.5	11.1	11.5	11.3	11.3	11.4		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	13AT6		13BT10	13BT11		13BT12		13BT8	13BT9	13CB1	13CT14		13CT15		13CT16		13CT17	14AT7
		Sample Depth (m bgl)	Sample Depth (m bgl)	1.8-1.8	3.3-3.3	0.2-0.2	0.2-0.2	0.5-0.5	0.3-0.3	2-2	0.3-0.3	0.1-0.1	5.5-5.5	0.3-0.3	3.6-3.6	0.2-0.2	3.8-3.8	0.3-0.3	4-4	0.5-0.5	4-4
		Unit	Sample_Date	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	21/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	21/04/2004
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C6-C8 Aliphatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C8-C10 Aliphatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C10-C12 Aliphatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C12-C16 Aliphatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C16-C21 Aliphatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C21-C35 Aliphatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Total >C5-C35 Aliphatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC5-EC7 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC7-EC8 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC8-EC10 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC10-EC12 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC12-EC16 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC16-EC21 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>EC21-EC35 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Total >EC5-EC35 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TPH >C5-C35 Aliphatics/Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	GRO C5-C10	mg/kg		<0.2	<0.2	0.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	
	TPH by GC/FID (AR)	mg/kg		90	<10	172	2574	84	93	83	2808	91	<10	74	120	212	571	401	148	264	268
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	<10	<10	<25	<10	<10	<10	<10	<10	<10	<25	<10	<10	<10	<10	<10	<10	<10	
	Toluene	mg/kg	0.05	<10	<10	<25	<10	<10	<10	<10	<10	<10	<25	<10	<10	<10	<10	<10	<10	<10	
	Ethylbenzene	mg/kg	0.05	<10	<10	<25	<10	<10	<10	<10	<10	<10	<25	<10	<10	<10	<10	<10	<10	<10	
	Xylene (m & p)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Xylene (o)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Xylene Total	mg/kg		<20	<20	<50	<20	<20	<20	<20	<20	<20	<50	<20	<20	<20	<20	<20	<20	<20	
Polycyclic Aromatic Hydrocarbons	MTBE	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Naphthalene	mg/kg	0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Acenaphthene	mg/kg	0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Acenaphthylene	mg/kg	0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	3	<1	<1	<1	
	Fluoranthene	mg/kg	0.01	<1	<1	<1	9	<1	<1	<1	4	<1	<1	<1	<1	<1	29	<1	<1	<1	
	Anthracene	mg/kg	0.01	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	5	<1	<1	<1	
	Phenanthrene	mg/kg	0.01	<1	<1	<1	9	<1	<1	<1	<1	<1	<1	<1	<1	<1	28	<1	<1	<1	
	Fluorene	mg/kg	0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	
	Chrysene	mg/kg	0.01	<1	<1	1	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	13	<1	<1	<1	
	Pyrene	mg/kg	0.01	<1	<1	1	6	<1	<1	<1	2	<1	<1	<1	<1	<1	21	<1	<1	<1	
	Benzo(a)anthracene	mg/kg	0.01	<1	<1	1	4	<1	<1	<1	4	<1	<1	<1	<1	<1	10	<1	<1	<1	
	Benzo(b)fluoranthene	mg/kg	0.01	<1	<1	2	<1	3	<1	<1	<1	<1	<1	<1	<1	<1	13	<1	<1	<1	
	Benzo(k)fluoranthene	mg/kg	0.01	<1	<1	<1	2	<1	<1	<1	2	<1	<1	<1	<1	<1	5	<1	<1	<1	
	Benzo(a)pyrene	mg/kg	0.01	<1	<1	1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	9	<1	<1	<1	
	Dibenz(a,h)anthracene	mg/kg	0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	
	Benzo(g,h,i)perylene	mg/kg	0.01	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5	<1	<1	<1	
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	6	<1	<1	<1	
	PAH 16 Total	mg/kg		<16	<16	<18	<47	<16	<16	<16	<26	<16	<16	<16	<16	<16	<153	<16	<16	<16	
	PAHs (Sum of total)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenolics	Xylenols	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3-&4-methylphenol	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Phenol	mg/kg	0.01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Phenols Monohydric	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	13AT6	13BT10	13BT11	13BT12	13BT8	13BT9	13CB1	13CT14	13CT15	13CT16	13CT17	14AT7						
		Sample Depth (m bgl)	Sample Depth (m bgl)	1.8-1.8	3.3-3.3	0.2-0.2	0.2-0.2	0.5-0.5	0.3-0.3	2-2	0.3-0.3	0.1-0.1	5.5-5.5	0.3-0.3	3.6-3.6	0.2-0.2	3.8-3.8	0.3-0.3	4-4	0.5-0.5	4-4
		Unit	Sample Date	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	21/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	21/04/2004
Volatile Organic Carbon	Styrene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1,3-dichloropropene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	trans-1,3-dichloropropene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,1,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,1-trichloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1-dichloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1-dichloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1-dichloropropene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,3-trichloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,4-trimethylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dibromo-3-chloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dibromoethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3-Dichloropropene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3-dichloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,2-dichloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-chlorotoluene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-chlorotoluene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromobenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromochloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromodichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromoform	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chlorodibromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-dichloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dibromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isopropylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
n-butylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
n-propylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
p-isopropyltoluene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
sec-butylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Trichloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
tert-butylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tetrachloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
trans-1,2-dichloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,4-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chlorobenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Hexachlorobutadiene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	13AT6	13BT10	13BT11	13BT12	13BT8	13BT9	13CB1	13CT14	13CT15	13CT16	13CT17	14AT7						
		Sample Depth (m bgl)	Sample Depth (m bgl)	1.8-1.8	3.3-3.3	0.2-0.2	0.2-0.2	0.5-0.5	0.3-0.3	2-2	0.3-0.3	0.1-0.1	5.5-5.5	0.3-0.3	3.6-3.6	0.2-0.2	3.8-3.8	0.3-0.3	4-4	0.5-0.5	4-4
		Unit	Sample_Date	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	21/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	21/04/2004
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Benzyl alcohol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-bromophenyl phenyl ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-nitroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-Dinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-Dinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,3,4,6-tetrachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,3,5,6-Tetrachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4,5-trichlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4,6-trichlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-dichlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-dimethylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-dinitrotoluene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,6-dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,6-dinitrotoluene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-chloronaphthalene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-chlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-methylnaphthalene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-nitroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3-nitroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chloro-3-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chlorophenyl phenyl ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Aniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Azobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroethoxy) methane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroisopropyl) ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Butyl benzyl phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Carbazole	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Dibenzofuran	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Diethylphthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Dimethyl phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Di-n-butyl phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Di-n-octyl phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Diphenylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachlorocyclopentadiene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Isophorone	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Pentachlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	13AT6	13BT10	13BT11	13BT12	13BT8	13BT9	13CB1	13CT14	13CT15	13CT16	13CT17	14AT7						
		Sample Depth (m bgl)	Sample Depth (m bgl)	1.8-1.8	3.3-3.3	0.2-0.2	0.2-0.2	0.5-0.5	0.3-0.3	2-2	0.3-0.3	0.1-0.1	5.5-5.5	0.3-0.3	3.6-3.6	0.2-0.2	3.8-3.8	0.3-0.3	4-4	0.5-0.5	4-4
		Unit	Sample_Date	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	21/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	21/04/2004
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,4,4,5,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 3,3,4,4,5,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 101	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 118	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 138	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 153	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 180	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 28 + PCB 31	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 52	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total PCB 7 Congeners	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Notes
 - Not analysed
 # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	On-Site	On-Site	On-Site
		Location ID	Location	LF\BH01				LF\BH02				LF\TP01			LF\TP02	LF\TP03	MS\BH02				
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.3	0.5	2	4	28.1-28.1	28.65-28.95	0.3	1	8.7-8.9	18.4	24.9-24.9	0.3	1	1	4	0.3-0.3	2.25-2.7	10.2-10.4
Unit	Sample_Date	23/06/2021	23/06/2021	23/06/2021	23/06/2021	23/06/2021	29/06/2021	24/06/2021	24/06/2021	25/06/2021	24/07/2021	08/07/2021	23/06/2021	23/06/2021	23/06/2021	24/06/2021	25/06/2021	28/06/2021	28/06/2021		
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Arsenic	mg/kg	5	3.5	3.2	4.6	-	54	9.4	11	6.1	8.6	-	3.5	4.8	4.9	7	4.1	9	11	
	Barium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Beryllium	mg/kg	7.9	5.9	5.8	4.7	-	1.8	1.1	7.5	<0.2	0.8	-	1.2	5.7	3.4	5	3.1	<0.2	<0.2	
	Boron	mg/kg	4.9	11	6.4	4.3	-	1.9	1.5	2.2	<0.2	3.7	-	5.4	2.7	1.2	5.5	2.2	0.8	1.8	
	Cadmium	mg/kg	<0.1	<0.1	<0.1	<0.1	-	<0.1	0.4	0.6	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	
	Chromium (hexavalent)	mg/kg	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	-	<1	<1	<7	<1	<1	<7	<1	
	Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (Trivalent)	mg/kg	11	3.3	3	12	-	72	750	22	2.8	37	-	2.4	22	6	6.4	240	3.8	4.9	
	Copper	mg/kg	8.2	6.1	5.1	6.8	-	12	59	17	5.8	20	-	5.3	7.4	6.9	5.8	13	4.6	5.4	
	Iron	mg/kg	-	-	-	-	-	-	-	-	-	38,000	-	-	-	-	-	-	-	-	-
	Lead	mg/kg	3	1	1.1	1.1	-	15	84	49	2.7	27	-	3.3	1.8	3.3	1.3	25	18	4.3	
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury	mg/kg	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	0.06	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Molybdenum	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nickel	mg/kg	1.3	<1	<1	<1	-	32	13	6.1	2.2	27	-	1.4	<1	2.5	1.5	8.3	3.1	4.5	
	Selenium	mg/kg	2	1.4	1.1	2	-	<0.5	6.9	2.3	<0.5	0.5	-	<0.5	2.8	1.1	2.2	2.6	<0.5	<0.5	
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	37	16	14	110	-	320	1900	95	8.7	61	-	12	170	32	48	350	12	17		
Zinc	mg/kg	10	26	3.5	27	-	83	62	120	13	75	-	20	5.5	21	5.2	50	27	17		
Inorganics	Cyanide (Free)	mg/kg	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Cyanide Total	mg/kg	0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	0.6	<0.1	-	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	1.9	<0.1	
	cyanides-complex	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate (as NO3-)	mg/kg	6.7	4.2	4.5	4.3	-	17	54	7.3	<1	-	-	<1	2.2	1.2	<1	8.7	2.1	2.1	
	Sulphate	mg/kg	11,000	13,000	10,000	9600	-	2700	5400	4800	900	-	-	2700	8900	6300	25,000	5600	1400	800	
	Sulphate as SO4	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphide	mg/kg	1500	1000	1200	1500	-	120	680	1300	<10	-	-	200	1400	3000	3200	560	150	32	
	Sulphur as S	%	0.69	0.3	0.37	0.46	-	0.41	0.28	0.57	0.03	-	-	0.07	0.61	0.26	0.72	0.29	0.16	0.04	
	Sulphur (free)	mg/kg	120	240	32	2.4	-	18	2.5	<0.75	3.2	-	-	53	5.6	7.5	64	33	60	5.9	
Thiocyanate (as SCN)	mg/kg	1.1	1.5	0.9	0.6	-	<0.6	<0.6	0.8	<0.6	-	-	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	
Other	Organic Matter	%	0.8	0.6	1.3	1.2	-	0.9	1	1.5	0.3	-	-	0.8	1.6	2	0.7	1.2	0.8	0.4	
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture	%	0.1	-	-	-	14	-	-	-	-	-	23.4	-	-	-	-	-	-	-	
	Moisture Content 105C	%	1.9	4.8	4.4	21	-	14	2.4	13	21	-	-	1.3	1.2	4.6	9.9	6.1	20	21	
pH (Lab)	pH_Units	11	11.2	10.9	11	-	8.1	12	10.6	9.2	-	-	11	10.7	8.8	9.3	11.4	8.9	9		

Chemical Group	Compound	Location	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	On-Site	On-Site	On-Site
		Location ID	Location	LF\BH01						LF\BH02				LF\TP01		LF\TP02	LF\TP03	MS\BH02			
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.3	0.5	2	4	28.1-28.1	28.65-28.95	0.3	1	8.7-8.9	18.4	24.9-24.9	0.3	1	1	4	0.3-0.3	2.25-2.7	10.2-10.4
Unit	Sample_Date	23/06/2021	23/06/2021	23/06/2021	23/06/2021	23/06/2021	29/06/2021	24/06/2021	24/06/2021	25/06/2021	24/07/2021	08/07/2021	23/06/2021	23/06/2021	23/06/2021	24/06/2021	25/06/2021	28/06/2021	28/06/2021		
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01		
	>C6-C8 Aliphatics	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01		
	>C8-C10 Aliphatics	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01		
	>C10-C12 Aliphatics	mg/kg	-	-	-	-	-	-	-	<1.5	-	-	<1.5	<1.5	<1.5	<1.5	-	530	<1.5		
	>C12-C16 Aliphatics	mg/kg	-	-	-	-	-	-	-	2.8	-	-	<1.2	<1.2	<1.2	<1.2	-	520	<1.2		
	>C16-C21 Aliphatics	mg/kg	-	-	-	-	-	-	-	4.9	-	-	<1.5	<1.5	<1.5	<1.5	-	340	<1.5		
	>C21-C35 Aliphatics	mg/kg	-	-	-	-	-	-	-	<3.4	-	-	<3.4	<3.4	<3.4	<3.4	-	980	<3.4		
	Total >C5-C35 Aliphatics	mg/kg	-	-	-	-	-	-	-	<10	-	-	<10	<10	<10	<10	-	2400	<10		
	>EC5-EC7 Aromatics	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	
	>EC7-EC8 Aromatics	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	
	>EC8-EC10 Aromatics	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	
	>EC10-EC12 Aromatics	mg/kg	-	-	-	-	-	-	-	<0.9	-	-	<0.9	<0.9	<0.9	<0.9	<0.9	-	<0.9	<0.9	
	>EC12-EC16 Aromatics	mg/kg	-	-	-	-	-	-	-	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	
	>EC16-EC21 Aromatics	mg/kg	-	-	-	-	-	-	-	<0.6	-	-	<0.6	<0.6	<0.6	<0.6	<0.6	-	<0.6	<0.6	
	>EC21-EC35 Aromatics	mg/kg	-	-	-	-	-	-	-	<1.4	-	-	<1.4	<1.4	<1.4	<1.4	<1.4	-	<1.4	<1.4	
Total >EC5-EC35 Aromatics	mg/kg	-	-	-	-	-	-	-	<10	-	-	<10	<10	<10	<10	<10	-	<10	<10		
TPH >C5-C35 Aliphatics/Aromatics	mg/kg	-	-	-	-	-	-	-	<10	-	-	<10	<10	<10	<10	<10	-	2400	<10		
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	EPH >C10-40	mg/kg	<10	<10	<10	<10	-	<10	<10	13	<10	-	<10	<10	<10	<10	<10	<10	<10		
	GRO C5-C10	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	TPH by GCFID (AR)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	<0.01	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Toluene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	<0.01	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Ethylbenzene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	<0.01	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Xylene (m & p)	mg/kg	0.1	-	-	-	-	<0.1	-	-	-	-	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Xylene (o)	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Xylene Total	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	-	<0.01
MTBE	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	<0.01	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	0.04	<0.03	0.04	<0.03	<0.05	<0.03	0.06	0.1	<0.03	-	0.022	<0.1	0.04	<0.01	<0.03	0.04	<0.1	<0.1
	Acenaphthene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	<0.03	-	<0.01	<0.03	<0.03	<0.1	<0.1	<0.03	<0.03	<0.1
	Acenaphthylene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	<0.01	<0.03	0.1	0.13	<0.03	-	<0.01	<0.1	<0.1	<0.1	<0.1	<0.03	<0.03	<0.1
	Fluoranthene	mg/kg	0.01	0.05	<0.03	0.05	<0.03	<0.01	<0.03	0.28	0.56	<0.03	-	<0.01	0.09	0.05	0.06	<0.1	0.23	<0.03	<0.1
	Anthracene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	<0.01	<0.03	0.07	0.11	<0.03	-	<0.01	0.05	<0.1	<0.1	<0.03	<0.03	<0.03	<0.1
	Phenanthrene	mg/kg	0.01	0.04	<0.03	0.04	<0.03	<0.01	<0.03	0.16	0.28	<0.03	-	0.027	0.06	0.04	<0.1	<0.1	0.14	<0.03	<0.03
	Fluorene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	<0.01	<0.03	0.1	0.12	<0.03	-	<0.01	<0.03	<0.1	<0.03	<0.03	<0.03	<0.03	<0.1
	Chrysene	mg/kg	0.01	0.04	<0.03	0.04	0.05	<0.01	<0.03	0.18	0.36	<0.03	-	<0.01	0.06	<0.1	<0.1	<0.1	0.15	<0.1	<0.1
	Pyrene	mg/kg	0.01	0.05	<0.03	0.04	<0.03	<0.01	<0.03	0.23	0.47	<0.03	-	<0.01	0.08	<0.1	<0.1	<0.03	0.2	<0.03	<0.03
	Benzo(a)anthracene	mg/kg	0.01	0.06	<0.03	0.05	0.06	<0.01	<0.03	0.19	0.4	<0.03	-	<0.01	0.08	<0.1	<0.1	<0.1	0.09	<0.03	<0.03
	Benzo(b)fluoranthene	mg/kg	0.01	0.11	<0.03	<0.03	<0.03	<0.01	<0.03	0.34	0.77	<0.03	-	<0.01	0.14	0.11	<0.1	<0.1	0.14	<0.03	<0.03
	Benzo(k)fluoranthene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	<0.01	<0.03	0.1	0.28	<0.03	-	<0.01	<0.1	<0.03	<0.03	<0.03	0.06	<0.03	<0.1
	Benzo(a)pyrene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	<0.01	<0.03	0.18	0.53	<0.03	-	<0.01	<0.03	<0.1	<0.03	<0.03	0.06	<0.1	<0.1
	Dibenz(a,h)anthracene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	<0.01	<0.03	0.03	0.09	<0.03	-	<0.01	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
	Benzo(g,h,i)perylene	mg/kg	0.01	0.04	<0.03	<0.03	<0.03	<0.01	<0.03	0.16	0.43	<0.03	-	<0.01	<0.1 - 0.06	<0.1 - 0.05	<0.03	<0.03	0.09	<0.03	<0.03
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	<0.01	<0.03	0.11	0.31	<0.03	-	<0.01	<0.03	<0.03	<0.1 - 0.03	<0.03	0.09	<0.03	<0.03
	PAH 16 Total	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs (Sum of total)	mg/kg	-	0.43	<0.1	0.26	0.11	-	<0.1	2.3	4.9	<0.1	-	-	0.64	0.4	0.34	<0.1	1.3	<0.1	<0.1	
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	
Phenolics	Xylenols	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	<0.01	
	3-&4-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	Phenol	mg/kg	0.01	-	-	-	-	<0.01	-	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.1	<0.1
	Phenols Monohydric	mg/kg	-	0.4	<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	

Chemical Group	Compound	Location	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	On-Site	On-Site	On-Site
		Location ID	Location	LF\BH01				LF\BH02				LF\TP01		LF\TP02	LF\TP03	MS\BH02					
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.3	0.5	2	4	28.1-28.1	28.65-28.95	0.3	1	8.7-8.9	18.4	24.9-24.9	0.3	1	1	4	0.3-0.3	2.25-2.7	10.2-10.4
		Unit	Sample Date	23/06/2021	23/06/2021	23/06/2021	23/06/2021	23/06/2021	29/06/2021	24/06/2021	24/06/2021	25/06/2021	24/07/2021	08/07/2021	23/06/2021	23/06/2021	23/06/2021	24/06/2021	25/06/2021	28/06/2021	28/06/2021
Volatile Organic Carbon	Styrene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	cis-1,3-dichloropropene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	-	-	-	-	-	-	-
	trans-1,3-dichloropropene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	1,1,1,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	1,1,1-trichloroethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	1,1-dichloroethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	1,1-dichloroethene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	1,1-dichloropropene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	1,2,3-trichloropropane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	1,2,4-trimethylbenzene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	1,2-dibromo-3-chloropropane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	1,2-dibromoethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	1,2-dichloroethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	1,3-Dichloropropene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	1,2-dichloropropane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	1,3,5-trimethylbenzene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	1,3-dichloropropane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	2,2-dichloropropane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	2-chlorotoluene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	4-chlorotoluene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Bromobenzene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Bromochloromethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Bromodichloromethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Bromoform	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Bromomethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Chlorodibromomethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Chloroethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Chloromethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	-	-	-	-	-	-	-
	cis-1,2-dichloroethene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Dibromomethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	-	-	-	-	-	-	-
	Dichloromethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	-	-	-	-	-	-	-
	Isopropylbenzene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	n-butylbenzene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	n-propylbenzene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	p-isopropyltoluene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
sec-butylbenzene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	
Trichloroethene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	
tert-butylbenzene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	
Tetrachloroethene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	
trans-1,2-dichloroethene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	
	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	<0.05	<0.1	<0.1	<0.1	<0.01	-	<0.1	<0.01	
	1,2-dichlorobenzene	mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	
	1,3-dichlorobenzene	mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	
	1,4-dichlorobenzene	mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	
	Chlorobenzene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
Hexachlorobutadiene	mg/kg	0.01	-	-	-	-	<0.05	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	

Chemical Group	Compound	Location	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	On-Site	On-Site	On-Site
		Location ID	Location	LF\BH01						LF\BH02				LF\TP01		LF\TP02	LF\TP03	MS\BH02			
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.3	0.5	2	4	28.1-28.1	28.65-28.95	0.3	1	8.7-8.9	18.4	24.9-24.9	0.3	1	1	4	0.3-0.3	2.25-2.7	10.2-10.4
Unit	Sample_Date	23/06/2021	23/06/2021	23/06/2021	23/06/2021	23/06/2021	29/06/2021	24/06/2021	24/06/2021	25/06/2021	24/07/2021	08/07/2021	23/06/2021	23/06/2021	23/06/2021	24/06/2021	25/06/2021	28/06/2021	28/06/2021		
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	Benzyl alcohol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	4-bromophenyl phenyl ether	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	4-nitroaniline	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	4-nitrophenol	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	1,2-Dinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	1,3-Dinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	2,3,4,6-tetrachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	2,3,5,6-Tetrachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	2,4,5-trichlorophenol	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	2,4,6-trichlorophenol	mg/kg	0.01	-	-	-	<0.01	-	-	<0.01	-	-	<0.01	<0.1	<0.01	<0.1	<0.1	-	<0.1	<0.1	
	2,4-dichlorophenol	mg/kg	0.01	-	-	-	<0.01	-	-	<0.01	-	-	<0.01	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.01
	2,4-dimethylphenol	mg/kg	0.01	-	-	-	<0.01	-	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.1	<0.1	<0.1	-	<0.1	<0.1
	2,4-dinitrotoluene	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	2,6-dichlorophenol	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	-	<0.01
	2,6-dinitrotoluene	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	2-chloronaphthalene	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	2-chlorophenol	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	2-methylnaphthalene	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	0.031	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	2-methylphenol	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	2-nitroaniline	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	2-nitrophenol	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	3-nitroaniline	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	4-chloro-3-methylphenol	mg/kg	0.01	-	-	-	<0.01	-	-	<0.01	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.01	
	4-chloroaniline	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-
	4-chlorophenyl phenyl ether	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	4-methylphenol	mg/kg	0.01	-	-	-	<0.01	-	-	<0.01	-	-	<0.01	<0.01	<0.01	-	-	-	-	-	<0.01
	Aniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	Azobenzene	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	Bis(2-chloroethoxy) methane	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-
	Bis(2-chloroisopropyl) ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	Butyl benzyl phthalate	mg/kg	0.1	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	Carbazole	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	Dibenzofuran	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	Diethylphthalate	mg/kg	0.1	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	Dimethyl phthalate	mg/kg	0.1	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
	Di-n-butyl phthalate	mg/kg	0.1	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	
Di-n-octyl phthalate	mg/kg	0.1	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1		
Diphenylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1		
Hexachlorobenzene	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1		
Hexachlorocyclopentadiene	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1		
Hexachloroethane	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	
Isophorone	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	
Nitrobenzene	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	
Pentachlorophenol	mg/kg	0.01	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1		

Appendix I Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	On-Site	On-Site	On-Site
		Location ID	Location	LF\BH01						LF\BH02				LF\TP01		LF\TP02	LF\TP03	MS\BH02			
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.3	0.5	2	4	28.1-28.1	28.65-28.95	0.3	1	8.7-8.9	18.4	24.9-24.9	0.3	1	1	4	0.3-0.3	2.25-2.7	10.2-10.4
		Unit	Sample_Date	23/06/2021	23/06/2021	23/06/2021	23/06/2021	23/06/2021	29/06/2021	24/06/2021	24/06/2021	25/06/2021	24/07/2021	08/07/2021	23/06/2021	23/06/2021	23/06/2021	24/06/2021	25/06/2021	28/06/2021	28/06/2021
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	Hexachlorobiphenyl, 2,3,4,4,5,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	Hexachlorobiphenyl, 3,3,4,4,5,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	PCB 101	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	PCB 118	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	PCB 138	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	PCB 153	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	PCB 180	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	PCB 28 + PCB 31	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	PCB 52	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
Total PCB 7 Congeners	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Notes
 - Not analysed
 # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH03					MS\BH04					MS\BH05							
		Sample Depth (m bgl)	Sample Depth (m bgl)	11.2-11.4	0.5	1	2	3-3.3	9.5-9.8	11-11.2	11.2-11.2	23.4	0.3	0.5	1	22.3-22.3	4.4-4.4	17.3	0.35	1-2	2.7-4.2
Unit	Sample_Date	28/06/2021	23/06/2021	23/06/2021	23/06/2021	23/06/2021			23/06/2021		18/06/2021	18/06/2021	18/06/2021	23/06/2021	16/06/2021	17/06/2021	05/07/2021	05/07/2021	05/07/2021		
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Arsenic	mg/kg	12	4	14	12	9.7	4.9	7.2	-	27	10	8.3	6.9	4.4	7.1	7.8	3.1	3.9	3.7	
	Barium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Beryllium	mg/kg	0.6	2.1	5.6	6.6	<0.2	<0.2	0.7	-	1.3	7.3	7.2	0.3	0.7	<0.2	1	3.7	6.6	6.9	
	Boron	mg/kg	6.7	1.7	5.1	2.9	0.4	0.7	6	-	1.4	3.4	4.8	0.8	1.5	0.3	3.3	2.8	6.5	5.2	
	Cadmium	mg/kg	0.1	0.2	1.1	<0.1	<0.1	<0.1	0.1	-	0.1	0.2	0.3	0.5	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
	Chromium (hexavalent)	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (Trivalent)	mg/kg	22	200	20	16	4.8	3.3	22	-	43	26	19	3	20	3.8	29	18	6.8	4.6	
	Copper	mg/kg	15	19	22	12	5	3.5	16	-	19	17	12	5.4	15	5.5	23	15	4	4.8	
	Iron	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Lead	mg/kg	12	21	59	12	4.7	3.5	12	-	13	11	39	27	11	20	17	8	2.2	0.9	
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Molybdenum	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nickel	mg/kg	21	13	7.7	6.4	3.7	3	21	-	31	5.2	3.5	2.6	22	2.9	33	2	<1	<1	
	Selenium	mg/kg	<0.5	1.7	2.2	3.6	<0.5	<0.5	<0.5	-	<0.5	2.5	2.4	<0.5	<0.5	<0.5	<0.5	1.4	1.6	1.6	
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Vanadium	mg/kg	39	220	96	60	26	12	34	-	160	100	100	11	26	13	36	48	34	36	
Zinc	mg/kg	49	71	150	31	19	15	52	-	62	37	67	150	41	22	57	32	7.5	4.6		
Inorganics	Cyanide (Free)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Cyanide Total	mg/kg	<0.1	0.1	0.1	0.2	<0.1	<0.1	<0.1	-	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	
	cyanides-complex	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate (as NO3-)	mg/kg	16	10	11	4.7	1.2	1.2	3.7	-	13	<1	4.6	6.5	4.5	4.9	3.5	<1	<1	<1	
	Sulphate	mg/kg	3000	4400	26,000	6700	1000	500	800	-	1700	13,000	35,000	1400	2500	600	1100	3300	11,000	6800	
	Sulphate as SO4	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphide	mg/kg	92	600	800	1200	<10	<10	84	-	40	2100	1100	7600	72	32	40	2800	1500	2000	
	Sulphur as S	%	0.8	0.2	0.76	0.46	0.06	0.02	0.45	-	0.34	0.58	0.75	0.03	0.2	0.02	0.04	0.22	0.46	0.55	
	Sulphur (free)	mg/kg	2.2	120	80	6.4	<0.75	1.9	4.3	-	<0.75	19	170	11	<0.75	3.5	<0.75	31	140	95	
Thiocyanate (as SCN)	mg/kg	<0.6	<0.6	<0.6	0.7	<0.6	<0.6	<0.6	-	<0.6	<0.6	0.8	<0.6	<0.6	<0.6	<0.6	0.7	0.8	<0.6		
Other	Organic Matter	%	3.4	1.8	1.1	1.3	0.3	0.4	2.9	-	0.6	0.8	1	0.4	0.4	<0.1	2.3	0.8	0.5	0.6	
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture	%	0.1	-	-	-	-	-	-	14.7 - 28.1	-	-	-	-	-	-	-	-	-	-	
	Moisture Content 105C	%	22	6	9.4	15	19	20	23	-	11	3.4	4.4	4	13	18	15	8	2.2	2.4	
pH (Lab)	pH_Units		8.2	11.6	9.8	10.4	8.6	9.2	8.4	-	8.4	10	10.9	9.5	8.2	8.9	8.5	9.2	11.1	10.7	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site		
		Location ID	Location	MS\BH03					MS\BH04				MS\BH05			On-Site	On-Site	On-Site				
		Sample Depth (m bgl)	Sample Depth (m bgl)	11.2-11.4	0.5	1	2	3-3.3	9.5-9.8	11-11.2	11.2-11.2	23.4	0.3	0.5	1	22.3-22.3	4.4-4.4	17.3	0.35	1-2	2.7-4.2	
Unit	Sample_Date	28/06/2021	23/06/2021	23/06/2021	23/06/2021	23/06/2021			23/06/2021		18/06/2021	18/06/2021	18/06/2021	23/06/2021	16/06/2021	17/06/2021	05/07/2021	05/07/2021	05/07/2021			
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg	<0.01	-	<0.01	<0.01	-	-	<0.01	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	-	-
	>C6-C8 Aliphatics	mg/kg	<0.01	-	<0.01	<0.01	-	-	<0.01	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	-	-
	>C8-C10 Aliphatics	mg/kg	<0.01	-	<0.01	<0.01	-	-	<0.01	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	-	-
	>C10-C12 Aliphatics	mg/kg	<1.5	-	<1.5	<1.5	-	-	<1.5	-	<1.5	<1.5	-	<1.5	-	<1.5	-	-	<1.5	-	-	-
	>C12-C16 Aliphatics	mg/kg	<1.2	-	<1.2	<1.2	-	-	<1.2	-	<1.2	<1.2	-	<1.2	-	<1.2	-	-	<1.2	-	-	-
	>C16-C21 Aliphatics	mg/kg	<1.5	-	<1.5	<1.5	-	-	<1.5	-	<1.5	<1.5	-	<1.5	-	<1.5	-	-	<1.5	-	-	-
	>C21-C35 Aliphatics	mg/kg	<3.4	-	<3.4	<3.4	-	-	<3.4	-	<3.4	<3.4	-	<3.4	-	<3.4	-	-	<3.4	-	-	-
	Total >C5-C35 Aliphatics	mg/kg	<10	-	<10	<10	-	-	<10	-	<10	<10	-	<10	-	<10	-	-	<10	-	-	-
	>EC5-EC7 Aromatics	mg/kg	<0.01	-	<0.01	<0.01	-	-	<0.01	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	-	-
	>EC7-EC8 Aromatics	mg/kg	<0.01	-	<0.01	<0.01	-	-	<0.01	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	-	-
	>EC8-EC10 Aromatics	mg/kg	<0.01	-	<0.01	<0.01	-	-	<0.01	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	-	-
	>EC10-EC12 Aromatics	mg/kg	<0.9	-	<0.9	<0.9	-	-	<0.9	-	<0.9	<0.9	-	<0.9	-	<0.9	-	-	<0.9	-	-	-
	>EC12-EC16 Aromatics	mg/kg	<0.5	-	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	-	-
	>EC16-EC21 Aromatics	mg/kg	1.7	-	<0.6	<0.6	-	-	<0.6	-	<0.6	<0.6	-	<0.6	-	<0.6	-	-	<0.6	-	-	-
	>EC21-EC35 Aromatics	mg/kg	15	-	<1.4	<1.4	-	-	<1.4	-	<1.4	<1.4	-	<1.4	-	<1.4	-	-	<1.4	-	-	-
Total >EC5-EC35 Aromatics	mg/kg	17	-	<10	<10	-	-	<10	-	<10	<10	-	<10	-	<10	-	-	<10	-	-	-	
TPH >C5-C35 Aliphatics/Aromatics	mg/kg	17	-	<10	<10	-	-	<10	-	<10	<10	-	<10	-	<10	-	-	<10	-	-	-	
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EPH >C10-40	mg/kg	34	14	<10	<10	<10	<10	<10	-	<10	<10	12	<10	<10	<10	<10	<10	<10	<10	40	
	GRO C5-C10	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH by GCFID (AR)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.05	<0.01	<0.01	-	<0.01	-	-	<0.01	-	-	-	
	Toluene	mg/kg	0.05	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.05	<0.01	<0.01	-	<0.01	-	-	<0.01	-	-	-	
	Ethylbenzene	mg/kg	0.05	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.05	<0.01	<0.01	-	<0.01	-	-	<0.01	-	-	-	
	Xylene (m & p)	mg/kg	0.1	-	-	<0.01	<0.01	-	-	-	<0.1	-	<0.01	-	<0.01	-	-	-	-	-	-	
	Xylene (o)	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	
	Xylene Total	mg/kg	<0.01	-	<0.01	<0.01	-	-	<0.01	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	-	
MTBE	mg/kg	0.05	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.05	<0.01	<0.01	-	<0.01	-	-	<0.01	-	-	-		
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	<0.03	0.05	<0.03	0.04	<0.03	<0.03	<0.03	<0.01	<0.03	<0.01	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	
	Acenaphthene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.01	<0.03	<0.03	0.04	<0.1	<0.03	<0.03	<0.03	<0.03	0.03	<0.03	
	Acenaphthylene	mg/kg	0.01	<0.03	0.1	<0.03	<0.1	<0.03	<0.03	<0.03	<0.01	<0.03	<0.1	<0.03	<0.1	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	
	Fluoranthene	mg/kg	0.01	<0.03	0.25	<0.1	<0.1	<0.03	<0.03	<0.03	<0.01	<0.03	0.2	0.48	<0.03	<0.03	<0.03	<0.03	0.07	0.36	<0.03	
	Anthracene	mg/kg	0.01	<0.03	0.06	<0.03	0.05	<0.03	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	<0.1	<0.03	<0.03	<0.03	0.04	0.12	<0.03	
	Phenanthrene	mg/kg	0.01	<0.03	0.11	<0.03	0.05	<0.03	<0.03	<0.03	<0.01	<0.03	<0.1	0.14	<0.03	<0.03	0.03	<0.03	0.03	0.37	<0.03	
	Fluorene	mg/kg	0.01	<0.03	0.1	<0.03	<0.1	<0.03	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	<0.03	
	Chrysene	mg/kg	0.01	<0.03	0.12	<0.03	<0.03	<0.03	<0.03	<0.03	<0.01	<0.03	<0.1	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	0.17	0.03
	Pyrene	mg/kg	0.01	<0.03	0.2	<0.03	0.06	<0.03	<0.03	<0.03	<0.01	<0.03	<0.03	0.28	0.4	<0.03	<0.03	<0.03	<0.03	0.05	0.27	<0.03
	Benzo(a)anthracene	mg/kg	0.01	<0.03	0.14	<0.1	0.07	<0.03	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	0.11	<0.03
	Benzo(b)fluoranthene	mg/kg	0.01	<0.03	0.26	<0.1	0.13	<0.03	<0.03	<0.03	<0.01	<0.03	0.46	0.62	0.4	<0.03	0.03	<0.03	0.03	0.12	<0.03	
	Benzo(k)fluoranthene	mg/kg	0.01	<0.03	0.06	<0.03	<0.1	<0.03	<0.03	<0.03	<0.01	<0.03	0.05	0.14	<0.1	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	
	Benzo(a)pyrene	mg/kg	0.01	<0.03	0.09	<0.1	<0.1	<0.03	<0.03	<0.03	<0.01	<0.03	0.06	0.26	<0.1	<0.03	<0.03	<0.03	<0.03	0.07	<0.03	
	Dibenz(a,h)anthracene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.01	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	
	Benzo(g,h,i)perylene	mg/kg	0.01	<0.03	0.1	<0.03	<0.1 - 0.06	<0.03	<0.03	<0.03	<0.01	<0.03	<0.1 - 0.07	0.14	<0.1 - 0.04	<0.03	<0.03	<0.03	<0.03	0.06	<0.03	
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	<0.03	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.01	<0.03	<0.1 - 0.05	0.12	<0.03	<0.03	<0.03	<0.03	<0.03	0.07	<0.03	
	PAH 16 Total	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PAHs (Sum of total)	mg/kg	<0.1	1.7	<0.1	0.75	<0.1	<0.1	<0.1	<0.1	-	<0.1	0.69	2.3	0.44	<0.1	<0.1	<0.1	0.3	1.8	<0.1		
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-		
Phenolics	Xylenols	mg/kg	<0.01	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	-	
	3-&4-methylphenol	mg/kg	-	-	<0.1	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-		
	Phenol	mg/kg	0.01	<0.01	-	<0.01	<0.1	-	-	-	<0.01	<0.01	<0.1	-	<0.1	-	-	<0.01	-	-		
	Phenols Monohydric	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		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
		Location ID	Location	MS\BH03					MS\BH04					MS\BH05						
		Sample Depth (m bgl)	Sample Depth (m bgl)	11.2-11.4	0.5	1	2	3-3.3	9.5-9.8	11-11.2	11.2-11.2	23.4	0.3	0.5	1	22.3-22.3	4.4-4.4	17.3	0.35	1-2
Unit	Sample Date	28/06/2021	23/06/2021	23/06/2021	23/06/2021	23/06/2021			23/06/2021		18/06/2021	18/06/2021	18/06/2021	23/06/2021	16/06/2021	17/06/2021	05/07/2021	05/07/2021	05/07/2021	
Volatile Organic Carbon	Styrene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	cis-1,3-dichloropropene	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-
	trans-1,3-dichloropropene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	1,1,1,2-tetrachloroethane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	1,1,1-trichloroethane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	1,1-dichloroethane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	1,1-dichloroethene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	1,1-dichloropropene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	1,2,3-trichloropropane	mg/kg	0.05	-	-	<0.01	0.03	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	1,2,4-trimethylbenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	1,2-dibromo-3-chloropropane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	1,2-dibromoethane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	1,2-dichloroethane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	1,3-Dichloropropene	mg/kg		-	-	<0.01	<0.01	-	-	-	-	<0.01	-	<0.01	-	-	-	-	-	-
	1,2-dichloropropane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	1,3-dichloropropane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	2,2-dichloropropane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	2-chlorotoluene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	4-chlorotoluene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	Bromobenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	Bromochloromethane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	Bromodichloromethane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	Bromoform	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	Chlorodibromomethane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	0.166	-	-	-	-	-	-	-	-	-
cis-1,2-dichloroethene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	
Dibromomethane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	
Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	
Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	
Isopropylbenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	
n-butylbenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	
n-propylbenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	
p-isopropyltoluene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	
sec-butylbenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	
Trichloroethene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	
tert-butylbenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	
Tetrachloroethene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	
trans-1,2-dichloroethene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	
	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.01	-	<0.1	-	-	-	-	-	
	1,2-dichlorobenzene	mg/kg	0.01	-	-	<0.01	<0.01	-	-	<0.01	-	<0.01	-	<0.01	-	-	-	-	-	
	1,3-dichlorobenzene	mg/kg	0.01	-	-	<0.01	<0.01	-	-	<0.01	-	<0.01	-	<0.01	-	-	-	-	-	
	1,4-dichlorobenzene	mg/kg	0.01	-	-	<0.01	<0.01	-	-	<0.01	-	<0.01	-	<0.01	-	-	-	-	-	
	Chlorobenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.01	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site		
		Location ID	Location	MS\BH03							MS\BH04				MS\BH05							
		Sample Depth (m bgl)	Sample Depth (m bgl)	11.2-11.4	0.5	1	2	3-3.3	9.5-9.8	11-11.2	11.2-11.2	23.4	0.3	0.5	1	22.3-22.3	4.4-4.4	17.3	0.35	1-2	2.7-4.2	
Unit	Sample_Date	28/06/2021	23/06/2021	23/06/2021	23/06/2021	23/06/2021			23/06/2021		18/06/2021	18/06/2021	18/06/2021	23/06/2021	16/06/2021	17/06/2021	05/07/2021	05/07/2021	05/07/2021			
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	-	-	<0.1	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-		
	Benzyl alcohol	mg/kg	-	-	<0.1	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-		
	4-bromophenyl phenyl ether	mg/kg	0.01	-	<0.1	<0.1	-	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-		
	4-nitroaniline	mg/kg	0.01	-	<0.1	<0.1	-	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-		
	4-nitrophenol	mg/kg	0.01	-	<0.1	<0.1	-	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-		
	1,2-Dinitrobenzene	mg/kg	-	-	<0.1	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-		
	1,3-Dinitrobenzene	mg/kg	-	-	<0.1	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-		
	2,3,4,6-tetrachlorophenol	mg/kg	-	-	<0.1	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-		
	2,3,5,6-Tetrachlorophenol	mg/kg	-	-	<0.1	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-		
	2,4,5-trichlorophenol	mg/kg	0.01	-	<0.1	<0.1	-	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-		
	2,4,6-trichlorophenol	mg/kg	0.01	<0.01	-	<0.1	<0.1	-	-	<0.01	<0.01	<0.1	-	<0.1	-	-	<0.01	-	-	-		
	2,4-dichlorophenol	mg/kg	0.01	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01	-	<0.1	-	-	<0.01	-	-	-		
	2,4-dimethylphenol	mg/kg	0.01	<0.01	-	<0.1	<0.01	-	-	<0.01	<0.01	<0.01	-	<0.1	-	-	<0.01	-	-	-		
	2,4-dinitrotoluene	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-		
	2,6-dichlorophenol	mg/kg	-	<0.01	-	<0.01	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	<0.01	-	-	-		
	2,6-dinitrotoluene	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-		
	2-chloronaphthalene	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-		
	2-chlorophenol	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-		
	2-methylnaphthalene	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-		
	2-methylphenol	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-		
	2-nitroaniline	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-		
	2-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-		
	3-nitroaniline	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-		
	4,6-Dinitro-2-methylphenol	mg/kg	-	-	<0.1	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-		
	4-chloro-3-methylphenol	mg/kg	0.01	<0.01	-	<0.1	<0.01	-	-	<0.01	<0.01	<0.01	-	<0.1	-	-	<0.01	-	-	-		
	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-		
	4-chlorophenyl phenyl ether	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-		
	4-methylphenol	mg/kg	0.01	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01	-	-	-	-	<0.01	-	-	-		
	Aniline	mg/kg	-	-	<0.1	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-		
	Azobenzene	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-		
	Bis(2-chloroethoxy) methane	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-		
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-		
	Bis(2-chloroisopropyl) ether	mg/kg	-	-	<0.1	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-		
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	-	-	<0.1	<0.1	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	-	-	-		
Butyl benzyl phthalate	mg/kg	0.1	-	-	<0.1	<0.1	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	-	-	-			
Carbazole	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-			
Dibenzofuran	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-			
Diethylphthalate	mg/kg	0.1	-	-	<0.1	<0.1	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	-	-	-			
Dimethyl phthalate	mg/kg	0.1	-	-	<0.1	<0.1	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	-	-	-			
Di-n-butyl phthalate	mg/kg	0.1	-	-	<0.1	<0.1	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	-	-	-			
Di-n-octyl phthalate	mg/kg	0.1	-	-	<0.1	<0.1	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	-	-	-			
Diphenylamine	mg/kg	-	-	<0.1	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-			
Hexachlorobenzene	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-			
Hexachlorocyclopentadiene	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-			
Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-			
Isophorone	mg/kg	0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-			
Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-			
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-			
Pentachlorophenol	mg/kg	0.01	-	-	<0.1	<0.1	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-			

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
		Location ID	Location	MS\BH03							MS\BH04				MS\BH05					
		Sample Depth (m bgl)	Sample Depth (m bgl)	11.2-11.4	0.5	1	2	3-3.3	9.5-9.8	11-11.2	11.2-11.2	23.4	0.3	0.5	1	22.3-22.3	4.4-4.4	17.3	0.35	1-2
Unit	Sample_Date	28/06/2021	23/06/2021	23/06/2021	23/06/2021	23/06/2021			23/06/2021		18/06/2021	18/06/2021	18/06/2021	23/06/2021	16/06/2021	17/06/2021	05/07/2021	05/07/2021	05/07/2021	
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,4,4,4,5,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 3,3,4,4,4,5,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	PCB 101	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	PCB 118	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	PCB 138	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	PCB 153	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	PCB 180	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	PCB 28 + PCB 31	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	PCB 52	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,3,4,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 3,3,4,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,3,4,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,4,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
Total PCB 7 Congeners	mg/kg	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Notes
 - Not analysed
 # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH07					MS\BH08			MS\BH09					MS\BH10				
		Sample Depth (m bgl)	Sample Depth (m bgl)	4.2-4.65	4.65-5	15.7-15.7	15.7-15.9	22.4	0.36	3	6	0.5	2-2.3	4.65-4.85	13-13.2	14-14	14-14.2	1	4	5	19.1
		Unit	Sample_Date	05/07/2021	05/07/2021	05/07/2021	05/07/2021	08/07/2021	28/05/2021	28/05/2021	28/05/2021	05/07/2021	05/07/2021	05/07/2021	05/07/2021	07/07/2021	05/07/2021	08/06/2021	09/06/2021	15/06/2021	18/06/2021
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Arsenic	mg/kg	3.3	4.1	-	9.5	-	8.7	6.1	7.1	34	25	8.9	7.9	-	-	14	12	8.5	6.4	
	Barium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Beryllium	mg/kg	6.4	1.5	-	1.1	-	8.1	7.9	0.3	2.3	3.4	<0.2	<0.2	-	-	1.1	0.8	<0.2	3.5	
	Boron	mg/kg	6.4	3.4	-	5.5	-	7.4	3.6	0.9	1.4	1.6	0.4	4.3	-	-	0.3	1.2	2.5	3.8	
	Cadmium	mg/kg	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	2.2	0.2	0.1	<0.1	-	-	0.2	0.2	<0.1	0.2	
	Chromium (hexavalent)	mg/kg	<7	<1	-	<1	-	<7	<1	<1	<7	<1	<1	<1	-	-	<1	<1	<1	<7	
	Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chromium (Trivalent)	mg/kg	8.2	3.4	-	42	-	8.2	9.4	4.2	130	30	5.7	12	-	-	570	430	4.2	20	
	Copper	mg/kg	5.2	5.1	-	21	-	6.6	7.3	4.5	120	46	7.4	12	-	-	14	11	7.1	17	
	Iron	mg/kg	-	-	-	-	-	-	-	-	-	-	-	11,000	-	-	-	-	-	-	
	Lead	mg/kg	1.9	17	-	15	-	2.1	2.7	17	130	25	34	26	-	-	5.5	3.1	33	29	
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Mercury	mg/kg	<0.05	<0.05	-	<0.05	-	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	0.78	<0.05	<0.05	<0.05	
	Molybdenum	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nickel	mg/kg	<1	2.2	-	50	-	3.5	2.1	2.6	41	13	4.1	5.7	-	-	11	3.7	3.9	15	
	Selenium	mg/kg	1.6	<0.5	-	<0.5	-	2.1	1.6	<0.5	1.5	6.3	<0.5	<0.5	-	-	8.8	5.4	<0.5	1.1	
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Vanadium	mg/kg	39	16	-	46	-	26	34	13	520	170	24	30	-	-	2100	1600	14	57	
Zinc	mg/kg	8.8	20	-	48	-	8.6	23	20	520	63	44	42	-	-	11	11	38	60		
Inorganics	Cyanide (Free)	mg/kg	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1		
	Cyanide Total	mg/kg	0.1	<0.1	-	<0.1	-	<0.1	0.2	0.4	<0.1	<0.1	0.4	-	-	<0.1	0.3	<0.1	0.1		
	cyanides-complex	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Nitrate (as NO3-)	mg/kg	<0.1	<1	-	13	-	0.15	1.7	4.8	<0.1	3.8	1.3	-	-	-	10	7.3	1.5	5.7	
	Sulphate	mg/kg	8400	2800	-	1300	-	16,000	40,000	1600	2600	8000	500	-	-	-	2400	1700	1700	7700	
	Sulphate as SO4	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphide	mg/kg	1900	640	-	36	-	800	1800	210	340	800	40	-	-	-	340	260	44	2700	
	Sulphur as S	%	0.47	0.2	-	0.09	-	0.82	1.7	0.1	0.13	0.46	0.03	-	-	-	0.23	0.25	0.08	0.42	
	Sulphur (free)	mg/kg	95	89	-	<0.75	-	14	23	13	1.8	5.4	<0.75	-	-	-	1.5	1.7	<0.75	5.1	
Thiocyanate (as SCN)	mg/kg	1	<0.6	-	<0.6	-	1.9	<0.6	<0.6	<0.6	<0.6	<0.6	-	-	-	<0.6	<0.6	2.4	<0.6		
Other	Organic Matter	%	1.4	0.4	-	1.8	-	0.8	1.3	0.5	2	1.3	0.2	-	-	-	0.7	0.6	2.1	1.1	
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Moisture	%	0.1	-	25.4	-	-	-	-	-	-	-	-	-	21.9	-	-	-	-		
	Moisture Content 105C	%	6.4	18	-	19	-	11	9	20	13	10	20	-	-	-	2.4	3.5	21	13	
pH (Lab)	pH_Units		7.9	10.8	-	8.7	-	10	10.3	9.1	10	8.1	8.8	-	-	-	11.5	11.4	10.3	6.6	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH07					MS\BH08			MS\BH09					MS\BH10				
		Sample Depth (m bgl)	Sample Depth (m bgl)	4.2-4.65	4.65-5	15.7-15.7	15.7-15.9	22.4	0.36	3	6	0.5	2-2.3	4.65-4.85	13-13.2	14-14	14-14.2	1	4	5	19.1
		Unit	Sample_Date	05/07/2021	05/07/2021	05/07/2021	05/07/2021	08/07/2021	28/05/2021	28/05/2021	28/05/2021	05/07/2021	05/07/2021	05/07/2021	05/07/2021	07/07/2021	05/07/2021	08/06/2021	09/06/2021	15/06/2021	18/06/2021
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	>C6-C8 Aliphatics	mg/kg	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	>C8-C10 Aliphatics	mg/kg	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	>C10-C12 Aliphatics	mg/kg	12	<1.5	-	<1.5	-	<1.5	-	-	<1.5	-	-	-	-	-	<1.5	<1.5	-	<1.5	
	>C12-C16 Aliphatics	mg/kg	170	<1.2	-	<1.2	-	<1.2	-	-	<1.2	-	-	-	-	-	<1.2	<1.2	-	<1.2	
	>C16-C21 Aliphatics	mg/kg	540	<1.5	-	<1.5	-	<1.5	-	-	<1.5	-	-	-	-	-	<1.5	<1.5	-	<1.5	
	>C21-C35 Aliphatics	mg/kg	1300	<3.4	-	<3.4	-	<3.4	-	-	<3.4	-	-	-	-	-	<3.4	<3.4	-	<3.4	
	Total >C5-C35 Aliphatics	mg/kg	2000	<10	-	<10	-	<10	-	-	<10	-	-	-	-	-	<10	<10	-	<10	
	>EC5-EC7 Aromatics	mg/kg	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	>EC7-EC8 Aromatics	mg/kg	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	>EC8-EC10 Aromatics	mg/kg	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	>EC10-EC12 Aromatics	mg/kg	4.1	2.7	-	<0.9	-	<0.9	-	-	<0.9	-	-	-	-	-	<0.9	<0.9	-	<0.9	
	>EC12-EC16 Aromatics	mg/kg	150	2.3	-	<0.5	-	<0.5	-	-	<0.5	-	-	-	-	-	<0.5	<0.5	-	<0.5	
	>EC16-EC21 Aromatics	mg/kg	850	12	-	<0.6	-	<0.6	-	-	<0.6	-	-	-	-	-	<0.6	<0.6	-	<0.6	
	>EC21-EC35 Aromatics	mg/kg	2500	59	-	<1.4	-	<1.4	-	-	<1.4	-	-	-	-	-	<1.4	<1.4	-	<1.4	
Total >EC5-EC35 Aromatics	mg/kg	3500	76	-	<10	-	<10	-	-	<10	-	-	-	-	-	<10	<10	-	<10		
TPH >C5-C35 Aliphatics/Aromatics	mg/kg	5500	76	-	<10	-	<10	-	-	<10	-	-	-	-	-	<10	<10	-	<10		
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	EPH >C10-40	mg/kg	7400	<10	-	<10	-	<10	18	<10	<10	<10	<10	-	-	-	<10	<10	<10	<10	
	GRO C5-C10	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH by GCFID (AR)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	-	-	<0.01	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	
	Toluene	mg/kg	0.05	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	-	-	<0.01	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	
	Ethylbenzene	mg/kg	0.05	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	-	-	<0.01	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	
	Xylene (m & p)	mg/kg	0.1	<0.01	<0.01	<0.1	-	<0.01	<0.01	-	-	-	-	-	-	<0.1	<0.01	<0.01	<0.01	<0.01	
	Xylene (o)	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	
	Xylene Total	mg/kg	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	<0.01	
MTBE	mg/kg	0.05	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	-	-	<0.01	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01		
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	<0.1	<0.03	<0.01	<0.03	<0.01	<0.1	<0.03	0.88	<0.03	<0.03	<0.03	-	<0.05	<0.01	<0.01	<0.03	<0.03	
	Acenaphthene	mg/kg	0.01	0.03	<0.03	<0.01	<0.03	<0.1	<0.03	<0.03	2.2	<0.03	<0.03	<0.03	-	<0.01	<0.1	<0.03	<0.1	<0.03	
	Acenaphthylene	mg/kg	0.01	<0.03	<0.1	<0.01	<0.03	<0.1	<0.1	<0.03	0.09	<0.03	<0.03	<0.03	-	<0.01	<0.1	<0.03	<0.1	<0.03	
	Fluoranthene	mg/kg	0.01	<0.1	<0.03	<0.01	<0.03	<0.1	<0.03	<0.03	14	0.26	<0.03	<0.03	-	<0.01	<0.1	<0.1	<0.03	0.08	
	Anthracene	mg/kg	0.01	<0.1	<0.03	<0.01	<0.03	<0.1	<0.1	<0.03	3.1	<0.03	<0.03	<0.03	-	<0.01	<0.1	<0.1	<0.03	<0.03	
	Phenanthrene	mg/kg	0.01	<0.1	<0.1	<0.01	<0.03	<0.1	<0.1	<0.03	11	0.09	0.04	<0.03	-	<0.01	<0.1	<0.1	<0.03	0.05	
	Fluorene	mg/kg	0.01	<0.1	<0.1	<0.01	<0.03	<0.1	<0.03	<0.03	1.7	<0.03	<0.03	<0.03	-	<0.01	<0.1	<0.1	<0.03	<0.1	
	Chrysene	mg/kg	0.01	<0.1	<0.03	<0.01	<0.03	<0.1	<0.03	<0.03	4.5	0.11	<0.03	<0.03	-	<0.01	<0.1	<0.1	<0.03	0.04	
	Pyrene	mg/kg	0.01	0.58	<0.1	<0.01	<0.03	<0.1	<0.1	<0.03	12	0.26	<0.03	<0.03	-	<0.01	<0.1	<0.03	<0.1	0.06	
	Benzo(a)anthracene	mg/kg	0.01	0.22	<0.1	<0.01	<0.03	<0.1	<0.1	<0.03	5.7	0.11	0.04	<0.03	-	<0.01	<0.1	<0.1	<0.03	0.04	
	Benzo(b)fluoranthene	mg/kg	0.01	0.11	<0.03	<0.01	<0.03	<0.1	<0.1	<0.03	6.2	0.18	<0.03	<0.03	-	<0.01	<0.1	<0.1	<0.03	<0.03	
	Benzo(k)fluoranthene	mg/kg	0.01	<0.1	<0.03	<0.01	<0.03	<0.1	<0.1	<0.03	2.2	0.08	<0.03	<0.03	-	<0.01	<0.1	<0.1	<0.03	<0.1	
	Benzo(a)pyrene	mg/kg	0.01	<0.1	<0.1	<0.01	<0.03	<0.1	<0.1	<0.03	4.5	0.1	<0.03	<0.03	-	<0.01	<0.1	<0.03	<0.1	<0.03	
	Dibenz(a,h)anthracene	mg/kg	0.01	<0.03	<0.03	<0.01	<0.03	<0.1	<0.03	<0.03	0.75	<0.03	<0.03	<0.03	-	<0.01	<0.1	<0.03	<0.03	<0.03	
	Benzo(g,h,i)perylene	mg/kg	0.01	<0.1 - 0.07	<0.03	<0.01	<0.03	<0.1	<0.03	<0.03	2.7	0.08	<0.03	<0.03	-	<0.01	<0.1	<0.03	<0.03	<0.03	
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	<0.03	<0.03	<0.01	<0.03	<0.1	<0.03	<0.03	2.3	0.06	<0.03	<0.03	-	<0.01	<0.1	<0.03	<0.03	<0.03	
	PAH 16 Total	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PAHs (Sum of total)	mg/kg	1.5	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	74	1.3	<0.1	<0.1	-	-	-	<0.1	<0.1	0.26	<0.1
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-		
Phenolics	Xylenols	mg/kg	<0.01	<0.01	-	-	-	<0.01	-	-	<0.01	-	-	-	-	-	-	-	<0.01	-	
	3-&4-methylphenol	mg/kg	<0.1	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	<0.1	
	Phenol	mg/kg	0.01	<0.01	<0.01	<0.01	-	<0.1	<0.1	-	-	<0.01	-	-	-	<0.01	<0.1	<0.1	<0.01	<0.1	
	Phenols Monohydric	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	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH07					MS\BH08			MS\BH09					MS\BH10				
		Sample Depth (m bgl)	Sample Depth (m bgl)	4.2-4.65	4.65-5	15.7-15.7	15.7-15.9	22.4	0.36	3	6	0.5	2-2.3	4.65-4.85	13-13.2	14-14	14-14.2	1	4	5	19.1
		Unit	Sample Date	05/07/2021	05/07/2021	05/07/2021	05/07/2021	08/07/2021	28/05/2021	28/05/2021	28/05/2021	05/07/2021	05/07/2021	05/07/2021	05/07/2021	07/07/2021	05/07/2021	08/06/2021	09/06/2021	15/06/2021	18/06/2021
Volatile Organic Carbon	Styrene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	cis-1,3-dichloropropene	mg/kg	0.05	-	-	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	
	trans-1,3-dichloropropene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	1,1,1,2-tetrachloroethane	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	1,1,1-trichloroethane	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	
	1,1,2-trichloroethane	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	1,1-dichloroethane	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	1,1-dichloroethene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	1,1-dichloropropene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	1,2,3-trichloropropane	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	1,2,4-trimethylbenzene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	1,2-dibromo-3-chloropropane	mg/kg	0.05	<0.01	0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	1,2-dibromoethane	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	1,2-dichloroethane	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	1,3-Dichloropropene	mg/kg		<0.01	<0.01	-	-	<0.01	<0.01	-	-	-	-	-	-	<0.01	<0.01	<0.01	-	<0.01	
	1,2-dichloropropane	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	1,3,5-trimethylbenzene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	1,3-dichloropropane	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	2,2-dichloropropane	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	2-chlorotoluene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	4-chlorotoluene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	Bromobenzene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	Bromochloromethane	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	Bromodichloromethane	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	Bromoform	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	Bromomethane	mg/kg	0.05	-	-	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	
	Carbon tetrachloride	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	Chlorodibromomethane	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	Chloroethane	mg/kg	0.05	-	-	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	
	Chloroform	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
	Chloromethane	mg/kg	0.05	-	-	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	
cis-1,2-dichloroethene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01		
Dibromomethane	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01		
Dichlorodifluoromethane	mg/kg	0.05	-	-	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-		
Dichloromethane	mg/kg	0.05	-	-	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-		
Isopropylbenzene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01		
n-butylbenzene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01		
n-propylbenzene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01		
p-isopropyltoluene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01		
sec-butylbenzene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01		
Trichloroethene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01		
tert-butylbenzene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01		
Tetrachloroethene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01		
trans-1,2-dichloroethene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01		
Trichlorofluoromethane	mg/kg	0.05	-	-	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-		
Vinyl chloride	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01		
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01		
	1,2,4-trichlorobenzene	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.01	-	-	-	-	<0.01	<0.01	<0.01	<0.1	-	<0.1		
	1,2-dichlorobenzene	mg/kg	0.01	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	<0.01		
	1,3-dichlorobenzene	mg/kg	0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01		
	1,4-dichlorobenzene	mg/kg	0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	<0.01		
	Chlorobenzene	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01	
Hexachlorobutadiene	mg/kg	0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH07					MS\BH08			MS\BH09					MS\BH10				
		Sample Depth (m bgl)	Sample Depth (m bgl)	4.2-4.65	4.65-5	15.7-15.7	15.7-15.9	22.4	0.36	3	6	0.5	2-2.3	4.65-4.85	13-13.2	14-14	14-14.2	1	4	5	19.1
		Unit	Sample_Date	05/07/2021	05/07/2021	05/07/2021	05/07/2021	08/07/2021	28/05/2021	28/05/2021	28/05/2021	05/07/2021	05/07/2021	05/07/2021	05/07/2021	07/07/2021	05/07/2021	08/06/2021	09/06/2021	15/06/2021	18/06/2021
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	<0.1	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	<0.1		
	Benzyl alcohol	mg/kg	<0.1	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	<0.1		
	4-bromophenyl phenyl ether	mg/kg	0.01	<0.1	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1	
	4-nitroaniline	mg/kg	0.01	<0.1	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1	
	4-nitrophenol	mg/kg	0.01	<0.1	<0.01	-	0.2	<0.1	<0.1	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1	
	1,2-Dinitrobenzene	mg/kg	<0.1	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	<0.1	
	1,3-Dinitrobenzene	mg/kg	<0.1	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	<0.1	
	2,3,4,6-tetrachlorophenol	mg/kg	<0.1	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	<0.1	
	2,3,5,6-Tetrachlorophenol	mg/kg	<0.1	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	<0.1	
	2,4,5-trichlorophenol	mg/kg	0.01	<0.1	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1	
	2,4,6-trichlorophenol	mg/kg	0.01	<0.01	<0.01	<0.01	-	<0.1	<0.1	-	-	<0.01	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	2,4-dichlorophenol	mg/kg	0.01	<0.01	<0.01	<0.01	-	<0.1	<0.1	-	-	<0.01	-	-	-	<0.01	<0.1	<0.1	<0.01	-	<0.1
	2,4-dimethylphenol	mg/kg	0.01	<0.01	<0.01	<0.01	-	<0.1	<0.1	-	-	<0.01	-	-	-	<0.01	<0.1	<0.1	<0.01	-	<0.1
	2,4-dinitrotoluene	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	2,6-dichlorophenol	mg/kg	<0.01	<0.01	-	-	-	<0.01	-	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-
	2,6-dinitrotoluene	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	2-chloronaphthalene	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	2-chlorophenol	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	2-methylnaphthalene	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	2-methylphenol	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	2-nitroaniline	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	2-nitrophenol	mg/kg	0.01	-	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-
	3-nitroaniline	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	4,6-Dinitro-2-methylphenol	mg/kg	<0.1	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1
	4-chloro-3-methylphenol	mg/kg	0.01	<0.01	<0.01	<0.01	-	<0.1	<0.01	-	-	<0.01	-	-	-	<0.01	<0.1	<0.1	<0.01	-	<0.1
	4-chloroaniline	mg/kg	0.01	-	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-
	4-chlorophenyl phenyl ether	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	4-methylphenol	mg/kg	0.01	<0.01	<0.01	<0.01	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	<0.01	-	-
	Aniline	mg/kg	<0.1	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1
	Azobenzene	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	Bis(2-chloroethoxy) methane	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-
	Bis(2-chloroisopropyl) ether	mg/kg	<0.1	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	<0.1	<0.01	<0.1	-	<0.1	<0.1	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1
	Butyl benzyl phthalate	mg/kg	0.1	<0.1	<0.01	<0.1	-	<0.1	<0.1	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1
	Carbazole	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	Dibenzofuran	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	Diethylphthalate	mg/kg	0.1	<0.1	<0.01	<0.1	-	<0.1	<0.1	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1
	Dimethyl phthalate	mg/kg	0.1	<0.1	<0.01	<0.1	-	<0.1	<0.1	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1
	Di-n-butyl phthalate	mg/kg	0.1	<0.1	<0.01	<0.1	-	<0.1	<0.1	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1
Di-n-octyl phthalate	mg/kg	0.1	<0.1	<0.01	<0.1	-	<0.1	<0.1	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	
Diphenylamine	mg/kg	<0.1	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	
Hexachlorobenzene	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1	
Hexachlorocyclopentadiene	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1	
Hexachloroethane	mg/kg	0.01	-	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	
Isophorone	mg/kg	0.01	-	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	
Nitrobenzene	mg/kg	0.01	-	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	
Pentachlorophenol	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH07					MS\BH08			MS\BH09					MS\BH10				
		Sample Depth (m bgl)	Sample Depth (m bgl)	4.2-4.65	4.65-5	15.7-15.7	15.7-15.9	22.4	0.36	3	6	0.5	2-2.3	4.65-4.85	13-13.2	14-14	14-14.2	1	4	5	19.1
		Unit	Sample_Date	05/07/2021	05/07/2021	05/07/2021	05/07/2021	08/07/2021	28/05/2021	28/05/2021	28/05/2021	05/07/2021	05/07/2021	05/07/2021	05/07/2021	07/07/2021	05/07/2021	08/06/2021	09/06/2021	15/06/2021	18/06/2021
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	Hexachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 156)	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	Hexachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 157)	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	Hexachlorobiphenyl, 2,3,4,4,4,5,5- (PCB 167)	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	Hexachlorobiphenyl, 3,3,4,4,4,5,5- (PCB 169)	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	PCB 101	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	PCB 118	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	PCB 138	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	PCB 153	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	PCB 180	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	PCB 28 + PCB 31	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	PCB 52	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
Total PCB 7 Congeners	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01		
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Notes

- Not analysed
- # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
		Location ID	Location	MS\BH11				MS\BH12		MS\BH13					MS\BH14					
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	4	5	13.2	1	2.7-3	0.5	3-3	3.6	10.2-10.4	11-11	11-11.2	0.3	1	4.2-4.4	4.5-4.8	14.2
Unit	Sample_Date	03/06/2021	03/06/2021	03/06/2021	04/06/2021	04/06/2021	04/06/2021	28/05/2021	28/06/2021	28/05/2021	28/05/2021	28/06/2021	28/05/2021	28/06/2021	28/06/2021	28/06/2021	30/06/2021	30/06/2021	02/07/2021	01/07/2021
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Arsenic	mg/kg	6.2	5.7	12	8.7	9.5	6.6	3.2	-	5.8	5.5	-	7.6	5.7	10	36	9.7	7	9.2
	Barium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Beryllium	mg/kg	3.8	<0.2	2.1	0.8	2.1	0.3	0.5	-	<0.2	0.2	-	1.4	2.8	6.8	0.8	<0.2	0.9	0.9
	Boron	mg/kg	1.2	0.2	0.6	4.4	1.2	<0.2	1.9	-	0.3	1.2	-	9.6	2.2	2.9	2.4	0.4	2.6	2.9
	Cadmium	mg/kg	20	8.1	4.2	<0.1	0.4	<0.1	0.4	-	<0.1	<0.1	-	<0.1	0.2	0.3	4.1	<0.1	0.1	<0.1
	Chromium (hexavalent)	mg/kg	<1	<7	<1	<1	<1	<1	<1	-	<1	<1	-	<1	<1	<7	<1	<1	<1	<1
	Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (Trivalent)	mg/kg	14	6.6	760	29	350	14	990	-	5.1	13	-	41	410	17	290	7.1	29	29
	Copper	mg/kg	21	5.9	47	18	54	5.6	49	-	4.2	5.8	-	27	16	10	210	6.9	20	32
	Iron	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Lead	mg/kg	110	38	520	17	34	11	22	-	30	4.3	-	16	6.6	22	570	46	16	8.4
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	8.4	0.09	<0.05	<0.05
	Molybdenum	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nickel	mg/kg	11	4.7	11	27	11	2.6	12	-	3.1	4.9	-	49	5	6	78	5.9	39	46
	Selenium	mg/kg	1.2	<0.5	5.1	<0.5	3.9	<0.5	10	-	<0.5	<0.5	-	<0.5	4.7	1.9	1.5	<0.5	<0.5	<0.5
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Vanadium	mg/kg	37	17	1400	47	1300	43	1300	-	14	30	-	49	1000	57	410	22	31	35
Zinc	mg/kg	4100	350	980	64	78	21	51	-	21	17	-	49	15	200	580	42	53	47	
Inorganics	Cyanide (Free)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	
	Cyanide Total	mg/kg	0.1	0.1	0.3	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	
	cyanides-complex	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitrate (as NO3-)	mg/kg	5.4	18	7.2	<1	4.2	<1	3.9	-	2.5	3.1	-	7	0.9	0.75	8.6	6.7	9.4	2.5
	Sulphate	mg/kg	13,000	700	4000	1700	4800	600	4800	-	600	1100	-	1500	12,000	19,000	4600	700	900	1100
	Sulphate as SO4	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphide	mg/kg	1800	<10	1700	52	460	130	270	-	60	72	-	44	3800	960	240	52	24	40
	Sulphur as S	%	0.58	0.03	0.32	0.36	0.22	0.05	0.16	-	0.04	0.06	-	0.08	0.42	0.68	0.26	0.07	0.04	0.77
	Sulphur (free)	mg/kg	22	21	<0.75	3.5	3.4	<0.75	6.6	-	19	11	-	<0.75	25	38	13	2.1	<0.75	<0.75
Thiocyanate (as SCN)	mg/kg	2.8	<0.6	0.7	<0.6	<0.6	<0.6	<0.6	-	<0.6	<0.6	-	<0.6	<0.6	0.7	1.5	<0.6	<0.6	<0.6	
Other	Organic Matter	%	0.5	0.2	1.2	2.7	1.2	0.2	1.4	-	0.8	0.8	-	2	0.8	1	2.4	0.6	1.9	1
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Moisture	%	0.1	-	-	-	-	-	-	25.9	-	-	25.9	-	-	-	-	-	-	-
	Moisture Content 105C	%	6.1	13	18	24	5.9	17	4.6	-	18	18	-	20	6	11	24	18	16	10
pH (Lab)	pH_Units		11.4	9.4	11.6	8.1	10.9	10.7	12.2	-	10.4	10.9	-	8.1	10.9	11	10.6	8.5	8.4	8.9

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH11				MS\BH12		MS\BH13				MS\BH14							
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	4	5	13.2	1	2.7-3	0.5	3-3	3.6	10.2-10.4	11-11	11-11.2	0.3	1	4.2-4.4	4.5-4.8	14.2	17.5
Unit	Sample_Date	03/06/2021	03/06/2021	03/06/2021	04/06/2021	04/06/2021	04/06/2021	28/05/2021	28/06/2021	28/05/2021	28/05/2021	28/06/2021	28/05/2021	28/06/2021	30/06/2021	30/06/2021	02/07/2021	01/07/2021			
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg	-	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	
	>C6-C8 Aliphatics	mg/kg	-	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	
	>C8-C10 Aliphatics	mg/kg	-	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	0.04	-	<0.01	<0.01	
	>C10-C12 Aliphatics	mg/kg	-	<1.5	<1.5	-	<1.5	-	-	-	-	-	-	-	-	-	<1.5	-	<1.5	<1.5	
	>C12-C16 Aliphatics	mg/kg	-	<1.2	<1.2	-	<1.2	-	-	-	-	-	-	-	-	-	<1.2	-	<1.2	<1.2	
	>C16-C21 Aliphatics	mg/kg	-	<1.5	<1.5	-	<1.5	-	-	-	-	-	-	-	-	-	<1.5	-	<1.5	<1.5	
	>C21-C35 Aliphatics	mg/kg	-	<3.4	<3.4	-	<3.4	-	-	-	-	-	-	-	-	-	<3.4	-	<3.4	<3.4	
	Total >C5-C35 Aliphatics	mg/kg	-	<10	<10	-	<10	-	-	-	-	-	-	-	-	-	<10	-	<10	<10	
	>EC5-EC7 Aromatics	mg/kg	-	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	
	>EC7-EC8 Aromatics	mg/kg	-	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	
	>EC8-EC10 Aromatics	mg/kg	-	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	0.28	-	<0.01	<0.01	
	>EC10-EC12 Aromatics	mg/kg	-	<0.9	<0.9	-	<0.9	-	-	-	-	-	-	-	-	-	<0.9	-	<0.9	<0.9	
	>EC12-EC16 Aromatics	mg/kg	-	<0.5	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	
	>EC16-EC21 Aromatics	mg/kg	-	<0.6	<0.6	-	<0.6	-	-	-	-	-	-	-	-	-	<0.6	-	<0.6	<0.6	
	>EC21-EC35 Aromatics	mg/kg	-	<1.4	<1.4	-	<1.4	-	-	-	-	-	-	-	-	-	<1.4	-	<1.4	<1.4	
Total >EC5-EC35 Aromatics	mg/kg	-	<10	<10	-	<10	-	-	-	-	-	-	-	-	-	<10	-	<10	<10		
TPH >C5-C35 Aliphatics/Aromatics	mg/kg	-	<10	<10	-	<10	-	-	-	-	-	-	-	-	-	<10	-	<10	<10		
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	EPH >C10-40	mg/kg	110	<10	<10	<10	<10	<10	84	-	<10	<10	-	<10	<10	<10	<10	<10	<10	<10	
	GRO C5-C10	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH by GCFID (AR)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	<0.01	<0.01	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	<0.01	<0.01	
	Toluene	mg/kg	0.05	<0.01	<0.01	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	<0.01	<0.01	
	Ethylbenzene	mg/kg	0.05	<0.01	<0.01	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	<0.01	<0.01	
	Xylene (m & p)	mg/kg	0.1	<0.01	-	-	<0.01	<0.01	-	<0.1	-	-	<0.1	-	-	-	<0.01	-	-	-	
	Xylene (o)	mg/kg	0.05	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-	
	Xylene Total	mg/kg	-	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	
	MTBE	mg/kg	0.05	<0.01	<0.01	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	<0.01	<0.01	
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	0.04	<0.01	<0.03	<0.03	<0.01	<0.03	<0.03	<0.05	<0.03	<0.03	<0.05	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	<0.03
	Acenaphthene	mg/kg	0.01	<0.03	<0.1	<0.03	<0.03	<0.03	<0.03	<0.03	<0.01	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	<0.1	<0.03	<0.03	<0.03
	Acenaphthylene	mg/kg	0.01	<0.03	<0.1	<0.03	<0.03	<0.1	<0.1	<0.03	<0.01	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	<0.1	<0.03	<0.03	<0.03
	Fluoranthene	mg/kg	0.01	1.3	0.06	<0.03	<0.03	0.62	<0.03	0.6	0.023	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	<0.1	<0.03	<0.03	<0.03
	Anthracene	mg/kg	0.01	0.08	<0.1	<0.03	<0.03	<0.1	<0.1	<0.03	<0.01	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	0.08	<0.03	<0.03	<0.03
	Phenanthrene	mg/kg	0.01	0.6	0.07	<0.03	<0.03	0.1	<0.03	0.18	0.025	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	0.44	<0.03	<0.03	<0.03
	Fluorene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.01	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	<0.1	<0.03	<0.03	<0.03
	Chrysene	mg/kg	0.01	0.5	<0.1	<0.03	<0.03	0.27	<0.1	0.35	0.02	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	<0.1	<0.03	0.03	0.03
	Pyrene	mg/kg	0.01	0.98	<0.1	<0.03	<0.03	0.4	<0.03	0.5	0.021	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	<0.1	<0.03	<0.03	<0.03
	Benzo(a)anthracene	mg/kg	0.01	0.7	<0.03	<0.03	<0.03	0.2	<0.03	0.21	0.039	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	<0.1	<0.03	<0.03	<0.03
	Benzo(b)fluoranthene	mg/kg	0.01	0.6	<0.1	<0.03	<0.03	0.75	<0.03	0.4	0.017	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	0.22	<0.03	<0.03	<0.03
	Benzo(k)fluoranthene	mg/kg	0.01	0.41	<0.03	<0.03	<0.03	0.1	<0.1	0.17	<0.01	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	0.11	<0.03	<0.03	<0.03
	Benzo(a)pyrene	mg/kg	0.01	0.57	<0.1	<0.03	<0.03	0.43	<0.03	0.2	<0.01	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	0.11	<0.03	<0.03	<0.03
	Dibenz(a,h)anthracene	mg/kg	0.01	0.05	<0.03	<0.03	<0.03	<0.1 - 0.05	<0.03	0.03	<0.01	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
	Benzo(g,h,i)perylene	mg/kg	0.01	0.28	<0.03	<0.03	<0.03	0.1 - 0.33	<0.03	0.2	<0.01	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	<0.1 - 0.11	<0.03	<0.03	<0.03
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	0.25	<0.03	<0.03	<0.03	<0.1 - 0.27	<0.03	0.19	<0.01	<0.03	<0.03	<0.01	<0.03	<0.03	<0.03	<0.1 - 0.09	<0.03	<0.03	<0.03
	PAH 16 Total	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PAHs (Sum of total)	mg/kg	-	6.3	0.17	<0.1	<0.1	4	<0.1	3	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	0.023	-	-	<0.01	-	-	-	-	-	-	-	
Phenolics	Xylenols	mg/kg	-	<0.01	-	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	<0.01	
	3-&4-methylphenol	mg/kg	-	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-	
	Phenol	mg/kg	0.01	<0.1	-	-	<0.01	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	<0.01	
	Phenols Monohydric	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	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH11				MS\BH12		MS\BH13				MS\BH14							
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	4	5	13.2	1	2.7-3	0.5	3-3	3.6	10.2-10.4	11-11	11-11.2	0.3	1	4.2-4.4	4.5-4.8	14.2	17.5
Unit	Sample Date	03/06/2021	03/06/2021	03/06/2021	04/06/2021	04/06/2021	04/06/2021	28/05/2021	28/06/2021	28/05/2021	28/05/2021	28/06/2021	28/05/2021	28/06/2021	28/05/2021	28/06/2021	30/06/2021	30/06/2021	02/07/2021	01/07/2021	
Volatile Organic Carbon	Styrene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	cis-1,3-dichloropropene	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	-	-	-
	trans-1,3-dichloropropene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	1,1,1,2-tetrachloroethane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	1,1,1-trichloroethane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	1,1-dichloroethane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	1,1-dichloroethene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	1,1-dichloropropene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	1,2,3-trichloropropane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	1,2,4-trimethylbenzene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	1,2-dibromo-3-chloropropane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	1,2-dibromoethane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	1,2-dichloroethane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	1,3-Dichloropropene	mg/kg		-	<0.01	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-
	1,2-dichloropropane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	0.01	-	-	-
	1,3-dichloropropane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	2,2-dichloropropane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	2-chlorotoluene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	4-chlorotoluene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	Bromobenzene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	Bromochloromethane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	Bromodichloromethane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	Bromoform	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	Chlorodibromomethane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	0.126	-	-	<0.05	-	-	-	-	-	-	-
	cis-1,2-dichloroethene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	Dibromomethane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	-	-	-	
Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	-	-	-	
Isopropylbenzene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-	
n-butylbenzene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-	
n-propylbenzene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-	
p-isopropyltoluene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-	
sec-butylbenzene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-	
Trichloroethene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-	
tert-butylbenzene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-	
Tetrachloroethene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-	
trans-1,2-dichloroethene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-	
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	<0.01	-	-	-	
	1,2,4-trichlorobenzene	mg/kg	0.01	-	<0.01	-	-	<0.1	<0.1	-	<0.05	-	-	<0.01	-	-	<0.1	-	-	-	
	1,2-dichlorobenzene	mg/kg	0.01	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	<0.05	-	-	<0.01	-	-	-	
	1,3-dichlorobenzene	mg/kg	0.01	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.01	-	-	<0.01	-	-	-	
	1,4-dichlorobenzene	mg/kg	0.01	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.01	-	-	<0.01	-	-	-	
	Chlorobenzene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
Hexachlorobutadiene	mg/kg	0.01	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	<0.05	-	-	-	<0.01	-	-	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
		Location ID	Location	MS\BH11				MS\BH12		MS\BH13				MS\BH14						
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	4	5	13.2	1	2.7-3	0.5	3-3	3.6	10.2-10.4	11-11	11-11.2	0.3	1	4.2-4.4	4.5-4.8	14.2
Unit	Sample_Date	03/06/2021	03/06/2021	03/06/2021	04/06/2021	04/06/2021	04/06/2021	28/05/2021	28/06/2021	28/05/2021	28/05/2021	28/06/2021	28/05/2021	28/06/2021	28/06/2021	28/06/2021	30/06/2021	30/06/2021	02/07/2021	01/07/2021
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	-	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-
	Benzyl alcohol	mg/kg	-	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-
	4-bromophenyl phenyl ether	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	4-nitroaniline	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	4-nitrophenol	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	1,2-Dinitrobenzene	mg/kg	-	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-
	1,3-Dinitrobenzene	mg/kg	-	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-
	2,3,4,6-tetrachlorophenol	mg/kg	-	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-
	2,3,5,6-Tetrachlorophenol	mg/kg	-	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-
	2,4,5-trichlorophenol	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	2,4,6-trichlorophenol	mg/kg	0.01	<0.1	-	-	<0.01	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	<0.01
	2,4-dichlorophenol	mg/kg	0.01	<0.01	-	-	<0.01	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	<0.01
	2,4-dimethylphenol	mg/kg	0.01	<0.1	-	-	<0.01	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	<0.01
	2,4-dinitrotoluene	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	2,6-dichlorophenol	mg/kg	-	<0.01	-	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	<0.01
	2,6-dinitrotoluene	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	2-chloronaphthalene	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	2-chlorophenol	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	2-methylnaphthalene	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	2-methylphenol	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	2-nitroaniline	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	2-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	<0.01	-	-	<0.01	-	-	-	-	-	-	-
	3-nitroaniline	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	4,6-Dinitro-2-methylphenol	mg/kg	-	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-
	4-chloro-3-methylphenol	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	<0.01
	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	<0.01	-	-	<0.01	-	-	-	-	-	-	-
	4-chlorophenyl phenyl ether	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	4-methylphenol	mg/kg	0.01	<0.01	-	-	<0.01	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	<0.01
	Aniline	mg/kg	-	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-
	Azobenzene	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	Bis(2-chloroethoxy) methane	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-	-	-	<0.01	-	-	<0.01	-	-	-	-	-	-	-
	Bis(2-chloroisopropyl) ether	mg/kg	-	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-
	Butyl benzyl phthalate	mg/kg	0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-
	Carbazole	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	Dibenzofuran	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-
	Diethylphthalate	mg/kg	0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-
	Dimethyl phthalate	mg/kg	0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-
	Di-n-butyl phthalate	mg/kg	0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-
Di-n-octyl phthalate	mg/kg	0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	
Diphenylamine	mg/kg	-	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-	
Hexachlorobenzene	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-	
Hexachlorocyclopentadiene	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-	
Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	<0.01	-	-	<0.01	-	-	-	-	-	-	-	
Isophorone	mg/kg	0.01	-	-	-	-	-	-	<0.01	-	-	<0.01	-	-	-	-	-	-	-	
Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	<0.01	-	-	<0.01	-	-	-	-	-	-	-	
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	<0.01	-	-	<0.01	-	-	-	-	-	-	-	
Pentachlorophenol	mg/kg	0.01	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.1	-	-	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH11				MS\BH12		MS\BH13				MS\BH14							
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	4	5	13.2	1	2.7-3	0.5	3-3	3.6	10.2-10.4	11-11	11-11.2	0.3	1	4.2-4.4	4.5-4.8	14.2	17.5
		Unit	Sample_Date	03/06/2021	03/06/2021	03/06/2021	04/06/2021	04/06/2021	04/06/2021	28/05/2021	28/06/2021	28/05/2021	28/05/2021	28/06/2021	28/05/2021	28/06/2021	28/06/2021	28/06/2021	30/06/2021	30/06/2021	02/07/2021
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	Hexachlorobiphenyl, 2,3,4,4,5,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	Hexachlorobiphenyl, 3,3,4,4,5,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	PCB 101	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	PCB 118	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	PCB 138	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	PCB 153	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	PCB 180	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	PCB 28 + PCB 31	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	PCB 52	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
Total PCB 7 Congeners	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Notes
 - Not analysed
 # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH15							MS\BH16							On-Site	On-Site	On-Site	On-Site
		Sample Depth (m bgl)	Sample Depth (m bgl)	.17.7	1	2-2	2.7-2.9	4.4-4.6	12.45-13	17.15-17.15	0.5	3.3-3.5	4.2-4.4	5-5	5-5.2	5.7-5.9	13.4-13.6	1-1.2	3-3.2	3.9-4.2	5-5.2
Unit	Sample_Date	02/07/2021	05/07/2021	05/07/2021	05/07/2021	05/07/2021	06/07/2021	06/07/2021	02/07/2021	02/07/2021	02/07/2021	05/07/2021	02/07/2021	02/07/2021	05/07/2021	07/07/2021	07/07/2021	07/07/2021	07/07/2021		
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Arsenic	mg/kg	-	15	-	9.3	7.3	12	-	6.1	11	6.1	-	10	6.3	24	-	-	17	44	
	Barium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Beryllium	mg/kg	-	7.1	-	0.4	5.5	0.2	-	0.7	1.3	1.3	-	1.5	<0.2	1.1	-	-	1.7	1.9	
	Boron	mg/kg	-	9	-	1	5.8	0.7	-	2.9	2.6	4.8	-	2.5	0.7	5.2	-	-	2.2	3	
	Cadmium	mg/kg	-	0.5	-	0.6	<0.1	<0.1	-	0.7	0.3	0.2	-	0.2	<0.1	0.5	-	-	2	3.6	
	Chromium (hexavalent)	mg/kg	-	<1	-	<1	<1	<1	-	<7	<1	<1	-	<1	<1	<1	-	-	<1	<1	
	Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chromium (Trivalent)	mg/kg	-	38	-	800	12	6.8	-	410	49	49	-	41	5.3	270	-	-	400	340	
	Copper	mg/kg	-	7.3	-	57	8.2	5.5	-	52	32	22	-	30	3.5	180	-	-	80	130	
	Iron	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	57,000	-	-	54,000	73,000	
	Lead	mg/kg	-	7.8	-	37	9.1	6.2	-	43	49	30	-	160	30	490	-	-	300	720	
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Mercury	mg/kg	-	<0.05	-	<0.05	0.06	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	0.11	-	-	0.2	0.28	
	Molybdenum	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nickel	mg/kg	-	18	-	25	5.6	6.1	-	24	26	28	-	41	4.8	50	-	-	19	33	
	Selenium	mg/kg	-	2.1	-	6.9	1.6	<0.5	-	6.8	0.6	0.8	-	<0.5	<0.5	0.7	-	-	5.6	4.7	
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Vanadium	mg/kg	-	130	-	2200	41	19	-	860	89	71	-	50	13	49	-	-	850	1000	
Zinc	mg/kg	-	150	-	120	26	22	-	140	140	76	-	89	23	720	-	-	790	710		
Inorganics	Cyanide (Free)	mg/kg	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	-	-	-		
	Cyanide Total	mg/kg	-	<0.1	-	0.4	<0.1	<0.1	-	0.6	<0.1	<0.1	-	0.2	<0.1	-	-	-	-		
	cyanides-complex	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitrate (as NO3-)	mg/kg	-	1.9	-	16	5.6	1.3	-	<0.1	2.5	6.2	-	<1	3.2	-	-	-	-		
	Sulphate	mg/kg	-	26,000	-	12,000	2100	800	-	5100	3800	7000	-	2500	800	-	-	-	-		
	Sulphate as SO4	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphide	mg/kg	-	560	-	150	560	120	-	350	370	32	-	220	64	-	-	-	-		
	Sulphur as S	%	-	0.9	-	0.47	0.38	0.12	-	0.17	0.41	0.41	-	0.5	0.06	-	-	-	-		
	Sulphur (free)	mg/kg	-	690	-	<0.75	32	1.7	-	3.1	<0.75	11	-	3.9	5	-	-	-	-		
Thiocyanate (as SCN)	mg/kg	-	<0.6	-	<0.6	<0.6	<0.6	-	<0.6	<0.6	<0.6	-	<0.6	<0.6	-	-	-	-			
Other	Organic Matter	%	-	1.9	-	1.1	1	0.8	-	0.6	2.8	1.6	-	2.4	0.2	-	-	-	-		
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Moisture	%	0.1	13.1	-	27.8	-	-	19.1	-	-	-	25.1	-	-	-	-	-	-		
	Moisture Content 105C	%	-	3.9	-	18	9	16	-	8	18	22	-	23	18	-	-	-	-		
pH (Lab)	pH_Units	-	8.3	-	11.6	10.9	8.1	-	8.9	9.7	10.3	-	9.3	8.9	-	-	-	-			

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
		Location ID	Location	MS\BH15						MS\BH16						1-1.2	3-3.2	3.9-4.2	5-5.2	
		Sample Depth (m bgl)	Sample Depth (m bgl)	17.7	1	2-2	2.7-2.9	4.4-4.6	12.45-13	17.15-17.15	0.5	3.3-3.5	4.2-4.4	5-5	5-5.2	5.7-5.9	13.4-13.6	07/07/2021	07/07/2021	07/07/2021
Unit	Sample_Date	02/07/2021	05/07/2021	05/07/2021	05/07/2021	05/07/2021	06/07/2021	06/07/2021	02/07/2021	02/07/2021	02/07/2021	05/07/2021	02/07/2021	02/07/2021	05/07/2021	07/07/2021	07/07/2021	07/07/2021	07/07/2021	
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg	-	<0.01	-	<0.01	-	-	-	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-
	>C6-C8 Aliphatics	mg/kg	-	<0.01	-	<0.01	-	-	-	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-
	>C8-C10 Aliphatics	mg/kg	-	<0.01	-	<0.01	-	-	-	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-
	>C10-C12 Aliphatics	mg/kg	-	<1.5	-	<1.5	-	-	-	<1.5	<1.5	<1.5	-	<1.5	-	-	-	-	-	-
	>C12-C16 Aliphatics	mg/kg	-	<1.2	-	<1.2	-	-	-	<1.2	<1.2	<1.2	-	<1.2	-	-	-	-	-	-
	>C16-C21 Aliphatics	mg/kg	-	<1.5	-	<1.5	-	-	-	1.8	<1.5	<1.5	-	<1.5	-	-	-	-	-	-
	>C21-C35 Aliphatics	mg/kg	-	<3.4	-	<3.4	-	-	-	42	<3.4	<3.4	-	<3.4	-	-	-	-	-	-
	Total >C5-C35 Aliphatics	mg/kg	-	<10	-	<10	-	-	-	45	<10	<10	-	<10	-	-	-	-	-	-
	>EC5-EC7 Aromatics	mg/kg	-	<0.01	-	<0.01	-	-	-	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-
	>EC7-EC8 Aromatics	mg/kg	-	<0.01	-	<0.01	-	-	-	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-
	>EC8-EC10 Aromatics	mg/kg	-	<0.01	-	<0.01	-	-	-	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-
	>EC10-EC12 Aromatics	mg/kg	-	<0.9	-	<0.9	-	-	-	2.4	<0.9	<0.9	-	<0.9	-	-	-	-	-	-
	>EC12-EC16 Aromatics	mg/kg	-	<0.5	-	<0.5	-	-	-	0.8	<0.5	<0.5	-	<0.5	-	-	-	-	-	-
	>EC16-EC21 Aromatics	mg/kg	-	<0.6	-	<0.6	-	-	-	2.1	<0.6	<0.6	-	<0.6	-	-	-	-	-	-
	>EC21-EC35 Aromatics	mg/kg	-	<1.4	-	<1.4	-	-	-	33	<1.4	<1.4	-	<1.4	-	-	-	-	-	-
Total >EC5-EC35 Aromatics	mg/kg	-	<10	-	<10	-	-	-	39	<10	<10	-	<10	-	-	-	-	-	-	
TPH >C5-C35 Aliphatics/Aromatics	mg/kg	-	<10	-	<10	-	-	-	83	<10	<10	-	<10	-	-	-	-	-	-	
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EPH >C10-40	mg/kg	-	<10	-	<10	<10	<10	-	110	470	<10	-	<10	<10	-	-	-	-	-
	GRO C5-C10	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	<0.05	<0.01	<0.05	<0.01	-	-	<0.05	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.01	<0.01	<0.01	<0.01
	Toluene	mg/kg	0.05	<0.05	<0.01	<0.05	<0.01	-	-	<0.05	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.01	<0.01	<0.01	<0.01
	Ethylbenzene	mg/kg	0.05	<0.05	<0.01	<0.05	<0.01	-	-	<0.05	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.01	<0.01	<0.01	<0.01
	Xylene (m & p)	mg/kg	0.1	<0.1	<0.01	<0.1	-	-	-	<0.1	-	<0.01	-	<0.1	-	-	<0.01	<0.01	<0.01	<0.01
	Xylene (o)	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01
	Xylene Total	mg/kg	-	<0.01	-	<0.01	-	-	-	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-
MTBE	mg/kg	0.05	<0.05	<0.01	<0.05	<0.01	-	-	<0.05	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.01	<0.01	<0.01	<0.01	
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	<0.05	0.36	<0.05	<0.03	<0.03	<0.03	<0.01	0.07	<0.1	1.8	<0.01	0.33	<0.03	<0.01	<0.1	<0.1	0.6
	Acenaphthene	mg/kg	0.01	<0.01	0.11	<0.01	<0.03	<0.03	<0.03	<0.01	<0.03	<0.1	0.34	<0.01	<0.03	<0.03	<0.1	<0.1	<0.1	0.2
	Acenaphthylene	mg/kg	0.01	<0.01	<0.03	<0.01	<0.03	<0.03	<0.03	<0.01	<0.03	<0.03	0.14	<0.01	<0.03	<0.03	<0.1	<0.1	<0.1	<0.1
	Fluoranthene	mg/kg	0.01	<0.01	2	<0.01	0.04	0.03	<0.03	<0.01	0.28	0.12	1.1	0.034	<0.03	<0.03	<0.1	0.1	0.1	1.8
	Anthracene	mg/kg	0.01	<0.01	0.2	<0.01	<0.03	<0.03	<0.03	<0.01	0.05	<0.1	0.35	<0.01	<0.03	<0.03	<0.1	<0.1	<0.1	0.4
	Phenanthrene	mg/kg	0.01	<0.01	2.3	<0.01	0.04	0.1	<0.03	<0.01	0.2	0.09	3.8	0.03	0.04	<0.03	<0.1	<0.1	0.1	1.6
	Fluorene	mg/kg	0.01	<0.01	0.1	<0.01	<0.03	0.03	<0.03	<0.01	<0.03	<0.1	0.58	<0.01	<0.03	<0.03	<0.1	<0.1	<0.1	0.2
	Chrysene	mg/kg	0.01	<0.01	1.1	<0.01	0.05	<0.03	<0.03	<0.01	0.16	0.06	0.15	0.018	0.04	<0.03	<0.1	0.1	<0.1	0.9
	Pyrene	mg/kg	0.01	<0.01	0.92	<0.01	0.06	<0.03	<0.03	<0.01	0.24	0.09	0.68	0.029	<0.03	<0.03	<0.1	0.1	<0.1	1.8
	Benzo(a)anthracene	mg/kg	0.01	<0.01	0.59	<0.01	<0.03	<0.03	<0.03	<0.01	0.14	0.04	0.13	0.044	<0.03	<0.03	<0.1	0.1	<0.1	0.9
	Benzo(b)fluoranthene	mg/kg	0.01	<0.01	1.2	<0.01	<0.03	<0.03	<0.03	<0.01	0.33	0.05	0.12	0.024	<0.03	<0.03	<0.1	<0.1	<0.1	0.7
	Benzo(k)fluoranthene	mg/kg	0.01	<0.01	0.2	<0.01	0.04	<0.03	<0.03	<0.01	0.1	<0.1	0.04	<0.01	<0.03	<0.03	<0.1	<0.1	<0.1	0.5
	Benzo(a)pyrene	mg/kg	0.01	<0.01	0.9	<0.01	<0.03	<0.03	<0.03	<0.01	0.14	<0.03	0.06	0.016	<0.03	<0.03	<0.1	<0.1	<0.1	0.7
	Dibenz(a,h)anthracene	mg/kg	0.01	<0.01	<0.03 - 0.1	<0.01	<0.03	<0.03	<0.03	<0.01	0.04	<0.03	<0.03	<0.01	<0.03	<0.03	<0.1	<0.1	<0.1	<0.1
	Benzo(g,h,i)perylene	mg/kg	0.01	<0.01	0.18 - 0.3	<0.01	<0.03	<0.03	<0.03	<0.01	0.17	<0.03	<0.03	0.015	<0.03	<0.03	<0.1	<0.1	<0.1	0.3
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	<0.01	0.19 - 0.4	<0.01	<0.03	<0.03	<0.03	<0.01	0.13	<0.03	<0.03	<0.01	<0.03	<0.03	<0.1	<0.1	<0.1	0.3
	PAH 16 Total	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PAHs (Sum of total)	mg/kg	-	7	-	0.22	0.16	<0.1	-	-	2.1	0.56	9.3	-	0.33	<0.1	-	-	-	-
Benzo(b+k)fluoranthene	mg/kg	0.01	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	0.033	-	-	-	-	-	-	
Phenolics	Xylenols	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	
	3-&4-methylphenol	mg/kg	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	-	<0.1	<0.1	<0.1	<0.1	
	Phenol	mg/kg	0.01	<0.01	<0.01	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	<0.1	<0.1	<0.1	<0.1	
	Phenols Monohydric	mg/kg	-	<0.3	-	<0.3	<0.3	<0.3	<0.3	-	<0.3	<0.3	<0.3	-	<0.3	<0.3	-	-	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH15							MS\BH16										
		Sample Depth (m bgl)	Sample Depth	17.7	1	2-2	2.7-2.9	4.4-4.6	12.45-13	17.15-17.15	0.5	3.3-3.5	4.2-4.4	5-5	5-5.2	5.7-5.9	13.4-13.6	1-1.2	3-3.2	3.9-4.2	5-5.2
		Unit	Sample Date	02/07/2021	05/07/2021	05/07/2021	05/07/2021	05/07/2021	06/07/2021	06/07/2021	02/07/2021	02/07/2021	02/07/2021	05/07/2021	02/07/2021	02/07/2021	05/07/2021	07/07/2021	07/07/2021	07/07/2021	07/07/2021
Volatile Organic Carbon	Styrene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	cis-1,3-dichloropropene	mg/kg	0.05	<0.05	-	<0.05	-	-	-	<0.05	-	-	-	<0.05	-	-	-	-	-	-	-
	trans-1,3-dichloropropene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	1,1,1,2-tetrachloroethane	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	1,1,1-trichloroethane	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	1,1,2,2-tetrachloroethane	mg/kg	0.05	<0.05	-	<0.05	-	-	-	<0.05	-	-	-	<0.05	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	1,1-dichloroethane	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	1,1-dichloroethene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	1,1-dichloropropene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	1,2,3-trichloropropane	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	1,2,4-trimethylbenzene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	1,2-dibromo-3-chloropropane	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	1,2-dibromoethane	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	1,2-dichloroethane	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	1,3-Dichloropropene	mg/kg		-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	1,2-dichloropropane	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	1,3,5-trimethylbenzene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	1,3-dichloropropane	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	2,2-dichloropropane	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	2-chlorotoluene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	4-chlorotoluene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	Bromobenzene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	Bromochloromethane	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	Bromodichloromethane	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	Bromoform	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	Bromomethane	mg/kg	0.05	<0.05	-	<0.05	-	-	-	<0.05	-	-	-	<0.05	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	Chlorodibromomethane	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	Chloroethane	mg/kg	0.05	<0.05	-	<0.05	-	-	-	<0.05	-	-	-	<0.05	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
	Chloromethane	mg/kg	0.05	0.12	-	0.119	-	-	-	<0.05	-	-	-	0.856	-	-	-	-	-	-	-
	cis-1,2-dichloroethene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
Dibromomethane	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	
Dichlorodifluoromethane	mg/kg	0.05	<0.05	-	<0.05	-	-	-	<0.05	-	-	-	<0.05	-	-	-	-	-	-	-	
Dichloromethane	mg/kg	0.05	<0.05	-	<0.05	-	-	-	<0.05	-	-	-	<0.05	-	-	-	-	-	-	-	
Isopropylbenzene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	
n-butylbenzene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	
n-propylbenzene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	
p-isopropyltoluene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	
sec-butylbenzene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	
Trichloroethene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	
tert-butylbenzene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	
Tetrachloroethene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	
trans-1,2-dichloroethene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	
Trichlorofluoromethane	mg/kg	0.05	<0.05	-	<0.05	-	-	-	<0.05	-	-	-	<0.05	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	
	1,2,4-trichlorobenzene	mg/kg	0.01	<0.05	<0.01	<0.05	-	-	-	<0.01	-	<0.01	-	<0.01	-	-	<0.1	<0.1	<0.01	<0.1	
	1,2-dichlorobenzene	mg/kg	0.01	<0.01	<0.01	<0.01	-	-	-	<0.01	-	<0.01	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	
	1,3-dichlorobenzene	mg/kg	0.01	<0.05	<0.01	<0.05	-	-	-	<0.01	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	
	1,4-dichlorobenzene	mg/kg	0.01	<0.05	<0.01	<0.05	-	-	-	<0.01	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	
	Chlorobenzene	mg/kg	0.05	<0.05	<0.01	<0.05	-	-	-	<0.05	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	
Hexachlorobutadiene	mg/kg	0.01	<0.01	<0.01	<0.05	-	-	-	<0.01	-	<0.01	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH15							MS\BH16							On-Site	On-Site	On-Site	On-Site
		Sample Depth (m bgl)	Sample Depth (m bgl)	17.7	1	2-2	2.7-2.9	4.4-4.6	12.45-13	17.15-17.15	0.5	3.3-3.5	4.2-4.4	5-5	5-5.2	5.7-5.9	13.4-13.6	1-1.2	3-3.2	3.9-4.2	5-5.2
Unit	Sample_Date	02/07/2021	05/07/2021	05/07/2021	05/07/2021	05/07/2021	06/07/2021	06/07/2021	02/07/2021	02/07/2021	02/07/2021	05/07/2021	02/07/2021	02/07/2021	05/07/2021	07/07/2021	07/07/2021	07/07/2021	07/07/2021		
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1		
	Benzyl alcohol	mg/kg	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	4-bromophenyl phenyl ether	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	4-nitroaniline	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	4-nitrophenol	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	<0.1	0.2	<0.1	<0.1	<0.1	
	1,2-Dinitrobenzene	mg/kg	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.1	<0.1	<0.1	<0.1	
	1,3-Dinitrobenzene	mg/kg	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.1	<0.1	<0.1	<0.1	
	2,3,4,6-tetrachlorophenol	mg/kg	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.1	<0.1	<0.1	<0.1	
	2,3,5,6-Tetrachlorophenol	mg/kg	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.1	<0.1	<0.1	<0.1	
	2,4,5-trichlorophenol	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	
	2,4,6-trichlorophenol	mg/kg	0.01	<0.01	<0.01	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	
	2,4-dichlorophenol	mg/kg	0.01	<0.01	<0.01	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	
	2,4-dimethylphenol	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.01	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	
	2,4-dinitrotoluene	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	
	2,6-dichlorophenol	mg/kg	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	
	2,6-dinitrotoluene	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	
	2-chloronaphthalene	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	
	2-chlorophenol	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	
	2-methylnaphthalene	mg/kg	0.01	<0.01	0.2	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	0.2	
	2-methylphenol	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	
	2-nitroaniline	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	
	2-nitrophenol	mg/kg	0.01	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	
	3-nitroaniline	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	
	4,6-Dinitro-2-methylphenol	mg/kg	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.1	<0.1	<0.1	<0.1	
	4-chloro-3-methylphenol	mg/kg	0.01	<0.01	<0.01	<0.01	-	-	-	<0.01	-	<0.01	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	
	4-chloroaniline	mg/kg	0.01	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	
	4-chlorophenyl phenyl ether	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	
	4-methylphenol	mg/kg	0.01	<0.01	<0.01	<0.01	-	-	-	<0.01	-	<0.01	-	<0.01	-	-	-	-	-	-	
	Aniline	mg/kg	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.1	<0.1	<0.1	<0.1	
	Azobenzene	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	
	Bis(2-chloroethoxy) methane	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	
	Bis(2-chloroethyl)ether	mg/kg	0.01	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	
	Bis(2-chloroisopropyl) ether	mg/kg	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.1	<0.1	<0.1	<0.1	
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	<0.1	<0.1	<0.1	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	
	Butyl benzyl phthalate	mg/kg	0.1	<0.1	<0.1	<0.1	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	
	Carbazole	mg/kg	0.01	<0.01	0.2	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	0.2	
	Dibenzofuran	mg/kg	0.01	<0.01	0.3	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	0.2	
	Diethylphthalate	mg/kg	0.1	<0.1	<0.1	<0.1	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	
	Dimethyl phthalate	mg/kg	0.1	<0.1	<0.1	<0.1	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	
	Di-n-butyl phthalate	mg/kg	0.1	<0.1	<0.1	<0.1	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	
Di-n-octyl phthalate	mg/kg	0.1	<0.1	<0.1	<0.1	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.1	<0.1	<0.1		
Diphenylamine	mg/kg	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.1	<0.1	<0.1	<0.1		
Hexachlorobenzene	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1		
Hexachlorocyclopentadiene	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1		
Hexachloroethane	mg/kg	0.01	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-		
Isophorone	mg/kg	0.01	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-		
Nitrobenzene	mg/kg	0.01	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-		
N-nitrosodi-n-propylamine	mg/kg	0.01	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-		
Pentachlorophenol	mg/kg	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH15						MS\BH16											
		Sample Depth (m bgl)	Sample Depth (m bgl)	.17.7	1	2-2	2.7-2.9	4.4-4.6	12.45-13	17.15-17.15	0.5	3.3-3.5	4.2-4.4	5-5	5-5.2	5.7-5.9	13.4-13.6	1-1.2	3-3.2	3.9-4.2	5-5.2
		Unit	Sample_Date	02/07/2021	05/07/2021	05/07/2021	05/07/2021	05/07/2021	06/07/2021	06/07/2021	02/07/2021	02/07/2021	02/07/2021	05/07/2021	02/07/2021	02/07/2021	05/07/2021	07/07/2021	07/07/2021	07/07/2021	07/07/2021
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 156)	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 157)	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,4,4,5,5- (PCB 167)	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	
	Hexachlorobiphenyl, 3,3,4,4,5,5- (PCB 169)	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	
	PCB 101	mg/kg	-	<0.01	-	-	-	-	-	-	0.01	<0.01	-	-	<0.01	-	-	-	-	-	
	PCB 118	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	
	PCB 138	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	
	PCB 153	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	
	PCB 180	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	
	PCB 28 + PCB 31	mg/kg	-	<0.01	-	-	-	-	-	-	0.1	<0.01	-	-	<0.01	-	-	-	-	-	
	PCB 52	mg/kg	-	<0.01	-	-	-	-	-	-	0.07	<0.01	-	-	<0.01	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	-	<0.01	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	
Total PCB 7 Congeners	mg/kg	-	<0.01	-	-	-	-	-	-	0.18	<0.01	-	-	<0.01	-	-	-	-	-		
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Notes
 - Not analysed
 # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH17					MS\TP01			MS\TP03	MS\TP04		MS\TP05				MS\TP06		
		Sample Depth (m bgl)	Sample Depth (m bgl)	6-6.2	7.2-7.4	14.2-14.2	14.2-14.4	18.7-18.9	0.5	3	4	2-2	0.5	4-4	0.5	1	2	3	0.5	3.8-3.8	0.5
		Unit	Sample_Date	07/07/2021	07/07/2021	07/07/2021	07/07/2021	07/07/2021	16/06/2021	16/06/2021	16/06/2021	14/06/2021	14/06/2021	15/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	15/06/2021	22/06/2021	17/06/2021
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Arsenic	mg/kg	35	6.6	-	14	-	4.4	9.6	5.5	6.4	6.1	5.5	32	42	180	28	7.4	18	24	
	Barium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Beryllium	mg/kg	0.8	<0.2	-	0.6	-	4.7	3.9	0.8	5.3	5.9	6.4	2.4	2.4	1.1	1.3	2.9	3.4	1.5	
	Boron	mg/kg	1.6	0.4	-	1	-	3.8	5.4	1.5	2.1	3.7	3.6	1	1.9	2.8	1.4	1.8	1.2	1.4	
	Cadmium	mg/kg	3.7	<0.1	-	0.4	-	<0.1	0.4	<0.1	0.1	0.1	0.1	4.4	3.5	1.2	1.1	1.2	22	4.6	
	Chromium (hexavalent)	mg/kg	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chromium (Trivalent)	mg/kg	170	4.1	-	36	-	30	130	8	8.1	16	3.8	32	210	29	260	260	54	110	
	Copper	mg/kg	78	6.6	-	21	-	11	31	8.1	9.7	8.1	6.2	2700	92	330	53	85	150	60	
	Iron	mg/kg	38,000	6200	-	26,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Lead	mg/kg	400	9.6	-	57	-	4.9	46	22	12	15	1.4	630	270	200	80	21	1000	190	
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Mercury	mg/kg	0.11	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	0.06	<0.05	<0.05	0.33	<0.05
	Molybdenum	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nickel	mg/kg	30	3	-	21	-	3	11	3.8	2.5	3.6	2.1	68	30	27	23	86	57	21	
	Selenium	mg/kg	1.9	<0.5	-	0.7	-	1.8	4	0.5	1.6	1.3	0.6	<0.5	7.2	5.6	14	1.4	1	1	
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vanadium	mg/kg	260	15	-	55	-	50	280	23	45	51	17	110	1200	70	1900	620	160	390		
Zinc	mg/kg	1000	21	-	160	-	70	170	37	27	76	5.5	1300	570	430	160	170	3700	170		
Inorganics	Cyanide (Free)	mg/kg	-	-	-	-	-	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	Cyanide Total	mg/kg	-	-	-	-	-	0.1	0.3	16	<0.1	0.3	0.4	0.2	0.3	<0.1	<0.1	<0.1	2.6	0.3	
	cyanides-complex	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitrate (as NO3-)	mg/kg	-	-	-	-	-	6.8	14	5.6	4.9	8.9	9.7	11	6.5	7.9	4.5	12	0.29	7.6	
	Sulphate	mg/kg	-	-	-	-	-	8700	22,000	2600	6500	5900	49,000	6500	4700	31,000	3500	1900	7600	2200	
	Sulphate as SO4	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphide	mg/kg	-	-	-	-	-	1100	1100	400	14,000	2600	7000	200	720	200	920	100	400	440	
	Sulphur as S	%	-	-	-	-	-	0.44	0.54	0.1	0.6	0.39	1.2	0.29	0.26	0.96	0.22	0.08	0.26	0.17	
	Sulphur (free)	mg/kg	-	-	-	-	-	<0.75	0.86	6.5	7.3	11	3.7	1.7	<0.75	<0.75	<0.75	<0.75	40	<0.75	
Thiocyanate (as SCN)	mg/kg	-	-	-	-	-	2.3	<0.6	<0.6	<0.6	<0.6	0.9	<0.6	<0.6	<0.6	0.7	<0.6	<0.6	<0.6		
Other	Organic Matter	%	-	-	-	-	-	1.4	0.7	1.1	0.7	1.2	0.5	0.2	0.9	0.2	1.1	1.6	1.7	1.5	
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture	%	0.1	-	31.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture Content 105C	%	-	-	-	-	-	8.1	9.2	17	6.6	4.7	15	10	8.5	16	7	15	23	9.1	
pH (Lab)	pH_Units	-	-	-	-	-	11.3	10.1	10.4	10.1	9.2	10.3	9.3	10	6.4	10.5	10.1	8.8	10.2		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH17					MS\TP01			MS\TP03	MS\TP04		MS\TP05				MS\TP06		
		Sample Depth (m bgl)	Sample Depth (m bgl)	6-6.2	7.2-7.4	14.2-14.2	14.2-14.4	18.7-18.9	0.5	3	4	2-2	0.5	4-4	0.5	1	2	3	0.5	3.8-3.8	0.5
		Unit	Sample_Date	07/07/2021	07/07/2021	07/07/2021	07/07/2021	07/07/2021	16/06/2021	16/06/2021	16/06/2021	14/06/2021	14/06/2021	15/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	15/06/2021	22/06/2021	17/06/2021
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	<0.01	-		
	>C6-C8 Aliphatics	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
	>C8-C10 Aliphatics	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
	>C10-C12 Aliphatics	mg/kg	-	-	-	-	-	-	-	<1.5	-	-	<1.5	-	<1.5	<1.5	-	-	<1.5	-	
	>C12-C16 Aliphatics	mg/kg	-	-	-	-	-	-	-	<1.2	-	-	<1.2	-	<1.2	<1.2	-	-	250	-	
	>C16-C21 Aliphatics	mg/kg	-	-	-	-	-	-	-	<1.5	-	-	<1.5	-	<1.5	<1.5	-	-	1000	-	
	>C21-C35 Aliphatics	mg/kg	-	-	-	-	-	-	-	<3.4	-	-	<3.4	-	<3.4	<3.4	-	-	160	-	
	Total >C5-C35 Aliphatics	mg/kg	-	-	-	-	-	-	-	<10	-	-	<10	-	<10	<10	-	-	1500	-	
	>EC5-EC7 Aromatics	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
	>EC7-EC8 Aromatics	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
	>EC8-EC10 Aromatics	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
	>EC10-EC12 Aromatics	mg/kg	-	-	-	-	-	-	-	<0.9	-	-	<0.9	-	<0.9	<0.9	-	-	2.7	-	
	>EC12-EC16 Aromatics	mg/kg	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	<0.5	<0.5	-	-	200	-	
	>EC16-EC21 Aromatics	mg/kg	-	-	-	-	-	-	-	<0.6	-	-	<0.6	-	<0.6	<0.6	-	-	1100	-	
	>EC21-EC35 Aromatics	mg/kg	-	-	-	-	-	-	-	<1.4	-	-	<1.4	-	<1.4	<1.4	-	-	220	-	
Total >EC5-EC35 Aromatics	mg/kg	-	-	-	-	-	-	-	<10	-	-	<10	-	<10	<10	-	-	1500	-		
TPH >C5-C35 Aliphatics/Aromatics	mg/kg	-	-	-	-	-	-	-	<10	-	-	<10	-	<10	<10	-	-	3000	-		
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	EPH >C10-40	mg/kg	-	-	-	-	-	<10	38	<10	<10	<10	<10	<10	51	<10	<10	<10	6800	68	
	GRO C5-C10	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH by GCFID (AR)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
	Toluene	mg/kg	0.05	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
	Ethylbenzene	mg/kg	0.05	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
	Xylene (m & p)	mg/kg	0.1	-	<0.1	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
	Xylene (o)	mg/kg	0.05	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
	Xylene Total	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
MTBE	mg/kg	0.05	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-		
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	-	<0.01	-	<0.1	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.01	<0.01	<0.03	<0.03	<0.3	<0.03	
	Acenaphthene	mg/kg	0.01	-	<0.01	-	<0.1	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.1	<0.1	<0.03	<0.03	<0.3	<0.03	
	Acenaphthylene	mg/kg	0.01	-	<0.01	-	<0.1	<0.03	<0.03	<0.1	<0.03	<0.03	<0.03	<0.03	<0.03	<0.1	<0.03	<0.03	<0.3	<0.03	
	Fluoranthene	mg/kg	0.01	-	<0.01	-	<0.1	<0.03	1.6	<0.1	0.04	<0.03	<0.1	<0.03	<0.03	0.2	0.05	0.35	7.4	0.44	
	Anthracene	mg/kg	0.01	-	<0.01	-	<0.1	<0.03	<0.03	<0.1	<0.03	<0.03	<0.03	<0.03	<0.1	<0.03	<0.03	<0.03	<0.1	<0.03	
	Phenanthrene	mg/kg	0.01	-	<0.01	-	<0.1	<0.03	1.1	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	0.12	<0.1	0.11	
	Fluorene	mg/kg	0.01	-	<0.01	-	<0.1	<0.03	<0.03	<0.1	<0.03	<0.03	<0.1	<0.03	<0.03	<0.03	<0.03	<0.03	<0.3	<0.03	
	Chrysene	mg/kg	0.01	-	<0.01	-	<0.1	<0.03	0.24	<0.03	0.03	<0.03	<0.1	<0.03	<0.1	<0.03	0.06	0.27	0.97	0.12	
	Pyrene	mg/kg	0.01	-	<0.01	-	<0.1	<0.03	1.4	<0.03	0.03	<0.03	<0.1	<0.03	<0.1	0.2	0.04	0.29	7.6	0.37	
	Benzo(a)anthracene	mg/kg	0.01	-	<0.01	-	<0.1	<0.03	<0.03	<0.1	<0.03	<0.03	<0.1	<0.03	<0.03	<0.03	0.03	0.26	0.56	<0.03	
	Benzo(b)fluoranthene	mg/kg	0.01	-	<0.01	-	<0.1	0.03	0.77	<0.1	<0.03	<0.03	<0.1	<0.03	0.51	<0.1	0.05	0.46	0.45	0.78	
	Benzo(k)fluoranthene	mg/kg	0.01	-	<0.01	-	<0.1	<0.03	0.2	<0.03	<0.03	<0.03	<0.1	<0.03	0.05	<0.03	<0.03	0.19	<0.3	0.22	
	Benzo(a)pyrene	mg/kg	0.01	-	<0.01	-	<0.1	<0.03	0.25	<0.1	<0.03	<0.03	<0.03	<0.03	<0.1	<0.03	<0.03	0.28	<0.3	0.39	
	Dibenz(a,h)anthracene	mg/kg	0.01	-	<0.01	-	<0.1	<0.03	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	<0.1	0.06	
	Benzo(g,h,i)perylene	mg/kg	0.01	-	<0.01	-	<0.1	<0.03	0.17	<0.03	<0.03	<0.03	<0.03	<0.03	<0.1 - 0.09	<0.03	0.04	0.15	<0.3 - 0.2	0.23	
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	-	<0.01	-	<0.1	<0.03	0.16	<0.03	<0.03	<0.03	<0.03	<0.03	<0.1 - 0.06	<0.03	0.05	0.14	<0.3 - 0.2	0.21	
	PAH 16 Total	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PAHs (Sum of total)	mg/kg	-	-	-	-	-	<0.1	5.9	0.44	0.14	<0.1	<0.1	<0.1	0.81	<0.1	0.32	2.5	<14.91	2.9	
Benzo(b+k)fluoranthene	mg/kg	0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenolics	Xylenols	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	
	3-&4-methylphenol	mg/kg	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	Phenol	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.01	-	
	Phenols Monohydric	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	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH17					MS\TP01			MS\TP03	MS\TP04		MS\TP05				MS\TP06		
		Sample Depth (m bgl)	Sample Depth (m bgl)	6-6.2	7.2-7.4	14.2-14.2	14.2-14.4	18.7-18.9	0.5	3	4	2-2	0.5	4-4	0.5	1	2	3	0.5	3.8-3.8	0.5
		Unit	Sample Date	07/07/2021	07/07/2021	07/07/2021	07/07/2021	07/07/2021	16/06/2021	16/06/2021	16/06/2021	14/06/2021	14/06/2021	15/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	15/06/2021	22/06/2021	17/06/2021
Volatile Organic Carbon	Styrene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	cis-1,3-dichloropropene	mg/kg	0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	trans-1,3-dichloropropene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1,1,1,2-tetrachloroethane	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1,1,1-trichloroethane	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1,1-dichloroethane	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1,1-dichloroethene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1,1-dichloropropene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1,2,3-trichloropropane	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1,2,4-trimethylbenzene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1,2-dibromo-3-chloropropane	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1,2-dibromoethane	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1,2-dichloroethane	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1,3-Dichloropropene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1,2-dichloropropane	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1,3,5-trimethylbenzene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1,3-dichloropropane	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	2,2-dichloropropane	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	2-chlorotoluene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	4-chlorotoluene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	Bromobenzene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	Bromochloromethane	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	Bromodichloromethane	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	Bromoform	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	Bromomethane	mg/kg	0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	Chlorodibromomethane	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	Chloroethane	mg/kg	0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	Chloromethane	mg/kg	0.05	-	-	0.269	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-dichloroethene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
Dibromomethane	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
Dichlorodifluoromethane	mg/kg	0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloromethane	mg/kg	0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isopropylbenzene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
n-butylbenzene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
n-propylbenzene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
p-isopropyltoluene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
sec-butylbenzene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
Trichloroethene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
tert-butylbenzene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
Tetrachloroethene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
trans-1,2-dichloroethene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
Trichlorofluoromethane	mg/kg	0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	<0.05	-	<0.01	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
	1,2-dichlorobenzene	mg/kg	0.01	-	-	<0.05	-	<0.01	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
	1,3-dichlorobenzene	mg/kg	0.01	-	-	<0.05	-	<0.01	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
	1,4-dichlorobenzene	mg/kg	0.01	-	-	<0.01	-	<0.01	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	
	Chlorobenzene	mg/kg	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
Hexachlorobutadiene	mg/kg	0.01	-	-	<0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH17					MS\TP01			MS\TP03	MS\TP04		MS\TP05			MS\TP06			
		Sample Depth (m bgl)	Sample Depth (m bgl)	6-6.2	7.2-7.4	14.2-14.2	14.2-14.4	18.7-18.9	0.5	3	4	2-2	0.5	4-4	0.5	1	2	3	0.5	3.8-3.8	0.5
		Unit	Sample_Date	07/07/2021	07/07/2021	07/07/2021	07/07/2021	07/07/2021	16/06/2021	16/06/2021	16/06/2021	14/06/2021	14/06/2021	15/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	15/06/2021	22/06/2021	17/06/2021
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	Benzyl alcohol	mg/kg	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	4-bromophenyl phenyl ether	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	4-nitroaniline	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	4-nitrophenol	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	1,2-Dinitrobenzene	mg/kg	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	1,3-Dinitrobenzene	mg/kg	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	2,3,4,6-tetrachlorophenol	mg/kg	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	2,3,5,6-Tetrachlorophenol	mg/kg	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	2,4,5-trichlorophenol	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	2,4,6-trichlorophenol	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.01	-	
	2,4-dichlorophenol	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.01	-	<0.1	<0.1	-	-	<0.01	-	
	2,4-dimethylphenol	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.01	-	
	2,4-dinitrotoluene	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	2,6-dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	
	2,6-dinitrotoluene	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	2-chloronaphthalene	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	2-chlorophenol	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	2-methylnaphthalene	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	2-methylphenol	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	2-nitroaniline	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	2-nitrophenol	mg/kg	0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3-nitroaniline	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	4-chloro-3-methylphenol	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.01	-	<0.1	<0.1	-	-	<0.01	-	
	4-chloroaniline	mg/kg	0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chlorophenyl phenyl ether	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	4-methylphenol	mg/kg	0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	
	Aniline	mg/kg	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	Azobenzene	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	Bis(2-chloroethoxy) methane	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroisopropyl) ether	mg/kg	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	Butyl benzyl phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	Carbazole	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	Dibenzofuran	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	Diethylphthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	Dimethyl phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
	Di-n-butyl phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-	
Di-n-octyl phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-		
Diphenylamine	mg/kg	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-		
Hexachlorobenzene	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-		
Hexachlorocyclopentadiene	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-		
Hexachloroethane	mg/kg	0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Isophorone	mg/kg	0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Nitrobenzene	mg/kg	0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
N-nitrosodi-n-propylamine	mg/kg	0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Pentachlorophenol	mg/kg	0.01	-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	-		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\BH17					MS\TP01			MS\TP03	MS\TP04		MS\TP05			MS\TP06			
		Sample Depth (m bgl)	Sample Depth (m bgl)	6-6.2	7.2-7.4	14.2-14.2	14.2-14.4	18.7-18.9	0.5	3	4	2-2	0.5	4-4	0.5	1	2	3	0.5	3.8-3.8	0.5
		Unit	Sample_Date	07/07/2021	07/07/2021	07/07/2021	07/07/2021	07/07/2021	16/06/2021	16/06/2021	16/06/2021	14/06/2021	14/06/2021	15/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	15/06/2021	22/06/2021	17/06/2021
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	Hexachlorobiphenyl, 2,3,4,4,5,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	Hexachlorobiphenyl, 3,3,4,4,5,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	PCB 101	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	PCB 118	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	PCB 138	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	PCB 153	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	PCB 180	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	PCB 28 + PCB 31	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	PCB 52	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-	
Total PCB 7 Congeners	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-		
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Notes
 - Not analysed
 # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\TP07		MS\TP09		MS\TP10		S1-BH04		S1-BH05	S1-BH06	S1-BH07A		S1-BH12	S1-BH13A		S1-BH14	S1-BH18	
		Sample Depth (m bgl)	Sample Depth (m bgl)	2	4	1	3	0.3	0.5	3.9-3.9	5.9-5.9	1.9-1.9	7.3-7.3	2.5-2.5	5.3-5.3	5.5-5.5	4.9-4.9	6.8-6.8	5.5-5.5	3-3	5.6-5.6
		Unit	Sample_Date	17/06/2021	17/06/2021	16/06/2021	16/06/2021	21/06/2021	21/06/2021	16/10/2017	16/10/2017	12/10/2017	06/10/2017	04/10/2017	04/10/2017	10/10/2017	04/10/2017	04/10/2017	06/10/2017	12/10/2017	13/10/2017
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	21,000	-	-	-	-	-	-	-	65,000	-	
	Antimony	mg/kg	-	-	-	-	-	-	-	<1	4.2	<1	-	1	2.7	-	2.1	<1	<1	-	
	Arsenic	mg/kg	7.6	13	5.3	6.2	8.7	18	-	8.1	10	12	-	7.1	13	-	8.7	13	7.9	-	
	Barium	mg/kg	-	-	-	-	-	-	-	38	350	130	-	75	110	-	450	52	370	-	
	Beryllium	mg/kg	1	1.8	6.7	6.3	1.4	1.3	-	0.3	2.3	1.3	-	0.3	0.9	-	4.4	0.9	7.2	-	
	Boron	mg/kg	1.5	1.4	1.8	3.3	1	1.3	-	4.3	-	4	-	-	5.5	-	-	0.9	5.1	-	
	Cadmium	mg/kg	0.2	1.1	<0.1	<0.1	0.2	0.4	-	0.4	0.2	0.1	-	<0.1	0.1	-	<0.1	<0.1	<0.1	-	
	Chromium (hexavalent)	mg/kg	<1	<1	<1	<7	<1	<1	-	<1	<1	<1	-	<1	-	-	<1	<1	<1	-	
	Chromium	mg/kg	-	-	-	-	-	-	-	16	350	22	-	60	37	-	130	19	62	-	
	Chromium (Trivalent)	mg/kg	380	350	51	30	35	31	-	-	-	-	-	-	-	-	-	-	-	-	
	Copper	mg/kg	23	49	9.3	9.4	23	35	-	270	42	13	-	13	31	-	43	12	12	-	
	Iron	mg/kg	-	-	-	-	-	-	-	-	62,000	-	-	-	-	-	-	-	-	31,000	-
	Lead	mg/kg	12	51	9.7	7.2	28	110	-	37	38	20	-	55	23	-	140	23	6.7	-	
	Manganese	mg/kg	-	-	-	-	-	-	-	-	7300	-	-	-	-	-	-	-	-	4000	-
	Mercury	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	0.11	-	2.5	0.08	<0.05	-	0.06	<0.05	-	0.07	<0.05	<0.05	-	
	Molybdenum	mg/kg	-	-	-	-	-	-	-	0.6	3.2	2.1	-	1.1	-	-	5.6	0.9	0.7	-	
	Nickel	mg/kg	5.2	15	3.3	2.2	32	25	-	9.3	23	17	-	6.3	25	-	22	14	6	-	
	Selenium	mg/kg	1.8	1.4	2	2.4	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	
	Silicon	mg/kg	-	-	-	-	-	-	-	-	120,000	-	-	-	-	-	-	-	-	12,000	-
	Vanadium	mg/kg	2500	2100	170	110	48	50	-	30	510	43	-	120	64	-	190	55	180	-	
Zinc	mg/kg	70	450	13	19	80	220	-	71	140	88	-	50	74	-	56	68	23	-		
Inorganics	Cyanide (Free)	mg/kg	<0.1	0.1	<0.1	<0.1	0.2	0.2	-	-	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	
	Cyanide Total	mg/kg	<0.1	0.3	<0.1	<0.1	0.2	0.3	-	0.2	1.4	0.2	-	<0.1	0.4	-	1.4	<0.1	<0.1	-	
	cyanides-complex	mg/kg	-	-	-	-	-	-	-	-	1.4	<0.2	-	<0.2	0.3	-	1.4	<0.2	<0.2	-	
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	18,000	-	-	-	-	-	-	-	-	29,000	-
	Nitrate (as NO3-)	mg/kg	21	10	7.2	7.8	1.5	8.1	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphate	mg/kg	7500	4100	15,000	12,000	1200	700	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphate as SO4	mg/kg	-	-	-	-	-	-	-	590	290	520	-	150	550	-	730	320	1500	-	
	Sulphide	mg/kg	<10	280	1200	2200	52	20	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphur as S	%	0.37	0.26	0.58	0.57	0.04	0.03	-	<0.000075	0.00029	0.003	-	<0.000075	0.0099	-	0.0038	<0.000075	0.0029	-	
	Sulphur (free)	mg/kg	<0.75	<0.75	1.8	3.8	<0.75	<0.75	-	-	-	-	-	-	-	-	-	-	-	-	
Thiocyanate (as SCN)	mg/kg	<0.6	<0.6	<0.6	<0.6	0.8	1	-	-	3.7	15	-	<0.6	1.3	-	1.1	<0.6	<0.6	-		
Other	Organic Matter	%	0.2	0.9	0.4	0.3	1.9	2.7	-	2.4	1.7	2.8	-	1.2	2.1	-	1.5	0.8	0.8	-	
	Fraction Organic Carbon	-	-	-	-	-	-	-	0.01	-	-	-	0	-	-	0	-	-	-	0	
	Moisture	%	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture Content 105C	%	5.5	7.6	6.4	12	17	19	-	-	-	-	-	-	-	-	-	-	-	-	
pH (Lab)	pH_Units		11.4	11.9	10.8	10.6	6.2	8	-	8.5	9.8	9.4	-	10.5	9.4	-	10.6	10.7	11.1	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\TP07	MS\TP09	MS\TP10	S1-BH04	S1-BH05	S1-BH06	S1-BH07A	S1-BH12	S1-BH13A	S1-BH14	S1-BH18							
		Sample Depth (m bgl)	Sample Depth (m bgl)	2	4	1	3	0.3	0.5	3.9-3.9	5.9-5.9	1.9-1.9	7.3-7.3	2.5-2.5	5.3-5.3	5.5-5.5	4.9-4.9	6.8-6.8	5.5-5.5	3-3	5.6-5.6
		Unit	Sample_Date	17/06/2021	17/06/2021	16/06/2021	16/06/2021	21/06/2021	21/06/2021	16/10/2017	16/10/2017	12/10/2017	06/10/2017	04/10/2017	04/10/2017	10/10/2017	04/10/2017	04/10/2017	06/10/2017	12/10/2017	13/10/2017
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg		<0.01	-	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	-
	>C6-C8 Aliphatics	mg/kg		<0.01	-	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	-
	>C8-C10 Aliphatics	mg/kg		<0.01	-	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	-
	>C10-C12 Aliphatics	mg/kg		<1.5	-	<1.5	<1.5	<1.5	-	-	<1.5	<1.5	<1.5	-	<1.5	<1.5	-	<1.5	<1.5	<1.5	-
	>C12-C16 Aliphatics	mg/kg		<1.2	-	<1.2	<1.2	<1.2	-	-	<1.2	<1.2	<1.2	-	<1.2	<1.2	-	<1.2	<1.2	<1.2	-
	>C16-C21 Aliphatics	mg/kg		<1.5	-	<1.5	<1.5	<1.5	-	-	<1.5	<1.5	<1.5	-	<1.5	<1.5	-	<1.5	<1.5	<1.5	-
	>C21-C35 Aliphatics	mg/kg		<3.4	-	<3.4	<3.4	<3.4	-	-	<3.4	<3.4	<3.4	-	<3.4	<3.4	-	<3.4	<3.4	<3.4	-
	Total >C5-C35 Aliphatics	mg/kg		<10	-	<10	<10	<10	-	-	<10	<10	<10	-	<10	<10	-	<10	<10	<10	-
	>EC5-EC7 Aromatics	mg/kg		<0.01	-	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	-
	>EC7-EC8 Aromatics	mg/kg		<0.01	-	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	-
	>EC8-EC10 Aromatics	mg/kg		<0.01	-	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	-
	>EC10-EC12 Aromatics	mg/kg		<0.9	-	<0.9	<0.9	<0.9	-	-	<0.9	<0.9	<0.9	-	<0.9	<0.9	-	<0.9	<0.9	<0.9	-
	>EC12-EC16 Aromatics	mg/kg		<0.5	-	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	-
	>EC16-EC21 Aromatics	mg/kg		<0.6	-	<0.6	<0.6	<0.6	-	-	3.3	<0.6	<0.6	-	<0.6	<0.6	-	3.2	<0.6	<0.6	-
	>EC21-EC35 Aromatics	mg/kg		<1.4	-	<1.4	<1.4	<1.4	-	-	33	<1.4	<1.4	-	<1.4	<1.4	-	<1.4	<1.4	<1.4	-
	Total >EC5-EC35 Aromatics	mg/kg		<10	-	<10	<10	<10	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH >C5-C35 Aliphatics/Aromatics	mg/kg		<10	-	<10	<10	<10	-	-	37	<10	<10	-	<10	<10	-	<10	<10	<10	<10
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EPH >C10-40	mg/kg		<10	<10	<10	<10	<10	<10	-	-	-	-	-	-	-	-	-	-	-	-
	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	<0.01	-	<0.01	<0.01	<0.01	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	-
	Toluene	mg/kg	0.05	<0.01	-	<0.01	<0.01	<0.01	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	-
	Ethylbenzene	mg/kg	0.05	<0.01	-	<0.01	<0.01	<0.01	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	-
	Xylene (m & p)	mg/kg	0.1	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	-
	Xylene (o)	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	-
	Xylene Total	mg/kg		<0.01	-	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
MTBE	mg/kg	0.05	<0.01	-	<0.01	<0.01	<0.01	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	-	
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	<0.1	<0.03	<0.03	<0.1	<0.03	<0.03	-	0.07	<0.1 - 0.24	<0.03	-	<0.01 -	<0.03 -	-	<0.01 - 0.8	<0.03	<0.03	-
	Acenaphthene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.1	<0.03	<0.03	-	0.17	<0.1 - 0.12	<0.03	-	<0.03	<0.03	-	0.69 - 8.9	<0.03	<0.03	-
	Acenaphthylene	mg/kg	0.01	<0.1	<0.03	<0.03	0.06	<0.03	<0.03	-	0.12	<0.03	<0.03	-	<0.1 - 0.05	<0.03	-	0.05 - 1.6	<0.03	<0.03	-
	Fluoranthene	mg/kg	0.01	<0.1	<0.03	0.04	0.62	<0.03	0.03	-	1.2	0.2 - 0.47	<0.03	-	0.7 - 1.3	<0.1 - 0.12	-	6.5 - 160	<0.03	0.13	-
	Anthracene	mg/kg	0.01	<0.1	<0.03	<0.03	0.1	<0.03	<0.03	-	0.27	0.12 - 0.2	<0.03	-	<0.1 - 0.13	<0.03	-	1.6 - 30	<0.03	<0.03	-
	Phenanthrene	mg/kg	0.01	<0.1	<0.03	<0.03	0.49	<0.03	<0.03	-	1.2	0.2 - 0.5	<0.03	-	0.5 - 0.89	<0.1 - 0.14	-	7 - 140	<0.03	0.08	-
	Fluorene	mg/kg	0.01	<0.1	<0.03	<0.03	0.1	<0.03	<0.03	-	0.26	<0.1 - 0.09	<0.03	-	<0.1 - 0.06	<0.03	-	1 - 16	<0.03	<0.03	-
	Chrysene	mg/kg	0.01	<0.1	<0.03	<0.03	0.13	<0.03	<0.03	-	0.34	<0.1 - 0.14	<0.03	-	0.4 - 0.65	<0.03	-	1.8 - 45	<0.03	0.08	-
	Pyrene	mg/kg	0.01	<0.1	<0.03	<0.03	0.45	<0.03	<0.03	-	0.92	0.2 - 0.38	<0.03	-	0.6 - 0.98	<0.1 - 0.1	-	4.5 - 110	<0.03	0.12	-
	Benzo(a)anthracene	mg/kg	0.01	<0.1	<0.03	<0.03	<0.1	<0.03	<0.03	-	0.39	<0.1 - 0.15	<0.03	-	0.4 - 0.6	<0.1 - 0.04	-	2.2 - 48	<0.03	0.05	-
	Benzo(b)fluoranthene	mg/kg	0.01	0.4	0.4	0.04	<0.1	<0.03	<0.03	-	0.34	<0.1 - 0.13	<0.03	-	0.4 - 0.82	<0.03	-	2 - 48	<0.03	0.07	-
	Benzo(k)fluoranthene	mg/kg	0.01	<0.1	<0.03	<0.03	<0.1	<0.03	<0.03	-	0.15	<0.1 - 0.05	<0.03	-	0.2 - 0.33	<0.03	-	0.63 - 19	<0.03	<0.03	-
	Benzo(a)pyrene	mg/kg	0.01	<0.1	<0.03	<0.03	0.07	<0.03	<0.03	-	0.21	<0.1 - 0.09	<0.03	-	0.3 - 0.47	<0.03	-	1.3 - 36	<0.03	<0.03	-
	Dibenz(a,h)anthracene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	-	<0.1 - 0.07	<0.03	-	0.17 - 6.6	<0.03	<0.03	-
	Benzo(g,h,i)perylene	mg/kg	0.01	<0.1 - 0.04	0.03	<0.03	<0.1 - 0.05	<0.03	<0.03	-	0.12	<0.1 - 0.05	<0.03	-	<0.1 - 0.3	<0.03	-	0.73 - 21	<0.03	<0.03	-
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.1 - 0.03	<0.03	<0.03	-	0.1	<0.1 - 0.04	<0.03	-	<0.1 - 0.24	<0.03	-	0.59 - 20	<0.03	<0.03	-
	PAH 16 Total	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PAHs (Sum of total)	mg/kg		0.44	0.44	<0.1	2.5	<0.1	<0.1	-	5.8	2.6	<0.1	-	7	0.4	-	31	<0.1	0.53	-
	Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenolics	Xylenols	mg/kg		-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-&4-methylphenol	mg/kg		<0.1	-	-	<0.1	-	-	-	-	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-
	Phenol	mg/kg	0.01	<0.1	-	-	<0.1	<0.01	-	-	-	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-
	Phenols Monohydric	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	-

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\TP07	MS\TP09	MS\TP10	S1-BH04	S1-BH05	S1-BH06	S1-BH07A	S1-BH12	S1-BH13A	S1-BH14	S1-BH18							
		Sample Depth (m bgl)	Sample Depth	2	4	1	3	0.3	0.5	3.9-3.9	5.9-5.9	1.9-1.9	7.3-7.3	2.5-2.5	5.3-5.3	5.5-5.5	4.9-4.9	6.8-6.8	5.5-5.5	3-3	5.6-5.6
		Unit	Sample Date	17/06/2021	17/06/2021	16/06/2021	16/06/2021	21/06/2021	21/06/2021	16/10/2017	16/10/2017	12/10/2017	06/10/2017	04/10/2017	04/10/2017	10/10/2017	04/10/2017	04/10/2017	06/10/2017	12/10/2017	13/10/2017
Volatile Organic Carbon	Styrene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	cis-1,3-dichloropropene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	trans-1,3-dichloropropene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	1,1,1,2-tetrachloroethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	1,1,1-trichloroethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	1,1-dichloroethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	1,1-dichloroethene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	1,1-dichloropropene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	0.01	-	-	-	<0.01	<0.01	-	<0.01	-	-	-
	1,2,3-trichloropropane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	0.11	<0.01	-	0.1	-	-	-
	1,2,4-trimethylbenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	1,2-dibromo-3-chloropropane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	1,2-dibromoethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	1,2-dichloroethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	1,3-Dichloropropene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	1,2-dichloropropane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	1,3-dichloropropane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	2,2-dichloropropane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	2-chlorotoluene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	4-chlorotoluene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	Bromobenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	Bromochloromethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	Bromodichloromethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	Bromoform	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	Chlorodibromomethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1,2-dichloroethene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	Dibromomethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Isopropylbenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	n-butylbenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	n-propylbenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
	p-isopropyltoluene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-
sec-butylbenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	
Trichloroethene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	
tert-butylbenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	
Tetrachloroethene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	
trans-1,2-dichloroethene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	
	1,2,4-trichlorobenzene	mg/kg	0.01	<0.1	-	-	<0.01	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	
	1,2-dichlorobenzene	mg/kg	0.01	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	
	1,3-dichlorobenzene	mg/kg	0.01	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	
	1,4-dichlorobenzene	mg/kg	0.01	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	
	Chlorobenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	
Hexachlorobutadiene	mg/kg	0.01	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\TP07	MS\TP09	MS\TP10	S1-BH04	S1-BH05	S1-BH06	S1-BH07A	S1-BH12	S1-BH13A	S1-BH14	S1-BH18							
		Sample Depth (m bgl)	Sample Depth	2	4	1	3	0.3	0.5	3.9-3.9	5.9-5.9	1.9-1.9	7.3-7.3	2.5-2.5	5.3-5.3	5.5-5.5	4.9-4.9	6.8-6.8	5.5-5.5	3-3	5.6-5.6
		Unit	Sample_Date	17/06/2021	17/06/2021	16/06/2021	16/06/2021	21/06/2021	21/06/2021	16/10/2017	16/10/2017	12/10/2017	06/10/2017	04/10/2017	04/10/2017	10/10/2017	04/10/2017	04/10/2017	06/10/2017	12/10/2017	13/10/2017
	1,4-dinitrobenzene	mg/kg	<0.1	-	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	Benzyl alcohol	mg/kg	<0.1	-	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	4-bromophenyl phenyl ether	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	4-nitroaniline	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	1.1	-	-	-	
	4-nitrophenol	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	1,2-Dinitrobenzene	mg/kg	<0.1	-	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	1,3-Dinitrobenzene	mg/kg	<0.1	-	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	2,3,4,6-tetrachlorophenol	mg/kg	<0.1	-	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	2,3,5,6-Tetrachlorophenol	mg/kg	<0.1	-	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	2,4,5-trichlorophenol	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	2,4,6-trichlorophenol	mg/kg	0.01	<0.1	-	<0.1	<0.01	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	2,4-dichlorophenol	mg/kg	0.01	<0.1	-	<0.1	<0.01	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	2,4-dimethylphenol	mg/kg	0.01	<0.1	-	<0.01	<0.01	-	-	-	<0.1	-	-	<0.1	<0.1	-	0.1	-	-	-	
	2,4-dinitrotoluene	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	2,6-dichlorophenol	mg/kg	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,6-dinitrotoluene	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	2-chloronaphthalene	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	2-chlorophenol	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	2-methylnaphthalene	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	1.2	-	-	-	
	2-methylphenol	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	2-nitroaniline	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	2-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3-nitroaniline	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	4,6-Dinitro-2-methylphenol	mg/kg	<0.1	-	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	4-chloro-3-methylphenol	mg/kg	0.01	<0.1	-	<0.1	<0.01	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chlorophenyl phenyl ether	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	4-methylphenol	mg/kg	0.01	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Aniline	mg/kg	<0.1	-	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	Azobenzene	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	0.2	-	-	-	
	Bis(2-chloroethoxy) methane	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroisopropyl) ether	mg/kg	<0.1	-	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	Butyl benzyl phthalate	mg/kg	0.1	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	Carbazole	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	3.9	-	-	-	
	Dibenzofuran	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	7.9	-	-	-	
	Diethylphthalate	mg/kg	0.1	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	Dimethyl phthalate	mg/kg	0.1	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	Di-n-butyl phthalate	mg/kg	0.1	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	Di-n-octyl phthalate	mg/kg	0.1	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	Diphenylamine	mg/kg	<0.1	-	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	Hexachlorobenzene	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	Hexachlorocyclopentadiene	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	
	Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Isophorone	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorophenol	mg/kg	0.01	<0.1	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	MS\TP07		MS\TP09		MS\TP10		S1-BH04		S1-BH05	S1-BH06	S1-BH07A		S1-BH12	S1-BH13A		S1-BH14	S1-BH18	
		Sample Depth (m bgl)	Sample Depth (m bgl)	2	4	1	3	0.3	0.5	3.9-3.9	5.9-5.9	1.9-1.9	7.3-7.3	2.5-2.5	5.3-5.3	5.5-5.5	4.9-4.9	6.8-6.8	5.5-5.5	3-3	5.6-5.6
		Unit	Sample_Date	17/06/2021	17/06/2021	16/06/2021	16/06/2021	21/06/2021	21/06/2021	16/10/2017	16/10/2017	12/10/2017	06/10/2017	04/10/2017	04/10/2017	10/10/2017	04/10/2017	04/10/2017	06/10/2017	12/10/2017	13/10/2017
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 156)	mg/kg	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 157)	mg/kg	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,4,4,5,5,5- (PCB 167)	mg/kg	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 3,3,4,4,5,5,5- (PCB 169)	mg/kg	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 101	mg/kg	<0.01	-	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	<0.01	-	-	-	
	PCB 118	mg/kg	<0.01	-	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	<0.01	-	-	-	
	PCB 138	mg/kg	<0.01	-	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	<0.01	-	-	-	
	PCB 153	mg/kg	<0.01	-	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	<0.01	-	-	-	
	PCB 180	mg/kg	<0.01	-	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	<0.01	-	-	-	
	PCB 28 + PCB 31	mg/kg	<0.01	-	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	<0.01	-	-	-	
	PCB 52	mg/kg	<0.01	-	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	<0.01	-	-	-	
	Pentachlorobiphenyl, 2,3,3,4,4,4- (PCB 105)	mg/kg	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,4,5- (PCB 114)	mg/kg	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,4,5- (PCB 123)	mg/kg	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 3,3,4,4,4,5- (PCB 126)	mg/kg	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,3,4,4,4,4- (PCB 77)	mg/kg	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,4,4,4,5,5- (PCB 81)	mg/kg	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total PCB 7 Congeners	mg/kg	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-		
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	<0.01	-	<0.01	-	-	-		

Notes

- Not analysed
- # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site		
		Location ID	Location	S1-BH19	S1-BH20A	S1-TPA01	S1-TPA04A	S1-TPA06			S1-TPA09	S1-TPA12	S1-TPA14		S1-TPA15	S1-TPA17	S1-TPA20	S1-TPA22		S1-TPA25	S1-TPA26	
		Sample Depth (m bgl)	Sample Depth (m bgl)	5.5-5.5	4.2-4.2	0.6	1.1	0.7	2	3.7	3.1	1.8	0.8	2.3	0.45	2.1	1.3	0.3	2.3	0.3	0.8	
		Unit	Sample_Date	11/10/2017	30/10/2017	11/01/2017	12/01/2017	12/01/2017	12/01/2017	12/01/2017	10/01/2017	11/01/2017	10/01/2017	10/01/2017	10/01/2017	11/01/2017	09/01/2017	15/12/2016	15/12/2016	14/12/2016	13/12/2016	
Metals	Aluminium	mg/kg		38,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Antimony	mg/kg		6.1	-	3.6	2.3	13	-	-	-	<1	3	<1	-	-	-	-	-	<1	<1	
	Arsenic	mg/kg		15	21	210	280	4.1	14	51	11	14	150	47	36	6.7	16	11	6.6	9.1	10	
	Barium	mg/kg		160	-	200	160	120	-	-	-	200	340	440	-	-	-	-	-	300	160	
	Beryllium	mg/kg		3.4	-	3.2	4.6	0.7	-	-	-	6.9	3.9	7.4	-	-	-	-	-	7.2	6.6	
	Boron	mg/kg		2.7	8	2.9	3.4	1.9	3.5	2.4	3.5	1.4	3.6	2.5	4.7	2.5	3.9	4.2	4.4	2.8	5.1	
	Cadmium	mg/kg		0.9	0.4	7.9	3.4	0.2	0.6	1.2	0.9	0.3	0.9	0.5	0.6	0.4	1.7	0.3	<0.1	<0.1	1.4	
	Chromium (hexavalent)	mg/kg		<1	-	<1	<1	<1	<1	<1	-	-	<1	-	<1	<1	<1	-	-	-	-	
	Chromium	mg/kg		110	48	160	52	1200	460	380	25	57	160	44	110	500	210	41	25	37	29	
	Chromium (Trivalent)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Copper	mg/kg		49	17	39	27	42	62	49	16	11	27	15	28	23	68	17	7.1	11	15	
	Iron	mg/kg		65,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Lead	mg/kg		79	27	390	280	29	53	75	30	21	130	43	75	32	190	24	6.4	7.8	86	
	Manganese	mg/kg		9300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Mercury	mg/kg		0.19	<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	0.15	<0.05	<0.05	<0.05	<0.05
	Molybdenum	mg/kg		2	-	8.5	10	5.9	-	-	-	1.2	6.9	2	-	-	-	-	-	0.6	0.7	
	Nickel	mg/kg		19	11	79	48	12	22	22	10	6.9	33	9.1	10	8.6	19	5.2	2.7	6.2	6.7	
	Selenium	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Silicon	mg/kg		78,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Vanadium	mg/kg		310	-	500	170	470	-	-	-	150	530	150	-	-	-	-	-	130	92	
Zinc	mg/kg		330	260	7200	1700	70	400	560	110	120	410	210	230	95	380	67	18	37	1200		
Inorganics	Cyanide (Free)	mg/kg		<0.1	-	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	
	Cyanide Total	mg/kg		8.8	0.4	0.1	0.2	0.1	0.6	0.3	3.3	0.3	<0.1	0.7	<0.1	1.3	0.4	0.2	-	-	-	
	cyanides-complex	mg/kg		8.7	-	<0.2	0.2	<0.2	0.6	0.3	2.9	<0.2	<0.2	0.6	<0.2	1.2	0.4	<0.2	11	<0.2	0.2	
	Magnesium	mg/kg		29,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitrate (as NO3-)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphate	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphate as SO4	mg/kg		750	1700	53,000	-	5400	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphide	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphur as S	%		0.0044	-	1.7	-	0.21	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphur (free)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Thiocyanate (as SCN)	mg/kg		1.8	-	<0.6	<0.6	1.7	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	0.7	0.6	<0.6		
Other	Organic Matter	%		1.9	0.8	0.7	<0.1	0.2	1.4	0.6	0.6	0.3	0.5	0.7	1	0.4	0.6	0.8	1.1	0.8	<0.1	
	Fraction Organic Carbon	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture	%	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture Content 105C	%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
pH (Lab)	pH_Units		11.6	10.8	10.2	10	12.4	11.5	11.8	12.6	12.4	10.6	10.8	10.8	12.5	11.3	10.9	11.8	10.7	10.6		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S1-BH19	S1-BH20A	S1-TPA01	S1-TPA04A	S1-TPA06			S1-TPA09	S1-TPA12	S1-TPA14		S1-TPA15	S1-TPA17	S1-TPA20	S1-TPA22		S1-TPA25	S1-TPA26
		Sample Depth (m bgl)	Sample Depth (m bgl)	5.5-5.5	4.2-4.2	0.6	1.1	0.7	2	3.7	3.1	1.8	0.8	2.3	0.45	2.1	1.3	0.3	2.3	0.3	0.8
		Unit	Sample_Date	11/10/2017	30/10/2017	11/01/2017	12/01/2017	12/01/2017	12/01/2017	12/01/2017	10/01/2017	11/01/2017	10/01/2017	10/01/2017	10/01/2017	10/01/2017	11/01/2017	09/01/2017	15/12/2016	15/12/2016	14/12/2016
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	>C6-C8 Aliphatics	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	>C8-C10 Aliphatics	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	>C10-C12 Aliphatics	mg/kg		<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	1.9	1.8	<1.5	
	>C12-C16 Aliphatics	mg/kg		<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	<1.2	<1.2	2.6	<1.2	
	>C16-C21 Aliphatics	mg/kg		1.8	<1.5	<1.5	6.1	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	13	<1.5	<1.5	<1.5	
	>C21-C35 Aliphatics	mg/kg		8.1	<3.4	<3.4	24	<3.4	<3.4	4.1	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	45	<3.4	4.4	<3.4	
	Total >C5-C35 Aliphatics	mg/kg		10	<10	<10	30	<10	<10	<10	<10	<10	<10	<10	<10	<10	59	<10	10	<10	
	>EC5-EC7 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	>EC7-EC8 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	>EC8-EC10 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	>EC10-EC12 Aromatics	mg/kg		<0.9	1.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	
	>EC12-EC16 Aromatics	mg/kg		<0.5	5.3	<0.5	1.2	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	1.5	<0.5	<0.5	1.2	<0.5	<0.5	<0.5	
	>EC16-EC21 Aromatics	mg/kg		2.3	6	0.7	11	<0.6	<0.6	6.4	<0.6	<0.6	<0.6	7.4	<0.6	<0.6	14	<0.6	<0.6	<0.6	
	>EC21-EC35 Aromatics	mg/kg		2.5	19	<1.4	30	<1.4	<1.4	18	<1.4	<1.4	<1.4	4.6	<1.4	<1.4	53	<1.4	<1.4	<1.4	
	Total >EC5-EC35 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH >C5-C35 Aliphatics/Aromatics	mg/kg		15	32	<10	73	<10	<10	30	<10	<10	<10	14	<10	<10	130	<10	10	<10	
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	
	Toluene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	
	Ethylbenzene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	
	Xylene (m & p)	mg/kg	0.1	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	
	Xylene (o)	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	
	Xylene Total	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MTBE	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01		
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	0.08	<0.03	<0.03	<0.03	<0.03	0.28	<0.03	<0.03	<0.03	0.1	<0.03	<0.03	0.05	<0.03	<0.03	<0.03		
	Acenaphthene	mg/kg	0.01	0.19	<0.03	<0.03	<0.03	<0.03	0.12	<0.03	<0.03	<0.03	0.14	<0.03	<0.03	0.15	<0.03	<0.03	<0.03		
	Acenaphthylene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	<0.03	0.53	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	<0.03	<0.03	<0.03		
	Fluoranthene	mg/kg	0.01	1.8	0.17	0.04	0.71	0.68	0.1	4	0.41	0.07	0.7	0.47	0.2	0.6	2	0.04	0.32		
	Anthracene	mg/kg	0.01	0.24	<0.03	<0.03	0.06	0.04	<0.03	4.7	<0.03	<0.03	<0.03	0.1	<0.03	<0.03	0.26	<0.03	<0.03		
	Phenanthrene	mg/kg	0.01	1.4	0.09	<0.03	0.29	0.37	0.06	4.1	0.26	0.04	0.3	0.56	0.08	0.34	1.2	<0.03	0.2		
	Fluorene	mg/kg	0.01	0.18	<0.03	<0.03	<0.03	<0.03	1.5	<0.03	<0.03	<0.03	0.1	<0.03	<0.03	0.12	<0.03	<0.03			
	Chrysene	mg/kg	0.01	0.61	0.11	0.03	0.45	0.56	0.05	1.2	0.33	0.06	0.54	0.11	0.12	0.48	0.73	0.03	0.22		
	Pyrene	mg/kg	0.01	1.4	0.12	0.04	0.65	0.67	0.06	3.1	0.37	0.06	0.64	0.37	0.21	0.61	1.8	0.04	0.36		
	Benzo(a)anthracene	mg/kg	0.01	0.6	0.09	0.03	0.38	0.37	0.04	1.4	0.22	0.04	0.43	0.1	0.12	0.33	0.81	<0.03	0.14		
	Benzo(b)fluoranthene	mg/kg	0.01	0.6	0.09	<0.03	0.61	0.61	0.05	1.3	0.29	0.04	0.63	0.07	0.13	0.42	0.9	<0.03	0.15		
	Benzo(k)fluoranthene	mg/kg	0.01	0.21	0.04	<0.03	0.23	0.24	<0.03	0.49	0.09	<0.03	0.25	<0.03	0.06	0.16	0.37	<0.03	0.05		
	Benzo(a)pyrene	mg/kg	0.01	0.33	0.04	<0.03	0.35	0.2	<0.03	0.9	0.1	<0.03	0.29	0.05	0.07	0.17	0.55	<0.03	0.06		
	Dibenz(a,h)anthracene	mg/kg	0.01	0.06	<0.03	<0.03	0.07	0.07	<0.03	0.13	<0.03	<0.03	0.07	<0.03	<0.03	0.06	0.09	<0.03	<0.03		
	Benzo(g,h,i)perylene	mg/kg	0.01	0.23	<0.03	<0.03	0.29	0.24	<0.03	0.46	0.08	<0.03	0.19	<0.03	0.04	0.12	0.34	<0.03	0.06		
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	0.16	0.03	<0.03	0.26	0.21	<0.03	0.47	0.1	<0.03	0.19	<0.03	0.06	0.13	0.34	<0.03	0.06		
	PAH 16 Total	mg/kg		-	-	0.15	4.4	4.3	0.37	25	2.3	0.31	4.2	2.2	1.1	3.4	9.8	0.12	1.6		
	PAHs (Sum of total)	mg/kg		8.1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Phenolics	Xylenols	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	3-&4-methylphenol	mg/kg		-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1		
	Phenol	mg/kg	0.01	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1		
	Phenols Monohydric	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		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site		
		Location ID	Location	S1-BH19	S1-BH20A	S1-TPA01	S1-TPA04A	S1-TPA06			S1-TPA09	S1-TPA12	S1-TPA14		S1-TPA15	S1-TPA17	S1-TPA20	S1-TPA22		S1-TPA25	S1-TPA26	
		Sample Depth (m bgl)	Sample Depth (m bgl)	5.5-5.5	4.2-4.2	0.6	1.1	0.7	2	3.7	3.1	1.8	0.8	2.3	0.45	2.1	1.3	0.3	2.3	0.3	0.8	
		Unit	Sample Date	11/10/2017	30/10/2017	11/01/2017	12/01/2017	12/01/2017	12/01/2017	12/01/2017	10/01/2017	11/01/2017	10/01/2017	10/01/2017	10/01/2017	11/01/2017	09/01/2017	15/12/2016	15/12/2016	14/12/2016	13/12/2016	
Volatile Organic Carbon	Styrene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	cis-1,3-dichloropropene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	trans-1,3-dichloropropene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	1,1,1,2-tetrachloroethane	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	1,1,1-trichloroethane	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	1,1-dichloroethane	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	1,1-dichloroethene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	1,1-dichloropropene	mg/kg	0.05	-	-	-	0.01	-	-	0.01	-	0.01	<0.01	-	-	<0.01	0.01	-	-	0.01	-	
	1,2,3-trichloropropane	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	1,2,4-trimethylbenzene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	1,2-dibromo-3-chloropropane	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	1,2-dibromoethane	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	1,2-dichloroethane	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	1,3-Dichloropropene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloropropane	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	1,3,5-trimethylbenzene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	1,3-dichloropropane	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	2,2-dichloropropane	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	2-chlorotoluene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	4-chlorotoluene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	Bromobenzene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	Bromochloromethane	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	Bromodichloromethane	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	Bromoform	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	Chlorodibromomethane	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1,2-dichloroethene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-	
Dibromomethane	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-		
Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isopropylbenzene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-		
n-butylbenzene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	0.01	-		
n-propylbenzene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-		
p-isopropyltoluene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-		
sec-butylbenzene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-		
Trichloroethene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-		
tert-butylbenzene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-		
Tetrachloroethene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-		
trans-1,2-dichloroethene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-		
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-		
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	-	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	<0.01	0.01	-	-	0.03	-		
	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	-	<0.01	-	<0.01	-	<0.01	<0.01	<0.1	-	<0.01	<0.01	<0.1	-	0.03	-		
	1,2-dichlorobenzene	mg/kg	0.01	-	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-		
	1,3-dichlorobenzene	mg/kg	0.01	-	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-		
	1,4-dichlorobenzene	mg/kg	0.01	-	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-		
	Chlorobenzene	mg/kg	0.05	-	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-		
Hexachlorobutadiene	mg/kg	0.01	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	0.04	-		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S1-BH19	S1-BH20A	S1-TPA01	S1-TPA04A	S1-TPA06			S1-TPA09	S1-TPA12	S1-TPA14		S1-TPA15	S1-TPA17	S1-TPA20	S1-TPA22		S1-TPA25	S1-TPA26
		Sample Depth (m bgl)	Sample Depth (m bgl)	5.5-5.5	4.2-4.2	0.6	1.1	0.7	2	3.7	3.1	1.8	0.8	2.3	0.45	2.1	1.3	0.3	2.3	0.3	0.8
		Unit	Sample_Date	11/10/2017	30/10/2017	11/01/2017	12/01/2017	12/01/2017	12/01/2017	12/01/2017	10/01/2017	11/01/2017	10/01/2017	10/01/2017	10/01/2017	10/01/2017	11/01/2017	09/01/2017	15/12/2016	15/12/2016	14/12/2016
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	-	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	Benzyl alcohol	mg/kg	-	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	4-bromophenyl phenyl ether	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	4-nitroaniline	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	4-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	1,2-Dinitrobenzene	mg/kg	-	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	1,3-Dinitrobenzene	mg/kg	-	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	2,3,4,6-tetrachlorophenol	mg/kg	-	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	2,3,5,6-Tetrachlorophenol	mg/kg	-	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	2,4,5-trichlorophenol	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	2,4,6-trichlorophenol	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	2,4-dichlorophenol	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	2,4-dimethylphenol	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	2,4-dinitrotoluene	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	2,6-dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,6-dinitrotoluene	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	2-chloronaphthalene	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	2-chlorophenol	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	2-methylnaphthalene	mg/kg	0.01	-	-	-	-	-	-	0.2	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	2-methylphenol	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	2-nitroaniline	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	2-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-nitroaniline	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	4-chloro-3-methylphenol	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-chlorophenyl phenyl ether	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	4-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aniline	mg/kg	-	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	Azobenzene	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	Bis(2-chloroethoxy) methane	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bis(2-chloroisopropyl) ether	mg/kg	-	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	Butyl benzyl phthalate	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	Carbazole	mg/kg	0.01	-	-	-	-	-	-	0.6	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	Dibenzofuran	mg/kg	0.01	-	-	-	-	-	-	0.5	-	<0.1	-	<0.1	-	0.2	<0.1	<0.1	-	<0.1	-
	Diethylphthalate	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	Dimethyl phthalate	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
	Di-n-butyl phthalate	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
Di-n-octyl phthalate	mg/kg	0.1	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-	
Diphenylamine	mg/kg	-	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-	
Hexachlorobenzene	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-	
Hexachlorocyclopentadiene	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-	
Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isophorone	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pentachlorophenol	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-	

Appendix I Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S1-BH19	S1-BH20A	S1-TPA01	S1-TPA04A	S1-TPA06			S1-TPA09	S1-TPA12	S1-TPA14		S1-TPA15	S1-TPA17	S1-TPA20	S1-TPA22		S1-TPA25	S1-TPA26
		Sample Depth (m bgl)	Sample Depth (m bgl)	5.5-5.5	4.2-4.2	0.6	1.1	0.7	2	3.7	3.1	1.8	0.8	2.3	0.45	2.1	1.3	0.3	2.3	0.3	0.8
		Unit	Sample_Date	11/10/2017	30/10/2017	11/01/2017	12/01/2017	12/01/2017	12/01/2017	12/01/2017	10/01/2017	11/01/2017	10/01/2017	10/01/2017	10/01/2017	11/01/2017	09/01/2017	15/12/2016	15/12/2016	14/12/2016	13/12/2016
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,4,4,4,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 3,3,4,4,4,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 101	mg/kg	-	-	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	-	<0.01	-	-	-	<0.01	
	PCB 118	mg/kg	-	-	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	-	<0.01	-	-	-	<0.01	
	PCB 138	mg/kg	-	-	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	-	<0.01	-	-	-	<0.01	
	PCB 153	mg/kg	-	-	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	-	<0.01	-	-	-	<0.01	
	PCB 180	mg/kg	-	-	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	-	<0.01	-	-	-	<0.01	
	PCB 28 + PCB 31	mg/kg	-	-	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	-	<0.01	-	-	-	<0.01	
	PCB 52	mg/kg	-	-	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	-	<0.01	-	-	-	<0.01	
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total PCB 7 Congeners	mg/kg	-	-	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	-	<0.01	-	-	-	<0.01		
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Notes
 - Not analysed
 # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S1-TPA28	S1-TPA29	S1-TPA31	S1-TPA34	S1-TPB02	S1-TPB03	S1-TPB04	S1-TPB05	S1-TPB06	S1-TPB08	S1-TPB12	S1-TPH02	S1-TPH04	S1-T				
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	1.7	0.6	0.3	2.6	0.4	2.6	0.5	0.7	0.2	2.5	0.3	3	0.3	0.7	0.9	2.4	1.1
Unit	Sample_Date	12/12/2016	09/12/2016	15/12/2016	13/12/2016	19/01/2017	23/01/2017	23/01/2017	19/01/2017	23/01/2017	19/01/2017	19/01/2017	18/01/2017	18/01/2017	16/01/2017	14/02/2017	25/04/2017	25/04/2017	25/04/2017		
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Antimony	mg/kg	3.7	4	7.5	-	-	1.8	-	-	-	-	<1	1.2	-	1.4	-	13	-	-	
	Arsenic	mg/kg	19	5.5	17	10	-	23	-	22	-	-	16	12	6.7	13	-	8.3	-	22	
	Barium	mg/kg	310	190	260	-	-	340	-	-	-	-	230	410	-	300	-	960	-	-	
	Beryllium	mg/kg	5.6	2	2	-	-	4.3	-	-	-	-	6.1	6.1	-	5.6	-	0.7	-	-	
	Boron	mg/kg	6	8.2	6.7	4.3	-	7.3	-	5.1	-	-	4.5	5.5	0.6	5.3	-	3.9	-	1.8	
	Cadmium	mg/kg	0.5	1.3	1.7	0.3	-	0.6	-	0.2	-	-	0.2	0.2	<0.1	0.6	-	0.7	-	0.5	
	Chromium (hexavalent)	mg/kg	<1	<1	<1	-	-	<1	-	-	-	-	<1	<1	-	<1	-	<1	-	-	
	Chromium	mg/kg	120	440	640	73	-	110	-	37	-	-	45	92	11	73	-	1200	-	66	
	Chromium (Trivalent)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Copper	mg/kg	52	23	58	42	-	35	-	9.9	-	-	14	31	7	33	-	39	-	16	
	Iron	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94,000	-	-
	Lead	mg/kg	100	16	49	38	-	74	-	38	-	-	21	24	13	70	-	37	-	33	
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Mercury	mg/kg	0.11	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	0.06	-	0.22
	Molybdenum	mg/kg	1.6	2.7	5.4	-	-	1.9	-	-	-	-	0.9	1	-	0.9	-	5.4	-	-	
	Nickel	mg/kg	17	9.5	26	11	-	16	-	11	-	-	7.3	8.3	4.8	7.8	-	11	-	22	
	Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Vanadium	mg/kg	360	910	130	-	-	340	-	-	-	-	180	290	-	250	-	2000	-	-	
Zinc	mg/kg	160	66	170	130	-	350	-	100	-	-	140	70	25	260	-	110	-	110		
Inorganics	Cyanide (Free)	mg/kg	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	-	-	<0.1	<0.1	-	<0.1	-	<0.1	-	-		
	Cyanide Total	mg/kg	-	0.1	-	<0.1	-	0.2	-	<0.1	-	-	<0.1	<0.1	<0.1	0.2	-	0.4	-	0.5	
	cyanides-complex	mg/kg	<0.2	<0.2	<0.2	<0.2	-	0.2	-	-	-	-	<0.2	<0.2	-	0.2	-	0.4	-	-	
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitrate (as NO3-)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphate as SO4	mg/kg	-	-	-	-	14,000	7100	11,000	-	14,000	9300	-	-	-	-	8100	-	12,000	-	
	Sulphide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphur as S	%	-	-	-	-	0.68	0.45	0.8	-	0.76	0.5	-	-	-	-	0.31	-	0.01	-	
	Sulphur (free)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Thiocyanate (as SCN)	mg/kg	<0.6	<0.6	<0.6	<0.6	-	<0.6	-	-	-	-	<0.6	<0.6	-	0.6	-	<0.6	-	-		
Other	Organic Matter	%	0.7	0.5	0.5	1	-	0.7	-	0.8	-	-	0.8	1.2	0.4	1.9	-	0.9	-	1.3	
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture	%	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture Content 105C	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
pH (Lab)	pH_Units		11.1	8.1	8.3	10.6	11.3	10.5	10.6	10.7	10.3	10.8	10.5	11.1	10.3	11.4	11.6	12.4	11.9	11.7	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S1-TPA28	S1-TPA29	S1-TPA31	S1-TPA34	S1-TPB02	S1-TPB03	S1-TPB04	S1-TPB05	S1-TPB06	S1-TPB08	S1-TPB12	S1-TPH02	S1-TPH04	S1-T				
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	1.7	0.6	0.3	2.6	0.4	2.6	0.5	0.7	0.2	2.5	0.3	3	0.3	0.7	0.9	2.4	1.1
Unit	Sample_Date	12/12/2016	09/12/2016	15/12/2016	13/12/2016	19/01/2017	23/01/2017	23/01/2017	19/01/2017	23/01/2017	19/01/2017	19/01/2017	18/01/2017	18/01/2017	16/01/2017	14/02/2017	25/04/2017	25/04/2017	25/04/2017		
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg		<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01
	>C6-C8 Aliphatics	mg/kg		<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01
	>C8-C10 Aliphatics	mg/kg		<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01
	>C10-C12 Aliphatics	mg/kg		<1.5	<1.5	1.8	<1.5	-	<1.5	-	<1.5	-	-	<1.5	<1.5	<1.5	<1.5	-	<1.5	-	<1.5
	>C12-C16 Aliphatics	mg/kg		5.6	<1.2	<1.2	<1.2	-	<1.2	-	<1.2	-	-	<1.2	<1.2	<1.2	<1.2	-	<1.2	-	<1.2
	>C16-C21 Aliphatics	mg/kg		18	<1.5	<1.5	<1.5	-	<1.5	-	<1.5	-	-	<1.5	3.9	<1.5	<1.5	-	<1.5	-	<1.5
	>C21-C35 Aliphatics	mg/kg		62	<3.4	<3.4	22	-	18	-	<3.4	-	-	<3.4	4.3	<3.4	<3.4	-	<3.4	-	<3.4
	Total >C5-C35 Aliphatics	mg/kg		86	<10	<10	23	-	<0.01	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	-	<10	-	<10
	>EC5-EC7 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01
	>EC7-EC8 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01
	>EC8-EC10 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01	-	<0.9	-	<0.9	-	-	<0.9	<0.9	<0.9	<0.9	-	<0.01	-	<0.01
	>EC10-EC12 Aromatics	mg/kg		<0.9	<0.9	<0.9	<0.9	-	<0.5	-	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.9	-	<0.9
	>EC12-EC16 Aromatics	mg/kg		1.4	<0.5	<0.5	<0.5	-	<0.6	-	<0.6	-	-	<0.6	2.4	<0.6	1	-	<0.5	-	<0.5
	>EC16-EC21 Aromatics	mg/kg		5.4	<0.6	<0.6	<0.6	-	<1.4	-	<1.4	-	-	<1.4	2.8	<1.4	<1.4	-	<0.6	-	<0.6
	>EC21-EC35 Aromatics	mg/kg		22	<1.4	<1.4	<1.4	-	<10	-	<10	-	-	<10	<10	<10	<10	-	<1.4	-	<1.4
	Total >EC5-EC35 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH >C5-C35 Aliphatics/Aromatics	mg/kg		120	<10	<10	23	-	18	-	<10	-	-	<10	14	<10	<10	-	<10	-	<10	
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
	Toluene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
	Ethylbenzene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
	Xylene (m & p)	mg/kg	0.1	-	<0.01	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
	Xylene (o)	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
	Xylene Total	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MTBE	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-		
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	-	<0.03	0.12	<0.03	<0.03	-	<0.03	-	<0.03
	Acenaphthene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	-	<0.03	0.04	<0.03	<0.03	-	<0.03	-	<0.03
	Acenaphthylene	mg/kg	0.01	0.05	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	-	<0.03	0.31	<0.03	<0.03	-	<0.03	-	<0.03
	Fluoranthene	mg/kg	0.01	0.53	0.08	0.21	0.12	-	0.33	-	0.16	-	-	0.04	3.4	<0.03	1	-	0.28	-	0.28
	Anthracene	mg/kg	0.01	0.05	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	-	<0.03	0.62	<0.03	0.07	-	<0.03	-	<0.03
	Phenanthrene	mg/kg	0.01	0.2	0.05	0.13	0.04	-	0.2	-	0.05	-	-	<0.03	2.4	<0.03	0.29	-	0.14	-	0.17
	Fluorene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	-	<0.03	0.34	<0.03	<0.03	-	<0.03	-	<0.03
	Chrysene	mg/kg	0.01	0.4	0.06	0.24	0.06	-	0.2	-	0.11	-	-	0.03	1.1	<0.03	0.37	-	0.1	-	0.13
	Pyrene	mg/kg	0.01	0.65	0.08	0.23	0.1	-	0.25	-	0.12	-	-	0.03	2.8	<0.03	0.78	-	0.22	-	0.22
	Benzo(a)anthracene	mg/kg	0.01	0.34	0.03	0.1	0.07	-	0.18	-	0.08	-	-	0.03	1.4	<0.03	0.41	-	0.09	-	0.12
	Benzo(b)fluoranthene	mg/kg	0.01	0.5	0.05	0.14	0.1	-	0.23	-	0.09	-	-	0.03	1.1	<0.03	0.52	-	0.11	-	0.16
	Benzo(k)fluoranthene	mg/kg	0.01	0.19	<0.03	0.04	0.04	-	0.1	-	0.03	-	-	<0.03	0.49	<0.03	0.26	-	0.04	-	0.06
	Benzo(a)pyrene	mg/kg	0.01	0.28	<0.03	0.03	0.06	-	0.14	-	<0.03	-	-	<0.03	0.75	<0.03	0.27	-	0.06	-	0.09
	Dibenz(a,h)anthracene	mg/kg	0.01	0.05	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	-	<0.03	0.11	<0.03	0.04	-	<0.03	-	<0.03
	Benzo(g,h,i)perylene	mg/kg	0.01	0.2	<0.03	<0.03	0.04	-	0.09	-	<0.03	-	-	<0.03	0.37	<0.03	0.18	-	0.04	-	0.09
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	0.18	<0.03	<0.03	0.04	-	0.1	-	<0.03	-	-	<0.03	0.38	<0.03	0.21	-	0.04	-	0.07
	PAH 16 Total	mg/kg		3.6	0.35	1.1	0.67	-	1.8	-	0.63	-	-	0.18	16	0.05	4.5	-	1.1	-	1.4
PAHs (Sum of total)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenolics	Xylenols	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3-&4-methylphenol	mg/kg		<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	
	Phenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	
	Phenols Monohydric	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

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S1-TPA28	S1-TPA29	S1-TPA31	S1-TPA34	S1-TPB02	S1-TPB03	S1-TPB04	S1-TPB05	S1-TPB06	S1-TPB08	S1-TPB12	S1-TPH02	S1-TPH04	S1-T				
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	1.7	0.6	0.3	2.6	0.4	2.6	0.5	0.7	0.2	2.5	0.3	3	0.3	0.7	0.9	2.4	1.1
		Unit	Sample Date	12/12/2016	09/12/2016	15/12/2016	13/12/2016	19/01/2017	23/01/2017	23/01/2017	19/01/2017	23/01/2017	19/01/2017	19/01/2017	18/01/2017	18/01/2017	16/01/2017	14/02/2017	25/04/2017	25/04/2017	25/04/2017
Volatile Organic Carbon	Styrene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	cis-1,3-dichloropropene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	trans-1,3-dichloropropene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	1,1,1,2-tetrachloroethane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	1,1,1-trichloroethane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	1,1-dichloroethane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	1,1-dichloroethene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	1,1-dichloropropene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	1,2,3-trichloropropane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	1,2,4-trimethylbenzene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	1,2-dibromo-3-chloropropane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	1,2-dibromoethane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	1,2-dichloroethane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	1,3-Dichloropropene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloropropane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	1,3-dichloropropane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	2,2-dichloropropane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	2-chlorotoluene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	4-chlorotoluene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	Bromobenzene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	Bromochloromethane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	Bromodichloromethane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	Bromoform	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	Chlorodibromomethane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1,2-dichloroethene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
Dibromomethane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isopropylbenzene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
n-butylbenzene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
n-propylbenzene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
p-isopropyltoluene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
sec-butylbenzene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
Trichloroethene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
tert-butylbenzene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
Tetrachloroethene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
trans-1,2-dichloroethene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	-	0.02	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
	1,2,4-trichlorobenzene	mg/kg	0.01	<0.1	0.01	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
	1,2-dichlorobenzene	mg/kg	0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
	1,3-dichlorobenzene	mg/kg	0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
	1,4-dichlorobenzene	mg/kg	0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
	Chlorobenzene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	
Hexachlorobutadiene	mg/kg	0.01	-	0.02	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	

Appendix I Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
		Location ID	Location	S1-TPA28	S1-TPA29	S1-TPA31	S1-TPA34	S1-TPB02	S1-TPB03	S1-TPB04	S1-TPB05	S1-TPB06	S1-TPB08	S1-TPB12	S1-TPH02	S1-TPH04	S1-T			
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	1.7	0.6	0.3	2.6	0.4	2.6	0.5	0.7	0.2	2.5	0.3	3	0.3	0.7	0.9	2.4
Unit	Sample_Date	12/12/2016	09/12/2016	15/12/2016	13/12/2016	19/01/2017	23/01/2017	23/01/2017	19/01/2017	23/01/2017	19/01/2017	19/01/2017	18/01/2017	18/01/2017	16/01/2017	14/02/2017	25/04/2017	25/04/2017	25/04/2017	
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	<0.1	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	Benzyl alcohol	mg/kg	<0.1	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	4-bromophenyl phenyl ether	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	4-nitroaniline	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	4-nitrophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	1,2-Dinitrobenzene	mg/kg		<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	1,3-Dinitrobenzene	mg/kg		<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	2,3,4,6-tetrachlorophenol	mg/kg		<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	2,3,5,6-Tetrachlorophenol	mg/kg		<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	2,4,5-trichlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	2,4,6-trichlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	2,4-dichlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	2,4-dimethylphenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	2,4-dinitrotoluene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	2,6-dichlorophenol	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,6-dinitrotoluene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	2-chloronaphthalene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	2-chlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	2-methylnaphthalene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	2-methylphenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	2-nitroaniline	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	2-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-nitroaniline	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	4,6-Dinitro-2-methylphenol	mg/kg		<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	4-chloro-3-methylphenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-chlorophenyl phenyl ether	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	4-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aniline	mg/kg		<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	Azobenzene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	Bis(2-chloroethoxy) methane	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bis(2-chloroisopropyl) ether	mg/kg		<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
	Butyl benzyl phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
Carbazole	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	
Dibenzofuran	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	
Diethylphthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	
Dimethyl phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	
Di-n-butyl phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	
Di-n-octyl phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	
Diphenylamine	mg/kg		<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	
Hexachlorobenzene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	
Hexachlorocyclopentadiene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	
Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isophorone	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pentachlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	

Appendix I Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
		Location ID	Location	S1-TPA28	S1-TPA29	S1-TPA31	S1-TPA34	S1-TPB02	S1-TPB03	S1-TPB04	S1-TPB05	S1-TPB06	S1-TPB08	S1-TPB12	S1-TPH02	S1-TPH04	S1-T			
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	1.7	0.6	0.3	2.6	0.4	2.6	0.5	0.7	0.2	2.5	0.3	3	0.3	0.7	0.9	2.4
Unit	Sample_Date	12/12/2016	09/12/2016	15/12/2016	13/12/2016	19/01/2017	23/01/2017	23/01/2017	19/01/2017	23/01/2017	19/01/2017	19/01/2017	18/01/2017	18/01/2017	16/01/2017	14/02/2017	25/04/2017	25/04/2017	25/04/2017	
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,4,4,5,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 3,3,4,4,5,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 101	mg/kg	<0.01	<0.01	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-
	PCB 118	mg/kg	<0.01	<0.01	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-
	PCB 138	mg/kg	<0.01	<0.01	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-
	PCB 153	mg/kg	<0.01	<0.01	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-
	PCB 180	mg/kg	<0.01	<0.01	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-
	PCB 28 + PCB 31	mg/kg	<0.01	<0.01	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-
	PCB 52	mg/kg	<0.01	<0.01	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB 7 Congeners	mg/kg	<0.01	<0.01	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-	
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Notes

- Not analysed
- # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site		
		Location ID	Location	PH05	S1-TPH06			S1-TPH07		S1-TPH09	S1-TPH10	S1-TPH11	S1-TPH13	S1-TPH14	S1-TPH16	S1-TPH17	S1-TPH21	S1-TPH23		S1-TPH24	S1-TPH25	S1-TPH27
		Sample Depth (m bgl)	Sample Depth (m bgl)	1.8	0.5	3	0.5	2	0.4	1.5	1.7	0.5	2	2.2	1.5	1.6	1.5	3.4	2.3	1.2	1.2	
		Unit	Sample_Date	25/04/2017	25/04/2017	25/04/2017	16/02/2017	16/02/2017	14/02/2017	14/02/2017	01/01/2016	01/01/2016	01/01/2016	14/02/2017	14/02/2017	01/01/2016	14/02/2017	14/02/2017	14/02/2017	15/02/2017	01/01/2016	
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Antimony	mg/kg	<1	3.9	-	<1	16	<1	1.4	7.8	8.3	1.9	3.1	-	4.7	-	<1	-	3.8	9		
	Arsenic	mg/kg	3.2	12	11	1.8	84	8.6	11	19	16	14	7.3	-	12	8.8	7.1	12	77	6.1		
	Barium	mg/kg	170	280	-	43	160	380	41	350	230	250	270	-	350	-	190	-	610	340		
	Beryllium	mg/kg	<0.2	1.9	-	<0.2	0.8	5.7	<0.2	1.3	0.9	1.8	1	-	2.1	-	1.6	-	1.2	1.2		
	Boron	mg/kg	2.3	2.5	2.1	3.5	3.5	2.8	1.5	4.2	6.6	3.1	1.8	-	7.8	1.5	1.9	2.1	3.2	4.9		
	Cadmium	mg/kg	0.4	1.2	0.5	0.6	0.7	0.2	0.3	0.6	0.7	0.6	0.4	-	1	0.1	0.2	0.4	2.9	0.4		
	Chromium (hexavalent)	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	<1	-	<1	<1		
	Chromium	mg/kg	18	120	48	12	160	100	51	470	660	130	220	-	370	36	35	73	170	810		
	Chromium (Trivalent)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Copper	mg/kg	5	45	28	8.4	670	18	26	70	44	39	34	-	38	30	92	15	72	41		
	Iron	mg/kg	-	48,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Lead	mg/kg	6.7	79	41	420	110	13	52	97	41	63	28	-	64	22	20	51	59	45		
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Mercury	mg/kg	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	0.1	0.29	0.07	<0.05	-	<0.05	<0.05	0.24	<0.05	0.1	0.11		
	Molybdenum	mg/kg	1.3	1.9	-	2.8	36	1.3	1.7	4.2	5.2	1	1.8	-	2.8	-	0.8	-	10	3.4		
	Nickel	mg/kg	4.7	19	26	6.7	220	5.4	12	32	21	18	27	-	20	30	22	8.4	70	19		
	Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Vanadium	mg/kg	40	130	-	19	110	170	79	1100	1500	160	460	-	810	-	62	-	420	2200		
Zinc	mg/kg	22	310	110	20	190	46	83	150	160	170	82	-	240	66	71	130	190	130			
Inorganics	Cyanide (Free)	mg/kg	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
	Cyanide Total	mg/kg	<0.1	9.6	1.8	0.3	2.1	0.2	<0.1	0.3	0.2	0.2	0.2	-	0.3	0.3	0.2	0.2	0.1			
	cyanides-complex	mg/kg	<0.2	9.6	-	0.3	2.1	0.2	<0.2	0.3	<0.2	<0.2	0.2	-	0.3	0.3	<0.2	0.2	<0.2			
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Nitrate (as NO3-)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Sulphate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Sulphate as SO4	mg/kg	-	-	-	-	-	-	-	-	-	-	-	2300	-	-	-	-	-			
	Sulphide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Sulphur as S	%	-	-	-	-	-	-	-	-	-	-	-	0.08	-	-	-	-	-			
	Sulphur (free)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Thiocyanate (as SCN)	mg/kg	<0.6	<0.6	-	<0.6	1.5	1.9	<0.6	<0.6	<0.6	1.4	<0.6	-	<0.6	<0.6	<0.6	<0.6	<0.6				
Other	Organic Matter	%	1.8	4.1	5.6	0.8	7.6	1.1	1.1	2.3	1.2	1.3	1.5	-	0.5	1.4	1.7	1.7	0.9			
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Moisture	%	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Moisture Content 105C	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
pH (Lab)	pH_Units		12.6	11.2	10	13	12.9	12.9	12.1	12.5	12.3	11.6	11.5	11.9	11.6	10	9.8	9.9	9.9	10.3		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	PH05	S1-TPH06			S1-TPH07		S1-TPH09	S1-TPH10	S1-TPH11	S1-TPH13	S1-TPH14	S1-TPH16	S1-TPH17	S1-TPH21	S1-TPH23		S1-TPH24	S1-TPH25	S1-TPH27
		Sample Depth (m bgl)	1.8	0.5	3	0.5	2	0.4	1.5	1.7	0.5	2	2.2	1.5	1.6	1.5	3.4	2.3	1.2	1.2	
		Unit	Sample_Date	25/04/2017	25/04/2017	25/04/2017	16/02/2017	16/02/2017	14/02/2017	14/02/2017	01/01/2016	01/01/2016	01/01/2016	14/02/2017	14/02/2017	01/01/2016	14/02/2017	14/02/2017	14/02/2017	15/02/2017	01/01/2016
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	
	>C6-C8 Aliphatics	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	
	>C8-C10 Aliphatics	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	0.07	<0.01	
	>C10-C12 Aliphatics	mg/kg	<1.5	<1.5	<1.5	<1.5	7.2	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	-	<1.5	<1.5	<1.5	<1.5	<1.5	
	>C12-C16 Aliphatics	mg/kg	<1.2	1.2	<1.2	<1.2	87	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	-	<1.2	<1.2	<1.2	210	<1.2	
	>C16-C21 Aliphatics	mg/kg	<1.5	26	<1.5	<1.5	520	<1.5	<1.5	<1.5	13	<1.5	<1.5	<1.5	-	<1.5	<1.5	<1.5	1100	<1.5	
	>C21-C35 Aliphatics	mg/kg	<3.4	370	<3.4	22	3000	<3.4	<3.4	<3.4	52	<3.4	<3.4	<3.4	-	<3.4	<3.4	<3.4	740	<3.4	
	Total >C5-C35 Aliphatics	mg/kg	<10	390	<10	23	3600	<10	<10	<10	65	<10	<10	<10	-	<10	<10	<10	2000	<10	
	>EC5-EC7 Aromatics	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	
	>EC7-EC8 Aromatics	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	
	>EC8-EC10 Aromatics	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	0.07	<0.01	
	>EC10-EC12 Aromatics	mg/kg	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	-	<0.9	<0.9	2.4	<0.9	<0.9	
	>EC12-EC16 Aromatics	mg/kg	<0.5	0.6	<0.5	<0.5	6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	8.3	56	<0.5	
	>EC16-EC21 Aromatics	mg/kg	<0.6	13	<0.6	<0.6	44	<0.6	<0.6	3.1	<0.6	<0.6	<0.6	<0.6	-	5.8	<0.6	22	280	<0.6	
	>EC21-EC35 Aromatics	mg/kg	<1.4	220	<1.4	<1.4	200	<1.4	<1.4	6.5	<1.4	<1.4	<1.4	<1.4	-	23	<1.4	26	220	<1.4	
	Total >EC5-EC35 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH >C5-C35 Aliphatics/Aromatics	mg/kg	<10	630	<10	23	3800	<10	<10	<10	65	<10	<10	<10	-	29	<10	59	2600	<10	
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	EPH >C10-40	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	GRO C5-C10	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH by GCFID (AR)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
	Toluene	mg/kg	0.05	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
	Ethylbenzene	mg/kg	0.05	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
	Xylene (m & p)	mg/kg	0.1	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
	Xylene (o)	mg/kg	0.05	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
	Xylene Total	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MTBE	mg/kg	0.05	-	<0.1	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-		
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	<0.03	<0.03	<0.03	0.05	0.05	0.05	0.05	0.3	0.05	0.05	0.05	-	0.05	0.05	0.05	0.05	0.05	
	Acenaphthene	mg/kg	0.01	<0.03	0.08	<0.03	0.05	7.7	0.05	0.05	0.2	0.05	0.05	0.05	-	0.2	0.05	12	11	0.05	
	Acenaphthylene	mg/kg	0.01	0.08	0.07	<0.03	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	-	0.05	0.05	0.3	3	0.05	
	Fluoranthene	mg/kg	0.01	4.1	0.75	0.19	0.05	4.9	0.05	0.05	3.7	0.2	0.05	0.3	-	5.7	0.6	67	0.05	0.3	
	Anthracene	mg/kg	0.01	0.22	0.24	<0.03	0.05	0.05	0.05	0.05	0.4	0.05	0.05	0.05	-	0.6	0.3	20	3.8	0.05	
	Phenanthrene	mg/kg	0.01	0.43	0.46	0.15	0.05	5.5	0.05	0.05	1.6	0.05	0.05	0.2	-	2.5	0.5	71	8.4	0.1	
	Fluorene	mg/kg	0.01	<0.03	0.11	<0.03	0.05	0.05	0.05	0.05	0.6	0.05	0.05	0.05	-	0.4	0.05	18	2.8	0.05	
	Chrysene	mg/kg	0.01	1.8	0.29	0.04	0.05	3.3	0.05	0.05	1.7	0.05	0.05	0.05	-	4	0.05	18	0.05	0.05	
	Pyrene	mg/kg	0.01	5.6	0.64	0.13	0.05	5.5	0.05	0.1	3.8	0.3	0.05	0.2	-	5.3	0.4	50	0.05	0.5	
	Benzo(a)anthracene	mg/kg	0.01	2	0.23	0.05	0.05	5.7	0.05	0.05	2.1	0.05	0.05	0.05	-	4.3	0.05	21	0.05	0.05	
	Benzo(b)fluoranthene	mg/kg	0.01	4.8	0.36	<0.03	0.05	0.05	0.05	0.05	1.2	0.05	0.05	0.05	-	2.9	0.05	13	0.05	0.05	
	Benzo(k)fluoranthene	mg/kg	0.01	2.1	0.14	<0.03	0.05	0.05	0.05	0.05	0.7	0.05	0.05	0.05	-	1.9	0.05	8.2	0.05	0.05	
	Benzo(a)pyrene	mg/kg	0.01	3.2	0.23	<0.03	0.05	0.05	0.05	0.05	1.7	0.05	0.05	0.05	-	4	0.05	17	0.05	0.05	
	Dibenz(a,h)anthracene	mg/kg	0.01	0.38	<0.03	<0.03	0.05	0.05	0.05	0.05	0.9	0.05	0.05	0.05	-	0.9	0.05	1.9	0.05	0.05	
	Benzo(g,h,i)perylene	mg/kg	0.01	2.2	0.18	<0.03	0.05	0.05	0.05	0.05	1.3	0.05	0.05	0.05	-	2.7	0.05	7.6	0.05	0.05	
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	2.2	0.14	<0.03	0.05	0.05	0.05	0.05	0.9	0.05	0.05	0.05	-	2.4	0.05	10	0.05	0.05	
	PAH 16 Total	mg/kg	29	3.9	0.57	0.8	33	0.8	0.8	21	0.8	0.8	0.8	0.8	-	38	1.8	330	29	0.8	
PAHs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Phenolics	Xylenols	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3-&4-methylphenol	mg/kg	-	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	Phenol	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	Phenols Monohydric	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	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	PH05	S1-TPH06			S1-TPH07		S1-TPH09	S1-TPH10	S1-TPH11	S1-TPH13	S1-TPH14	S1-TPH16	S1-TPH17	S1-TPH21	S1-TPH23		S1-TPH24	S1-TPH25	S1-TPH27
		Sample Depth (m bgl)	1.8	0.5	3	0.5	2	0.4	1.5	1.7	0.5	2	2.2	1.5	1.6	1.5	3.4	2.3	1.2	1.2	
		Unit	Sample Date	25/04/2017	25/04/2017	25/04/2017	16/02/2017	16/02/2017	14/02/2017	14/02/2017	01/01/2016	01/01/2016	01/01/2016	14/02/2017	14/02/2017	01/01/2016	14/02/2017	14/02/2017	14/02/2017	15/02/2017	01/01/2016
Volatile Organic Carbon	Styrene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	cis-1,3-dichloropropene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	trans-1,3-dichloropropene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	1,1,1,2-tetrachloroethane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	1,1,1-trichloroethane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	1,1-dichloroethane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	1,1-dichloroethene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	1,1-dichloropropene	mg/kg	0.05	-	-	<0.01	-	0.01	-	0.01	0.01	-	-	-	-	-	<0.01	0.01	0.01	0.01	-
	1,2,3-trichloropropane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	1,2,4-trimethylbenzene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	1,2-dibromo-3-chloropropane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	1,2-dibromoethane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	1,2-dichloroethane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	1,3-Dichloropropene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloropropane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	1,3,5-trimethylbenzene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	1,3-dichloropropane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	2,2-dichloropropane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	2-chlorotoluene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	4-chlorotoluene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	Bromobenzene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	Bromochloromethane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	Bromodichloromethane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	Bromoform	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	Chlorodibromomethane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1,2-dichloroethene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	Dibromomethane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isopropylbenzene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
n-butylbenzene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
n-propylbenzene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
p-isopropyltoluene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
sec-butylbenzene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
Trichloroethene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
tert-butylbenzene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
Tetrachloroethene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
trans-1,2-dichloroethene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
	1,2-dichlorobenzene	mg/kg	0.01	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
	1,3-dichlorobenzene	mg/kg	0.01	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
	1,4-dichlorobenzene	mg/kg	0.01	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
	Chlorobenzene	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-	
Hexachlorobutadiene	mg/kg	0.01	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	PH05	S1-TPH06			S1-TPH07		S1-TPH09	S1-TPH10	S1-TPH11	S1-TPH13	S1-TPH14	S1-TPH16	S1-TPH17	S1-TPH21	S1-TPH23		S1-TPH24	S1-TPH25	S1-TPH27
		Sample Depth (m bgl)	1.8	0.5	3	0.5	2	0.4	1.5	1.7	0.5	2	2.2	1.5	1.6	1.5	3.4	2.3	1.2	1.2	
		Unit	Sample_Date	25/04/2017	25/04/2017	25/04/2017	16/02/2017	16/02/2017	14/02/2017	14/02/2017	01/01/2016	01/01/2016	01/01/2016	14/02/2017	14/02/2017	01/01/2016	14/02/2017	14/02/2017	14/02/2017	15/02/2017	01/01/2016
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	-	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	Benzyl alcohol	mg/kg	-	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	4-bromophenyl phenyl ether	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	4-nitroaniline	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	0.7	<0.1	<0.1	-	
	4-nitrophenol	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	1	<0.1	<0.1	-	
	1,2-Dinitrobenzene	mg/kg	-	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	1,3-Dinitrobenzene	mg/kg	-	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	2,3,4,6-tetrachlorophenol	mg/kg	-	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	2,3,5,6-Tetrachlorophenol	mg/kg	-	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	2,4,5-trichlorophenol	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	2,4,6-trichlorophenol	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	2,4-dichlorophenol	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	2,4-dimethylphenol	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	2,4-dinitrotoluene	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	2,6-dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,6-dinitrotoluene	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	2-chloronaphthalene	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	2-chlorophenol	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	2-methylnaphthalene	mg/kg	0.01	-	<0.1	-	0.2	-	<0.1	<0.1	-	-	-	-	-	<0.1	0.1	<0.1	<0.1	-	
	2-methylphenol	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	2-nitroaniline	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	2-nitrophenol	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	3-nitroaniline	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	4,6-Dinitro-2-methylphenol	mg/kg	-	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	4-chloro-3-methylphenol	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-chlorophenyl phenyl ether	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	4-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aniline	mg/kg	-	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	Azobenzene	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	Bis(2-chloroethoxy) methane	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bis(2-chloroisopropyl) ether	mg/kg	-	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	Butyl benzyl phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	Carbazole	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	0.5	<0.1	<0.1	-	
	Dibenzofuran	mg/kg	0.01	-	<0.1	-	0.2	-	<0.1	<0.1	-	-	-	-	-	<0.1	1.1	<0.1	<0.1	-	
	Diethylphthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	Dimethyl phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
	Di-n-butyl phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	
Di-n-octyl phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-		
Diphenylamine	mg/kg	-	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-		
Hexachlorobenzene	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-		
Hexachlorocyclopentadiene	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-		
Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isophorone	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pentachlorophenol	mg/kg	0.01	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-		

Appendix I Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	PH05	S1-TPH06			S1-TPH07		S1-TPH09	S1-TPH10	S1-TPH11	S1-TPH13	S1-TPH14	S1-TPH16	S1-TPH17	S1-TPH21	S1-TPH23		S1-TPH24	S1-TPH25	S1-TPH27
		Sample Depth (m bgl)	Sample Depth (m bgl)	1.8	0.5	3	0.5	2	0.4	1.5	1.7	0.5	2	2.2	1.5	1.6	1.5	3.4	2.3	1.2	1.2
		Unit	Sample_Date	25/04/2017	25/04/2017	25/04/2017	16/02/2017	16/02/2017	14/02/2017	14/02/2017	01/01/2016	01/01/2016	01/01/2016	14/02/2017	14/02/2017	01/01/2016	14/02/2017	14/02/2017	14/02/2017	15/02/2017	01/01/2016
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,4,4,4,5,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 3,3,4,4,4,5,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 101	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 118	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 138	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 153	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 180	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 28 + PCB 31	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 52	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB 7 Congeners	mg/kg	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Notes
 - Not analysed
 # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S1-TPH33	S1-TPI01	S1-TPI02		S1-TPI03		S1-TPI04	S1-TPI07	S1-TPI08		S1-TPI09		S1-TPI11	S1-TPI12		S1-TPI13	S1-TPI14	S1-T
		Sample Depth (m bgl)	Sample Depth (m bgl)	2	0.8	0.2	4	0.3	4	3	1.3	0.2	3	0.2	3	1	0.6	3.8	0.7	0.6	0.7
	Unit	Sample_Date	01/01/2016	02/02/2017	02/02/2017	02/02/2017	02/02/2017	02/02/2017	02/02/2017	02/02/2017	01/01/2016	25/01/2017	25/01/2017	25/01/2017	25/01/2017	01/01/2016	01/01/2016	01/01/2016	02/02/2017	02/02/2017	02/02/2017
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Antimony	mg/kg	10	-	-	<1	1.8	2	4.4	9.5	<1	-	-	13	-	-	3.7	4.2	-	5.2	
	Arsenic	mg/kg	15	8	6.1	8.6	6.7	7.7	5.2	16	5.3	-	-	16	10	-	26	4.6	5	20	
	Barium	mg/kg	150	-	-	340	180	210	160	390	93	-	-	630	-	-	270	250	-	670	
	Beryllium	mg/kg	0.7	-	-	1.7	1	1.6	0.5	1.1	0.8	-	-	3.2	-	-	1.7	0.6	-	1.5	
	Boron	mg/kg	5.1	1	0.5	1.4	1.1	7.4	2.7	4.4	1.1	-	-	6.6	3.3	-	3.5	2	1.8	7.6	
	Cadmium	mg/kg	8.9	0.4	0.2	0.3	0.2	1.4	0.3	1.9	0.2	-	-	2	0.3	-	0.8	0.4	0.6	1.1	
	Chromium (hexavalent)	mg/kg	<1	-	-	<1	<1	<1	<1	<1	<1	-	-	<1	<1	-	<1	<1	<1	<1	
	Chromium	mg/kg	420	17	23	29	40	44	160	550	19	-	-	240	57	-	200	61	43	310	
	Chromium (Trivalent)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Copper	mg/kg	220	27	17	22	25	100	23	130	17	-	-	97	23	-	41	20	68	94	
	Iron	mg/kg	-	78	20	31	37	230	31	200	19	-	-	290	24	-	52	28	43	81	
	Lead	mg/kg	500	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Mercury	mg/kg	0.11	0.12	<0.05	<0.05	<0.05	0.08	<0.05	0.98	<0.05	-	-	0.08	<0.05	-	0.13	<0.05	<0.05	0.29	
	Molybdenum	mg/kg	8.1	-	-	0.6	1.3	1.3	1.7	4	0.9	-	-	2.7	-	-	2.9	1.7	-	5.2	
	Nickel	mg/kg	43	16	23	25	18	26	22	19	15	-	-	18	16	-	18	46	19	30	
	Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vanadium	mg/kg	1200	-	-	49	68	61	200	1400	48	-	-	450	-	-	870	150	-	750		
Zinc	mg/kg	2100	220	51	87	100	180	170	1200	60	-	-	560	180	-	300	190	440	370		
Inorganics	Cyanide (Free)	mg/kg	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	-	-	<0.1	-	-	<0.1	<0.1	<0.1		
	Cyanide Total	mg/kg	0.2	0.4	<0.1	<0.1	<0.1	0.9	0.2	12	<0.1	-	-	0.3	0.1	-	0.9	<0.1	<0.1		
	cyanides-complex	mg/kg	0.2	-	-	-	-	-	-	12	<0.2	-	-	0.3	-	-	0.9	-	-		
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Nitrate (as NO3-)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphate as SO4	mg/kg	-	-	400	-	-	-	-	-	-	-	3700	600	-	4800	2900	-	-		
	Sulphide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphur as S	%	-	-	0.02	-	-	-	-	-	-	-	0.26	0.03	-	0.18	0.09	-	-		
	Sulphur (free)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Thiocyanate (as SCN)	mg/kg	1.3	-	-	<0.6	<0.6	<0.6	<0.6	0.8	1.3	-	-	<0.6	-	-	<0.6	<0.6	-			
Other	Organic Matter	%	1.1	3.8	1.2	2.3	1.4	3.3	1.1	1.9	1.4	-	-	1.3	1.4	-	1.2	1.1	1.4		
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Moisture	%	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Moisture Content 105C	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
pH (Lab)	pH_Units		11.3	8.6	8.9	9.7	9.3	10.1	10.8	11.9	10.4	10.9	8.4	10.6	11.1	11.4	11.7	10.2	9.7		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S1-TPH33	S1-TPI01	S1-TPI02		S1-TPI03		S1-TPI04	S1-TPI07	S1-TPI08		S1-TPI09		S1-TPI11	S1-TPI12		S1-TPI13	S1-TPI14	S1-T
		Sample Depth (m bgl)	Sample Depth (m bgl)	2	0.8	0.2	4	0.3	4	3	1.3	0.2	3	0.2	3	1	0.6	3.8	0.7	0.6	0.7
	Unit	Sample_Date	01/01/2016	02/02/2017	02/02/2017	02/02/2017	02/02/2017	02/02/2017	02/02/2017	02/02/2017	01/01/2016	25/01/2017	25/01/2017	25/01/2017	25/01/2017	01/01/2016	01/01/2016	01/01/2016	02/02/2017	02/02/2017	02/02/2017
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01
	>C6-C8 Aliphatics	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01
	>C8-C10 Aliphatics	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01
	>C10-C12 Aliphatics	mg/kg	<1.5	<1.5	<1.5	1.7	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	-	-	<1.5	<1.5	-	<1.5	<1.5	<1.5	<1.5
	>C12-C16 Aliphatics	mg/kg	4.8	<1.2	<1.2	6.1	<1.2	5.3	<1.2	<1.2	<1.2	<1.2	-	-	<1.2	<1.2	-	2.9	<1.2	3.4	22
	>C16-C21 Aliphatics	mg/kg	41	<1.5	<1.5	6.4	<1.5	11	2.5	<1.5	<1.5	<1.5	-	-	6.7	<1.5	-	13	4.4	7.4	61
	>C21-C35 Aliphatics	mg/kg	190	<3.4	<3.4	9.3	<3.4	24	33	<3.4	<3.4	<3.4	-	-	46	47	-	39	120	53	190
	Total >C5-C35 Aliphatics	mg/kg	240	<10	<10	23	<10	41	35	<10	<10	<10	-	-	52	49	-	55	120	65	270
	>EC5-EC7 Aromatics	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01
	>EC7-EC8 Aromatics	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01
	>EC8-EC10 Aromatics	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01
	>EC10-EC12 Aromatics	mg/kg	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	-	-	<0.9	<0.9	-	<0.9	<0.9	<0.9	<0.9
	>EC12-EC16 Aromatics	mg/kg	1.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	2.9	<0.5	-	<0.5	<0.5	<0.5	8.6
	>EC16-EC21 Aromatics	mg/kg	24	16	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	-	-	29	<0.6	-	<0.6	1.6	<0.6	35
	>EC21-EC35 Aromatics	mg/kg	92	28	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	-	-	110	<1.4	-	<1.4	58	19	100
	Total >EC5-EC35 Aromatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH >C5-C35 Aliphatics/Aromatics	mg/kg	360	44	<10	23	<10	41	35	<10	<10	<10	-	-	190	49	-	55	180	84	420
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	EPH >C10-40	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	GRO C5-C10	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH by GCFID (AR)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
	Toluene	mg/kg	0.05	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
	Ethylbenzene	mg/kg	0.05	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
	Xylene (m & p)	mg/kg	0.1	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
	Xylene (o)	mg/kg	0.05	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
	Xylene Total	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MTBE	mg/kg	0.05	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-		
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	0.1	0.04	<0.03	0.04	<0.03	0.06	0.03	0.2	<0.03	-	-	0.08	<0.03	-	0.08	<0.03	<0.03	0.48
	Acenaphthene	mg/kg	0.01	0.1	0.13	<0.03	<0.03	<0.03	0.13	<0.03	0.18	<0.03	-	-	0.62	<0.03	-	1.1	0.36	<0.03	0.03
	Acenaphthylene	mg/kg	0.01	0.05	0.09	<0.03	<0.03	<0.03	<0.03	<0.03	0.06	<0.03	-	-	0.06	<0.03	-	0.03	<0.03	<0.03	0.08
	Fluoranthene	mg/kg	0.01	1	5.2	0.3	0.06	0.29	1.9	0.16	3.1	<0.03	-	-	6.2	0.24	-	6	1.4	<0.03	1.3
	Anthracene	mg/kg	0.01	0.2	0.72	0.05	<0.03	<0.03	0.23	<0.03	0.55	<0.03	-	-	0.73	<0.03	-	1.8	0.24	<0.03	0.27
	Phenanthrene	mg/kg	0.01	0.7	2.9	0.21	0.09	0.13	1.3	0.08	2.1	<0.03	-	-	3.7	0.11	-	11	2.1	0.04	0.72
	Fluorene	mg/kg	0.01	0.4	0.23	0.03	<0.03	<0.03	0.2	<0.03	0.15	<0.03	-	-	0.42	<0.03	-	1.4	0.45	<0.03	0.11
	Chrysene	mg/kg	0.01	0.4	1.5	0.08	<0.03	0.08	0.47	0.07	1.1	<0.03	-	-	2.6	0.1	-	1.1	0.16	<0.03	0.63
	Pyrene	mg/kg	0.01	1.3	4.2	0.23	0.07	0.23	1.3	0.15	2.9	<0.03	-	-	6.4	0.18	-	4	0.9	0.04	1.3
	Benzo(a)anthracene	mg/kg	0.01	0.5	1.8	0.09	<0.03	0.1	0.57	0.07	0.99	<0.03	-	-	2.9	0.09	-	1.3	0.21	<0.03	0.73
	Benzo(b)fluoranthene	mg/kg	0.01	0.4	1.6	0.12	<0.03	0.1	0.46	0.09	1.1	<0.03	-	-	3.5	0.13	-	1.1	0.1	<0.03	0.94
	Benzo(k)fluoranthene	mg/kg	0.01	0.4	0.55	0.05	<0.03	0.03	0.2	0.03	0.41	<0.03	-	-	1.5	0.05	-	0.39	<0.03	<0.03	0.33
	Benzo(a)pyrene	mg/kg	0.01	0.8	1.1	0.09	<0.03	0.06	0.25	0.06	0.64	<0.03	-	-	2.3	0.07	-	0.61	0.05	<0.03	0.59
	Dibenz(a,h)anthracene	mg/kg	0.01	0.7	0.11	0.03	<0.03	<0.03	0.04	<0.03	0.12	<0.03	-	-	0.4	<0.03	-	0.1	<0.03	<0.03	0.09
	Benzo(g,h,i)perylene	mg/kg	0.01	0.9	0.47	0.13	<0.03	<0.03	0.16	<0.03	0.41	<0.03	-	-	1.5	0.06	-	0.36	<0.03	<0.03	0.34
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	0.6	0.42	0.12	<0.03	0.03	0.15	<0.03	0.34	<0.03	-	-	1.3	0.05	-	0.29	<0.03	<0.03	0.3
	PAH 16 Total	mg/kg	8.6	21	1.5	0.26	1.1	7.3	0.74	14	0.05	-	-	-	34	1.1	-	30	6	0.05	8.2
PAHs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenolics	Xylenols	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3-&4-methylphenol	mg/kg	<0.1	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	Phenol	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	Phenols Monohydric	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	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S1-TPH33	S1-TPI01	S1-TPI02		S1-TPI03		S1-TPI04	S1-TPI07	S1-TPI08		S1-TPI09		S1-TPI11	S1-TPI12		S1-TPI13	S1-TPI14	S1-T
		Sample Depth (m bgl)	Sample Depth (m bgl)	2	0.8	0.2	4	0.3	4	3	1.3	0.2	3	0.2	3	1	0.6	3.8	0.7	0.6	0.7
	Unit	Sample Date	01/01/2016	02/02/2017	02/02/2017	02/02/2017	02/02/2017	02/02/2017	02/02/2017	02/02/2017	01/01/2016	25/01/2017	25/01/2017	25/01/2017	25/01/2017	01/01/2016	01/01/2016	01/01/2016	02/02/2017	02/02/2017	02/02/2017
Volatile Organic Carbon	Styrene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1,3-dichloropropene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	trans-1,3-dichloropropene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,1,2-tetrachloroethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,1-trichloroethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	1,1-dichloroethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	1,1-dichloroethene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	1,1-dichloropropene	mg/kg	0.05	0.01	-	-	-	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,3-trichloropropane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,4-trimethylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dibromo-3-chloropropane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dibromoethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloroethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	1,3-Dichloropropene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloropropane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	1,3-dichloropropane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	2,2-dichloropropane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	2-chlorotoluene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	4-chlorotoluene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	Bromobenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	Bromochloromethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	Bromodichloromethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	Bromoform	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	Chlorodibromomethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-dichloroethene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Dibromomethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isopropylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
n-butylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
n-propylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
p-isopropyltoluene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
sec-butylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Trichloroethene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
tert-butylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Tetrachloroethene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
trans-1,2-dichloroethene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2,4-trichlorobenzene	mg/kg	0.01	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dichlorobenzene	mg/kg	0.01	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-dichlorobenzene	mg/kg	0.01	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
	1,4-dichlorobenzene	mg/kg	0.01	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
	Chlorobenzene	mg/kg	0.05	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.01	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S1-TPH33	S1-TPI01	S1-TPI02		S1-TPI03		S1-TPI04	S1-TPI07	S1-TPI08		S1-TPI09		S1-TPI11	S1-TPI12		S1-TPI13	S1-TPI14	S1-T
		Sample Depth (m bgl)	Sample Depth (m bgl)	2	0.8	0.2	4	0.3	4	3	1.3	0.2	3	0.2	3	1	0.6	3.8	0.7	0.6	0.7
	Unit	Sample_Date	01/01/2016	02/02/2017	02/02/2017	02/02/2017	02/02/2017	02/02/2017	02/02/2017	01/01/2016	25/01/2017	25/01/2017	25/01/2017	25/01/2017	01/01/2016	01/01/2016	01/01/2016	02/02/2017	02/02/2017	02/02/2017	
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	<0.1	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	Benzyl alcohol	mg/kg	<0.1	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	4-bromophenyl phenyl ether	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	4-nitroaniline	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	4-nitrophenol	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-Dinitrobenzene	mg/kg		<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-Dinitrobenzene	mg/kg		<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	2,3,4,6-tetrachlorophenol	mg/kg		<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	2,3,5,6-Tetrachlorophenol	mg/kg		<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4,5-trichlorophenol	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4,6-trichlorophenol	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-dichlorophenol	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-dimethylphenol	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-dinitrotoluene	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	2,6-dichlorophenol	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,6-dinitrotoluene	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	2-chloronaphthalene	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	2-chlorophenol	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	2-methylnaphthalene	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	2-methylphenol	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	2-nitroaniline	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	2-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3-nitroaniline	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	4,6-Dinitro-2-methylphenol	mg/kg		<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chloro-3-methylphenol	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chlorophenyl phenyl ether	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	4-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Aniline	mg/kg		<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	Azobenzene	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroethoxy) methane	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroisopropyl) ether	mg/kg		<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	Butyl benzyl phthalate	mg/kg	0.1	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	Carbazole	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	Dibenzofuran	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	Diethylphthalate	mg/kg	0.1	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	Dimethyl phthalate	mg/kg	0.1	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
	Di-n-butyl phthalate	mg/kg	0.1	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	
Di-n-octyl phthalate	mg/kg	0.1	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-		
Diphenylamine	mg/kg		<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachlorobenzene	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachlorocyclopentadiene	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Isophorone	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Pentachlorophenol	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S1-TPH33	S1-TPI01	S1-TPI02		S1-TPI03		S1-TPI04	S1-TPI07	S1-TPI08		S1-TPI09		S1-TPI11	S1-TPI12		S1-TPI13	S1-TPI14	S1-T
		Sample Depth (m bgl)	Sample Depth (m bgl)	2	0.8	0.2	4	0.3	4	3	1.3	0.2	3	0.2	3	1	0.6	3.8	0.7	0.6	0.7
	Unit	Sample_Date	01/01/2016	02/02/2017	02/02/2017	02/02/2017	02/02/2017	02/02/2017	02/02/2017	01/01/2016	25/01/2017	25/01/2017	25/01/2017	25/01/2017	01/01/2016	01/01/2016	01/01/2016	02/02/2017	02/02/2017	02/02/2017	
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,4,4,5,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 3,3,4,4,5,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 101	mg/kg	-	<0.01	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	-	<0.01	-	-	<0.01	
	PCB 118	mg/kg	-	<0.01	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	-	<0.01	-	-	<0.01	
	PCB 138	mg/kg	-	<0.01	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	-	<0.01	-	-	<0.01	
	PCB 153	mg/kg	-	<0.01	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	-	<0.01	-	-	<0.01	
	PCB 180	mg/kg	-	<0.01	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-	-	<0.01	-	-	<0.01	
	PCB 28 + PCB 31	mg/kg	-	<0.01	-	<0.01	-	0.02	-	<0.01	<0.01	-	-	<0.01	-	-	<0.01	-	-	<0.01	
	PCB 52	mg/kg	-	<0.01	-	<0.01	-	0.02	-	<0.01	<0.01	-	-	<0.01	-	-	<0.01	-	-	<0.01	
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total PCB 7 Congeners	mg/kg	-	<0.01	-	<0.01	-	0.04	-	<0.01	<0.01	-	-	<0.01	-	-	<0.01	-	-	<0.01		
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Notes
 - Not analysed
 # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	PI16	S1-TPI17	S1-TPI19	S1-TPI21	S1-TPI22	S1-TPI23	S1-TPI24	S1-TPI25	S1-TPI26	S1-TPI27	S1-TPI28	S1-TPI29	S1-TPI30	S1-TPI31	S1-TPI32	S1-TPI33	S1-TPI34	
		Sample Depth (m bgl)	Sample Depth (m bgl)	4	0.2	1	1	0.9	1	2.2	1.5	3.7	2.6	1.3	3.5	0.6	1	1.3	4.1	2.8	0.8
		Unit	Sample_Date	02/02/2017	02/02/2017	02/02/2017	01/01/2016	01/01/2016	01/01/2016	01/01/2016	08/02/2017	09/02/2017	01/01/2016	09/02/2017	01/01/2016	08/02/2017	26/04/2017	01/01/2016	09/02/2017	01/01/2016	01/01/2016
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Antimony	mg/kg	5.8	-	-	1.4	-	2.8	-	7	<1	11	11	-	3.7	-	15	4.1	1.9	9.8	
	Arsenic	mg/kg	11	9.3	4.4	6.6	-	13	8.3	7.1	12	33	8.5	-	350	8.5	8.9	9.5	13	-	
	Barium	mg/kg	620	-	-	110	-	360	-	350	79	510	1200	-	280	-	880	620	320	380	
	Beryllium	mg/kg	1.8	-	-	4.2	-	4.3	-	2	0.4	2.8	2.1	-	3.3	-	1.4	2.8	4.9	1.3	
	Boron	mg/kg	3.5	1.1	2.1	3.4	-	3.7	3.3	6.5	1.3	4.2	4.5	-	3.3	3.6	4.2	3.4	5.5	-	
	Cadmium	mg/kg	0.7	0.3	0.5	0.2	-	0.8	0.2	0.5	0.4	2.9	1	-	1.7	0.1	3.8	0.2	0.8	-	
	Chromium (hexavalent)	mg/kg	<1	-	-	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1
	Chromium	mg/kg	410	26	20	120	-	140	140	560	20	660	970	-	160	15	1300	360	130	-	
	Chromium (Trivalent)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper	mg/kg	62	24	27	18	-	76	19	35	13	290	70	-	42	6	95	28	32	-	
	Iron	mg/kg	71	49	30	22	-	110	25	53	73	580	110	-	190	14,000	54	23	100	-	
	Lead	mg/kg	-	-	<5	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury	mg/kg	0.15	0.06	<0.05	<0.05	-	<0.05	<0.05	<0.05	0.18	0.09	0.19	-	<0.05	0.05	0.08	<0.05	0.08	-	
	Molybdenum	mg/kg	3.5	-	-	0.5	-	1	-	3	27	3.9	6	-	15	-	8.3	3.3	1	5.2	
	Nickel	mg/kg	20	19	29	6.9	-	12	8	14	7.2	33	20	-	94	22	24	8.2	9.7	-	
	Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Vanadium	mg/kg	1500	-	-	330	-	360	-	1500	51	1400	2100	-	490	-	2700	880	330	1000	
Zinc	mg/kg	220	130	400	34	-	570	43	130	95	740	150	-	740	24	150	57	410	-		
Inorganics	Cyanide (Free)	mg/kg	<0.1	-	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	Cyanide Total	mg/kg	0.5	<0.1	<0.1	<0.1	-	0.5	<0.1	0.4	<0.1	<0.1	<0.1	-	<0.1	0.2	<0.1	<0.1	0.2	-	
	cyanides-complex	mg/kg	-	-	-	<0.2	-	0.5	<0.2	0.4	<0.2	<0.2	<0.2	-	<0.2	0.2	<0.2	<0.2	<0.2	-	
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitrate (as NO3-)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphate as SO4	mg/kg	-	-	5500	-	2400	-	-	-	-	-	-	9200	-	-	-	-	-	7400	
	Sulphide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphur as S	%	-	-	0.16	-	0.25	-	-	-	-	-	-	0.49	-	-	-	-	-	0.26	
	Sulphur (free)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Thiocyanate (as SCN)	mg/kg	<0.6	-	-	<0.6	-	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	-	<0.6	1.6	<0.6	<0.6	<0.6		
Other	Organic Matter	%	1.8	2.6	1.6	0.4	-	1.7	0.5	0.6	1.1	1.7	0.8	-	1.2	1.6	0.8	0.9	0.6	-	
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture	%	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture Content 105C	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
pH (Lab)	pH_Units		11.4	9.3	11.3	8.5	9.4	10.8	9.5	12.1	10.3	11.9	12.1	11.1	9.8	12.6	12.3	11.7	11.4	12	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site		
		Location ID	Location	PI16	S1-TPI17			S1-TPI19	S1-TPI21	S1-TPI22	S1-TPI23	S1-TPI24	S1-TPI25	S1-TPI26	S1-TPI27	S1-TPI28	S1-TPI29	S1-TPI30	S1-TPI31	S1-TPI32	S1-TPI33	S1-TPI34
		Sample Depth (m bgl)	Sample Depth (m bgl)	4	0.2	1	1	0.9	1	2.2	1.5	3.7	2.6	1.3	3.5	0.6	1	1.3	4.1	2.8	0.8	
		Unit	Sample_Date	02/02/2017	02/02/2017	02/02/2017	01/01/2016	01/01/2016	01/01/2016	01/01/2016	08/02/2017	09/02/2017	01/01/2016	09/02/2017	01/01/2016	08/02/2017	26/04/2017	01/01/2016	09/02/2017	01/01/2016	01/01/2016	
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg		<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	-	
	>C6-C8 Aliphatics	mg/kg		<0.01	<0.01	<0.01	0.03	-	<0.01	0.02	0.02	0.03	0.03	0.02	-	<0.01	<0.01	<0.01	<0.01	0.03	-	
	>C8-C10 Aliphatics	mg/kg		<0.01	<0.01	<0.01	0.04	-	<0.01	0.04	0.1	<0.01	<0.01	0.06	-	<0.01	<0.01	<0.01	<0.01	0.02	-	
	>C10-C12 Aliphatics	mg/kg		<1.5	<1.5	<1.5	<1.5	-	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	-	<1.5	<1.5	<1.5	<1.5	<1.5	-	
	>C12-C16 Aliphatics	mg/kg		6	<1.2	3.1	<1.2	-	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	-	<1.2	2.4	<1.2	<1.2	<1.2	-	
	>C16-C21 Aliphatics	mg/kg		19	3.1	6.9	<1.5	-	<1.5	<1.5	<1.5	<1.5	2.7	<1.5	-	<1.5	19	<1.5	<1.5	<1.5	-	
	>C21-C35 Aliphatics	mg/kg		77	34	160	<3.4	-	<3.4	<3.4	<3.4	<3.4	27	<3.4	-	<3.4	93	<3.4	<3.4	<3.4	-	
	Total >C5-C35 Aliphatics	mg/kg		100	38	170	<10	-	<10	<10	<10	<10	30	<10	-	<10	120	<10	<10	<10	-	
	>EC5-EC7 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	-	
	>EC7-EC8 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	-	
	>EC8-EC10 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	-	
	>EC10-EC12 Aromatics	mg/kg		<0.9	<0.9	<0.9	<0.9	-	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	-	<0.9	<0.9	<0.9	<0.9	<0.9	-	
	>EC12-EC16 Aromatics	mg/kg		1.6	0.9	<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	-	
	>EC16-EC21 Aromatics	mg/kg		12	3.6	<0.6	<0.6	-	12	<0.6	3.3	<0.6	3	1.3	-	<0.6	1.7	<0.6	<0.6	<0.6	-	
	>EC21-EC35 Aromatics	mg/kg		43	60	9.1	<1.4	-	25	<1.4	16	<1.4	25	<1.4	-	<1.4	16	<1.4	<1.4	<1.4	-	
	Total >EC5-EC35 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH >C5-C35 Aliphatics/Aromatics	mg/kg		160	100	170	<10	-	37	<10	20	<10	58	<10	-	<10	130	<10	<10	<10	-	
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
	Toluene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
	Ethylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
	Xylene (m & p)	mg/kg	0.1	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
	Xylene (o)	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	
	Xylene Total	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MTBE	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-		
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	0.06	<0.03	0.05	<0.03	-	0.04	<0.03	0.06	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	-	
	Acenaphthene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	-	0.28	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	-	
	Acenaphthylene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	-	0.06	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	0.05	-	
	Fluoranthene	mg/kg	0.01	0.7	0.38	0.1	0.16	-	7	0.5	0.74	<0.03	1.1	0.77	-	0.07	<0.03	0.63	0.07	0.54	-	
	Anthracene	mg/kg	0.01	0.08	0.04	<0.03	<0.03	-	0.67	<0.03	0.1	<0.03	0.17	0.07	-	<0.03	<0.03	0.04	<0.03	0.11	-	
	Phenanthrene	mg/kg	0.01	0.32	0.17	0.08	0.06	-	2.7	0.18	0.49	<0.03	0.54	0.26	-	0.05	<0.03	0.27	<0.03	0.47	-	
	Fluorene	mg/kg	0.01	0.03	<0.03	<0.03	<0.03	-	0.23	<0.03	0.05	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	0.08	-	
	Chrysene	mg/kg	0.01	0.29	0.12	0.06	0.08	-	2.8	0.16	0.46	<0.03	0.85	0.39	-	0.05	<0.03	0.2	0.06	0.26	-	
	Pyrene	mg/kg	0.01	0.67	0.31	0.1	0.13	-	7	0.46	0.65	<0.03	1.1	0.86	-	0.06	<0.03	0.48	0.07	0.5	-	
	Benzo(a)anthracene	mg/kg	0.01	0.28	0.15	0.03	0.07	-	3.4	0.12	0.45	<0.03	0.93	<0.03	-	0.04	<0.03	0.22	0.06	0.3	-	
	Benzo(b)fluoranthene	mg/kg	0.01	0.33	0.16	0.08	0.06	-	5.4	0.15	0.69	<0.03	1.6	0.68	-	0.07	<0.03	0.19	0.11	0.33	-	
	Benzo(k)fluoranthene	mg/kg	0.01	0.11	0.05	<0.03	<0.03	-	2.2	0.05	0.18	<0.03	0.61	0.19	-	<0.03	<0.03	0.07	0.04	0.12	-	
	Benzo(a)pyrene	mg/kg	0.01	0.18	0.1	0.03	<0.03	-	3.4	0.08	0.43	<0.03	1	0.32	-	<0.03	<0.03	0.11	0.06	0.19	-	
	Dibenz(a,h)anthracene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03	-	0.39	<0.03	0.08	<0.03	0.15	0.06	-	<0.03	<0.03	<0.03	<0.03	<0.03	-	
	Benzo(g,h,i)perylene	mg/kg	0.01	0.09	0.05	0.03	0.03	-	1.5	0.05	0.3	<0.03	0.79	0.27	-	<0.03	<0.03	0.09	0.04	0.12	-	
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	0.08	0.05	<0.03	0.03	-	1.3	0.05	0.27	<0.03	0.79	0.25	-	<0.03	<0.03	0.09	0.03	0.12	-	
	PAH 16 Total	mg/kg		3.2	1.6	0.57	0.61	-	38	1.8	5	0.05	9.6	4.1	-	0.34	0.05	2.4	0.53	3.2	-	
PAHs (Sum of total)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Phenolics	Xylenols	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3-&4-methylphenol	mg/kg		<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Phenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Phenols Monohydric	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	0.5	<0.3	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site		
		Location ID	Location	PI16	S1-TPI17			S1-TPI19	S1-TPI21	S1-TPI22	S1-TPI23	S1-TPI24	S1-TPI25	S1-TPI26	S1-TPI27	S1-TPI28	S1-TPI29	S1-TPI30	S1-TPI31	S1-TPI32	S1-TPI33	S1-TPI34
		Sample Depth (m bgl)	Sample Depth (m bgl)	4	0.2	1	1	0.9	1	2.2	1.5	3.7	2.6	1.3	3.5	0.6	1	1.3	4.1	2.8	0.8	
		Unit	Sample Date	02/02/2017	02/02/2017	02/02/2017	01/01/2016	01/01/2016	01/01/2016	01/01/2016	08/02/2017	09/02/2017	01/01/2016	09/02/2017	01/01/2016	08/02/2017	26/04/2017	01/01/2016	09/02/2017	01/01/2016	01/01/2016	
Volatile Organic Carbon	Styrene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1,3-dichloropropene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	trans-1,3-dichloropropene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,1,2-tetrachloroethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,1-trichloroethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1-dichloroethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1-dichloroethene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1-dichloropropene	mg/kg	0.05	<0.01	-	-	-	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,3-trichloropropane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,4-trimethylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dibromo-3-chloropropane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dibromoethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloroethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3-Dichloropropene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloropropane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3-dichloropropane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,2-dichloropropane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-chlorotoluene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-chlorotoluene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromobenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromochloromethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromodichloromethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromoform	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chlorodibromomethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1,2-dichloroethene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dibromomethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isopropylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
n-butylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
n-propylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
p-isopropyltoluene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
sec-butylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
Trichloroethene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
tert-butylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tetrachloroethene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
trans-1,2-dichloroethene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2,4-trichlorobenzene	mg/kg	0.01	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-dichlorobenzene	mg/kg	0.01	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-dichlorobenzene	mg/kg	0.01	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,4-dichlorobenzene	mg/kg	0.01	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chlorobenzene	mg/kg	0.05	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	
Hexachlorobutadiene	mg/kg	0.01	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	PI16	S1-TPI17	S1-TPI19	S1-TPI21	S1-TPI22	S1-TPI23	S1-TPI24	S1-TPI25	S1-TPI26	S1-TPI27	S1-TPI28	S1-TPI29	S1-TPI30	S1-TPI31	S1-TPI32	S1-TPI33	S1-TPI34	
		Sample Depth (m bgl)	Sample Depth (m bgl)	4	0.2	1	1	0.9	1	2.2	1.5	3.7	2.6	1.3	3.5	0.6	1	1.3	4.1	2.8	0.8
		Unit	Sample_Date	02/02/2017	02/02/2017	02/02/2017	01/01/2016	01/01/2016	01/01/2016	01/01/2016	08/02/2017	09/02/2017	01/01/2016	09/02/2017	01/01/2016	08/02/2017	26/04/2017	01/01/2016	09/02/2017	01/01/2016	01/01/2016
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Benzyl alcohol	mg/kg	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-bromophenyl phenyl ether	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-nitroaniline	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-nitrophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,2-Dinitrobenzene	mg/kg	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1,3-Dinitrobenzene	mg/kg	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,3,4,6-tetrachlorophenol	mg/kg	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,3,5,6-Tetrachlorophenol	mg/kg	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4,5-trichlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4,6-trichlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-dichlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-dimethylphenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,4-dinitrotoluene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,6-dichlorophenol	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2,6-dinitrotoluene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-chloronaphthalene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-chlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-methylnaphthalene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-methylphenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-nitroaniline	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3-nitroaniline	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4,6-Dinitro-2-methylphenol	mg/kg	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chloro-3-methylphenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-chlorophenyl phenyl ether	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Aniline	mg/kg		<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Azobenzene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroethoxy) methane	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-chloroisopropyl) ether	mg/kg		<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Butyl benzyl phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Carbazole	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Dibenzofuran	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Diethylphthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Dimethyl phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Di-n-butyl phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Di-n-octyl phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Diphenylamine	mg/kg		<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachlorobenzene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachlorocyclopentadiene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Isophorone	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Pentachlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site		
		Location ID	Location	PI16	S1-TPI17			S1-TPI19	S1-TPI21	S1-TPI22	S1-TPI23	S1-TPI24	S1-TPI25	S1-TPI26	S1-TPI27	S1-TPI28	S1-TPI29	S1-TPI30	S1-TPI31	S1-TPI32	S1-TPI33	S1-TPI34
		Sample Depth (m bgl)	Sample Depth (m bgl)	4	0.2	1	1	0.9	1	2.2	1.5	3.7	2.6	1.3	3.5	0.6	1	1.3	4.1	2.8	0.8	
		Unit	Sample_Date	02/02/2017	02/02/2017	02/02/2017	01/01/2016	01/01/2016	01/01/2016	01/01/2016	08/02/2017	09/02/2017	01/01/2016	09/02/2017	01/01/2016	08/02/2017	26/04/2017	01/01/2016	09/02/2017	01/01/2016	01/01/2016	
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,4,4,5,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 3,3,4,4,5,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 101	mg/kg	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	
	PCB 118	mg/kg	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	
	PCB 138	mg/kg	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	
	PCB 153	mg/kg	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	
	PCB 180	mg/kg	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	
	PCB 28 + PCB 31	mg/kg	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	
	PCB 52	mg/kg	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total PCB 7 Congeners	mg/kg	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-		
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Notes

- Not analysed
- # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
		Location ID	Location	S1-TPI35	S1-TPI36	S1-TPI37	S2-BHA04	S2-BHA06	S2-TPA100	S2-TPA37	S2-TPA38	S2-TPA38A	S2-TPA39	S2-TPA40						
		Sample Depth (m bgl)	Sample Depth (m bgl)	1.5	1.5	3.5	1	5.8-5.8	4.5-4.5	0.2-0.5	4.1	0.5-0.5	1-1	0.5-0.5	1.5-1.5	1.5	0.5-0.5	1-1	3-3	0.3-0.3
Unit	Sample_Date	01/01/2016	01/01/2016	01/01/2016	09/02/2017	26/10/2017	07/11/2017	04/05/2017	04/05/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	03/10/2017	03/10/2017
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	64,000	-	42,000	42,000	-	57,000	54,000	-	-
	Antimony	mg/kg	14	-	<1	2.3	1.9	<1	3	1.1	-	<1	-	2.9	2.9	-	1.7	<1	-	-
	Arsenic	mg/kg	4.2	-	8.3	26	8.3	7.1	20	8.9	-	7.5	-	14	14	-	7.4	7.1	9	-
	Barium	mg/kg	900	-	17	180	81	31	300	250	-	230	-	190	190	-	460	210	-	-
	Beryllium	mg/kg	0.8	-	<0.2	2.8	0.3	0.3	2	1.9	-	7.9	-	4.1	4.1	-	5.6	5.9	-	-
	Boron	mg/kg	4.9	-	0.8	2.4	2.3	0.6	1	1.1	-	3.9	-	3.2	3.2	-	4.4	7.5	-	-
	Cadmium	mg/kg	0.4	-	<0.1	1.5	0.6	16	5.2	31	-	0.1	-	0.9	0.9	-	0.2	0.1	0.3	-
	Chromium (hexavalent)	mg/kg	<1	-	<1	<1	<1	<1	<1	<1	-	<1	-	<1	<1	-	<1	<1	-	-
	Chromium	mg/kg	1300	-	7.7	77	38	17	110	16	-	21	-	76	76	-	53	23	15	-
	Chromium (Trivalent)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper	mg/kg	54	-	28	150	17	16	82	81	-	9.7	-	32	32	-	19	11	23	-
	Iron	mg/kg	23	-	19	96	-	-	-	-	-	14,000	-	95,000	95,000	-	24,000	16,000	-	-
	Lead	mg/kg	-	-	-	-	78	20	180	20	-	6.1	-	21	21	-	20	8.6	22	-
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	1300	-	2600	2600	-	2600	1400	-	-
	Mercury	mg/kg	<0.05	-	<0.05	0.08	0.15	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05	0.14	<0.05	-
	Molybdenum	mg/kg	5.2	-	<0.4	6.7	1.1	1.6	5.5	7.7	-	0.9	-	3	3	-	1.7	0.7	-	-
	Nickel	mg/kg	11	-	4	56	9.5	13	29	34	-	4.2	-	22	22	-	7.6	6	7.1	-
	Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	53,000	-	65,000	65,000	-	52,000	61,000	-	-
Vanadium	mg/kg	3000	-	29	340	120	30	440	110	-	55	-	180	180	-	130	83	-	-	
Zinc	mg/kg	53	-	82	360	220	840	610	640	-	39	-	94	94	-	87	48	54	-	
Inorganics	Cyanide (Free)	mg/kg	<0.1	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-
	Cyanide Total	mg/kg	<0.1	-	<0.1	0.4	30	0.5	0.2	<0.1	-	0.8	-	1.1	1.1	-	0.3	0.5	-	-
	cyanides-complex	mg/kg	<0.2	-	-	0.4	-	-	0.2	<0.2	-	0.8	-	1.1	1.1	-	-	-	-	-
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	29,000	-	20,000	20,000	-	28,000	24,000	-	-
	Nitrate (as NO3-)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphate as SO4	mg/kg	-	2400	-	-	99	120	1700	-	-	1400	-	1700	-	-	710	1700	200	-
	Sulphide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphur as S	%	-	0.14	-	-	0.00026	0.00067	0.12	-	-	0.0048	-	0.0026	26	-	0.00098	-	-	-
	Sulphur (free)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thiocyanate (as SCN)	mg/kg	<0.6	-	-	<0.6	<0.6	-	<0.6	<0.6	-	3.4	-	0.9	0.9	-	-	1.1	0.6	-	
Other	Organic Matter	%	0.6	-	0.3	14	0.9	0.8	2.6	10	-	0.4	-	1	1	-	1	1	2.5	-
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	<0	-	0.01	-	-	0.01	-	-	-	0.01
	Moisture	%	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Moisture Content 105C	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH (Lab)	pH_Units		12	11.9	11.2	11.3	11.6	9	10.2	9.3	-	11	-	7 - 10.5	10.5	-	11	10.7	7.8	-

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S1-TPI35	S1-TPI36	S1-TPI37	S2-BHA04	S2-BHA06	S2-TPA100	S2-TPA37	S2-TPA38	S2-TPA38A	S2-TPA39			S2-TPA40					
		Sample Depth (m bgl)	Sample Depth (m bgl)	1.5	1.5	3.5	1	5.8-5.8	4.5-4.5	0.2-0.5	4.1	0.5-0.5	1-1	0.5-0.5	1.5-1.5	1.5	0.5-0.5	1-1	3-3	0.3-0.3	2.2-2.2
Unit	Sample_Date	01/01/2016	01/01/2016	01/01/2016	09/02/2017	26/10/2017	07/11/2017	04/05/2017	04/05/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	03/10/2017	03/10/2017	
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg		<0.01	-	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	-
	>C6-C8 Aliphatics	mg/kg		<0.01	-	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	-
	>C8-C10 Aliphatics	mg/kg		<0.01	-	<0.01	0.02	<0.01	0.22	<0.01	<0.01	-	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	-
	>C10-C12 Aliphatics	mg/kg		<1.5	-	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	-	<1.5	-	<1.5	<1.5	-	<1.5	<1.5	-	-
	>C12-C16 Aliphatics	mg/kg		<1.2	-	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	-	<1.2	-	<1.2	<1.2	-	<1.2	<1.2	-	-
	>C16-C21 Aliphatics	mg/kg		<1.5	-	<1.5	<1.5	2.8	<1.5	<1.5	<1.5	-	<1.5	-	<1.5	<1.5	-	<1.5	<1.5	-	-
	>C21-C35 Aliphatics	mg/kg		<3.4	-	<3.4	<3.4	27	<3.4	<3.4	<3.4	-	<3.4	-	<3.4	<3.4	-	3.8	<3.4	-	-
	Total >C5-C35 Aliphatics	mg/kg		<10	-	<10	<10	30	<10	<10	<10	-	<10	-	<10	<10	-	<10	<10	-	-
	>EC5-EC7 Aromatics	mg/kg		<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	-
	>EC7-EC8 Aromatics	mg/kg		<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	-
	>EC8-EC10 Aromatics	mg/kg		<0.01	-	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	-	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	-
	>EC10-EC12 Aromatics	mg/kg		<0.9	-	<0.9	<0.9	1.6	<0.9	<0.9	<0.9	-	<0.9	-	<0.9	<0.9	-	<0.9	<0.9	-	-
	>EC12-EC16 Aromatics	mg/kg		<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-
	>EC16-EC21 Aromatics	mg/kg		<0.6	-	<0.6	<0.6	5.2	<0.6	2.5	<0.6	-	0.9	-	<0.6	<0.6	-	<0.6	<0.6	-	-
	>EC21-EC35 Aromatics	mg/kg		<1.4	-	<1.4	<1.4	26	<1.4	9.1	<1.4	-	5	-	2	2	-	3.5	<1.4	-	-
	Total >EC5-EC35 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH >C5-C35 Aliphatics/Aromatics	mg/kg		<10	-	<10	<10	63	<10	12	<10	-	<10	-	<10	<10	-	<10	<10	-	-	
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	550	-
	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-
	Toluene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-
	Ethylbenzene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-
	Xylene (m & p)	mg/kg	0.1	-	-	-	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-
	Xylene (o)	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-
	Xylene Total	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MTBE	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	<0.03	-	<0.03	<0.03	<0.03	<0.03	0.03	<0.03	-	0.04	-	<0.01	<0.03	-	<0.03	<0.03	<0.1	-
	Acenaphthene	mg/kg	0.01	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	<0.03	-	<0.03	<0.03	0.2	-
	Acenaphthylene	mg/kg	0.01	<0.03	-	<0.03	<0.03	<0.03	<0.03	0.06	<0.03	-	<0.03	-	<0.03	<0.03	-	<0.03	<0.03	0.2	-
	Fluoranthene	mg/kg	0.01	<0.03	-	<0.03	0.16	0.31	<0.03	1.2	0.08	-	0.87	-	0.25 - 0.5	0.25	-	0.3	0.14	19	-
	Anthracene	mg/kg	0.01	<0.03	-	<0.03	<0.03	0.05	<0.03	0.16	<0.03	-	0.06	-	<0.03	<0.03	-	<0.03	<0.03	1.4	-
	Phenanthrene	mg/kg	0.01	<0.03	-	<0.03	0.05	0.27	<0.03	0.51	0.05	-	0.22	-	0.1 - 0.2	0.1	-	0.1	0.03	6.7	-
	Fluorene	mg/kg	0.01	<0.03	-	<0.03	<0.03	<0.03	<0.03	0.03	<0.03	-	<0.03	-	<0.03	<0.03	-	<0.03	<0.03	0.5	-
	Chrysene	mg/kg	0.01	<0.03	-	<0.03	0.09	0.12	<0.03	0.68	0.11	-	0.54	-	0.17 - 0.3	0.17	-	0.17	0.09	8.7	-
	Pyrene	mg/kg	0.01	<0.03	-	<0.03	0.15	0.27	<0.03	1.1	0.09	-	0.82	-	0.21 - 0.4	0.21	-	0.27	0.13	16	-
	Benzo(a)anthracene	mg/kg	0.01	<0.03	-	<0.03	0.09	0.11	<0.03	0.71	0.09	-	0.5	-	0.15 - 0.3	0.15	-	0.16	0.09	9.3	-
	Benzo(b)fluoranthene	mg/kg	0.01	<0.03	-	<0.03	<0.03	0.1	<0.03	1.1	0.19	-	0.88	-	0.26 - 0.3	0.26	-	0.27	0.13	7.8	-
	Benzo(k)fluoranthene	mg/kg	0.01	<0.03	-	<0.03	<0.03	0.05	<0.03	0.43	0.19	-	0.33	-	0.11 - 0.2	0.11	-	0.11	0.06	5	-
	Benzo(a)pyrene	mg/kg	0.01	<0.03	-	<0.03	0.06	0.06	<0.03	0.69	0.22	-	0.47	-	0.15 - 0.2	0.15	-	0.16	0.09	8.9	-
	Dibenz(a,h)anthracene	mg/kg	0.01	<0.03	-	<0.03	<0.03	<0.03	<0.03	0.14	0.05	-	0.12	-	<0.03	<0.03	-	0.03	<0.03	1.2	-
	Benzo(g,h,i)perylene	mg/kg	0.01	<0.03	-	<0.03	0.04	<0.03	<0.03	0.46	0.24	-	0.55	-	0.1 - 0.14	0.14	-	0.16	0.08	5.2	-
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	<0.03	-	<0.03	0.04	<0.03	<0.03	0.41	0.21	-	0.41	-	0.1 - 0.11	0.11	-	0.13	0.07	6.1	-
	PAH 16 Total	mg/kg		0.05	-	0.05	0.67	-	-	7.7	1.5	-	-	-	-	1.6	-	-	-	-	-
PAHs (Sum of total)	mg/kg		-	-	-	-	1.3	<0.1	-	-	-	5.8	-	1.6	-	-	1.9	0.91	97	-	
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenolics	Xylenols	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-&4-methylphenol	mg/kg		-	-	-	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	
	Phenol	mg/kg	0.01	-	-	-	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	
	Phenols Monohydric	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	0.4	-

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S1-TPI35	S1-TPI36	S1-TPI37	S2-BHA04	S2-BHA06	S2-TPA100	S2-TPA37	S2-TPA38	S2-TPA38A	S2-TPA39	S2-TPA40							
		Sample Depth (m bgl)	Sample Depth (m bgl)	1.5	1.5	3.5	1	5.8-5.8	4.5-4.5	0.2-0.5	4.1	0.5-0.5	1-1	0.5-0.5	1.5-1.5	1.5	0.5-0.5	1-1	3-3	0.3-0.3	2.2-2.2
		Unit	Sample Date	01/01/2016	01/01/2016	01/01/2016	09/02/2017	26/10/2017	07/11/2017	04/05/2017	04/05/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	03/10/2017
Volatile Organic Carbon	Styrene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	cis-1,3-dichloropropene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-
	trans-1,3-dichloropropene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,1,1,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,1,1-trichloroethane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,1-dichloroethane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,1-dichloroethene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,1-dichloropropene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,2,3-trichloropropane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,2,4-trimethylbenzene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,2-dibromo-3-chloropropane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,2-dibromoethane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,2-dichloroethane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,3-Dichloropropene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-
	1,2-dichloropropane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,3-dichloropropane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	2,2-dichloropropane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	2-chlorotoluene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	4-chlorotoluene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	Bromobenzene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	Bromochloromethane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	Bromodichloromethane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	Bromoform	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	Chlorodibromomethane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-dichloroethene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
Dibromomethane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isopropylbenzene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
n-butylbenzene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
n-propylbenzene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
p-isopropyltoluene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
sec-butylbenzene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
Trichloroethene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
tert-butylbenzene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
Tetrachloroethene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
trans-1,2-dichloroethene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	-	-	-	-	-	0.02	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,2-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,3-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	1,4-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	Chlorobenzene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.01	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
		Location ID	Location	S1-TPI35	S1-TPI36	S1-TPI37	S2-BHA04	S2-BHA06	S2-TPA100	S2-TPA37	S2-TPA38	S2-TPA38A	S2-TPA39			S2-TPA40				
		Sample Depth (m bgl)	Sample Depth (m bgl)	1.5	1.5	3.5	1	5.8-5.8	4.5-4.5	0.2-0.5	4.1	0.5-0.5	1-1	0.5-0.5	1.5-1.5	1.5	0.5-0.5	1-1	3-3	0.3-0.3
Unit	Sample_Date	01/01/2016	01/01/2016	01/01/2016	09/02/2017	26/10/2017	07/11/2017	04/05/2017	04/05/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	03/10/2017	03/10/2017
	1,4-dinitrobenzene	mg/kg	-	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Benzyl alcohol	mg/kg	-	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	4-bromophenyl phenyl ether	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	4-nitroaniline	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	4-nitrophenol	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	1,2-Dinitrobenzene	mg/kg	-	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	1,3-Dinitrobenzene	mg/kg	-	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	2,3,4,6-tetrachlorophenol	mg/kg	-	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	2,3,5,6-Tetrachlorophenol	mg/kg	-	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	2,4,5-trichlorophenol	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	2,4,6-trichlorophenol	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	2,4-dichlorophenol	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	2,4-dimethylphenol	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	2,4-dinitrotoluene	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	2,6-dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,6-dinitrotoluene	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	2-chloronaphthalene	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	2-chlorophenol	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	2-methylnaphthalene	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	2-methylphenol	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	2-nitroaniline	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	2-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-nitroaniline	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	4-chloro-3-methylphenol	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-chlorophenyl phenyl ether	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	4-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aniline	mg/kg	-	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Azobenzene	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Bis(2-chloroethoxy) methane	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bis(2-chloroisopropyl) ether	mg/kg	-	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Butyl benzyl phthalate	mg/kg	0.1	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Carbazole	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Dibenzofuran	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Diethylphthalate	mg/kg	0.1	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Dimethyl phthalate	mg/kg	0.1	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Di-n-butyl phthalate	mg/kg	0.1	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Di-n-octyl phthalate	mg/kg	0.1	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Diphenylamine	mg/kg	-	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Hexachlorobenzene	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Hexachlorocyclopentadiene	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Isophorone	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorophenol	mg/kg	0.01	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-

Appendix I Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S1-TPI35	S1-TPI36	S1-TPI37	S2-BHA04	S2-BHA06	S2-TPA100	S2-TPA37	S2-TPA38	S2-TPA38A	S2-TPA39			S2-TPA40					
		Sample Depth (m bgl)	Sample Depth (m bgl)	1.5	1.5	3.5	1	5.8-5.8	4.5-4.5	0.2-0.5	4.1	0.5-0.5	1-1	0.5-0.5	1.5-1.5	1.5	0.5-0.5	1-1	3-3	0.3-0.3	2.2-2.2
		Unit	Sample_Date	01/01/2016	01/01/2016	01/01/2016	09/02/2017	26/10/2017	07/11/2017	04/05/2017	04/05/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	03/10/2017
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,4,4,4,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 3,3,4,4,5,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 101	mg/kg	-	-	-	<0.01	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
	PCB 118	mg/kg	-	-	-	<0.01	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
	PCB 138	mg/kg	-	-	-	<0.01	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
	PCB 153	mg/kg	-	-	-	<0.01	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
	PCB 180	mg/kg	-	-	-	<0.01	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
	PCB 28 + PCB 31	mg/kg	-	-	-	<0.01	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
	PCB 52	mg/kg	-	-	-	<0.01	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total PCB 7 Congeners	mg/kg	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	-		
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-		

Notes
 - Not analysed
 # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
		Location ID	Location	S2-TPA45	S2-TPA46	S2-TPA48	S2-TPA49	S2-TPA50	S2-TPA51	S2-TPA52	S2-TPA53	S2-TPA54	S2-TPA55	S2-TPA56	S2-TPA58	S2-TPA59				
		Sample Depth (m bgl)	Sample Depth (m bgl)	2.5-2.5	0.6	2	0.8	4.2	2	0.7	1.4	1	1.4	0.5	2.2	0.3	4.4	2.6	1.2	3.6
	Unit	Sample_Date	03/10/2017	12/05/2017	12/05/2017	12/05/2017	12/05/2017	12/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	12/05/2017	23/05/2017	12/05/2017	17/05/2017	17/05/2017	17/05/2017
Metals	Aluminium	mg/kg	47,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Antimony	mg/kg	1.1	-	1	13	10	-	-	-	-	-	<1	11	-	-	-	-	-	<1
	Arsenic	mg/kg	5.7	-	22	24	22	46	8.1	8.8	-	2.7	5.6	13	6.1	7.1	6.2	10	87	6.2
	Barium	mg/kg	230	-	160	160	430	-	-	-	-	-	460	230	-	-	-	-	-	31
	Beryllium	mg/kg	5.5	-	5.2	0.3	1.4	-	-	-	-	-	2.7	2.9	-	-	-	-	-	0.2
	Boron	mg/kg	5.2	-	3	2.6	3.5	3.3	1.5	0.5	-	2.8	3.7	0.4	2.2	1.1	1	0.9	1.4	0.8
	Cadmium	mg/kg	<0.1	-	1.2	1	2.2	1.8	0.5	0.2	-	0.2	0.1	1.6	0.1	<0.1	<0.1	1.1	0.8	0.2
	Chromium (hexavalent)	mg/kg	<1	-	<1	<1	<1	-	-	-	-	-	<1	<1	-	-	-	-	-	<1
	Chromium	mg/kg	11	-	30	640	490	130	160	13	-	200	9.8	21	6.5	4.1	19	22	170	3.7
	Chromium (Trivalent)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper	mg/kg	6.1	-	17	220	58	67	28	6.8	-	14	6.9	72	5.9	5.9	8.7	27	710	6.1
	Iron	mg/kg	5400	-	31,000	250,000	170,000	-	-	15,000	-	-	-	21,000	3000	-	-	-	-	5300
	Lead	mg/kg	3.8	-	84	110	460	410	48	46	-	20	19	320	4.1	26	7.6	180	390	21
	Manganese	mg/kg	980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury	mg/kg	<0.05	-	<0.05	0.3	1.3	2.3	0.06	0.08	-	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Molybdenum	mg/kg	0.6	-	0.7	12	4.4	-	-	-	-	-	<0.4	4.8	-	-	-	-	-	<0.4
	Nickel	mg/kg	1.7	-	15	71	24	43	13	4.3	-	7	1.8	14	1.1	3	4.6	6.2	300	2.5
	Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Silicon	mg/kg	76,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Vanadium	mg/kg	42	-	110	2800	2100	-	-	-	-	-	32	55	-	-	-	-	-	11
Zinc	mg/kg	13	-	1800	140	1800	1900	240	110	-	96	37	270	17	33	36	250	110	49	
Inorganics	Cyanide (Free)	mg/kg	-	-	0.1	<0.1	0.2	-	-	-	-	<0.1	<0.1	<0.1	-	-	-	-	<0.1	
	Cyanide Total	mg/kg	0.2	-	0.4	0.4	59	70	1.9	3.2	-	<0.1	0.5	0.3	0.9	<0.1	0.9	0.1	160	
	cyanides-complex	mg/kg	-	-	0.3	0.4	59	-	-	-	-	-	0.5	0.3	0.9	-	-	-	<0.2	
	Magnesium	mg/kg	28,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitrate (as NO3-)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphate as SO4	mg/kg	1300	-	18,000	3200	2700	-	-	600	4800	-	-	5100	13,000	900	-	-	1200	
	Sulphide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphur as S	%	0.0091	-	0.79	0.16	0.13	-	-	0.03	0.46	-	-	0.75	0.59	0.06	-	-	-	
	Sulphur (free)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Thiocyanate (as SCN)	mg/kg	-	-	1	<0.6	1	-	-	-	-	-	0.9	<0.6	1.9	-	-	-	<0.6		
Other	Organic Matter	%	1.3	-	1.4	4	0.3	1.5	2.4	0.6	-	0.1	0.5	6.6	0.4	4.6	0.7	4.1	2	
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture	%	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture Content 105C	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
pH (Lab)	pH_Units		10.7	-	9.9	11.7	12	11.3	9.7	11.2	11.1	9.9	10.6	7.7	9.9	12.5	9.8	8	10.8	8.7

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site		
		Location ID	Location	S2-TPA45	S2-TPA46	S2-TPA48	S2-TPA49	S2-TPA50	S2-TPA51	S2-TPA52	S2-TPA53	S2-TPA54	S2-TPA55	S2-TPA56	S2-TPA58	S2-TPA59						
		Sample Depth (m bgl)	Sample Depth (m bgl)	2.5-2.5	0.6	2	0.8	4.2	2	0.7	1.4	1	1.4	0.5	2.2	0.3	4.4	2.6	1.2	3.6	3	
		Unit	Sample_Date	03/10/2017	12/05/2017	12/05/2017	12/05/2017	12/05/2017	12/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	12/05/2017	23/05/2017	12/05/2017	17/05/2017	17/05/2017	17/05/2017	
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg		<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	>C6-C8 Aliphatics	mg/kg		<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	>C8-C10 Aliphatics	mg/kg		<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	0.04	<0.01	0.09	
	>C10-C12 Aliphatics	mg/kg		<1.5	-	<1.5	4.3	<1.5	<1.5	<1.5	<1.5	-	<1.5	<1.5	<500	<1.5	<1.5	<1.5	13	<1.5	11	
	>C12-C16 Aliphatics	mg/kg		<1.2	-	<1.2	73	4	<1.2	<1.2	<1.2	-	<1.2	<1.2	880	3.5	<1.2	<1.2	140	9.2	150	
	>C16-C21 Aliphatics	mg/kg		<1.5	-	<1.5	810	51	4.4	<1.5	<1.5	-	<1.5	<1.5	4900	16	<1.5	<1.5	1500	110	160	
	>C21-C35 Aliphatics	mg/kg		<3.4	-	<3.4	4700	300	39	5.9	<3.4	-	<3.4	<3.4	27,000	78	<3.4	<3.4	10,000	810	54	
	Total >C5-C35 Aliphatics	mg/kg		<10	-	<10	5600	360	44	<10	<10	-	<10	<10	34,000	97	<10	<10	12,000	930	380	
	>EC5-EC7 Aromatics	mg/kg		<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	>EC7-EC8 Aromatics	mg/kg		<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	>EC8-EC10 Aromatics	mg/kg		<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	0.06	<0.01	0.16
	>EC10-EC12 Aromatics	mg/kg		<0.9	-	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	-	<0.9	<0.9	<500	<0.9	10	<0.9	2.1	<0.9	2.1	
	>EC12-EC16 Aromatics	mg/kg		<0.5	-	<0.5	16	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<500	0.7	6.5	<0.5	79	<0.5	83	
	>EC16-EC21 Aromatics	mg/kg		<0.6	-	<0.6	160	8.5	<0.6	<0.6	<0.6	-	<0.6	<0.6	2700	10	17	<0.6	1000	11	130	
	>EC21-EC35 Aromatics	mg/kg		<1.4	-	<1.4	1100	60	<1.4	<1.4	<1.4	-	<1.4	<1.4	14,000	40	8.4	<1.4	6300	170	56	
	Total >EC5-EC35 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH >C5-C35 Aliphatics/Aromatics	mg/kg		<10	-	<10	6900	430	44	<10	<10	-	<10	<10	51,000	150	42	<10	19,000	1100	650	
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg		<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01		
	Toluene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01		
	Ethylbenzene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01		
	Xylene (m & p)	mg/kg	0.1	-	<0.01	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01		
	Xylene (o)	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01		
	Xylene Total	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MTBE	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01			
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	<0.1	0.02	<0.03	0.33	0.06	0.1	<0.03	<0.03	-	<0.03	<0.03	0.15	<0.03	0.05	<0.03	0.15	<0.03	<0.03	
	Acenaphthene	mg/kg	0.01	<0.1	-	<0.03	0.15	0.08	<0.03	<0.03	<0.03	-	<0.03	<0.03	0.39	<0.03	<0.03	<0.03	0.15	<0.03	<0.03	
	Acenaphthylene	mg/kg	0.01	<0.1	-	<0.03	0.15	<0.03	<0.03	<0.03	<0.03	-	<0.03	<0.03	0.15	<0.03	<0.03	<0.03	0.15	<0.03	<0.03	
	Fluoranthene	mg/kg	0.01	0.7	-	0.22	1.8	1.3	0.14	0.11	<0.03	-	0.08	0.03	2	<0.03	0.4	<0.03	0.33	0.43	0.54	
	Anthracene	mg/kg	0.01	<0.1	-	<0.03	0.15	0.16	<0.03	<0.03	<0.03	-	<0.03	0.03	0.15	<0.03	0.07	<0.03	0.15	0.03	0.06	
	Phenanthrene	mg/kg	0.01	0.2	-	0.11	2.2	0.96	0.28	0.08	<0.03	-	0.03	0.03	0.94	<0.03	0.28	<0.03	1	0.27	0.14	
	Fluorene	mg/kg	0.01	<0.1	-	<0.03	0.15	0.05	<0.03	<0.03	<0.03	-	<0.03	<0.03	0.15	<0.03	<0.03	<0.03	0.15	<0.03	<0.03	
	Chrysene	mg/kg	0.01	0.4	-	0.1	1	0.78	0.09	0.09	<0.03	-	0.05	<0.03	2.3	<0.03	0.15	<0.03	0.55	0.33	0.2	
	Pyrene	mg/kg	0.01	0.6	-	0.17	2	1.1	0.22	0.09	<0.03	-	0.06	0.03	4.7	<0.03	0.33	<0.03	0.82	0.35	0.5	
	Benzo(a)anthracene	mg/kg	0.01	0.4	-	0.1	0.55	0.62	0.07	0.06	<0.03	-	0.05	<0.03	0.72	<0.03	0.2	<0.03	0.15	0.15	0.17	
	Benzo(b)fluoranthene	mg/kg	0.01	0.3	-	0.13	0.94	0.82	0.15	0.09	<0.03	-	0.08	<0.03	2	<0.03	0.15	<0.03	0.15	0.33	0.17	
	Benzo(k)fluoranthene	mg/kg	0.01	0.2	-	0.05	0.34	0.37	0.03	0.04	<0.03	-	<0.03	0.03	0.62	<0.03	0.05	<0.03	0.15	0.1	0.06	
	Benzo(a)pyrene	mg/kg	0.01	0.4	-	<0.03	0.15	0.57	<0.03	0.05	<0.03	-	0.05	<0.03	0.71	<0.03	0.09	<0.03	0.15	0.22	0.13	
	Dibenz(a,h)anthracene	mg/kg	0.01	<0.1	-	<0.03	0.15	0.1	<0.03	<0.03	<0.03	-	<0.03	<0.03	0.15	<0.03	<0.03	<0.03	0.15	<0.03	<0.03	
	Benzo(g,h,i)perylene	mg/kg	0.01	0.2	-	0.05	0.49	0.37	0.07	0.06	<0.03	-	0.04	<0.03	0.94	<0.03	<0.03	<0.03	0.15	0.14	0.08	
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	0.3	-	0.05	0.39	0.29	0.03	0.05	<0.03	-	0.04	<0.03	0.62	<0.03	<0.03	<0.03	0.15	0.11	0.07	
	PAH 16 Total	mg/kg		-	-	0.99	10	7.7	1.2	0.75	0.05	-	0.49	0.16	15.94	0.05	1.8	0.05	2.7	2.5	2.1	
PAHs (Sum of total)	mg/kg		3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Phenolics	Xylenols	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	3-&4-methylphenol	mg/kg		-	<0.1	-	<0.1	-	-	-	-	-	-	0.2	-	-	-	<0.1	-	<0.1		
	Phenol	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	0.1	-	-	-	<0.1	-	<0.1		
	Phenols Monohydric	mg/kg		<0.3	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	<0.3	<0.3	<0.3	1	<0.3	<0.3	<0.3	<0.3		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA45	S2-TPA46	S2-TPA48	S2-TPA49	S2-TPA50	S2-TPA51	S2-TPA52	S2-TPA53	S2-TPA54	S2-TPA55	S2-TPA56	S2-TPA58	S2-TPA59					
		Sample Depth (m bgl)	Sample Depth (m bgl)	2.5-2.5	0.6	2	0.8	4.2	2	0.7	1.4	1	1.4	0.5	2.2	0.3	4.4	2.6	1.2	3.6	3
		Unit	Sample Date	03/10/2017	12/05/2017	12/05/2017	12/05/2017	12/05/2017	12/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	12/05/2017	23/05/2017	12/05/2017	17/05/2017	17/05/2017	17/05/2017
Volatile Organic Carbon	Styrene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	cis-1,3-dichloropropene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	trans-1,3-dichloropropene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	1,1,1,2-tetrachloroethane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	1,1,1-trichloroethane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	1,1-dichloroethane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	1,1-dichloroethene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	1,1-dichloropropene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	1,2,3-trichloropropane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	1,2,4-trimethylbenzene	mg/kg	0.05	-	<0.01	-	0.02	-	-	-	-	-	-	-	<0.01	-	-	-	0.02	-	<0.01
	1,2-dibromo-3-chloropropane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	1,2-dibromoethane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	1,2-dichloroethane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	1,3-Dichloropropene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloropropane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	1,3,5-trimethylbenzene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	1,3-dichloropropane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	2,2-dichloropropane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	2-chlorotoluene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	4-chlorotoluene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	Bromobenzene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	Bromochloromethane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	Bromodichloromethane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	Bromoform	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	Chlorodibromomethane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1,2-dichloroethene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	Dibromomethane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Isopropylbenzene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	n-butylbenzene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	n-propylbenzene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
	p-isopropyltoluene	mg/kg	0.05	-	<0.01	-	0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
sec-butylbenzene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01	
Trichloroethene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01	
tert-butylbenzene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01	
Tetrachloroethene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01	
trans-1,2-dichloroethene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01	
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	-	<0.01	-	0.03	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01	
	1,2,4-trichlorobenzene	mg/kg	0.01	-	<0.01	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01	
	1,2-dichlorobenzene	mg/kg	0.01	-	<0.01	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01	
	1,3-dichlorobenzene	mg/kg	0.01	-	<0.01	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01	
	1,4-dichlorobenzene	mg/kg	0.01	-	<0.01	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01	
	Chlorobenzene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
Hexachlorobutadiene	mg/kg	0.01	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA45	S2-TPA46	S2-TPA48	S2-TPA49	S2-TPA50	S2-TPA51	S2-TPA52	S2-TPA53	S2-TPA54	S2-TPA55	S2-TPA56	S2-TPA58	S2-TPA59					
		Sample Depth (m bgl)	Sample Depth (m bgl)	2.5-2.5	0.6	2	0.8	4.2	2	0.7	1.4	1	1.4	0.5	2.2	0.3	4.4	2.6	1.2	3.6	3
		Unit	Sample_Date	03/10/2017	12/05/2017	12/05/2017	12/05/2017	12/05/2017	12/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	12/05/2017	23/05/2017	12/05/2017	17/05/2017	17/05/2017	17/05/2017
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	Benzyl alcohol	mg/kg	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	4-bromophenyl phenyl ether	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	4-nitroaniline	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	4-nitrophenol	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	1,2-Dinitrobenzene	mg/kg	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	1,3-Dinitrobenzene	mg/kg	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	2,3,4,6-tetrachlorophenol	mg/kg	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	2,3,5,6-Tetrachlorophenol	mg/kg	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	2,4,5-trichlorophenol	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	2,4,6-trichlorophenol	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	2,4-dichlorophenol	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	2,4-dimethylphenol	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	2,4-dinitrotoluene	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	2,6-dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,6-dinitrotoluene	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	2-chloronaphthalene	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	2-chlorophenol	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	2-methylnaphthalene	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	2-methylphenol	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	2-nitroaniline	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	2-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-nitroaniline	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	4,6-Dinitro-2-methylphenol	mg/kg	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	4-chloro-3-methylphenol	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-chlorophenyl phenyl ether	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	0.2	-
	4-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aniline	mg/kg	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	Azobenzene	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	Bis(2-chloroethoxy) methane	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bis(2-chloroisopropyl) ether	mg/kg	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	Butyl benzyl phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	Carbazole	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	Dibenzofuran	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	Diethylphthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	Dimethyl phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
	Di-n-butyl phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	
Di-n-octyl phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1		
Diphenylamine	mg/kg	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1		
Hexachlorobenzene	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1		
Hexachlorocyclopentadiene	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1		
Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isophorone	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pentachlorophenol	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA45	S2-TPA46	S2-TPA48	S2-TPA49	S2-TPA50	S2-TPA51	S2-TPA52	S2-TPA53	S2-TPA54	S2-TPA55	S2-TPA56	S2-TPA58	S2-TPA59					
		Sample Depth (m bgl)	Sample Depth (m bgl)	2.5-2.5	0.6	2	0.8	4.2	2	0.7	1.4	1	1.4	0.5	2.2	0.3	4.4	2.6	1.2	3.6	3
		Unit	Sample_Date	03/10/2017	12/05/2017	12/05/2017	12/05/2017	12/05/2017	12/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	12/05/2017	23/05/2017	12/05/2017	17/05/2017	17/05/2017	17/05/2017
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,4,4,4,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 3,3,4,4,5,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 101	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 118	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 138	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 153	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 180	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 28 + PCB 31	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 52	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total PCB 7 Congeners	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Notes
 - Not analysed
 # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
		Location ID	Location	S2-TPA60	S2-TPA61	S2-TPA62	S2-TPA63	S2-TPA64	S2-TPA65	S2-TPA66	S2-TPA67	S2-TPA68	S2-TPA69	S2-TPA70	S2-TPA71	S2-TPA72	S2-TPA73	S2-TPA74		
		Sample Depth (m bgl)	Sample Depth (m bgl)	2	0.2	2.1	0.5	1.8	0.3	2	2.7	2.7	1.5	1.5	2	0.6	2.7	4	2.3	0.3
Unit	Sample_Date	17/05/2017	17/05/2017	17/05/2017	17/05/2017	10/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	18/05/2017	17/05/2017	22/05/2017	22/05/2017	22/05/2017	10/05/2017	10/05/2017	18/05/2017	
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Antimony	mg/kg	8.8	-	-	-	-	-	<1	-	<1	<1	-	1.1	5.3	-	-	<1	1.4	-
	Arsenic	mg/kg	45	6.1	6.5	-	5.2	2.3	11	4.7	6.2	7.9	-	9.8	93	6.9	3.6	13	9.2	6.5
	Barium	mg/kg	250	-	-	-	-	-	230	-	290	340	-	300	240	-	-	260	240	-
	Beryllium	mg/kg	1.5	-	-	-	-	-	6.4	-	5.9	5.2	-	1.2	3.6	-	-	5.8	5.3	-
	Boron	mg/kg	5.3	1	0.3	-	3.9	7.2	7.7	1.3	5.1	2.9	-	2.6	5.5	1.6	9.3	3.5	2.5	5.1
	Cadmium	mg/kg	1.9	0.4	0.1	-	<0.1	0.1	<0.1	<0.1	<0.1	0.3	-	0.2	1.2	0.2	<0.1	0.4	0.2	0.1
	Chromium (hexavalent)	mg/kg	<1	-	-	-	-	-	<1	-	<1	<1	-	<1	<1	-	-	<1	<1	-
	Chromium	mg/kg	200	150	7.6	-	4.3	55	19	2.5	16	19	-	22	120	7.8	22	19	64	13
	Chromium (Trivalent)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper	mg/kg	190	29	9.1	-	8	7.6	7.1	4.3	8.7	18	-	35	83	8.1	33	15	24	6.6
	Iron	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	83,000	-	13,000	-	-	-
	Lead	mg/kg	600	23	27	-	4	4.9	13	15	11	57	-	90	140	36	5.2	27	15	13
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury	mg/kg	0.23	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Molybdenum	mg/kg	11	-	-	-	-	-	<0.4	-	0.9	0.8	-	1.8	2.7	-	-	0.6	2.3	-
	Nickel	mg/kg	84	13	5.7	-	1.5	1.8	7.1	1.5	4.4	7.9	-	24	34	3.9	15	9.9	10	3
	Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Vanadium	mg/kg	300	-	-	-	-	-	74	-	48	62	-	57	480	-	-	80	93	-
Zinc	mg/kg	1200	100	41	-	8.1	190	22	24	32	130	-	92	630	61	16	82	86	34	
Inorganics	Cyanide (Free)	mg/kg	<0.1	-	-	-	-	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	-	-	<0.1	0.3	0.3	
	Cyanide Total	mg/kg	0.4	0.2	0.1	-	0.6	0.2	0.4	0.8	0.4	0.7	-	0.1	0.1	0.2	<0.1	0.3	2.7	
	cyanides-complex	mg/kg	0.4	-	-	-	-	-	0.4	-	0.4	0.7	-	<0.2	<0.2	-	-	0.3	2.4	
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitrate (as NO3-)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphate as SO4	mg/kg	-	-	-	14,000	-	-	-	-	15,000	5900	-	5000	-	1200	13,000	15,000	9600	
	Sulphide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sulphur as S	%	-	-	-	0.55	-	-	-	-	0.71	0.62	-	0.06	-	0.05	0.34	0.85	0.5	
	Sulphur (free)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Thiocyanate (as SCN)	mg/kg	0.9	-	-	-	-	-	<0.6	-	0.6	0.6	-	1.9	<0.6	-	-	2.1	1.8		
Other	Organic Matter	%	0.5	1.5	0.8	-	0.5	0.6	<0.1	<0.1	0.3	<0.1	-	1.4	0.7	0.7	5	0.7	1.2	
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture	%	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture Content 105C	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
pH (Lab)	pH_Units	-	11	11.5	10.4	9.5	10.5	8.8	10.2	9.3	10.5	11.8	-	11	9.3	9.7	12.6	11	11.1	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
		Location ID	Location	S2-TPA60	S2-TPA61	S2-TPA62	S2-TPA63	S2-TPA64	S2-TPA65	S2-TPA66	S2-TPA67	S2-TPA68	S2-TPA69	S2-TPA70	S2-TPA71	S2-TPA72	S2-TPA73	S2-TPA74		
		Sample Depth (m bgl)	Sample Depth (m bgl)	2	0.2	2.1	0.5	1.8	0.3	2	2.7	2.7	1.5	1.5	2	0.6	2.7	4	2.3	0.3
Unit	Sample_Date	17/05/2017	17/05/2017	17/05/2017	17/05/2017	10/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	18/05/2017	17/05/2017	22/05/2017	22/05/2017	22/05/2017	10/05/2017	10/05/2017	18/05/2017	
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg		<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	>C6-C8 Aliphatics	mg/kg		<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	>C8-C10 Aliphatics	mg/kg		<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	>C10-C12 Aliphatics	mg/kg		<1.5	<1.5	<1.5	-	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	-	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
	>C12-C16 Aliphatics	mg/kg		6.9	<1.2	<1.2	-	<1.2	<1.2	<1.2	<1.2	<1.2	5.7	-	<1.2	1.8	<1.2	<1.2	<1.2	<1.2
	>C16-C21 Aliphatics	mg/kg		13	<1.5	<1.5	-	<1.5	<1.5	<1.5	<1.5	<1.5	14	-	<1.5	2.8	<1.5	<1.5	<1.5	<1.5
	>C21-C35 Aliphatics	mg/kg		8.5	18	<3.4	-	<3.4	<3.4	<3.4	<3.4	<3.4	120	-	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4
	Total >C5-C35 Aliphatics	mg/kg		29	19	<10	-	<10	<10	<10	<10	<10	140	-	<10	<10	<10	<10	<10	<10
	>EC5-EC7 Aromatics	mg/kg		<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	>EC7-EC8 Aromatics	mg/kg		<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	>EC8-EC10 Aromatics	mg/kg		<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	>EC10-EC12 Aromatics	mg/kg		<0.9	<0.9	<0.9	-	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	-	<0.9	2.4	<0.9	<0.9	<0.9	<0.9
	>EC12-EC16 Aromatics	mg/kg		<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	4.7	<0.5	<0.5	<0.5	<0.5
	>EC16-EC21 Aromatics	mg/kg		<0.6	<0.6	<0.6	-	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	-	<0.6	13	<0.6	<0.6	<0.6	1.3
	>EC21-EC35 Aromatics	mg/kg		<1.4	<1.4	<1.4	-	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	-	<1.4	22	<1.4	14	<1.4	<1.4
	Total >EC5-EC35 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH >C5-C35 Aliphatics/Aromatics	mg/kg		29	19	<10	-	<10	<10	<10	<10	<10	140	-	<10	46	<10	14	<10	<10
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-
	Toluene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-
	Ethylbenzene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-
	Xylene (m & p)	mg/kg	0.1	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-
	Xylene (o)	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-
	Xylene Total	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MTBE	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	<0.03	0.04	<0.03	-	<0.03	<0.03	<0.03	<0.03	0.03	0.14	0.01	<0.03	0.03	<0.03	0.88	<0.03	<0.03
	Acenaphthene	mg/kg	0.01	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	0.05	<0.03	0.5	<0.03	0.04	<0.03	<0.03	<0.03	0.06
	Acenaphthylene	mg/kg	0.01	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.5	<0.03	<0.03	<0.03	<0.03	<0.03	0.06
	Fluoranthene	mg/kg	0.01	<0.03	0.16	<0.03	-	0.08	0.12	<0.03	<0.03	0.16	0.86	0.2	0.11	2.3	<0.03	0.1	0.05	2
	Anthracene	mg/kg	0.01	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	0.03	0.05	0.5	<0.03	0.49	<0.03	<0.03	<0.03	0.17
	Phenanthrene	mg/kg	0.01	<0.03	0.13	<0.03	-	<0.03	<0.03	<0.03	<0.03	0.13	0.53	0.5	<0.03	1.5	<0.03	0.06	<0.03	0.65
	Fluorene	mg/kg	0.01	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.5	<0.03	0.07	<0.03	<0.03	<0.03	
	Chrysene	mg/kg	0.01	<0.03	0.11	<0.03	-	0.04	0.06	<0.03	<0.03	0.11	0.39	0.5	<0.03	0.91	<0.03	<0.03	<0.03	
	Pyrene	mg/kg	0.01	<0.03	0.13	<0.03	-	0.08	0.1	<0.03	<0.03	0.13	0.65	0.2	0.1	1.8	<0.03	0.06	0.04	
	Benzo(a)anthracene	mg/kg	0.01	<0.03	0.07	<0.03	-	0.05	0.05	<0.03	<0.03	0.09	0.26	0.5	<0.03	1.2	<0.03	<0.03	<0.03	
	Benzo(b)fluoranthene	mg/kg	0.01	<0.03	0.14	<0.03	-	0.1	0.06	<0.03	<0.03	0.14	0.45	0.3	<0.03	1.1	<0.03	<0.03	<0.03	
	Benzo(k)fluoranthene	mg/kg	0.01	<0.03	0.05	<0.03	-	0.03	0.03	<0.03	<0.03	0.04	0.15	0.1	<0.03	0.41	<0.03	<0.03	<0.03	
	Benzo(a)pyrene	mg/kg	0.01	<0.03	0.07	<0.03	-	0.05	0.04	<0.03	<0.03	0.09	0.18	0.2	<0.03	0.74	<0.03	<0.03	<0.03	
	Dibenz(a,h)anthracene	mg/kg	0.01	<0.03	0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	0.06	0.5	<0.03	0.1	<0.03	<0.03	<0.03	
	Benzo(g,h,i)perylene	mg/kg	0.01	<0.03	0.08	<0.03	-	0.07	0.04	<0.03	<0.03	0.07	0.21	0.5	<0.03	0.33	<0.03	<0.03	<0.03	
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	<0.03	0.07	<0.03	-	0.05	0.04	<0.03	<0.03	0.05	0.17	0.5	<0.03	0.31	<0.03	<0.03	<0.03	
	PAH 16 Total	mg/kg		0.05	1.1	0.05	-	0.55	0.56	0.05	0.05	1.1	4.1	-	0.2	11	0.05	1.1	0.05	
PAHs (Sum of total)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenolics	Xylenols	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-&4-methylphenol	mg/kg		-	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	
	Phenol	mg/kg	0.01	-	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	
	Phenols Monohydric	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	

Appendix I Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA60	S2-TPA61	S2-TPA62	S2-TPA63	S2-TPA64	S2-TPA65	S2-TPA66	S2-TPA67	S2-TPA68	S2-TPA69	S2-TPA70	S2-TPA71	S2-TPA72	S2-TPA73	S2-TPA74			
		Sample Depth (m bgl)	Sample Depth (m bgl)	2	0.2	2.1	0.5	1.8	0.3	2	2.7	2.7	1.5	1.5	2	0.6	2.7	4	2.3	0.3	1
		Unit	Sample Date	17/05/2017	17/05/2017	17/05/2017	17/05/2017	10/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	18/05/2017	17/05/2017	22/05/2017	22/05/2017	22/05/2017	10/05/2017	10/05/2017	18/05/2017
Volatile Organic Carbon	Styrene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	cis-1,3-dichloropropene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	trans-1,3-dichloropropene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	1,1,1,2-tetrachloroethane	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	1,1,1-trichloroethane	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	1,1-dichloroethane	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	1,1-dichloroethene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	1,1-dichloropropene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	1,2,3-trichloropropane	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	1,2,4-trimethylbenzene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	1,2-dibromo-3-chloropropane	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	1,2-dibromoethane	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	1,2-dichloroethane	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	1,3-Dichloropropene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloropropane	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	1,3,5-trimethylbenzene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	1,3-dichloropropane	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	2,2-dichloropropane	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	2-chlorotoluene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	4-chlorotoluene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	Bromobenzene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	Bromochloromethane	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	Bromodichloromethane	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	Bromoform	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	Chlorodibromomethane	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1,2-dichloroethene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
Dibromomethane	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isopropylbenzene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
n-butylbenzene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
n-propylbenzene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
p-isopropyltoluene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
sec-butylbenzene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
Trichloroethene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
tert-butylbenzene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
Tetrachloroethene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
trans-1,2-dichloroethene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
	1,2,4-trichlorobenzene	mg/kg	0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
	1,2-dichlorobenzene	mg/kg	0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
	1,3-dichlorobenzene	mg/kg	0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
	1,4-dichlorobenzene	mg/kg	0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	
	Chlorobenzene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-
Hexachlorobutadiene	mg/kg	0.01	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA60	S2-TPA61	S2-TPA62	S2-TPA63	S2-TPA64	S2-TPA65	S2-TPA66	S2-TPA67	S2-TPA68	S2-TPA69	S2-TPA70	S2-TPA71	S2-TPA72	S2-TPA73	S2-TPA74			
		Sample Depth (m bgl)	Sample Depth (m bgl)	2	0.2	2.1	0.5	1.8	0.3	2	2.7	2.7	1.5	1.5	2	0.6	2.7	4	2.3	0.3	1
Unit	Sample_Date	17/05/2017	17/05/2017	17/05/2017	17/05/2017	10/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	18/05/2017	17/05/2017	22/05/2017	22/05/2017	22/05/2017	10/05/2017	10/05/2017	18/05/2017		
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg	-	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	Benzyl alcohol	mg/kg	-	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	4-bromophenyl phenyl ether	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	4-nitroaniline	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	4-nitrophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	1,2-Dinitrobenzene	mg/kg	-	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	1,3-Dinitrobenzene	mg/kg	-	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	2,3,4,6-tetrachlorophenol	mg/kg	-	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	2,3,5,6-Tetrachlorophenol	mg/kg	-	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	2,4,5-trichlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	2,4,6-trichlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	2,4-dichlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	2,4-dimethylphenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	2,4-dinitrotoluene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	2,6-dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,6-dinitrotoluene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	2-chloronaphthalene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	2-chlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	2-methylnaphthalene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	2-methylphenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	2-nitroaniline	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	2-nitrophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	3-nitroaniline	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	4,6-Dinitro-2-methylphenol	mg/kg	-	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	4-chloro-3-methylphenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-chlorophenyl phenyl ether	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	4-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aniline	mg/kg	-	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	Azobenzene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	Bis(2-chloroethoxy) methane	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bis(2-chloroisopropyl) ether	mg/kg	-	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	Butyl benzyl phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	Carbazole	mg/kg	0.01	0.2	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	Dibenzofuran	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	Diethylphthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	Dimethyl phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
	Di-n-butyl phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
Di-n-octyl phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-	
Diphenylamine	mg/kg	-	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-	
Hexachlorobenzene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-	
Hexachlorocyclopentadiene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-	
Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isophorone	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pentachlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA60	S2-TPA61	S2-TPA62	S2-TPA63	S2-TPA64	S2-TPA65	S2-TPA66	S2-TPA67	S2-TPA68	S2-TPA69	S2-TPA70	S2-TPA71	S2-TPA72	S2-TPA73	S2-TPA74			
		Sample Depth (m bgl)	Sample Depth (m bgl)	2	0.2	2.1	0.5	1.8	0.3	2	2.7	2.7	1.5	1.5	2	0.6	2.7	4	2.3	0.3	1
		Unit	Sample_Date	17/05/2017	17/05/2017	17/05/2017	17/05/2017	10/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	18/05/2017	17/05/2017	22/05/2017	22/05/2017	22/05/2017	10/05/2017	10/05/2017	18/05/2017
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,4,4,5,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 3,3,4,4,5,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 101	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-
	PCB 118	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-
	PCB 138	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-
	PCB 153	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-
	PCB 180	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-
	PCB 28 + PCB 31	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-
	PCB 52	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB 7 Congeners	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Notes
 - Not analysed
 # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA75	S2-TPA76	S2-TPA78	S2-TPA79	S2-TPA80	S2-TPA81	S2-TPA82	S2-TPA83	S2-TPA84	S2-TPA86	S2-TPA87	S2-TPA88	S2-TPA89	S2-TPA90	S2-TPA92	S2-TPA92	S2-TPA92	
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	2.8	1.2	0.02	1	2.5	0.5	0.3	3	0.5	0.4	2.8	0.3	1	1.2	0.5	0.4	3.5
		Unit	Sample_Date	18/05/2017	18/05/2017	09/05/2017	09/05/2017	01/01/2016	09/05/2017	01/01/2016	10/05/2017	22/05/2017	01/01/2016	08/05/2017	08/05/2017	01/01/2016	09/05/2017	04/05/2017	05/05/2017	08/05/2017	08/05/2017
Metals	Aluminium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Antimony	mg/kg	2.1	<1	-	-	11	2.8	6.4	-	6.3	4.9	4	-	1.1	-	-	-	<1	<1	
	Arsenic	mg/kg	7.8	4.3	15	2.8	76	13	10	4.2	23	25	14	-	10	31	14	7.3	7.9	6.4	
	Barium	mg/kg	230	220	-	-	180	310	68	-	530	490	740	-	390	-	-	-	320	270	
	Beryllium	mg/kg	2.7	4.4	-	-	1.5	1.7	0.3	-	5.3	2.8	1.5	-	4.9	-	-	-	8.1	8.2	
	Boron	mg/kg	2	6.3	5	2.1	1.2	4.6	0.6	2.6	2	2.1	3	-	2.3	8.3	1.5	1.1	6.3	4.8	
	Cadmium	mg/kg	0.2	<0.1	0.5	0.1	0.6	0.5	0.1	0.4	8.3	5.7	0.7	-	0.3	0.3	29	0.2	0.1	<0.1	
	Chromium (hexavalent)	mg/kg	<1	<1	-	-	<1	<1	<1	-	<1	<1	<1	-	<1	-	-	-	<1	<1	
	Chromium	mg/kg	26	8.7	40	42	57	39	230	1100	250	200	30	-	29	56	230	25	14	15	
	Chromium (Trivalent)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Copper	mg/kg	35	3.7	42	12	1200	41	200	57	110	120	53	-	21	36	84	84	10	5	
	Iron	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Lead	mg/kg	22	2.6	88	7.7	230	59	18	23	510	470	71	-	26	23	12	12	11	2	
	Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Mercury	mg/kg	<0.05	<0.05	0.07	<0.05	1.1	0.07	1.1	<0.05	0.1	0.31	0.09	-	<0.05	0.41	<0.05	<0.05	<0.05	<0.05	
	Molybdenum	mg/kg	2.9	<0.4	-	-	13	2.4	8	-	3.4	3.5	2.7	-	0.8	-	-	-	0.5	0.5	
	Nickel	mg/kg	18	<1	22	4.5	100	23	120	14	25	35	37	-	8.8	30	52	52	4.8	2.2	
	Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Silicon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Vanadium	mg/kg	62	46	-	-	24	110	160	-	410	540	190	-	82	-	-	-	56	57	
Zinc	mg/kg	52	7	180	43	320	250	52	79	1500	1200	200	-	67	68	3600	36	25	7.3		
Inorganics	Cyanide (Free)	mg/kg	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1		
	Cyanide Total	mg/kg	0.3	<0.1	0.4	<0.1	0.4	0.7	0.2	0.6	3.4	0.6	1.5	-	<0.1	0.3	0.1	<0.1	0.5		
	cyanides-complex	mg/kg	0.3	<0.2	-	-	0.4	0.7	<0.2	-	3.4	0.6	1.5	-	<0.2	-	-	-	0.5		
	Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Nitrate (as NO3-)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphate as SO4	mg/kg	-	21,000	-	2800	2500	3700	700	-	-	2100	-	7500	10,000	5500	-	-	14,000		
	Sulphide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Sulphur as S	%	-	0.61	-	0.25	0.15	0.26	0.03	-	-	0.24	-	0.33	0.43	0.36	-	-	0.83		
	Sulphur (free)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Thiocyanate (as SCN)	mg/kg	<0.6	0.8	-	-	<0.6	<0.6	<0.6	-	<0.6	<0.6	<0.6	-	<0.6	-	-	-	0.9			
Other	Organic Matter	%	0.3	0.4	2.2	2	3.6	1.8	1.6	0.1	4	0.5	3.4	-	0.2	1.8	0.8	10	0.6		
	Fraction Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Moisture	%	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Moisture Content 105C	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
pH (Lab)	pH_Units		9	10.3	10.9	10.5	9.9	11.3	9.9	12.4	11.1	10.9	10.3	9.5	10.3	10.9	10.3	9.3	10.5		

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA75	S2-TPA76	S2-TPA78	S2-TPA79		S2-TPA80	S2-TPA81	S2-TPA82	S2-TPA83	S2-TPA84	S2-TPA86		S2-TPA87	S2-TPA88	S2-TPA89	S2-TPA90	S2-TPA92	
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	2.8	1.2	0.02	1	2.5	0.5	0.3	3	0.5	0.4	2.8	0.3	1	1.2	0.5	0.4	3.5
Unit	Sample_Date	18/05/2017	18/05/2017	09/05/2017	09/05/2017	01/01/2016	09/05/2017	01/01/2016	10/05/2017	22/05/2017	01/01/2016	08/05/2017	08/05/2017	01/01/2016	09/05/2017	04/05/2017	05/05/2017	08/05/2017	08/05/2017		
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	
	>C6-C8 Aliphatics	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	
	>C8-C10 Aliphatics	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	
	>C10-C12 Aliphatics	mg/kg		<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	-	<1.5	<1.5	<1.5	<1.5	1.8	
	>C12-C16 Aliphatics	mg/kg		<1.2	<1.2	<1.2	4.1	53	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	-	<1.2	5.4	<1.2	<1.2	<1.2	
	>C16-C21 Aliphatics	mg/kg		<1.5	<1.5	34	54	580	<1.5	<1.5	<1.5	6.7	3.1	<1.5	-	<1.5	25	<1.5	<1.5	<1.5	
	>C21-C35 Aliphatics	mg/kg		20	<3.4	410	62	2800	<3.4	<3.4	<3.4	120	25	4.6	-	<3.4	85	<3.4	<3.4	<3.4	
	Total >C5-C35 Aliphatics	mg/kg		20	<10	440	120	3500	<10	<10	<10	130	28	<10	-	<10	120	<10	<10	<10	
	>EC5-EC7 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	
	>EC7-EC8 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	
	>EC8-EC10 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	
	>EC10-EC12 Aromatics	mg/kg		<0.9	<0.9	<0.9	<0.9	2.5	<0.9	<0.9	<0.9	3.2	2.2	2.4	-	<0.9	1.3	<0.9	<0.9	<0.9	
	>EC12-EC16 Aromatics	mg/kg		<0.5	<0.5	1.9	4	7	<0.5	<0.5	1.8	9.8	3	2.9	-	<0.5	3.3	<0.5	<0.5	<0.5	
	>EC16-EC21 Aromatics	mg/kg		<0.6	<0.6	26	17	49	<0.6	<0.6	9.6	140	21	11	-	<0.6	21	<0.6	4.2	<0.6	
	>EC21-EC35 Aromatics	mg/kg		<1.4	<1.4	220	30	260	<1.4	<1.4	31	350	53	36	-	<1.4	150	<1.4	3.5	<1.4	
	Total >EC5-EC35 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH >C5-C35 Aliphatics/Aromatics	mg/kg		20	<10	690	170	3800	<10	<10	43	620	110	58	-	<10	290	<10	<10	<10	
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
	Toluene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
	Ethylbenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
	Xylene (m & p)	mg/kg	0.1	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
	Xylene (o)	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
	Xylene Total	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MTBE	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-		
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	0.17	<0.03	0.17	0.21	0.57	<0.03	<0.03	0.16	0.49	0.09	0.09	-	<0.03	<0.03	<0.03	<0.03	<0.03	
	Acenaphthene	mg/kg	0.01	<0.03	<0.03	<0.03	6.1	1	<0.03	<0.03	0.38	7.3	0.24	0.22	-	<0.03	<0.03	<0.03	<0.03	<0.03	
	Acenaphthylene	mg/kg	0.01	0.03	<0.03	<0.03	0.08	<0.3	<0.03	<0.03	<0.03	<0.3	0.06	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	
	Fluoranthene	mg/kg	0.01	1.1	<0.03	4.8	27	8.4	0.09	0.06	5.8	130	7.9	3.4	-	0.04	0.29	0.05	1.4	0.05	
	Anthracene	mg/kg	0.01	0.1	<0.03	2.4	6.3	0.89	<0.03	<0.03	0.65	26	0.72	0.32	-	<0.03	<0.03	<0.03	0.12	<0.03	
	Phenanthrene	mg/kg	0.01	0.27	<0.03	2.4	30	5.6	0.07	0.03	2.8	110	3.4	1.4	-	<0.03	0.15	<0.03	0.55	<0.03	
	Fluorene	mg/kg	0.01	<0.03	<0.03	<0.03	4.5	0.75	<0.03	<0.03	0.21	8.4	0.18	0.1	-	<0.03	<0.03	<0.03	0.06	<0.03	
	Chrysene	mg/kg	0.01	0.69	<0.03	3.3	8.4	3.6	<0.03	<0.03	3.3	55	3.7	2.4	-	<0.03	0.15	<0.03	0.48	0.03	
	Pyrene	mg/kg	0.01	0.99	<0.03	4.6	22	7	0.05	0.05	5.3	97	6.8	3.5	-	0.03	0.24	0.04	0.9	0.04	
	Benzo(a)anthracene	mg/kg	0.01	0.71	<0.03	3.2	8.9	3.2	<0.03	<0.03	3.2	62	3.9	2.3	-	<0.03	0.14	<0.03	0.55	0.03	
	Benzo(b)fluoranthene	mg/kg	0.01	0.82	<0.03	5.3	10	2	<0.03	<0.03	4.9	60	5.4	3.9	-	<0.03	0.25	<0.03	0.93	0.05	
	Benzo(k)fluoranthene	mg/kg	0.01	0.29	<0.03	2	7.7	5.1	<0.03	<0.03	1.9	22	2	1.7	-	<0.03	0.1	<0.03	0.41	<0.03	
	Benzo(a)pyrene	mg/kg	0.01	0.44	<0.03	4.5	7.8	2.3	<0.03	<0.03	4	45	3.6	3.2	-	<0.03	0.14	<0.03	0.52	<0.03	
	Dibenz(a,h)anthracene	mg/kg	0.01	0.09	<0.03	0.62	1.1	0.57	<0.03	<0.03	0.58	6.1	0.61	0.46	-	<0.03	0.04	<0.03	0.05	<0.03	
	Benzo(g,h,i)perylene	mg/kg	0.01	0.32	<0.03	2.7	4.3	2.1	<0.03	<0.03	2.5	21	2.3	2.1	-	<0.03	0.18	<0.03	0.46	<0.03	
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	0.29	<0.03	2.4	3.6	1.4	<0.03	<0.03	2.1	19	2.1	1.7	-	<0.03	0.11	<0.03	0.47	<0.03	
	PAH 16 Total	mg/kg		6.4	0.05	38	150	44	0.21	0.15	38	670	43	27	-	0.05	1.8	0.05	6.8	0.21	
	PAHs (Sum of total)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Phenolics	Xylenols	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3-&4-methylphenol	mg/kg		<0.1	-	-	<0.1	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	
	Phenol	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	
	Phenols Monohydric	mg/kg		<0.3	1.2	<0.3	0.5	0.7	<0.3	<0.3	0.3	0.4	<0.3	0.4	-	<0.3	<0.3	<0.3	<0.3	<0.3	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA75	S2-TPA76	S2-TPA78	S2-TPA79	S2-TPA80	S2-TPA81	S2-TPA82	S2-TPA83	S2-TPA84	S2-TPA86	S2-TPA87	S2-TPA88	S2-TPA89	S2-TPA90	S2-TPA92	S2-TPA92	S2-TPA92	
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	2.8	1.2	0.02	1	2.5	0.5	0.3	3	0.5	0.4	2.8	0.3	1	1.2	0.5	0.4	3.5
		Unit	Sample Date	18/05/2017	18/05/2017	09/05/2017	09/05/2017	01/01/2016	09/05/2017	01/01/2016	10/05/2017	22/05/2017	01/01/2016	08/05/2017	08/05/2017	01/01/2016	09/05/2017	04/05/2017	05/05/2017	08/05/2017	08/05/2017
Volatile Organic Carbon	Styrene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	cis-1,3-dichloropropene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	trans-1,3-dichloropropene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	1,1,1,2-tetrachloroethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	1,1,1-trichloroethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	1,1,2,2-tetrachloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	1,1-dichloroethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	1,1-dichloroethene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	1,1-dichloropropene	mg/kg	0.05	<0.01	-	-	0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	1,2,3-trichloropropane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	1,2,4-trimethylbenzene	mg/kg	0.05	<0.01	-	-	0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	1,2-dibromo-3-chloropropane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	1,2-dibromoethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	1,2-dichloroethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	1,3-Dichloropropene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloropropane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	1,3,5-trimethylbenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	1,3-dichloropropane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	2,2-dichloropropane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	2-chlorotoluene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	4-chlorotoluene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	Bromobenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	Bromochloromethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	Bromodichloromethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	Bromoform	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	Chlorodibromomethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroform	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1,2-dichloroethene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	Dibromomethane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isopropylbenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
n-butylbenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
n-propylbenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
p-isopropyltoluene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
sec-butylbenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
Trichloroethene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
tert-butylbenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
Tetrachloroethene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
trans-1,2-dichloroethene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
	1,2,4-trichlorobenzene	mg/kg	0.01	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
	1,2-dichlorobenzene	mg/kg	0.01	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
	1,3-dichlorobenzene	mg/kg	0.01	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
	1,4-dichlorobenzene	mg/kg	0.01	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	
	Chlorobenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.01	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA75	S2-TPA76	S2-TPA78	S2-TPA79	S2-TPA80	S2-TPA81	S2-TPA82	S2-TPA83	S2-TPA84	S2-TPA86	S2-TPA87	S2-TPA88	S2-TPA89	S2-TPA90	S2-TPA92	S2-TPA92	S2-TPA92	
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	2.8	1.2	0.02	1	2.5	0.5	0.3	3	0.5	0.4	2.8	0.3	1	1.2	0.5	0.4	3.5
		Unit	Sample_Date	18/05/2017	18/05/2017	09/05/2017	09/05/2017	01/01/2016	09/05/2017	01/01/2016	10/05/2017	22/05/2017	01/01/2016	08/05/2017	08/05/2017	01/01/2016	09/05/2017	04/05/2017	05/05/2017	08/05/2017	08/05/2017
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg		<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	Benzyl alcohol	mg/kg		<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	4-bromophenyl phenyl ether	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	4-nitroaniline	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	4-nitrophenol	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	1,2-Dinitrobenzene	mg/kg		<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	1,3-Dinitrobenzene	mg/kg		<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	2,3,4,6-tetrachlorophenol	mg/kg		<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	2,3,5,6-Tetrachlorophenol	mg/kg		<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	2,4,5-trichlorophenol	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	2,4,6-trichlorophenol	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	2,4-dichlorophenol	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	2,4-dimethylphenol	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	2,4-dinitrotoluene	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	2,6-dichlorophenol	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,6-dinitrotoluene	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	2-chloronaphthalene	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	2-chlorophenol	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	2-methylnaphthalene	mg/kg	0.01	<0.1	-	-	0.3	-	-	-	-	0.2	0.2	-	-	-	-	-	-	-	-
	2-methylphenol	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	2-nitroaniline	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	2-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-nitroaniline	mg/kg	0.01	<0.1	-	-	-	<0.1	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	4,6-Dinitro-2-methylphenol	mg/kg		<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	4-chloro-3-methylphenol	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-chlorophenyl phenyl ether	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	4-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aniline	mg/kg		<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	Azobenzene	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	Bis(2-chloroethoxy) methane	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bis(2-chloroisopropyl) ether	mg/kg		<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	Butyl benzyl phthalate	mg/kg	0.1	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	Carbazole	mg/kg	0.01	<0.1	-	-	0.4	-	-	-	-	12	0.3	-	-	-	-	-	-	-	-
	Dibenzofuran	mg/kg	0.01	<0.1	-	-	0.3	-	-	-	-	1.3	0.2	-	-	-	-	-	-	-	-
	Diethylphthalate	mg/kg	0.1	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	Dimethyl phthalate	mg/kg	0.1	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
	Di-n-butyl phthalate	mg/kg	0.1	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-
Di-n-octyl phthalate	mg/kg	0.1	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	
Diphenylamine	mg/kg		<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	
Hexachlorobenzene	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	
Hexachlorocyclopentadiene	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	
Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isophorone	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pentachlorophenol	mg/kg	0.01	<0.1	-	-	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA75	S2-TPA76	S2-TPA78	S2-TPA79	S2-TPA80	S2-TPA81	S2-TPA82	S2-TPA83	S2-TPA84	S2-TPA86	S2-TPA87	S2-TPA88	S2-TPA89	S2-TPA90	S2-TPA92	S2-TPA92	S2-TPA92	
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	2.8	1.2	0.02	1	2.5	0.5	0.3	3	0.5	0.4	2.8	0.3	1	1.2	0.5	0.4	3.5
		Unit	Sample_Date	18/05/2017	18/05/2017	09/05/2017	09/05/2017	01/01/2016	09/05/2017	01/01/2016	10/05/2017	22/05/2017	01/01/2016	08/05/2017	08/05/2017	01/01/2016	09/05/2017	04/05/2017	05/05/2017	08/05/2017	08/05/2017
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 156)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 157)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,4,4,4,5,5- (PCB 167)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 3,3,4,4,4,5,5- (PCB 169)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 101	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.01	-	<0.01	-	-	-	-	-	
	PCB 118	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.01	-	<0.01	-	-	-	-	-	
	PCB 138	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.01	-	<0.01	-	-	-	-	-	
	PCB 153	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.01	-	<0.01	-	-	-	-	-	
	PCB 180	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.01	-	<0.01	-	-	-	-	-	
	PCB 28 + PCB 31	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.01	-	<0.01	-	-	-	-	-	
	PCB 52	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.01	-	<0.01	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,3,4,4,4- (PCB 105)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,4,5- (PCB 114)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 2,3,4,4,4,5- (PCB 123)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Pentachlorobiphenyl, 3,3,4,4,4,5- (PCB 126)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,3,4,4,4- (PCB 77)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Tetrachlorobiphenyl, 3,4,4,4,5- (PCB 81)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total PCB 7 Congeners	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.01	-	<0.01	-	-	-	-	-		
PCBs (Sum of total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Notes
 - Not analysed
 # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA94	S2-TPA97	TS2_AUK_TP152	
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.05	0.5	4	2
		Unit	Sample_Date	04/05/2017	04/05/2017	04/05/2017	21/09/2020
Metals	Aluminium	mg/kg		-	-	-	73000
	Antimony	mg/kg		5.9	-	2.5	<1
	Arsenic	mg/kg		17	52	18	7.2
	Barium	mg/kg		370	-	210	650
	Beryllium	mg/kg		1.5	-	1.9	6.3
	Boron	mg/kg		1.2	<0.2	8.7	8
	Cadmium	mg/kg		1.3	1.1	1	<0.1
	Chromium (hexavalent)	mg/kg		<1	-	<1	<1
	Chromium	mg/kg		230	55	53	30
	Chromium (Trivalent)	mg/kg		-	-	-	-
	Copper	mg/kg		57	97	90	14
	Iron	mg/kg		-	-	-	3400
	Lead	mg/kg		84	110	86	17
	Manganese	mg/kg		-	-	-	4400
	Mercury	mg/kg		0.62	<0.05	<0.05	<0.05
	Molybdenum	mg/kg		3.7	-	3.6	<0.4
	Nickel	mg/kg		24	28	37	1.4
	Selenium	mg/kg		-	-	-	-
	Silicon	mg/kg		-	-	-	49000
	Vanadium	mg/kg		860	-	230	82
Zinc	mg/kg		270	360	120	44	
Inorganics	Cyanide (Free)	mg/kg		<0.1	<0.1	<0.1	<0.1
	Cyanide Total	mg/kg		0.3	8.1	0.8	<0.1
	cyanides-complex	mg/kg		0.3	8.1	0.8	-
	Magnesium	mg/kg		-	-	-	38000
	Nitrate (as NO3-)	mg/kg		-	-	-	-
	Sulphate	mg/kg		-	-	-	-
	Sulphate as SO4	mg/kg		-	-	5100	-
	Sulphide	mg/kg		-	-	-	-
	Sulphur as S	%		-	-	0.2	-
	Sulphur (free)	mg/kg		-	-	-	99
Thiocyanate (as SCN)	mg/kg		<0.6	<0.6	<0.6	<0.6	
Other	Organic Matter	%		2.4	1.3	2.8	0.6
	Fraction Organic Carbon	-		-	-	-	-
	Moisture	%	0.1	-	-	-	-
	Moisture Content 105C	%		-	-	-	-
	pH (Lab)	pH_Units		11.6	10.7	11.2	10.4

Appendix I Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA94	S2-TPA97	TS2_AUK_TP152	
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.05	0.5	4	2
		Unit	Sample_Date	04/05/2017	04/05/2017	04/05/2017	21/09/2020
Total Petroleum Hydrocarbons Working Group	>C5-C6 Aliphatics	mg/kg		<0.01	<0.01	<0.01	<0.01
	>C6-C8 Aliphatics	mg/kg		<0.01	<0.01	<0.01	<0.01
	>C8-C10 Aliphatics	mg/kg		<0.01	<0.01	<0.01	<0.01
	>C10-C12 Aliphatics	mg/kg		<1.5	<1.5	<1.5	<1.5
	>C12-C16 Aliphatics	mg/kg		<1.2	<1.2	<1.2	<1.2
	>C16-C21 Aliphatics	mg/kg		1.8	<1.5	<1.5	<1.5
	>C21-C35 Aliphatics	mg/kg		80	<3.4	<3.4	<3.4
	Total >C5-C35 Aliphatics	mg/kg		82	<10	<10	<10
	>EC5-EC7 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01
	>EC7-EC8 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01
	>EC8-EC10 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01
	>EC10-EC12 Aromatics	mg/kg		<0.9	<0.9	<0.9	<0.9
	>EC12-EC16 Aromatics	mg/kg		<0.5	<0.5	<0.5	<0.5
	>EC16-EC21 Aromatics	mg/kg		3.4	<0.6	<0.6	<0.6
	>EC21-EC35 Aromatics	mg/kg		30	<1.4	<1.4	<1.4
	Total >EC5-EC35 Aromatics	mg/kg		-	-	-	<10
TPH >C5-C35 Aliphatics/Aromatics	mg/kg		120	<10	<10	<10	
Petroleum Hydrocarbons	TPH Band (C10 - C40)	mg/kg		-	-	-	-
	EPH >C10-40	mg/kg		-	-	-	-
	GRO C5-C10	mg/kg		-	-	-	-
	TPH by GCFID (AR)	mg/kg		-	-	-	-
Benzene, Toluene, Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Benzene	mg/kg	0.05	-	-	-	<0.01
	Toluene	mg/kg	0.05	-	-	-	<0.01
	Ethylbenzene	mg/kg	0.05	-	-	-	<0.01
	Xylene (m & p)	mg/kg	0.1	-	-	-	<0.01
	Xylene (o)	mg/kg	0.05	-	-	-	<0.01
	Xylene Total	mg/kg		-	-	-	-
	MTBE	mg/kg	0.05	-	-	-	<0.01
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	0.01	<0.03	0.04	<0.03	<0.01
	Acenaphthene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03
	Acenaphthylene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03
	Fluoranthene	mg/kg	0.01	0.26	0.23	<0.03	0.1 - 0.11
	Anthracene	mg/kg	0.01	0.03	0.03	<0.03	<0.03
	Phenanthrene	mg/kg	0.01	0.19	0.21	<0.03	<0.1 - 0.08
	Fluorene	mg/kg	0.01	<0.03	<0.03	<0.03	<0.03
	Chrysene	mg/kg	0.01	0.18	0.09	<0.03	<0.1 - 0.05
	Pyrene	mg/kg	0.01	0.21	0.18	<0.03	0.09 - 0.1
	Benzo(a)anthracene	mg/kg	0.01	0.12	0.08	<0.03	<0.1 - 0.04
	Benzo(b)fluoranthene	mg/kg	0.01	0.24	0.1	<0.03	<0.1 - 0.05
	Benzo(k)fluoranthene	mg/kg	0.01	0.08	0.04	<0.03	<0.03
	Benzo(a)pyrene	mg/kg	0.01	0.1	0.07	<0.03	<0.1 - 0.03
	Dibenz(a,h)anthracene	mg/kg	0.01	0.04	<0.03	<0.03	<0.03
	Benzo(g,h,i)perylene	mg/kg	0.01	0.13	0.05	<0.03	<0.03
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	0.11	0.04	<0.03	<0.1 - 0.03
	PAH 16 Total	mg/kg		1.7	1.2	0.05	-
	PAHs (Sum of total)	mg/kg		-	-	-	0.49
Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	
Phenolics	Xylenols	mg/kg		-	-	-	-
	3-&4-methylphenol	mg/kg		-	-	-	<0.1
	Phenol	mg/kg	0.01	-	-	-	<0.1
	Phenols Monohydric	mg/kg		<0.3	<0.3	<0.3	<0.3

Appendix 1, Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA94	S2-TPA97	TS2_AUK_TP152	
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.05	0.5	4	2
		Unit	Sample_Date	04/05/2017	04/05/2017	04/05/2017	21/09/2020
Volatile Organic Carbon	Styrene	mg/kg	0.05	-	-	-	<0.01
	cis-1,3-dichloropropene	mg/kg	0.05	-	-	-	<0.01
	trans-1,3-dichloropropene	mg/kg	0.05	-	-	-	<0.01
	1,1,1,2-tetrachloroethane	mg/kg	0.05	-	-	-	<0.01
	1,1,1-trichloroethane	mg/kg	0.05	-	-	-	<0.01
	1,1,2-tetrachloroethane	mg/kg	0.05	-	-	-	-
	1,1,2-trichloroethane	mg/kg	0.05	-	-	-	<0.01
	1,1-dichloroethane	mg/kg	0.05	-	-	-	<0.01
	1,1-dichloroethene	mg/kg	0.05	-	-	-	<0.01
	1,1-dichloropropene	mg/kg	0.05	-	-	-	<0.01
	1,2,3-trichloropropane	mg/kg	0.05	-	-	-	<0.01
	1,2,4-trimethylbenzene	mg/kg	0.05	-	-	-	<0.01
	1,2-dibromo-3-chloropropane	mg/kg	0.05	-	-	-	<0.01
	1,2-dibromoethane	mg/kg	0.05	-	-	-	<0.01
	1,2-dichloroethane	mg/kg	0.05	-	-	-	<0.01
	1,3-Dichloropropene	mg/kg		-	-	-	-
	1,2-dichloropropane	mg/kg	0.05	-	-	-	<0.01
	1,3,5-trimethylbenzene	mg/kg	0.05	-	-	-	<0.01
	1,3-dichloropropane	mg/kg	0.05	-	-	-	<0.01
	2,2-dichloropropane	mg/kg	0.05	-	-	-	<0.01
	2-chlorotoluene	mg/kg	0.05	-	-	-	<0.01
	4-chlorotoluene	mg/kg	0.05	-	-	-	<0.01
	Bromobenzene	mg/kg	0.05	-	-	-	<0.01
	Bromochloromethane	mg/kg	0.05	-	-	-	<0.01
	Bromodichloromethane	mg/kg	0.05	-	-	-	<0.01
	Bromoform	mg/kg	0.05	-	-	-	<0.01
	Bromomethane	mg/kg	0.05	-	-	-	-
	Carbon tetrachloride	mg/kg	0.05	-	-	-	<0.01
	Chlorodibromomethane	mg/kg	0.05	-	-	-	<0.01
	Chloroethane	mg/kg	0.05	-	-	-	-
	Chloroform	mg/kg	0.05	-	-	-	<0.01
	Chloromethane	mg/kg	0.05	-	-	-	-
cis-1,2-dichloroethene	mg/kg	0.05	-	-	-	<0.01	
Dibromomethane	mg/kg	0.05	-	-	-	<0.01	
Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	
Dichloromethane	mg/kg	0.05	-	-	-	-	
Isopropylbenzene	mg/kg	0.05	-	-	-	<0.01	
n-butylbenzene	mg/kg	0.05	-	-	-	<0.01	
n-propylbenzene	mg/kg	0.05	-	-	-	<0.01	
p-isopropyltoluene	mg/kg	0.05	-	-	-	<0.01	
sec-butylbenzene	mg/kg	0.05	-	-	-	<0.01	
Trichloroethene	mg/kg	0.05	-	-	-	<0.01	
tert-butylbenzene	mg/kg	0.05	-	-	-	<0.01	
Tetrachloroethene	mg/kg	0.05	-	-	-	<0.01	
trans-1,2-dichloroethene	mg/kg	0.05	-	-	-	<0.01	
Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	
Vinyl chloride	mg/kg	0.05	-	-	-	<0.01	
Volatile Organic Compounds / Semi Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	0.05	-	-	-	<0.01
	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	-	<0.01
	1,2-dichlorobenzene	mg/kg	0.01	-	-	-	<0.01
	1,3-dichlorobenzene	mg/kg	0.01	-	-	-	<0.01
	1,4-dichlorobenzene	mg/kg	0.01	-	-	-	<0.01
	Chlorobenzene	mg/kg	0.05	-	-	-	<0.01
	Hexachlorobutadiene	mg/kg	0.01	-	-	-	<0.01

Appendix I Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA94	S2-TPA97	TS2_AUK_TP152	
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.05	0.5	4	2
		Unit	Sample_Date	04/05/2017	04/05/2017	04/05/2017	21/09/2020
Semi Volatile Organic Compounds	1,4-dinitrobenzene	mg/kg		-	-	-	<0.1
	Benzyl alcohol	mg/kg		-	-	-	<0.1
	4-bromophenyl phenyl ether	mg/kg	0.01	-	-	-	<0.1
	4-nitroaniline	mg/kg	0.01	-	-	-	<0.1
	4-nitrophenol	mg/kg	0.01	-	-	-	<0.1
	1,2-Dinitrobenzene	mg/kg		-	-	-	-
	1,3-Dinitrobenzene	mg/kg		-	-	-	<0.1
	2,3,4,6-tetrachlorophenol	mg/kg		-	-	-	<0.1
	2,3,5,6-Tetrachlorophenol	mg/kg		-	-	-	<0.1
	2,4,5-trichlorophenol	mg/kg	0.01	-	-	-	<0.1
	2,4,6-trichlorophenol	mg/kg	0.01	-	-	-	<0.1
	2,4-dichlorophenol	mg/kg	0.01	-	-	-	<0.1
	2,4-dimethylphenol	mg/kg	0.01	-	-	-	<0.1
	2,4-dinitrotoluene	mg/kg	0.01	-	-	-	<0.1
	2,6-dichlorophenol	mg/kg		-	-	-	-
	2,6-dinitrotoluene	mg/kg	0.01	-	-	-	<0.1
	2-chloronaphthalene	mg/kg	0.01	-	-	-	<0.1
	2-chlorophenol	mg/kg	0.01	-	-	-	<0.1
	2-methylnaphthalene	mg/kg	0.01	-	-	-	<0.1
	2-methylphenol	mg/kg	0.01	-	-	-	<0.1
	2-nitroaniline	mg/kg	0.01	-	-	-	<0.1
	2-nitrophenol	mg/kg	0.01	-	-	-	-
	3-nitroaniline	mg/kg	0.01	-	-	-	<0.1
	4,6-Dinitro-2-methylphenol	mg/kg		-	-	-	<0.1
	4-chloro-3-methylphenol	mg/kg	0.01	-	-	-	<0.1
	4-chloroaniline	mg/kg	0.01	-	-	-	-
	4-chlorophenyl phenyl ether	mg/kg	0.01	-	-	-	<0.1
	4-methylphenol	mg/kg	0.01	-	-	-	-
	Aniline	mg/kg		-	-	-	<0.1
	Azobenzene	mg/kg	0.01	-	-	-	<0.1
	Bis(2-chloroethoxy) methane	mg/kg	0.01	-	-	-	<0.1
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	-	-	-
	Bis(2-chloroisopropyl) ether	mg/kg		-	-	-	<0.1
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	-	-	-	<0.1
	Butyl benzyl phthalate	mg/kg	0.1	-	-	-	<0.1
	Carbazole	mg/kg	0.01	-	-	-	<0.1
	Dibenzofuran	mg/kg	0.01	-	-	-	<0.1
	Diethylphthalate	mg/kg	0.1	-	-	-	<0.1
	Dimethyl phthalate	mg/kg	0.1	-	-	-	<0.1
	Di-n-butyl phthalate	mg/kg	0.1	-	-	-	<0.1
	Di-n-octyl phthalate	mg/kg	0.1	-	-	-	<0.1
	Diphenylamine	mg/kg		-	-	-	<0.1
	Hexachlorobenzene	mg/kg	0.01	-	-	-	<0.1
	Hexachlorocyclopentadiene	mg/kg	0.01	-	-	-	<0.1
	Hexachloroethane	mg/kg	0.01	-	-	-	-
Isophorone	mg/kg	0.01	-	-	-	-	
Nitrobenzene	mg/kg	0.01	-	-	-	-	
N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	
Pentachlorophenol	mg/kg	0.01	-	-	-	<0.1	

Chemical Group	Compound	Location	On-Site	On-Site	On-Site	On-Site	
		Location ID	Location	S2-TPA94	S2-TPA97	TS2_AUK_TP152	
		Sample Depth (m bgl)	Sample Depth (m bgl)	0.05	0.5	4	2
		Unit	Sample_Date	04/05/2017	04/05/2017	04/05/2017	21/09/2020
Polychlorinated Biphenyls (PCB)	Heptachlorobiphenyl, 2,3,3,4,4,5,5- (PCB 189)	mg/kg		-	-	-	-
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 156)	mg/kg		-	-	-	-
	Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 157)	mg/kg		-	-	-	-
	Hexachlorobiphenyl, 2,3,4,4,5,5- (PCB 167)	mg/kg		-	-	-	-
	Hexachlorobiphenyl, 3,3,4,4,5,5- (PCB 169)	mg/kg		-	-	-	-
	PCB 101	mg/kg		-	-	-	-
	PCB 118	mg/kg		-	-	-	-
	PCB 138	mg/kg		-	-	-	-
	PCB 153	mg/kg		-	-	-	-
	PCB 180	mg/kg		-	-	-	-
	PCB 28 + PCB 31	mg/kg		-	-	-	-
	PCB 52	mg/kg		-	-	-	-
	Pentachlorobiphenyl, 2,3,3,4,4- (PCB 105)	mg/kg		-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 114)	mg/kg		-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,5- (PCB 123)	mg/kg		-	-	-	-
	Pentachlorobiphenyl, 3,3,4,4,5- (PCB 126)	mg/kg		-	-	-	-
	Tetrachlorobiphenyl, 3,3,4,4- (PCB 77)	mg/kg		-	-	-	-
	Tetrachlorobiphenyl, 3,4,4,5- (PCB 81)	mg/kg		-	-	-	-
	Total PCB 7 Congeners	mg/kg		-	-	-	-
PCBs (Sum of total)	mg/kg		-	-	-	-	

Notes

- Not analysed
- # Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

Appendix I Table 2: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
Location ID		MS\TP01				MS\TP03	MS\TP04	MS\TP05				MS\TP06		MS\TP07			MS\TP09		MS\TP10		S1-BH04	S1-BH05	S1-BH06	S1-BH07A	S1-BH12	S1-BH13A	S1-BH14	S1-BH18	S1-BH19	S1-BH20A
Sample Depth (m bgl)	5-5.2	0.5	3	4	2-2	4-4	0.5	1	2	3	0.5	3.8-3.8	0.5	2	4	1	3	0.3	0.5	5.9-5.9	1.9-1.9	7.3-7.3	5.3-5.3	5.5-5.5	6.8-6.8	5.5-5.5	3-3	5.5-5.5	4.2-4.2	
Sampled Date	02/07/2021	16/06/2021	16/06/2021	16/06/2021	14/06/2021	15/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	15/06/2021	22/06/2021	17/06/2021	17/06/2021	17/06/2021	16/06/2021	16/06/2021	21/06/2021	21/06/2021	16/10/2017	12/10/2017	06/10/2017	04/10/2017	10/10/2017	04/10/2017	06/10/2017	12/10/2017	11/10/2017	30/10/2017	

Chemical Group	Compound	Unit	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
Asbestos	Asbestos Containing Material	Detect	ND	ND	ND	ND	ND	ND	Detected#6	ND	ND	ND	ND	Detected#6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Asbestos Fibres / Fibre Bundles	-	ND	ND	ND	ND	ND	ND	Detected#4	ND	ND	ND	ND	Detected#4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Asbestos Quantification Total	%	-	-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Asbestos fibres	Detected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0#5	0#5	0#5	0#5	0#5	0#5	0#5	0#5	0#5	0#5
Asbestos Gravimetric Quantification	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Env Stds Comments

Notes

- #1 Chrysotile present in Microscopic Cement debris
- #2 Chrysotile present as fibre bundles
- #3 Amosite present as fibre bundles
- #4 Bundle of Chrysotile fibres
- #5 Asbestos Containing Material
- #6 Chrysotile
- #7 Amosite
- Not applicable
- ND Not detected

Appendix I, Table 2: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
Location ID	S1-TPB12	S1-TPD23	S1-TPD24		S1-TPD34	S1-TPD35		S1-TPH02	S1-TPH04		S1-TPH05		S1-TPH06		S1-TPH07		S1-TPH09	S1-TPH10	S1-TPH11	S1-TPH13	S1-TPH14	S1-TPH16	S1-TPH17	S1-TPH21	S1-TPH23		S1-TPH24	S1-TPH25	S1-TPH27
Sample Depth (m bgl)	0.3	0.9	0.7	1.9	0.2	0	1.8	0.7	0.9	2.4	1.1	1.8	0.5	3	0.5	2	0.4	1.5	1.7	0.5	2	2.2	1.5	1.6	1.5	3.4	2.3	1.2	1.2
Sampled Date	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017

Chemical Group	Compound	Unit	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
Asbestos	Asbestos Containing Material	Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Asbestos Fibres / Fibre Bundles	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Asbestos Quantification Total	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	-
	Asbestos fibres	Detect	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Asbestos Gravimetric Quantification	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	-

Env Stds Comments

Notes

- #1 Chrysotile present in Microscopic Cement debris
- #2 Chrysotile present as fibre bundles
- #3 Amosite present as fibre bundles
- #4 Bundle of Chrysotile fibres
- #5 Asbestos Containing Material
- #6 Chrysotile
- #7 Amosite
- Not applicable
- ND Not detected

Appendix I Table 2: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
Location ID	S1-TPH33	S1-TPI01	S1-TPI02		S1-TPI03		S1-TPI04	S1-TPI07	S1-TPI08		S1-TPI09		S1-TPI11	S1-TPI12		S1-TPI13	S1-TPI14	S1-TPI16		S1-TPI17		S1-TPI19	S1-TPI21	S1-TPI22	S1-TPI23	S1-TPI24	S1-TPI25	S1-TPI26	S1-TPI27
Sample Depth (m bgl)	2	0.8	0.2	4	0.3	4	3	1.3	0.2	3	0.2	3	1	0.6	3.8	0.7	0.6	0.7	4	0.2	1	1	0.9	1	2.2	1.5	3.7	2.6	1.3
Sampled Date	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	

Chemical Group	Compound	Unit																													
Asbestos	Asbestos Containing Material	Detect	ND	ND	ND	ND	ND	Detected#5	ND	ND	ND	ND	ND	Detected#5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Asbestos Fibres / Fibre Bundles	-	ND	ND	ND	ND	ND	Detected#3	ND	Detected#2	ND	ND	ND	ND	Detected#2	ND	ND	ND	ND	ND	Detected#2	ND	ND	ND	ND	Detected#3	ND	ND	ND	ND	ND
	Asbestos Quantification Total	%	-	-	-	-	-	0.011	-	<0.001	-	-	-	0.019	0.002	-	-	-	-	-	0.023	-	-	-	-	<0.001	-	-	-	-	
	Asbestos fibres	Detect	0	0	0	0	0	Detected#3 #5	0	Detected#2	0	0	0	0	Detected#5	Detected#2 #3	0	0	0	0	0	Detected#2	0	0	0	0	Detected#3	0	0	0	0
Asbestos Gravimetric Quantification	%	-	-	-	-	-	0.011	-	<0.001	-	-	-	0.019	0.002	-	-	-	-	-	0.023	-	-	-	-	<0.001	-	-	-	-	-	

Env Stds Comments

Notes

- #1 Chrysotile present in Microscopic Cement debris
- #2 Chrysotile present as fibre bundles
- #3 Amosite present as fibre bundles
- #4 Bundle of Chrysotile fibres
- #5 Asbestos Containing Material
- #6 Chrysotile
- #7 Amosite
- Not applicable
- ND Not detected

Appendix I, Table 2: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
Location ID	PA50	S2-TPA51		S2-TPA52	S2-TPA53	S2-TPA54	S2-TPA55	S2-TPA56	S2-TPA58		S2-TPA59	S2-TPA60	S2-TPA61		S2-TPA62	S2-TPA63	S2-TPA64	S2-TPA65		S2-TPA66	S2-TPA67	S2-TPA68	S2-TPA69	S2-TPA70		S2-TPA71	S2-TPA72	S2-TPA73	S2-TPA74
Sample Depth (m bgl)	1.4	1	1.4	0.5	2.2	0.3	4.4	2.6	1.2	3.6	3	2	0.2	2.1	0.5	1.8	0.3	2	2.7	2.7	1.5	1.5	2	0.6	2.6	4	2.3	0.3	1
Sampled Date	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017

Chemical Group	Compound	Unit																													
Asbestos	Asbestos Containing Material	Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Asbestos Fibres / Fibre Bundles	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Asbestos Quantification Total	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Asbestos fibres	Detect	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Asbestos Gravimetric Quantification	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Env Stds Comments

Notes

- #1 Chrysotile present in Microscopic Cement debris
- #2 Chrysotile present as fibre bundles
- #3 Amosite present as fibre bundles
- #4 Bundle of Chrysotile fibres
- #5 Asbestos Containing Material
- #6 Chrysotile
- #7 Amosite
- Not applicable
- ND Not detected

Appendix I, Table 2: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)

Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
Location ID	S2-TPA75	S2-TPA76	S2-TPA78	S2-TPA79		S2-TPA80	S2-TPA81	S2-TPA82	S2-TPA83	S2-TPA84	S2-TPA86		S2-TPA87	S2-TPA88	S2-TPA89	S2-TPA90	S2-TPA92		S2-TPA94	S2-TPA97	
Sample Depth (m bgl)	0.5	2.8	1.2	0.02	1	2.5	0.5	0.3	3	0.5	0.4	2.8	0.3	1	1.2	0.5	0.4	3.7	0.05	0.5	4
Sampled Date	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017

Chemical Group	Compound	Unit																						
Asbestos	Asbestos Containing Material	Detect	ND	ND	ND	ND	ND	ND	ND	ND	Detected#5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Asbestos Fibres / Fibre Bundles	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	Detected#2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Asbestos Quantification Total	%	-	-	-	-	-	-	-	-	0.333	0.014	-	-	-	-	-	-	-	-	-	-	-	
	Asbestos fibres	Detect	0	0	0	0	0	0	0	0	0	Detected#5	Detected#2	0	0	0	0	0	0	0	0	0	0	0
	Asbestos Gravimetric Quantification	%	-	-	-	-	-	-	-	-	-	0.333	0.014	-	-	-	-	-	-	-	-	-	-	-

Env Stds Comments

Notes

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- #4 Bundle of Chrysotile fibres
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Location			On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
Chemical Group	Compound	Location	S1-TPA20	S1-TPA22	S1-TPA25	S1-TPA26	S1-TPA28	S1-TPA29	S1-TPA31	S1-TPB06	S1-TPB08	S1-TPB12	S1-TPH04	S1-TPH06	S1-TPI02	S1-TPI04	S1-TPI08	S1-TPI09	S1-TPI12	S1-TPI13	S1-TPI16		S1-TPI19	S1-TPI22
		Sample Depth (m bgl)	1.3	2.3	0.3	0.8	0.5	1.7	0.6	2.5	0.3	0.3	0.9	0.5	4	3	0.2	3	3.8	0.7	0.7	4	1	1
		Sample Date	09/01/2017	15/12/2016	14/12/2016	13/12/2016	12/12/2016	09/12/2016	15/12/2016	19/01/2017	18/01/2017	16/01/2017	25/04/2017	25/04/2017	02/02/2017	02/02/2017	25/01/2017	25/01/2017	01/01/2016	02/02/2017	02/02/2017	01/01/2016	01/01/2016	
Metals	Arsenic	µg/L	1.9	0.68	0.81	0.66	1.3	0.8	0.25	0.96	1.8	2.8	1.3	4	0.7	0.99	0.43	1.5	1.4	0.51	1.4	0.94	0.55	2.4
	Barium	µg/L	-	31	74	120	40	-	48	51	39	14	6.5	12	17	10	2.4	37	18	14	13	12	77	6.7
	Beryllium	µg/L	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Boron	µg/L	110	14	63	26	18	190	6	<100	<100	<100	180	140	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	Cadmium	µg/L	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.2	0.08	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
	Chromium (hexavalent)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium	µg/L	1.2	7.3	<0.25	<0.25	0.26	2.5	5	<0.25	1.9	0.91	16	1.4	<0.25	0.93	<0.25	1.5	3.4	0.38	1.4	2.8	0.26	0.6
	Chromium (Trivalent)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper	µg/L	0.5	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	0.7	2.3	1.7	4.8	2.1	0.6	1.7	0.8	0.5	1.3	0.8	1.4	1.9	0.9	4.5
	Iron	µg/L	-	<5.5	11	<5.5	<5.5	-	7.7	<5.5	11	22	-	-	7.1	23	600	<5.5	15	95	12	<5.5	14	12
	Lead	µg/L	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	1.3	0.6	0.27	0.16	<0.09	<0.09	0.36	<0.09	0.12	0.16	<0.09	<0.09	<0.09	0.2
	Manganese	µg/L	-	3.4	1	6.4	0.49	-	0.27	3.3	11	7.7	0.27	2.3	4.4	0.48	5.1	0.42	0.38	35	1	0.37	0.72	2.3
	Mercury	µg/L	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.03	0.06	<0.01	<0.01	<0.01	0.05	0.03	0.04	0.01
	Nickel	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	2	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5
	Selenium	µg/L	0.26	0.3	2	0.92	0.51	<0.25	<0.25	0.63	1	0.83	2.3	1.6	0.41	0.41	<0.25	0.88	0.72	<0.25	1.4	0.95	0.64	0.64
	Vanadium	µg/L	-	11	8.3	1.4	5.1	-	2.8	2.6	16	14	14	18	1.4	3	1.7	18	12	1.7	17	24	17	20
Zinc	µg/L	<1.3	2.7	3	2.9	<1.3	<1.3	<1.3	31	5.1	4.6	<1.3	<1.3	2.2	2.7	2	<1.3	<1.3	10	5.3	2.7	<1.3	3.8	
Inorganics	Total Hardness	mg/l	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Ammoniacal Nitrogen as N	mg/L	-	0.029	0.039	-	0.19	-	0.11	<0.015	<0.015	<0.015	37	<0.015	0.028	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.078
	Ammoniacal Nitrogen as NH3	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloride	mg/L	-	1.1	0.51	-	-	-	0.54	-	-	-	2.7	1.7	-	-	1.1	0.79	1.6	-	-	-	-	6.4
	Cyanide (Free)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Cyanide Total	µg/L	-	<40	<40	<40	<40	-	<40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Nitrate (as NO3-)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitrite (as NO2-)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Other	pH (Lab)	pH_Units	9.7	10.8	8.2	6.9	8.3	8.9	9.1	9.1	7.2	9	11.5	9.8	7.9	10.7	8	9.5	10.5	7.4	9.9	10.7	10	9.1
	Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total Petroleum Hydrocarbon Criteria Working Group	>C5-C6 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	>C6-C8 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	>C8-C10 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	>C10-C12 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	>C12-C16 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	>C16-C21 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	>C21-C35 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Total >C5-C35 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	>EC5-EC7 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	>EC7-EC8 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	>EC8-EC10 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	>EC10-EC12 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	>EC12-EC16 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	>EC16-EC21 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	>EC21-EC35 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TPH >C5-C35 Aliphatics/Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Acenaphthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Acenaphthylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Phenanthrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Fluorene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Chrysene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Benzo(a)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Benzo(b)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Benzo(k)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Benzo(a)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Dibenz(a,h)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Indeno(1,2,3-c,d)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
PAHs (Sum of total)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Phenolics	Phenols Monohydric	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

Notes

- Not analysed
- m bgl metres below ground level

Location		On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site		
Chemical Group	Compound	Location	S1-TPI24	S1-TPI25	S1-TPI27	S1-TPI29	S1-TPI30	S1-TPI35	S1-TPI36	S1-TPI37	S2-TPA38	S2-TPA38A	S2-TPA40	S2-TPA46	S2-TPA48	S2-TPA50	S2-TPA52	S2-TPA53	S2-TPA54	S2-TPA58	S2-TPA59		
		Sample Depth (m bgl)	1.5	3.7	1.3	0.6	1.5	1.5	3.5	1	3.6	1.5	0.3-0.3	2	0.8	4.2	1.4	0.5	2.2	0.3	3.6	3	
		Sample Date	08/02/2017	09/02/2017	09/02/2017	08/02/2017	26/04/2017	01/01/2016	01/01/2016	09/02/2017	01/06/2017	04/10/2017	03/10/2017	12/05/2017	12/05/2017	17/05/2017	17/05/2017	17/05/2017	12/05/2017	17/05/2017	17/05/2017		
Metals	Arsenic	µg/L	0.94	17	1.1	55	4.4	0.6	0.79	2.6	1.6	0.97	1.3	0.91	1.2	0.87	0.82	0.84	0.87	1.7	1.3	1.2	
	Barium	µg/L	43	9.6	22	36	25	42	13	13	19	25	-	31	13	10	51	10	6.8	44	10	6.6	
	Beryllium	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Boron	µg/L	<100	<100	<100	<100	160	50	220	50	<100	160	160	<100	180	180	200	<100	240	280	150	240	
	Cadmium	µg/L	<0.03	0.42	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	<0.03	0.12	<0.03	0.05	0.8	<0.03	<0.03	<0.03	<0.03	<0.03	
	Chromium (hexavalent)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chromium	µg/L	6.7	<0.25	12	0.72	10	9.6	<0.25	0.41	<0.25	<0.25	0.28	<0.25	1	<0.25	<0.25	<0.25	<0.25	1.4	<0.25	<0.25	
	Chromium (Trivalent)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Copper	µg/L	2.6	1.1	1.9	0.7	7.9	1.3	0.7	1.1	0.9	2.3	2.8	1.3	2.2	7.2	<0.4	1.9	3.6	0.5	1.9	<0.4	
	Iron	µg/L	<5.5	38	<5.5	<5.5	-	<5.5	24	68	<5.5	<5.5	-	<5.5	-	-	260	-	-	-	370	-	
	Lead	µg/L	<0.09	2.4	<0.09	<0.09	0.69	<0.09	<0.09	1.3	<0.09	0.58	1.7	<0.09	1.2	0.4	0.18	0.29	0.5	0.19	0.65	<0.09	
	Manganese	µg/L	0.34	7.4	0.41	8.6	12	0.31	2.8	5.5	4.5	32	-	26	7.2	5.7	150	4.5	4.3	190	18	22	
	Mercury	µg/L	0.01	0.03	0.04	0.01	<0.01	0.09	0.04	0.02	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	Nickel	µg/L	<0.5	<0.5	2.5	<0.5	2.2	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	1.1	3.2	0.7	5.6	0.7	5.6	0.7	
	Selenium	µg/L	0.48	0.49	0.51	0.42	0.29	0.49	<0.25	0.32	2.5	2.8	0.57	1.3	1.3	0.82	0.75	0.95	0.51	0.65	1	0.36	
	Vanadium	µg/L	17	37	31	8.6	22	14	0.9	9.7	<0.6	1	-	1.5	<0.6	1.3	<0.6	0.9	0.9	<0.6	0.8	<0.6	
Zinc	µg/L	2.4	4.4	1.7	5.4	7.4	<1.3	2.8	9.4	<1.3	2.5	3	19	6.7	57	240	3.2	12	7.8	2.2	4.4		
Inorganics	Total Hardness	mg/l	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Ammoniacal Nitrogen as N	mg/L	<0.015	0.04	0.019	<0.015	2	<0.015	0.14	<0.015	0.11	0.082	-	<0.015	0.11	0.13	0.13	0.032	0.26	0.31	0.022	0.45	
	Ammoniacal Nitrogen as NH3	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloride	mg/L	-	-	-	-	-	-	3.5	-	-	-	-	1.3	3	7.2	2.7	1.7	6	2.4	2.6	5.9	
	Cyanide (Free)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Cyanide Total	µg/L	-	-	-	-	-	-	-	-	-	-	<40	-	-	-	-	-	-	-	-	-	
	Nitrate (as NO3-)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitrite (as NO2-)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Other	pH (Lab)	pH_Units	11.1	8.3	10.6	7.7	10.9	11.4	8.4	8.2	9.1	7	7.8	7.9	11.2	11.9	8.4	7	7.8	8.8	9	9.3	
	Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total Petroleum Hydrocarbon Criteria Working Group	>C5-C6 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-		
	>C6-C8 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-		
	>C8-C10 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-		
	>C10-C12 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-		
	>C12-C16 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-		
	>C16-C21 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-		
	>C21-C35 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-		
	Total >C5-C35 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-	-	-		
	>EC5-EC7 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-		
	>EC7-EC8 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-		
	>EC8-EC10 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-		
	>EC10-EC12 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-		
	>EC12-EC16 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-		
	>EC16-EC21 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	1.2	-	-	-	-	-	-	-	-		
	>EC21-EC35 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-		
TPH >C5-C35 Aliphatics/Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-			
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-		
	Acenaphthene	µg/L	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-		
	Acenaphthylene	µg/L	-	-	-	-	-	-	-	-	-	-	0.03	-	-	-	-	-	-	-	-		
	Fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	-		
	Anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	0.06	-	-	-	-	-	-	-	-		
	Phenanthrene	µg/L	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-		
	Fluorene	µg/L	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-		
	Chrysene	µg/L	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	-		
	Pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	1.7	-	-	-	-	-	-	-	-		
	Benzo(a)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	-		
	Benzo(b)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-		
	Benzo(k)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	1.3	-	-	-	-	-	-	-	-		
	Benzo(a)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-		
	Dibenz(a,h)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	0.33	-	-	-	-	-	-	-	-		
	Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-		
Indeno(1,2,3-c,d)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	1.6	-	-	-	-	-	-	-	-			
PAHs (Sum of total)	µg/L	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-			
Phenolics	Phenols Monohydric	µg/L	-	-	-	-	-	-	-	-	-	1.7	-	-	-	-	-	-	-	-	-		

Notes

- Not analysed
- m bgl metres below ground level

10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA																						
Appendix I, Table 3: Soil Leachate (CH2M 2017c&d, AEG 2018 and AEG 2021)																						
Location			On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site		
Chemical Group	Compound	Location	S2-TPA60	S2-TPA65			S2-TPA66	S2-TPA70	S2-TPA72	S2-TPA73	S2-TPA74	S2-TPA76	S2-TPA79	S2-TPA80	S2-TPA81	S2-TPA83	S2-TPA84	S2-TPA87	S2-TPA89	S2-TPA92		TS2_AUK_TP152
		Sample Depth (m bgl)	2	2	2.7	2.7	2.6	2.3	0.3	1	2.8	1	2.5	0.5	3	0.5	0.3	1.2	0.4	3.7	2	
		Sample Date	17/05/2017	17/05/2017	17/05/2017	17/05/2017	22/05/2017	10/05/2017	10/05/2017	18/05/2017	18/05/2017	01/01/2016	09/05/2017	01/01/2016	22/05/2017	01/01/2016	01/01/2016	04/05/2017	08/05/2017	08/05/2017	21/09/2020	
Metals	Arsenic	µg/L	1.8	0.73	2.6	2.6	1.1	0.45	<0.16	2.6	7	1.3	0.65	0.73	0.9	3.7	1.2	1.1	<0.16	<0.16	0.56	
	Barium	µg/L	-	6.4	-	26	7.4	17	5.5	-	9.9	19	1.8	11	45	24	33	-	5.6	18	39	
	Beryllium	µg/L	-	-	-	-	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	
	Boron	µg/L	<100	<100	100	100	160	<100	<100	<100	190	110	<100	<100	320	100	<100	<100	<100	<100	<100	150
	Cadmium	µg/L	<0.03	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.98	<0.03	<0.03	<0.03	0.39	0.06	<0.03	1.3	<0.03	<0.03	<0.03	
	Chromium (hexavalent)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7
	Chromium	µg/L	0.59	<0.25	7.1	7.9	<0.25	<0.25	<0.25	7.5	<0.25	<0.25	9.1	4.3	1.3	3.5	0.32	0.35	0.58	<0.25	<0.25	1.3
	Chromium (Trivalent)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper	µg/L	3.1	1.6	3.5	4.1	0.6	<0.4	0.4	3.7	16	3.7	2	2.8	1.1	1.9	1.5	0.8	0.5	0.6	0.6	5.7
	Iron	µg/L	-	260	-	4400	15	26	45	-	8.2	24	51	22	6.9	32	7.6	-	59	27	11	
	Lead	µg/L	1.3	0.44	3.2	3.2	0.32	<0.09	0.18	3.1	<0.09	1.1	0.11	0.43	0.5	2	0.46	0.14	0.15	<0.09	<0.09	
	Manganese	µg/L	-	6.9	-	45	8.2	9.5	14	-	26	35	0.83	3.6	18	7	2.2	-	29	42	9.4	
	Mercury	µg/L	<0.01	<0.01	0.01	0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	Nickel	µg/L	0.6	<0.5	5.7	5.7	<0.5	<0.5	5.3	1.3	1.1	<0.5	0.9	1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.9
	Selenium	µg/L	0.61	0.34	0.45	0.47	0.65	1.4	0.95	0.37	0.59	3.3	6.5	1.4	2.7	2	1.5	1.1	1.5	0.97	-	
	Vanadium	µg/L	-	0.6	-	11	2.9	<0.6	<0.6	-	<0.6	<0.6	8.5	37	1.2	16	6.7	-	<0.6	<0.6	11	
	Zinc	µg/L	9.4	2.5	19	19	4.2	<1.3	1.7	24	450	7.5	<1.3	1.8	32	4.4	<1.3	27	<1.3	14	130	
Inorganics	Total Hardness	mg/l	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Ammoniacal Nitrogen as N	mg/L	-	0.028	-	0.027	<0.015	0.069	0.027	-	<0.015	<0.015	<0.015	<0.015	0.07	<0.015	<0.015	-	0.18	0.053	<0.015	
	Ammoniacal Nitrogen as NH3	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chloride	mg/L	-	1.6	-	1.5	2.3	0.9	1.1	-	3.4	-	3.3	-	1.1	-	-	-	2	0.85	2.8	
	Cyanide (Free)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Cyanide Total	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<40	
	Nitrate (as NO3-)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitrite (as NO2-)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Other	pH (Lab)	pH_Units	8.2	7.2	7.1	7.4	6.9	7.1	6.6	7.5	8.3	7	10.5	8.4	6.7	7.8	7.2	8.5	7.1	6.6	8.9	
	Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total Petroleum Hydrocarbon Criteria Working Group	>C5-C6 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	
	>C6-C8 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	
	>C8-C10 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	
	>C10-C12 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	
	>C12-C16 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	
	>C16-C21 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	
	>C21-C35 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	
	Total >C5-C35 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	
	>EC5-EC7 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	
	>EC7-EC8 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	
	>EC8-EC10 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	
	>EC10-EC12 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	
	>EC12-EC16 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	
	>EC16-EC21 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	
>EC21-EC35 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1		
TPH >C5-C35 Aliphatics/Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10		
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1 - 0.05	
	Acenaphthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	
	Acenaphthylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	
	Fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1 - 0.02	
	Anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	
	Phenanthrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1 - 0.01	
	Fluorene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	
	Chrysene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	
	Pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1 - 0.02	
	Benzo(a)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	
	Benzo(b)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1 - 0.02	
	Benzo(k)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	
	Benzo(a)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	
	Dibenz(a,h)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	
Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1 - 0.01		
Indeno(1,2,3-c,d)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01		
PAHs (Sum of total)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2		
Phenolics	Phenols Monohydric	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	

Notes

- Not analysed
- m bgl metres below ground level

Appendix I, Table 4: Groundwater data (Enviros 2004, AEG 2018 and AEG 2022)

Chem_Group	Location	Location ID	Onsite			Onsite				Onsite				Onsite					
			Well	12AB2	12BB1	13CB1	MSIBH03				MSIBH04				MSIBH05				
				A	A	A	D	S	D	S	D	S	D	S	D	S	D	S	
Compound	Sampled	29/04/2004	28/04/2004	29/04/2004	12/08/2021	12/08/2021	16/11/2021	17/11/2021	12/08/2021	12/08/2021	16/11/2021	16/11/2021	12/08/2021	12/08/2021	12/10/2021	12/10/2021	15/11/2021	15/11/2021	
Metals	Antimony (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Arsenic	µg/L	3	10	1	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Arsenic (Filtered)	µg/L	-	-	-	2.8	4.1	2	4.2	1.9	2.6	4.3	4	2.6	4.4	9.6	7.4	6.1	6.8
	Barium (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Beryllium (Filtered)	µg/L	-	-	-	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Boron	µg/L	590	80	420	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Boron (Filtered)	µg/L	-	-	-	73	390	-	450	570	590	640	550	280	280	190	200	180	140
	Cadmium	µg/L	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cadmium (Filtered)	µg/L	-	-	-	0.08	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
	Chromium (hexavalent)	µg/L	-	-	-	120	<7	<7	<7	<7	<7	<7	<7	19	<7	<7	<7	<7	<7
	Chromium	µg/L	1	<1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (Trivalent) (Filtered)	µg/L	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Copper	µg/L	1	4	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper (Filtered)	µg/L	-	-	-	2	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
	Iron	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Iron (Filtered)	µg/L	-	-	-	70	14	360	86	510	870	430	1600	13	44	24	95	51	99
	Lead	µg/L	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Lead (Filtered)	µg/L	-	-	-	0.13	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	0.09	0.11	<0.09	0.1	0.15	0.12
	Manganese (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury	µg/L	0.3	0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury (Filtered)	µg/L	-	-	-	0.03	0.07	0.09	0.07	<0.01	<0.01	0.01	<0.01	0.72	0.02	0.05	0.03	0.05	0.02
	Nickel	µg/L	3	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Filtered)	µg/L	-	-	-	22	1	0.8	<0.5	0.9	0.6	1.6	0.7	1	2.9	4.5	4.3	2.2	3.7	
Selenium	µg/L	3	5	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Selenium (Filtered)	µg/L	-	-	-	27	4.7	0.3	1.1	0.71	0.29	0.6	0.49	24	0.69	0.56	0.49	0.35	0.31	
Vanadium (Filtered)	µg/L	-	-	-	1.7	14	1.5	2	<0.6	<0.6	<0.6	<0.6	14	1.3	1.9	1	0.8	0.9	
Zinc	µg/L	3	<2	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Zinc (Filtered)	µg/L	-	-	-	6	1.7	1.5	3	1.9	2.8	2.4	2.6	6.2	4.8	1.4	<1.3	5.7	1.3	
Inorganics	Total Hardness	mg/l	-	-	-	2170	806	1490	945	1160	1380	576	1160	75.8	45.7	19.2	19.5	34.9	11.1
	Alkalinity (total) as CaCO3	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Ammoniacal Nitrogen as N	mg/L	-	-	-	0.12	0.19	2.8	0.09	0.12	0.015	0.07	0.1	0.27	10	5.5	10	13	19
	Ammoniacal Nitrogen as NH3	mg/L	-	-	-	0.14	0.23	3.4	0.11	0.15	0.019	0.085	0.12	0.32	13	6.6	12	15	23
	Carbonate	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cyanide (Free)	µg/L	<100	<100	<100	<20	<20	0.1	0.4	<20	<20	2.1	2.5	<20	<20	1.6	1.7	0.2	0.4
	Cyanide Total	µg/L	<100	1000	<100	-	-	0.5	8.4	-	-	8.6	7.8	-	-	19	20	6	8.9
	Cyanide Total (Filtered)	µg/L	-	-	-	<40	<40	-	-	<40	<40	-	-	<40	42	-	-	-	-
	cyanides-complex	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Magnesium	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Magnesium (Filtered)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate (as N)	mg/L	-	-	-	0.24	0.2	<0.1	-	0.31	0.27	-	-	-	-	-	-	-	-
	Nitrate (as NO3-) (Filtered)	mg/L	-	-	-	-	-	-	-	-	-	0.17	<0.1	1.5	0.4	-	-	-	-
	Nitrite (as N)	mg/L	-	-	-	0.25	<0.035	<0.035	0.34	<0.035	<0.035	-	-	-	-	-	-	-	-
	Nitrite (as NO2-) (Filtered)	mg/L	-	-	-	-	-	-	<0.1	-	-	1.4	14	<0.1	0.45	-	-	-	-
	Sulphate (Filtered)	mg/L	-	-	-	1100	920	2100	840	2700	1000	1400	1500	210	96	-	-	-	-
	Sulphide (Filtered)	µg/L	<200	<200	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphate as SO4	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	82	85	81	100
	Sulphur as S	mg/L	-	-	-	490	310	-	-	-	380	-	-	51	-	-	-	-	-
Thiocyanate (as SCN)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	3900	4400	2700	4300	
Thiocyanate (as SCN) (Filtered)	µg/L	-	-	-	26	<20	<20	<20	<20	<20	<20	<20	410	2300	-	-	-	-	
Other	Total Dissolved Solids	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Total Dissolved Solids (Filtered)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	pH (Lab)	pH_Units	7.5	10.3	7.7	12.2	8.6	7.1	8.2	8.2	7.7	8.2	7.7	10.3	9.2	9.5	9.5	9.6	9.6
Total Organic Carbon	mg/l	-	-	-	<1	43	-	-	30	15	-	-	2.2	12	-	-	-	-	

Appendix I, Table 4: Groundwater data (Enviros 2004, AEG 2018 and AEG 2022)

Chem_Group	Location	Location ID	Onsite		Onsite		Onsite				Onsite				Onsite				
			Well	12AB2	12BB1	13CB1	MS\BH03				MS\BH04				MS\BH05				
				A	A	A	D	S	D	S	D	S	D	S	D	S	D	S	
Compound	Sampled	29/04/2004	28/04/2004	29/04/2004	12/08/2021	12/08/2021	16/11/2021	17/11/2021	12/08/2021	12/08/2021	16/11/2021	16/11/2021	12/08/2021	12/08/2021	12/10/2021	12/10/2021	15/11/2021	15/11/2021	
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/L	<10	<10	<10	0.31	<1	-	<1	0.46	<1	<1	<1	0.28	<1	-	<1	<1	-
	Acenaphthene	µg/L	<10	<10	<10	<0.01	0.01	-	0.01	0.09	<1	<1	<1	0.01	<1	-	<1	<1	-
	Acenaphthylene	µg/L	<10	<10	<10	<0.01	<0.01	-	<0.01	<0.01	<1	<1	<1	<0.01	<0.01	-	<1	<1	-
	Fluoranthene	µg/L	<10	<10	<10	<0.01	<1	-	<1	0.02	<0.01	<1	<1	0.02	<1	-	<1	<1	-
	Anthracene	µg/L	<10	<10	<10	<0.01	<1	-	<1	<0.01	<1	<1	<1	<0.01	<0.01	-	<1	<1	-
	Phenanthrene	µg/L	<10	<10	<10	0.2	<0.01	-	<0.01	0.01	<1	<1	<1	0.03	<1	-	<1	<1	-
	Fluorene	µg/L	<10	<10	<10	0.08	0.01	-	0.01	0.04	<1	<1	<1	0.03	0.02	-	<1	<1	-
	Chrysene	µg/L	<10	<10	<10	<0.01	<0.01	-	<0.01	<0.01	<1	<1	<1	<0.01	<0.01	-	<1	<1	-
	Pyrene	µg/L	<10	<10	<10	0.02	<0.01	-	<0.01	0.02	<0.01	<1	<1	0.02	<1	-	<1	<1	-
	Benzo(a)anthracene	µg/L	<10	<10	<10	<0.01	<1	-	<1	<0.01	<0.01	<1	<1	<0.01	<0.01	-	<1	<1	-
	Benzo(b)fluoranthene	µg/L	<10	<10	<10	<0.01	<1	-	<1	<0.01	<0.01	<1	<1	<0.01	<0.01	-	<1	<1	-
	Benzo(k)fluoranthene	µg/L	<10	<10	<10	<0.01	<0.01	-	<0.01	<0.01	<1	<1	<1	<0.01	<1	-	<1	<1	-
	Benzo(a)pyrene	µg/L	<10	<10	<10	<0.01	<0.01	-	<0.01	<0.01	<1	<1	<1	<0.01	<1	-	<1	<1	-
	Dibenz(a,h)anthracene	µg/L	<10	<10	<10	<0.01	<0.01	-	<0.01	<0.01	<1	<1	<1	<0.01	<0.01	-	<1	<1	-
	Benzo(g,h,i)perylene	µg/L	<10	<10	<10	<0.01	<0.01	-	<0.01	<0.01	<1	<1	<1	<0.01	<0.01	-	<1	<1	-
	Indeno(1,2,3-c,d)pyrene	µg/L	<10	<10	<10	<0.01	<0.01	-	<0.01	<0.01	<1	<1	<1	<0.01	<0.01	-	<1	<1	-
PAH 16 Total	µg/L	<160	<160	<160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PAHs (Sum of total)	µg/L	-	-	-	0.61	<0.2	-	<0.2	0.63	0.28	-	-	0.39	<0.2	-	-	-	-	
Total Petroleum Hydrocarbon Criteria Working Group	>C5-C6 Aliphatics	µg/L	-	-	-	120	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>C6-C8 Aliphatics	µg/L	-	-	-	210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>C8-C10 Aliphatics	µg/L	-	-	-	15	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>C10-C12 Aliphatics	µg/L	-	-	-	<1	<1	<1	<1	<1	14	<1	<1	6	<1	30	4.8	<1	
	>C12-C16 Aliphatics	µg/L	-	-	-	<1	<1	<1	<1	<1	5.4	<1	<1	13	<1	5.5	4	<1	
	>C16-C21 Aliphatics	µg/L	-	-	-	<1	<1	<1	<1	<1	8.2	14	<1	13	<1	21	120	<1	
	>C21-C35 Aliphatics	µg/L	-	-	-	<1	<1	<1	<1	<1	1.5	9.9	<1	14	<1	1.4	70	<1	
	Total >C5-C35 Aliphatics	µg/L	-	-	-	340	<10	<10	<10	<10	30	<10	<10	46	<10	58	200	<10	
	>EC5-EC7 Aromatics	µg/L	-	-	-	58	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	5.2	<0.1	<0.1	<0.1	
	>EC7-EC8 Aromatics	µg/L	-	-	-	20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>EC8-EC10 Aromatics	µg/L	-	-	-	250	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>EC10-EC12 Aromatics	µg/L	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	>EC12-EC16 Aromatics	µg/L	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	7.6	<1	
	>EC16-EC21 Aromatics	µg/L	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	59	<1	
	>EC21-EC35 Aromatics	µg/L	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	25	<1	
Total >EC5-EC35 Aromatics	µg/L	-	-	-	330	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	92	<10		
TPH >C5-C35 Aliphatics/Aromatics	µg/L	-	-	-	670	<10	<10	<10	<10	30	24	<10	47	<10	58	290	<10		
Petroleum Hydrocarbon	EPH >C10-40	µg/L	-	-	-	3500	170	1100	140	<10	<10	93	64	1000	370	-	-	-	
	GRO C5-C10	µg/L	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH by GCFID (AR)	µg/L	260	310	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene, Toluene, Ethylbenzene, Xylenes and Methyl tert butyl ether	Benzene	µg/L	<5	<5	<5	58	<1	<1	<1	<1	<1	<1	<1	<1	5.2	<1	<1 - 2	<1 - 5	
	Toluene	µg/L	<5	<5	<5	20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Ethylbenzene	µg/L	<5	<5	<5	210	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Xylene (m & p)	µg/L	-	-	-	-	<2	<2	-	-	<2	<2	<2	-	<2	-	<2	<2	
	Xylene (o)	µg/L	-	-	-	-	<1	<1	-	-	<1	<1	<1	-	<1	-	<1	<1	
	Xylene Total	µg/L	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	MTBE	µg/L	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Phenolics	3-&4-methylphenol	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	
	Phenol	µg/L	<50	<50	<50	-	3	-	<1	-	<1	<1	<1	-	3.7	-	<1	<1	
	Phenols Monohydric	µg/L	-	-	-	<100	<100	330	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	

Appendix I, Table 4: Groundwater data (Enviros 2004, AEG 2018 and AEG 2022)

Chem_Group	Location		Onsite			Onsite				Onsite				Onsite					
	Compound	Location ID	12AB2	12BB1	13CB1	MS/BH03				MS/BH04				MS/BH05					
		Well Sampled	A	A	A	D	S	D	S	D	S	D	S	D	S	D	S		
		29/04/2004	28/04/2004	29/04/2004	12/08/2021	12/08/2021	16/11/2021	17/11/2021	12/08/2021	12/08/2021	16/11/2021	16/11/2021	12/08/2021	12/08/2021	12/10/2021	12/10/2021	15/11/2021	15/11/2021	
Volatile Organic Compounds	Styrene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<2	-	<1	-	<1	<1	-
	cis-1,3-dichloropropene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	-
	trans-1,3-dichloropropene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,1,1,2-tetrachloroethane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,1,1-trichloroethane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,1,2,2-tetrachloroethane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,1,2-trichloroethane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,1-dichloroethane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,1-dichloropropene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,2,3-trichloropropane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,2,4-trimethylbenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,2-dibromo-3-chloropropane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,2-dibromoethane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,2-dichloroethane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,3-Dichloropropene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	-	-	-
	1,2-dichloropropane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,3,5-trimethylbenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,3-dichloropropane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	2,2-dichloropropane	µg/L	-	-	-	-	<2	-	<2	-	<2	<2	<2	-	<2	-	<2	<2	-
	2-chlorotoluene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	4-chlorotoluene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Bromobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Bromochloromethane	µg/L	-	-	-	-	<4	-	<4	-	<4	<4	<4	-	<4	-	<4	<4	-
	Bromodichloromethane	µg/L	-	-	-	-	<4	-	<4	-	<4	<4	<4	-	<4	-	<4	<4	-
	Bromoform	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Bromomethane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Carbon tetrachloride	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Chlorodibromomethane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Chloroethane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Chloroform	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	5	-
	Chloromethane	µg/L	-	-	-	-	2	-	<1	-	2	<1	3	-	2	-	<1	<1	-
	cis-1,2-dichloroethene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Dibromomethane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Dichlorodifluoromethane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Dichloromethane	µg/L	-	-	-	-	<27	-	<27	-	<27	<27	<27	-	<27	-	<27	<27	-
Isopropylbenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
n-butylbenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
n-propylbenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
p-isopropyltoluene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
sec-butylbenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
Trichloroethene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
tert-butylbenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
Tetrachloroethene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
trans-1,2-dichloroethene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
Trichlorofluoromethane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
Vinyl chloride	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
Semi Volatile Organic Compounds / Volatile Organic Compounds	1,2,3-trichlorobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	-	<1	-	<1	<1	-	
	1,2,4-trichlorobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	-	<1	-	<1	<1	-	
	1,2-dichlorobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	-	<1	-	<1	<1	-	
	1,3-dichlorobenzene	µg/L	-	-	-	-	<2	-	<2	-	<2	<2	-	<2	-	<2	<2	-	
	1,4-dichlorobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	-	<1	-	<1	<1	-	
	Chlorobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
Hexachlorobutadiene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	

Appendix I, Table 4: Groundwater data (Enviros 2004, AEG 2018 and AEG 2022)

Chem_Group	Location Compound	Location ID Well Sampled	Onsite			Onsite				Onsite				Onsite					
			12AB2	12BB1	13CB1	MS/BH03				MS/BH04				MS/BH05					
			A	A	A	D	S	D	S	D	S	D	S	D	S	D	S		
			29/04/2004	28/04/2004	29/04/2004	12/08/2021	12/08/2021	16/11/2021	17/11/2021	12/08/2021	12/08/2021	16/11/2021	16/11/2021	12/08/2021	12/08/2021	12/10/2021	12/10/2021	15/11/2021	15/11/2021
Semi Volatile Organic Compounds	1,4-dinitrobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Benzyl alcohol	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	1.6	-	<1	<1	-
	4-bromophenyl phenyl ether	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	4-nitroaniline	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	4-nitrophenol	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,3-Dinitrobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1-Methylnaphthalene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	2,3,4,6-tetrachlorophenol	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	2,3,5,6-Tetrachlorophenol	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	2,4,5-trichlorophenol	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	2,4,6-trichlorophenol	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	2,4-dichlorophenol	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	2,4-dimethylphenol	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	2,4-dinitrotoluene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	2,6-dinitrotoluene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	2-chloronaphthalene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	2-chlorophenol	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	2-methylnaphthalene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	2-methylphenol	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	2-nitroaniline	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	3-nitroaniline	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	4-chloro-3-methylphenol	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	4-chlorophenyl phenyl ether	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Aniline	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Azobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Bis(2-chloroethoxy) methane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Bis(2-chloroisopropyl) ether	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Bis(2-ethylhexyl) phthalate	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Bis(2-ethylhexyl)ester	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Butyl benzyl phthalate	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
Carbazole	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
Di(2-ethylhexyl)adipate	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
Dibenzofuran	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
Diethylphthalate	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	1.1	<1	<1	-	<1	<1	<1	
Dimethyl phthalate	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
Di-n-butyl phthalate	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
Di-n-octyl phthalate	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
Diphenylamine	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
Hexachlorobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
Hexachlorocyclopentadiene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	
Pentachlorophenol	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-	

Appendix I, Table 4: Groundwater data (Enviros 2004, AEG 2018 and AEG 2022)

Chem_Group	Location Compound	Location ID Well Sampled	Onsite	Onsite	Onsite	Onsite				Onsite				Onsite						
			12AB2	12BB1	13CB1	MS\BH03				MS\BH04				MS\BH05						
			A	A	A	D	S	D	S	D	S	D	S	D	S	D	S			
			29/04/2004	28/04/2004	29/04/2004	12/08/2021	12/08/2021	16/11/2021	17/11/2021	12/08/2021	12/08/2021	16/11/2021	16/11/2021	12/08/2021	12/08/2021	12/10/2021	12/10/2021	15/11/2021	15/11/2021	
Polychlorinated Biphenyls	Heptachlorobiphenyl, 2,3,3,4,4,5,5-	µg/L	-	-	-	-	-	-	<0.3	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5-	µg/L	-	-	-	-	-	-	<0.3	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5-	µg/L	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,4,4,5,5-	µg/L	-	-	-	-	-	-	<0.3	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 3,3,4,4,5,5-	µg/L	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	
	PCB 101	µg/L	-	-	-	-	-	-	<0.3	-	-	-	-	-	-	-	-	-	-	-
	PCB 138	µg/L	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-
	PCB 118 + PCB 123	mg/L	-	-	-	-	-	-	<0.0006	-	-	-	-	-	-	-	-	-	-	-
	PCB 153	µg/L	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-
	PCB 180	µg/L	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-
	PCB 52	µg/L	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-
	PCB 28 + PCB 31	mg/L	-	-	-	-	-	-	<0.0003	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,3,4,4-	µg/L	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,5-	µg/L	-	-	-	-	-	-	<0.3	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 3,3,4,4,5-	µg/L	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,3,4,4- (PCB	µg/L	-	-	-	-	-	-	<0.3	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,4,4,5- (PCB	µg/L	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-
Total PCB 7 Congeners	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total PCB WHO 12	µg/L	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	
PCBs (Sum of total)	µg/L	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	

Appendix I Table 4: Groundwater data (Enviro 2004, AEG 2018 and A

Chem_Group	Location		Onsite				Onsite			Onsite				Onsite		
	Compound	Location ID Well Sampled	MS\BH07				MS\BH08			MS\BH09				MS\BH11		
			D	S	D	D	D	D	D	S	S	S	S	D	S	D
			12/03/2021	12/08/2021	12/10/2021	15/11/2021	11/08/2021	12/10/2021	15/11/2021	13/08/2021	12/10/2021	15/11/2021	15/11/2021	11/03/2021	12/08/2021	17/11/2021
Metals	Antimony (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Arsenic	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Arsenic (Filtered)	µg/L	6.4	13	8.7	5.8	13	3.9	3.2	8.4	-	9.4	7.9	2.6	1.1	2.5
	Barium (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Beryllium (Filtered)	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Boron	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Boron (Filtered)	µg/L	380	380	370	410	460	650	660	210	230	230	230	700	360	690
	Cadmium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cadmium (Filtered)	µg/L	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.13	<0.03
	Chromium (hexavalent)	µg/L	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7
	Chromium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (Trivalent) (Filtered)	µg/L	<1	<1	2.4	<1	<1	<1	<1	<1	<1	<1	<1	<1	4.3	<1
	Copper	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper (Filtered)	µg/L	<0.4	<0.4	1	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
	Iron	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Iron (Filtered)	µg/L	26	41	38	340	14	85	37	16	18	64	56	20	12	130
	Lead	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Lead (Filtered)	µg/L	0.1	0.16	0.56	<0.09	<0.09	<0.09	<0.09	0.09	<0.09	<0.09	0.11	0.1	1.8	0.38
	Manganese (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury (Filtered)	µg/L	0.03	0.33	0.06	<0.01	0.06	0.04	0.05	0.05	0.13	0.06	0.12	0.07	0.05	0.04
Nickel	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nickel (Filtered)	µg/L	0.7	2.7	1.3	0.5	1.5	0.7	0.6	1.6	1.3	0.9	1.2	2.3	1.4	1	
Selenium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Selenium (Filtered)	µg/L	8.2	27	2.3	<0.25	3.8	0.74	0.47	7.1	5.6	1.8	2.6	1.6	0.96	0.29	
Vanadium (Filtered)	µg/L	2.3	7.6	1.5	<0.6	4.5	4.2	5.6	8.1	15	2.2	3.3	16	-	13	
Zinc	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Zinc (Filtered)	µg/L	5.1	3.7	11	<1.3	1.8	<1.3	1.7	4.4	<1.3	3	2.1	1.8	220	3.4	
Inorganics	Total Hardness	mg/l	697	945	647	769	388	552	577	30.3	106	128	108	95.4	725	126
	Alkalinity (total) as CaCO3	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Ammoniacal Nitrogen as N	mg/L	1.2	0.47	0.91	1.5	1.2	1.9	2.5	1.9	5.4	5.2	5.2	1.8	0.16	3.8
	Ammoniacal Nitrogen as NH3	mg/L	1.5	0.58	1.1	1.8	1.5	2.3	3	2.3	6.6	6.4	6.3	2.2	0.19	4.6
	Carbonate	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cyanide (Free)	µg/L	<20	<20	0.7	0.1	<20	0.3	0.3	<20	0.3	0.3	0.7	<20	-	0.5
	Cyanide Total	µg/L	-	-	13	4.9	-	8.5	7.2	-	5.1	5.3	12	-	-	12
	Cyanide Total (Filtered)	µg/L	<40	<40	-	-	<40	-	-	<40	-	-	-	<40	-	-
	cyanides-complex	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Magnesium	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Magnesium (Filtered)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate (as N)	mg/L	0.28	0.22	1.5	-	0.17	-	-	-	-	-	-	0.15	0.28	-
	Nitrate (as NO3-) (Filtered)	mg/L	-	-	-	-	-	-	-	<0.1	-	<0.1	-	-	-	-
	Nitrite (as N)	mg/L	<0.035	<0.035	-	-	<0.035	-	-	-	-	-	-	<0.035	<0.035	-
	Nitrite (as NO2-) (Filtered)	mg/L	-	-	-	-	-	-	-	<0.1	-	<0.1	-	-	-	-
	Sulphate (Filtered)	mg/L	840	1100	-	-	710	-	-	160	-	-	-	67	770	-
	Sulphide (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphate as SO4	mg/L	-	-	820	85	-	730	380	-	150	160	160	-	-	110
	Sulphur as S	mg/L	-	400	-	-	-	-	-	50	-	-	-	-	290	-
Thiocyanate (as SCN)	µg/L	-	-	<20	54	-	43	31	-	110	110	170	-	-	240	
Thiocyanate (as SCN) (Filtered)	µg/L	<20	52	-	-	44	-	-	150	-	-	-	170	-	-	
Other	Total Dissolved Solids	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Total Dissolved Solids (Filtered)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
	pH (Lab)	pH_Units	8.3	8	8	8.1	7.8	8.3	8.3	9.7	9.2	9.2	9.3	8.4	7.9	8.7
	Total Organic Carbon	mg/l	13	38	-	-	32	-	-	36	-	-	-	39	31	-

Appendix I, Table 4: Groundwater data (Enviros 2004, AEG 2018 and)

Chem_Group	Location Compound	Location ID Well Sampled	Onsite MSIBH07				Onsite MSIBH08			Onsite MSIBH09				Onsite MSIBH11		
			D	S	D	D	D	D	D	S	S	S	S	D	S	D
			12/08/2021	12/08/2021	12/10/2021	15/11/2021	11/08/2021	12/10/2021	15/11/2021	13/08/2021	12/10/2021	15/11/2021	15/11/2021	15/11/2021	11/08/2021	12/08/2021
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/L	<1	0.12	<1	-	0.42	<1	-	0.2	<1	<1	<1	0.17	<1	<1
	Acenaphthene	µg/L	0.17	0.12	<5	-	0.08	<1	-	0.02	<1	<1	<1	0.02	<1	<1
	Acenaphthylene	µg/L	<1	<0.01	<5	-	<1	<1	-	<0.01	<1	<1	<1	<0.01	<1	<1
	Fluoranthene	µg/L	<0.01	0.01	<5	-	<0.01	<1	-	<0.01	<1	<1	<1	0.01	0.09	<1
	Anthracene	µg/L	<1	<1	<5	-	<0.01	<1	-	<0.01	<1	<1	<1	<0.01	0.02	<1
	Phenanthrene	µg/L	<1	0.02	<5	-	<0.01	<1	-	<1	<1	<1	<1	<0.01	<1	<1
	Fluorene	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	0.01	0.01	<1
	Chrysene	µg/L	<0.01	<0.01	<5	-	<1	<1	-	<1	<1	<1	<1	<0.01	0.01	<1
	Pyrene	µg/L	<0.01	0.02	<5	-	<1	<1	-	<0.01	<1	<1	<1	0.01	<1	<1
	Benzo(a)anthracene	µg/L	<1	<1	<5	-	<1	<1	-	<0.01	<1	<1	<1	<0.01	<1	<1
	Benzo(b)fluoranthene	µg/L	<1	<1	<5	-	<1	<1	-	<0.01	<1	<1	<1	<0.01	<1	<1
	Benzo(k)fluoranthene	µg/L	<1	<1	<5	-	<0.01	<1	-	<0.01	<1	<1	<1	<0.01	<0.01	<1
	Benzo(a)pyrene	µg/L	<0.01	<1	<5	-	<0.01	<1	-	<1	<1	<1	<1	<0.01	<0.01	<1
	Dibenz(a,h)anthracene	µg/L	<0.01	<0.01	<5	-	<0.01	<1	-	<0.01	<1	<1	<1	<0.01	<0.01	<1
	Benzo(g,h,i)perylene	µg/L	<0.01	<0.01	<5	-	<0.01	<1	-	<0.01	<1	<1	<1	<0.01	<1 - 0.01	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.01	<0.01	<5	-	<0.01	<1	-	<0.01	<1	<1	<1	<0.01	<0.01	<1	
PAH 16 Total	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs (Sum of total)	µg/L	0.38	0.36	-	-	0.52	-	-	0.23	-	-	-	-	0.22	0.5	-
Total Petroleum Hydrocarbon Criteria Working Group	>C5-C6 Aliphatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	>C6-C8 Aliphatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	>C8-C10 Aliphatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	>C10-C12 Aliphatics	µg/L	<1	<1	<1	<1	33	<1	<1	2.8	6.4	<1	<1	45	110	<1
	>C12-C16 Aliphatics	µg/L	<1	<1	<1	<1	8.6	<1	<1	1.5	6.7	<1	<1	18	10	<1
	>C16-C21 Aliphatics	µg/L	<1	<1	<1	<1	8.2	<1	<1	30	160	<1	<1	24	4.9	<1
	>C21-C35 Aliphatics	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	220	<1	<1	12	1.1	<1
	Total >C5-C35 Aliphatics	µg/L	<10	<10	<10	<10	51	<10	<10	35	390	<10	<10	99	120	<10
	>EC5-EC7 Aromatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	>EC7-EC8 Aromatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	>EC8-EC10 Aromatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	>EC10-EC12 Aromatics	µg/L	<1	<1	3.9	<1	<1	2.1	<1	<1	2.2	<1	<1	<1	<1	<1
	>EC12-EC16 Aromatics	µg/L	<1	<1	11	<1	<1	4.1	<1	<1	8.4	<1	<1	<1	<1	2.5
	>EC16-EC21 Aromatics	µg/L	<1	<1	74	<1	<1	43	<1	<1	110	<1	<1	<1	<1	24
	>EC21-EC35 Aromatics	µg/L	<1	<1	23	<1	<1	15	<1	<1	110	<1	<1	<1	<1	1.5
Total >EC5-EC35 Aromatics	µg/L	<10	<10	110	<10	<10	64	<10	<10	240	<10	<10	<10	<10	29	
TPH >C5-C35 Aliphatics/Aromatics	µg/L	<10	<10	110	<10	51	64	<10	36	630	<10	<10	99	120	29	
Petroleum Hydrocarbon	EPH >C10-40	µg/L	120	280	-	-	54	-	-	150	-	72	-	<10	780	-
	GRO C5-C10	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, Toluene, Ethylbenzene, Xylenes and Methyl tert butyl ether	Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1 - 4	<1 - 4	<1 - 4	<1	<1	<1
	Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Xylene (m & p)	µg/L	<2	<2	<2	-	<2	<2	-	<2	<2	<2	<2	-	<2	<2
	Xylene (o)	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Xylene Total	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenolics	3-&4-methylphenol	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Phenol	µg/L	2	5	<5	-	<1	<1	-	<1	<1	<1	1.2	-	<1	<1
	Phenols Monohydric	µg/L	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	910

Appendix I, Table 4: Groundwater data (Enviros 2004, AEG 2018 and)

Chem_Group	Location		Onsite				Onsite			Onsite				Onsite		
	Compound	Location ID Well Sampled	MSIBH07				MSIBH08			MSIBH09				MSIBH11		
			D	S	D	D	D	D	D	S	S	S	S	D	S	D
			12/08/2021	12/08/2021	12/10/2021	15/11/2021	11/08/2021	12/10/2021	15/11/2021	13/08/2021	12/10/2021	15/11/2021	15/11/2021	11/08/2021	12/08/2021	17/11/2021
Volatile Organic Compounds	Styrene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	cis-1,3-dichloropropene	µg/L	-	-	<1	-	-	<1	-	-	<1	<1	<1	-	-	<1
	trans-1,3-dichloropropene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,1,1-trichloroethane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,1,2-trichloroethane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,1-dichloroethane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,1-dichloroethene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,1-dichloropropene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,2,3-trichloropropane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,2,4-trimethylbenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,2-dibromoethane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,2-dichloroethane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,3-Dichloropropene	µg/L	<1	<1	-	-	<1	-	-	<1	-	-	-	-	<1	-
	1,2-dichloropropane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,3,5-trimethylbenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,3-dichloropropane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	2,2-dichloropropane	µg/L	<2	<2	<2	-	<2	<2	-	<2	<2	<2	<2	-	<2	<2
	2-chlorotoluene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	4-chlorotoluene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Bromobenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Bromochloromethane	µg/L	<4	<4	<4	-	<4	<4	-	<4	<4	<4	<4	-	<4	<4
	Bromodichloromethane	µg/L	<4	<4	<4	-	<4	<4	-	<4	<4	<4	<4	-	<4	<4
	Bromoform	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Bromomethane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Carbon tetrachloride	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Chlorodibromomethane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Chloroethane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Chloroform	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Chloromethane	µg/L	2	2	<1	-	3	<1	-	<1	<1	<1	<1	-	2	<1
	cis-1,2-dichloroethene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Dibromomethane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Dichlorodifluoromethane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
Dichloromethane	µg/L	<27	<27	<27	-	<27	<27	-	<27	<27	<27	<27	-	<27	<27	
Isopropylbenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
n-butylbenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
n-propylbenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
p-isopropyltoluene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
sec-butylbenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
Trichloroethene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
tert-butylbenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
Tetrachloroethene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
trans-1,2-dichloroethene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
Trichlorofluoromethane	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
Vinyl chloride	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
Semi Volatile Organic Compounds / Volatile Organic Compounds	1,2,3-trichlorobenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,2,4-trichlorobenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,2-dichlorobenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1,3-dichlorobenzene	µg/L	<2	<2	<2	-	<2	<2	-	<2	<2	<2	<2	-	<2	<2
	1,4-dichlorobenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Chlorobenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	

Appendix I, Table 4: Groundwater data (Enviros 2004, AEG 2018 and)

Chem_Group	Location		Onsite				Onsite			Onsite				Onsite			
	Compound	Location ID Well Sampled	MSIBH07				MSIBH08			MSIBH09				MSIBH11			
			D	S	D	D	D	D	D	S	S	S	S	D	S	D	
				12/03/2021	12/08/2021	12/10/2021	15/11/2021	11/08/2021	12/10/2021	15/11/2021	13/08/2021	12/10/2021	15/11/2021	15/11/2021	11/03/2021	12/08/2021	17/11/2021
Semi Volatile Organic Compounds	1,4-dinitrobenzene	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	Benzyl alcohol	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	4-bromophenyl phenyl ether	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	4-nitroaniline	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	4-nitrophenol	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	1,3-Dinitrobenzene	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	1-Methylnaphthalene	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	2,3,4,6-tetrachlorophenol	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	2,3,5,6-Tetrachlorophenol	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	2,4,5-trichlorophenol	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	2,4,6-trichlorophenol	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	2,4-dichlorophenol	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	2,4-dimethylphenol	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	2,4-dinitrotoluene	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	2,6-dinitrotoluene	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	2-chloronaphthalene	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	2-chlorophenol	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	2-methylnaphthalene	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	2-methylphenol	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	2-nitroaniline	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	3-nitroaniline	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	4-chloro-3-methylphenol	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	4-chlorophenyl phenyl ether	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	Aniline	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	Azobenzene	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	Bis(2-chloroethoxy) methane	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	Bis(2-chloroisopropyl) ether	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
	Bis(2-ethylhexyl) phthalate	µg/L	<1	<1	13	-	<1	<1	-	<1	<1	<1	2.9	-	<1	<1	
	Bis(2-ethylhexyl)ester	µg/L	-	-	<5	-	-	<1	-	-	<1	<1	<1	-	-	<1	
	Butyl benzyl phthalate	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1	
Carbazole	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1		
Di(2-ethylhexyl)adipate	µg/L	<1	<1	-	-	<1	-	-	<1	-	-	-	-	<1	-		
Dibenzofuran	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1		
Diethylphthalate	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1		
Dimethyl phthalate	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1		
Di-n-butyl phthalate	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1		
Di-n-octyl phthalate	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1		
Diphenylamine	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1		
Hexachlorobenzene	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1		
Hexachlorocyclopentadiene	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1		
Pentachlorophenol	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1		

Appendix I, Table 4: Groundwater data (Enviros 2004, AEG 2018 and)

Chem_Group	Location		Onsite				Onsite			Onsite				Onsite		
	Compound	Location ID Well Sampled	MS\BH07				MS\BH08			MS\BH09				MS\BH11		
			D	S	D	D	D	D	D	S	S	S	S	D	S	D
			12/08/2021	12/08/2021	12/10/2021	15/11/2021	11/08/2021	12/10/2021	15/11/2021	13/08/2021	12/10/2021	15/11/2021	15/11/2021	11/08/2021	12/08/2021	17/11/2021
Polychlorinated Biphenyls	Heptachlorobiphenyl, 2,3,3,4,4,5,5-	µg/L	<0.3	<0.3	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,3,4,4,5-	µg/L	<0.3	<0.3	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,3,4,4,5-	µg/L	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,4,4,5,5-	µg/L	<0.3	<0.3	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 3,3,4,4,5,5-	µg/L	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 101	µg/L	<0.3	<0.3	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 138	µg/L	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 118 + PCB 123	mg/L	<0.0006	<0.0006	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 153	µg/L	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 180	µg/L	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 52	µg/L	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 28 + PCB 31	mg/L	<0.0003	<0.0003	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,3,4,4-	µg/L	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,5-	µg/L	<0.3	<0.3	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 3,3,4,4,5-	µg/L	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,3,4,4- (PCB	µg/L	<0.3	<0.3	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,4,4,5- (PCB	µg/L	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB 7 Congeners	µg/L	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	
Total PCB WHO 12	µg/L	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	
PCBs (Sum of total)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Chem_Group	Location		Onsite						Onsite						Onsite		
	Compound	Location ID Well Sampled	MSIBH12						MSIBH13						MSIBH14		
			D	S	D	S	D	S	D	S	D	S	D	S	10/08/2021	16/11/2021	16/11/2021
Metals	Antimony (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Arsenic	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Arsenic (Filtered)	µg/L	0.58	7.7	0.73	0.95	0.72	1.3	1.9	10	0.95	16	1	10	24	23	2.5
	Barium (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Beryllium (Filtered)	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Boron	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Boron (Filtered)	µg/L	180	300	700	180	550	36	660	360	590	630	650	620	17	<12	<12
	Cadmium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cadmium (Filtered)	µg/L	<0.03	<0.03	0.08	<0.03	<0.03	<0.03	<0.03	<0.03	0.19	<0.03	0.2	<0.03	0.08	0.07	<0.03
	Chromium (hexavalent)	µg/L	11	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7
	Chromium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (Trivalent) (Filtered)	µg/L	<1	<1	2.2	6.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Copper	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper (Filtered)	µg/L	1.7	0.4	1.5	0.9	<0.4	<0.4	<0.4	<0.4	1.7	<0.4	1.5	1.2	0.7	0.7	0.8
	Iron	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Iron (Filtered)	µg/L	11	16	4500	23	2700	15	1200	91	7.6	350	83	890	16	16	40
	Lead	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Lead (Filtered)	µg/L	0.49	<0.09	1.1	0.23	<0.09	<0.09	<0.09	<0.09	2.5	<0.09	0.69	0.1	0.19	0.57	0.26
	Manganese (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury (Filtered)	µg/L	<0.01	0.08	0.03	0.02	0.04	0.03	<0.01	0.03	<0.01	0.01	<0.01	<0.01	0.41	0.36	<0.01
	Nickel	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Filtered)	µg/L	4.4	3.1	2.4	2.7	0.7	5.8	11	0.9	7.6	1	15	1.3	5.2	5.5	<0.5	
Selenium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Selenium (Filtered)	µg/L	2.5	28	0.63	3	<0.25	7.8	2	0.6	0.7	0.27	0.61	<0.25	3.2	2.5	<0.25	
Vanadium (Filtered)	µg/L	0.9	54	2.2	4.8	0.6	3	-	-	<0.6	1.3	<0.6	2	63	6.6	<0.6	
Zinc	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Zinc (Filtered)	µg/L	3	3.2	8.5	1.9	1.6	<1.3	8.7	6.3	22	3.8	18	8.8	<1.3	3.1	3	
Inorganics	Total Hardness	mg/l	437	142	1780	349	1650	1740	3390	370	6550	416	6140	433	593	437	4.49
	Alkalinity (total) as CaCO3	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Ammoniacal Nitrogen as N	mg/L	0.13	0.66	6.5	4.1	5.6	4.1	2.6	2	4.8	4.5	5.3	5.3	0.79	4.7	4.8
	Ammoniacal Nitrogen as NH3	mg/L	0.16	0.8	7.9	4.9	6.8	5	3.2	2.4	5.8	5.4	6.4	6.4	0.96	5.7	5.8
	Carbonate	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cyanide (Free)	µg/L	<20	<20	<0.1	1.8	<0.1	0.5	-	-	0.7	5.6	0.9	<0.1	<20	0.2	<0.1
	Cyanide Total	µg/L	-	-	0.3	9.9	0.6	5.5	-	-	2.2	39	0.9	<0.1	-	5.2	4.5
	Cyanide Total (Filtered)	µg/L	<40	<40	-	-	-	-	-	-	-	-	-	-	<40	-	-
	cyanides-complex	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Magnesium	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Magnesium (Filtered)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate (as N)	mg/L	0.83	-	-	<0.1	0.44	0.39	0.21	0.15	<0.1	<0.1	<0.1	<0.1	-	-	-
	Nitrate (as NO3-) (Filtered)	mg/L	-	<0.1	-	-	-	-	-	-	-	-	-	-	0.28	<0.1	-
	Nitrite (as N)	mg/L	<0.035	-	<0.035	-	<0.035	<0.035	<0.035	<0.035	-	-	<0.035	<0.035	-	-	-
	Nitrite (as NO2-) (Filtered)	mg/L	-	0.69	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-
	Sulphate (Filtered)	mg/L	130	160	-	-	-	-	1300	280	-	-	-	-	540	-	-
	Sulphide (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphate as SO4	mg/L	-	-	210	380	170	1100	-	-	3000	1100	2600	350	-	420	400
	Sulphur as S	mg/L	37	-	-	-	-	-	570	-	-	-	-	-	180	-	-
Thiocyanate (as SCN)	µg/L	-	-	32	25	<20	<20	-	-	42	9300	<20	7400	-	230	210	
Thiocyanate (as SCN) (Filtered)	µg/L	<20	<20	-	-	-	-	-	-	-	-	-	-	170	-	-	
Other	Total Dissolved Solids	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Total Dissolved Solids (Filtered)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	pH (Lab)	pH_Units	11.9	11.2	7.2	11.6	7	11.8	7.2	8.5	7.2	8.2	7	8	10.9	11.3	11.3
	Total Organic Carbon	mg/l	-	-	-	-	-	-	3.9	8.2	-	-	-	-	7.6	-	-

Appendix I, Table 4: Groundwater data (Enviros 2004, AEG 2018 and)

Chem_Group	Location		Onsite						Onsite						Onsite		
	Compound	Location ID Well Sampled	MS\BH12						MS\BH13						MS\BH14		
			D	S	D	S	D	S	D	S	D	S	D	S	10/08/2021	16/11/2021	16/11/2021
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/L	<1 - 0.08	0.5	<1	-	<1	<1	0.24	0.1	-	<1	-	<1	0.65	-	-
	Acenaphthene	µg/L	<0.01	0.08	<1	-	<1	<1	0.08	0.06	-	<1	-	<1	2.3	-	-
	Acenaphthylene	µg/L	<1 - 0.01	0.01	<1	-	<1	<1	<0.01	<0.01	-	<1	-	<1	0.02	-	-
	Fluoranthene	µg/L	<1 - 0.01	0.04	<1	-	<1	<1	0.02	<0.01	-	<1	-	<1	0.24	-	-
	Anthracene	µg/L	<0.01	<0.01	<1	-	<1	<1	<0.01	<0.01	-	<1	-	<1	0.19	-	-
	Phenanthrene	µg/L	<1 - 0.03	0.05	<1	-	<1	<1	0.01	<0.01	-	<1	-	<1	2.6	-	-
	Fluorene	µg/L	<1 - 0.06	0.04	<1	-	<1	<1	0.02	0.02	-	<1	-	<1	0.52	-	-
	Chrysene	µg/L	<0.01	<0.01	<1	-	<1	<1	<0.01	<0.01	-	<1	-	<1	0.02	-	-
	Pyrene	µg/L	<1 - 0.01	0.03	<1	-	<1	<1	0.02	0.01	-	<1	-	<1	0.14	-	-
	Benzo(a)anthracene	µg/L	<0.01	<0.01	<1	-	<1	<1	<0.01	<0.01	-	<1	-	<1	0.02	-	-
	Benzo(b)fluoranthene	µg/L	<0.01	<0.01	<1	-	<1	<1	<0.01	<0.01	-	<1	-	<1	<0.01	-	-
	Benzo(k)fluoranthene	µg/L	<0.01	<0.01	<1	-	<1	<1	<0.01	<0.01	-	<1	-	<1	<0.01	-	-
	Benzo(a)pyrene	µg/L	<0.01	<0.01	<1	-	<1	<1	<0.01	<0.01	-	<1	-	<1	<0.01	-	-
	Dibenz(a,h)anthracene	µg/L	<0.01	<0.01	<1	-	<1	<1	<0.01	<0.01	-	<1	-	<1	0.01	-	-
	Benzo(g,h,i)perylene	µg/L	<0.01	<0.01	<1	-	<1	<1	<0.01	<0.01	-	<1	-	<1	0.01	-	-
Indeno(1,2,3-c,d)pyrene	µg/L	<0.01	<0.01	<1	-	<1	<1	<0.01	<0.01	-	<1	-	<1	<0.01	-	-	
PAH 16 Total	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PAHs (Sum of total)	µg/L	0.21	0.76	-	-	-	-	0.39	0.2	-	-	-	-	6.8	-	-	
Total Petroleum Hydrocarbon Criteria Working Group	>C5-C6 Aliphatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	>C6-C8 Aliphatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	>C8-C10 Aliphatics	µg/L	0.7	<0.1	<0.1	<0.1	<0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	>C10-C12 Aliphatics	µg/L	<1	34	<1	<1	<1	<1	<1	<1	6.1	10	<1	<1	<1	<1	<1
	>C12-C16 Aliphatics	µg/L	1.3	12	<1	<1	<1	<1	<1	<1	4.3	15	<1	<1	<1	<1	<1
	>C16-C21 Aliphatics	µg/L	5.1	19	<1	<1	<1	<1	<1	<1	79	80	<1	<1	<1	<1	<1
	>C21-C35 Aliphatics	µg/L	<1	5.8	<1	<1	<1	<1	<1	<1	20	49	<1	<1	<1	<1	<1
	Total >C5-C35 Aliphatics	µg/L	<10	71	<10	<10	<10	<10	<10	<10	110	150	<10	<10	<10	<10	<10
	>EC5-EC7 Aromatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	>EC7-EC8 Aromatics	µg/L	22	<0.1	<0.1	<0.1	<0.1	13	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	>EC8-EC10 Aromatics	µg/L	14	<0.1	<0.1	<0.1	<0.1	23	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	>EC10-EC12 Aromatics	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	3.1	2.7	<1	<1	<1	<1	<1
	>EC12-EC16 Aromatics	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	9.2	7.1	<1	<1	<1	<1	<1
	>EC16-EC21 Aromatics	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	42	33	<1	<1	<1	<1	<1
	>EC21-EC35 Aromatics	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	6.2	7.5	<1	<1	<1	<1	<1
Total >EC5-EC35 Aromatics	µg/L	36	<10	<10	<10	<10	36	<10	<10	61	50	<10	<10	<10	<10	<10	
TPH >C5-C35 Aliphatics/Aromatics	µg/L	44	71	<10	<10	<10	37	<10	<10	170	200	<10	<10	<10	<10	<10	
Petroleum Hydrocarbon	EPH >C10-40	µg/L	200	33	-	-	-	-	<10	440	-	-	-	-	53	120	-
	GRO C5-C10	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, Toluene, Ethylbenzene, Xylenes and Methyl tert butyl ether	Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	µg/L	<1 - 22	<1	<1	<1	<1	<1 - 13	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Ethylbenzene	µg/L	<1 - 14	<1	<1	<1	<1	<1 - 23	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Xylene (m & p)	µg/L	<2	-	<2	-	<2	-	-	-	-	<2	-	<2	-	-	-
	Xylene (o)	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Xylene Total	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenolics	MTBE	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	3-&4-methylphenol	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Phenol	µg/L	<1	-	3.5	-	<1	<1	-	-	-	<1	-	<1	-	-	-
Phenols Monohydric	µg/L	<100	<100	610	<100	510	<100	<100	<100	2000	160	1200	170	<100	<100	<100	

Appendix I, Table 4: Groundwater data (Enviros 2004, AEG 2018 and)

Chem_Group	Location		Onsite						Onsite						Onsite		
	Compound	Location ID Well Sampled	MS\BH12						MS\BH13						MS\BH14		
			D	S	D	S	D	S	D	S	D	S	D	S	10/08/2021	16/11/2021	16/11/2021
Volatile Organic Compounds	Styrene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	cis-1,3-dichloropropene	µg/L	-	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	trans-1,3-dichloropropene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1,1,1,2-tetrachloroethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1,1,1-trichloroethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1,1,2,2-tetrachloroethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1,1,2-trichloroethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1,1-dichloroethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1,1-dichloropropene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1,2,3-trichloropropane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1,2,4-trimethylbenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1,2-dibromo-3-chloropropane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1,2-dibromoethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1,2-dichloroethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1,3-Dichloropropene	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloropropane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1,3,5-trimethylbenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1,3-dichloropropane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	2,2-dichloropropane	µg/L	<2	-	<2	-	<2	<2	-	-	-	<2	-	<2	-	-	-
	2-chlorotoluene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	4-chlorotoluene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Bromobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Bromochloromethane	µg/L	<4	-	<4	-	<4	<4	-	-	-	<4	-	<4	-	-	-
	Bromodichloromethane	µg/L	<4	-	<4	-	<4	<4	-	-	-	<4	-	<4	-	-	-
	Bromoform	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Bromomethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Carbon tetrachloride	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Chlorodibromomethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Chloroethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Chloroform	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Chloromethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	cis-1,2-dichloroethene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
Dibromomethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
Dichlorodifluoromethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
Dichloromethane	µg/L	<27	-	<27	-	<27	<27	-	-	-	<27	-	<27	-	-	-	
Isopropylbenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
n-butylbenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
n-propylbenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
p-isopropyltoluene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
sec-butylbenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
Trichloroethene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
tert-butylbenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
Tetrachloroethene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
trans-1,2-dichloroethene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
Trichlorofluoromethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
Vinyl chloride	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
Semi Volatile Organic Compounds / Volatile Organic Compounds	1,2,3-trichlorobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	<1	-	<1	-	-	-	
	1,2,4-trichlorobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	<1	-	<1	-	-	-	
	1,2-dichlorobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	<1	-	<1	-	-	-	
	1,3-dichlorobenzene	µg/L	<2	-	<2	-	<2	<2	-	-	<2	-	<2	-	-	-	
	1,4-dichlorobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	<1	-	<1	-	-	-	
	Chlorobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	<1	-	<1	-	-	-	
Hexachlorobutadiene	µg/L	<1	-	<1	-	<1	<1	-	-	<1	-	<1	-	-	-		

Appendix I, Table 4: Groundwater data (Enviros 2004, AEG 2018 and)

Chem_Group	Location		Onsite						Onsite						Onsite		
	Compound	Location ID Well Sampled	MS\BH12						MS\BH13						MS\BH14		
			D	S	D	S	D	S	D	S	D	S	D	S	10/08/2021	16/11/2021	16/11/2021
Semi Volatile Organic Compounds	1,4-dinitrobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Benzyl alcohol	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	4-bromophenyl phenyl ether	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	4-nitroaniline	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	4-nitrophenol	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1,3-Dinitrobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	1-Methylnaphthalene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	2,3,4,6-tetrachlorophenol	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	2,3,5,6-Tetrachlorophenol	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	2,4,5-trichlorophenol	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	2,4,6-trichlorophenol	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	2,4-dichlorophenol	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	2,4-dimethylphenol	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	2,4-dinitrotoluene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	2,6-dinitrotoluene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	2-chloronaphthalene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	2-chlorophenol	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	2-methylnaphthalene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	2-methylphenol	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	2-nitroaniline	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	3-nitroaniline	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	4-chloro-3-methylphenol	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	4-chlorophenyl phenyl ether	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Aniline	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Azobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Bis(2-chloroethoxy) methane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Bis(2-chloroisopropyl) ether	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Bis(2-ethylhexyl) phthalate	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Bis(2-ethylhexyl) ester	µg/L	-	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
	Butyl benzyl phthalate	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-
Carbazole	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
Di(2-ethylhexyl) adipate	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dibenzofuran	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
Diethylphthalate	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
Dimethyl phthalate	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
Di-n-butyl phthalate	µg/L	<1	-	<1	-	<1	<1	-	-	-	2	-	1.2	-	-	-	
Di-n-octyl phthalate	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
Diphenylamine	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
Hexachlorobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
Hexachlorocyclopentadiene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	
Pentachlorophenol	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	-	

Appendix I, Table 4: Groundwater data (Enviros 2004, AEG 2018 and)

Location		Onsite						Onsite						Onsite			
Chem_Group	Compound	Location ID Well Sampled	MS\BH12				MS\BH13				MS\BH14						
			D	S	D	S	D	S	D	S	D	S					
			13/08/2021	11/08/2021	18/10/2021	12/10/2021	17/11/2021	17/11/2021	12/08/2021	12/08/2021	12/10/2021	12/10/2021	16/11/2021	16/11/2021	10/08/2021	16/11/2021	16/11/2021
Polychlorinated Biphenyls	Heptachlorobiphenyl, 2,3,3,4,4,5,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,3,4,4,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,3,4,4,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,4,4,5,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 3,3,4,4,5,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 101	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 138	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 118 + PCB 123	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 153	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 180	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 52	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 28 + PCB 31	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,3,4,4-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 3,3,4,4,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,3,4,4- (PCB	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,4,4,5- (PCB	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB 7 Congeners	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total PCB WHO 12	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PCBs (Sum of total)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Location		Onsite				Onsite		Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	
Chem_Group	Compound	Location ID Well Sampled	MS\BH15				MS\BH17		MS\TP06	S1-BH04	S1-BH05	S1-BH05	S1-BH06	S1-BH06	S1-BH07A	S1-BH12	S1-BH13A	S1-BH13A	S1-BH14	S1-BH18	S1-BH18	S1-BH19
			D	S	D	S	D	D	22/06/2021	08/01/2018	08/01/2018	22/02/2018	08/01/2018	22/02/2018	08/01/2018	09/01/2018	09/01/2018	22/02/2018	09/01/2018	09/01/2018	22/02/2018	09/01/2018
Metals	Antimony (Filtered)	µg/L	-	-	-	-	-	-	2	0.64	-	0.94	-	1.1	1.2	0.52	-	0.47	0.59	-	1.1	
	Arsenic	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Arsenic (Filtered)	µg/L	11	8.9	8.2	7.9	5.2	1.6	25	2.7	12	3.1	17	17	10	11	6.8	9.2	7.2	7.1	6.2	12
	Barium (Filtered)	µg/L	-	-	-	-	-	-	-	85	20	-	47	-	73	150	100	-	140	56	-	49
	Beryllium (Filtered)	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1
	Boron	µg/L	-	-	-	-	-	-	-	<100	<100	<100	440	1000	<100	170 - 270	130 - 230	<100	130 - 190	220	<100	260
	Boron (Filtered)	µg/L	76	80	64	58	<12	<12	420	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cadmium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cadmium (Filtered)	µg/L	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.32	<0.03	0.05	0.04	0.08	0.05	0.06	<0.03	<0.03	0.03	<0.03	0.06	0.04	0.07
	Chromium (hexavalent)	µg/L	<7	<7	<7	<7	<7	<7	<7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (Filtered)	µg/L	-	-	-	-	-	-	-	<0.25	<0.25	1.6	<0.25	1.4	1.5	<0.25	<0.25	0.29	<0.25	0.94	0.63	0.3
	Chromium (Trivalent) (Filtered)	µg/L	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper (Filtered)	µg/L	<0.4	0.8	<0.4	0.6	0.8	1.6	1.7	3.7	0.8	6.2	0.8	1.6	3	0.8	0.6	1.1	0.5	1.5	<0.4	6.7
	Iron	µg/L	-	-	-	-	-	-	-	25	49	-	220	-	57	130	160	-	180	24	-	93
	Iron (Filtered)	µg/L	8.6	14	11	22	22	81	1800	25	49	-	220	-	57	130	160	-	180	24	-	93
	Lead	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Lead (Filtered)	µg/L	<0.09	0.19	<0.09	<0.09	0.1	0.49	10	0.53	0.28	1.1	0.31	3.4	0.24	0.19	0.13	0.54	0.16	0.11	0.24	0.4
	Manganese (Filtered)	µg/L	-	-	-	-	-	-	-	230	1.3	-	25	-	1.7	2.9	0.58	-	0.93	26	-	4.5
	Mercury	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury (Filtered)	µg/L	0.1	0.14	0.17	0.19	0.19	<0.01	0.06	0.02	0.05	<0.01	0.08	<0.01	0.09	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	0.08
	Nickel	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nickel (Filtered)	µg/L	0.7	0.9	0.6	0.9	2.2	<0.5	7.5	3.9	4.7	4.1	5.1	9.7	3.5	2.9	1.8	2.1	2.2	1.6	1.3	3
Selenium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Selenium (Filtered)	µg/L	9.2	6.5	2	5.2	4.7	0.43	5.3	1.7	14	-	38	-	13	25	13	-	12	19	-	34	
Vanadium (Filtered)	µg/L	1.1	93	0.6	96	59	1.6	1.6	6.5	150	20	43	19	280	47	40	15	45	87	24	95	
Zinc	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Zinc (Filtered)	µg/L	4.4	9.2	<1.3	<1.3	<1.3	<1.3	130	3.2	<1.3	3.9	<1.3	7	13	7.5	11	2.8	10	1.7	3.1	3.5	
Inorganics	Total Hardness	mg/l	1040	931	2230	1060	1020	27.5	430	-	-	-	-	-	-	-	-	-	-	-	-	
	Alkalinity (total) as CaCO3	mg/L	-	-	-	-	-	-	-	150	220	-	170	-	82	91	110	-	110	48	-	81
	Ammoniacal Nitrogen as N	mg/L	1.3	0.57	1.9	1.5	0.28	2.7	0.22	0.51	9.6	-	8.6	-	1.2	6.8	8.2	-	8.3	1.8	-	3.7
	Ammoniacal Nitrogen as NH3	mg/L	1.6	0.69	2.2	1.8	0.35	3.3	0.27	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbonate	µg/L	-	-	-	-	-	-	-	150,000	220,000	-	170,000	-	82,000	91,000	110,000	-	110,000	48,000	-	81,000
	Chloride	mg/L	-	-	-	-	-	-	-	33	110	-	810	-	53	51	26	-	35	44	-	97
	Cyanide (Free)	µg/L	<20	<20	0.2	0.3	<20	<0.1	0.3	<20	<20	<20	58	<20	<20	<20	<20	<20	<20	<20	<20	<20
	Cyanide Total	µg/L	-	-	11	8.2	-	76	-	<40	68	<40	310	42	<40	230	350	<40	340	<40	<40	210
	Cyanide Total (Filtered)	µg/L	<40	<40	-	-	<40	-	7.5	-	-	-	-	-	-	-	-	-	-	-	-	-
	cyanides-complex	µg/L	-	-	-	-	-	-	-	<40	66	<40	250	42	<40	230	350	<40	340	<40	-	210
	Magnesium	mg/L	-	-	-	-	-	-	-	14	0.05	-	6.6	-	1.9	0.53	0.33	-	0.49	1.2	-	0.95
	Magnesium (Filtered)	mg/L	-	-	-	-	-	-	-	14	0.05	-	6.6	-	1.9	0.53	0.33	-	0.49	1.2	-	0.95
	Nitrate (as N)	mg/L	0.39	0.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate (as NO3-) (Filtered)	mg/L	-	-	-	-	0.98	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrite (as N)	mg/L	<0.035	0.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrite (as NO2-) (Filtered)	mg/L	-	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphate (Filtered)	mg/L	130	1100	-	-	890	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphide (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphate as SO4	mg/L	-	-	1300	970	-	920	-	120	230	260	520	300	370	200	260	440	320	1000	1200	690
	Sulphur as S	mg/L	-	380	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thiocyanate (as SCN)	µg/L	-	-	280	220	-	120	-	<40	9900	240	85,000	5100	1400	800	1000	2000	1000	450	-	370	
Thiocyanate (as SCN) (Filtered)	µg/L	170	230	-	-	110	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other	Total Dissolved Solids	mg/L	-	-	-	-	-	-	420	850	-	2300	-	790	780	950	-	930	2000	-	1200	
	Total Dissolved Solids (Filtered)	mg/L	-	-	-	-	-	-	420	850	-	2300	-	790	780	950	-	930	2000	-	1200	
	pH (Lab)	pH_Units	9.7	10.7	10.3	10.9	11.2	11.3	7.1	8	11.6	11.9	9.3	8.8	10.6	11	11.3	11.5	8.8	10.5	7.5	11
Total Organic Carbon	mg/l	-	-	-	-	16	-	63	-	-	-	-	-	-	-	-	-	-	-	-	-	

Location		Onsite																				
Chem_Group	Compound	Location ID Well Sampled	MS\BH15				MS\BH17		MS\TP06	S1-BH04	S1-BH05	S1-BH05	S1-BH06	S1-BH06	S1-BH07A	S1-BH12	S1-BH13A	S1-BH13A	S1-BH14	S1-BH18	S1-BH18	S1-BH19
			D	S	D	S	D	D	22/06/2021	08/01/2018	08/01/2018	22/02/2018	08/01/2018	22/02/2018	08/01/2018	09/01/2018	09/01/2018	22/02/2018	09/01/2018	09/01/2018	22/02/2018	09/01/2018
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/L	4.9	<1 - 0.6	-	<1	0.06	<1	<1	<1 - 0.04	<1 - 2.8	0.05	<1 - 0.06	0.05	<1 - 0.14	6.4 - 18	6.9 - 14	25	<1 - 0.1	2.7 - 13	9.1	<0.01
	Acenaphthene	µg/L	0.51	<1 - 0.42	-	<1	0.12	<1	150	<1 - 0.72	1.2 - 2.5	1.8	<0.01	0.07	<1 - 0.26	1.1 - 2.5	5.5 - 9.7	14	<1 - 0.13	<1 - 1.6	3.3	1.4 - 2
	Acenaphthylene	µg/L	0.01	<1 - 0.1	-	<1	0.02	<1	<100	<1 - 0.07	<1 - 0.1	0.12	<0.01	<0.01	<1 - 0.03	<1 - 0.09	<1 - 0.21	0.38	<0.01	<1 - 0.08	0.12	<1 - 0.1
	Fluoranthene	µg/L	<0.01	<1 - 0.03	-	<1	0.04	<1	5400	<1 - 0.59	<1 - 0.74	0.92	<1 - 0.03	0.08	<1 - 0.5	<1 - 0.89	2.3 - 6	6.4	<1 - 0.11	<1 - 0.02	0.17	<1 - 0.36
	Anthracene	µg/L	<0.01	<1 - 0.02	-	<1	0.02	<1	<100	<1 - 0.09	<1 - 0.24	0.13	<1 - 0.01	<0.01	<1 - 0.06	<1 - 0.19	1.2 - 2.4	2.5	<1 - 0.03	<1 - 0.01	0.03	<1 - 0.09
	Phenanthrene	µg/L	<0.01	<1 - 0.1	-	<1	0.08	<1	<100	<1 - 0.15	<1 - 2	0.61	<1 - 0.04	0.07	<1 - 0.3	<1 - 2.1	9.8 - 20	27	<1 - 0.21	<1 - 0.14	0.37	<1 - 0.1
	Fluorene	µg/L	0.07	<1 - 0.2	-	<1	0.04	<1	<100	<1 - 0.24	<1 - 0.81	0.65	<0.01	0.03	<1 - 0.07	<1 - 0.86	4.4 - 7.1	12	<1 - 0.07	<1 - 0.42	0.8	<1 - 0.58
	Chrysene	µg/L	<0.01	<0.01	-	<1	<0.01	<1	460	<1 - 0.09	<1 - 0.12	0.07	<1 - 0.01	0.02	<1 - 0.12	<1 - 0.29	<1 - 0.81	0.17	<1 - 0.05	<0.01	0.04	<0.01
	Pyrene	µg/L	0.01	<1 - 0.03	-	<1	0.03	<1	5400	<1 - 0.43	<1 - 0.67	0.82	<1 - 0.03	0.08	<1 - 0.41	<1 - 0.6	1.5 - 3.5	4.1	<1 - 0.07	<1 - 0.01	0.12	<1 - 0.28
	Benzo(a)anthracene	µg/L	<0.01	<0.01	-	<1	<0.01	<1	660	<1 - 0.09	<1 - 0.09	0.05	<0.01	0.01	<1 - 0.11	<1 - 0.25	<1 - 1.3	0.21	<1 - 0.03	<0.01	0.03	<0.01
	Benzo(b)fluoranthene	µg/L	<0.01	<0.01	-	<1	<0.01	<1	140	<1 - 0.11	<1 - 0.07	0.03	<1 - 0.04	<0.01	<1 - 0.15	<1 - 0.3	<1 - 1.1	0.08	<1 - 0.07	<0.01	0.04	<0.01
	Benzo(k)fluoranthene	µg/L	<0.01	<0.01	-	<1	<0.01	<1	<100	<1 - 0.06	<1 - 0.03	0.01	<0.01	<0.01	<1 - 0.06	<1 - 0.15	<1 - 0.38	0.03	<1 - 0.02	<0.01	0.01	<0.01
	Benzo(a)pyrene	µg/L	<0.01	<0.01	-	<1	<0.01	<1	<100	<1 - 0.08	<1 - 0.04	<0.01	<0.01	<0.01	<1 - 0.08	<1 - 0.24	<1 - 0.88	0.05	<1 - 0.05	<0.01	0.02	<0.01
	Dibenz(a,h)anthracene	µg/L	<0.01	<0.01	-	<1	<0.01	<1	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<1 - 0.04	<1 - 0.09	<0.01	<1 - 0.02	<0.01	<0.01	<0.01
	Benzo(g,h,i)perylene	µg/L	<0.01	<0.01	-	<1	<0.01	<1	<100	<1 - 0.06	<1 - 0.03	<0.01	<0.01	<0.01	<1 - 0.07	<1 - 0.12	<1 - 0.36	0.03	<1 - 0.06	<0.01	<0.01	<0.01
	Indeno(1,2,3-c,d)pyrene	µg/L	<0.01	<0.01	-	<1	<0.01	<1	<100	<1 - 0.06	<1 - 0.03	<0.01	<0.01	<0.01	<1 - 0.07	<1 - 0.1	<1 - 0.33	0.03	<1 - 0.05	<0.01	<0.01	<0.01
PAH 16 Total	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PAHs (Sum of total)	µg/L	5.6	1.5	-	-	0.42	-	-	2.9	9.6	5.3	0.22	0.4	2.4	19	62	92	1.1	7.6	14	3.5	
Total Petroleum Hydrocarbon Criteria Working Group	>C5-C6 Aliphatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>C6-C8 Aliphatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>C8-C10 Aliphatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>C10-C12 Aliphatics	µg/L	2.4	5	<1	<1	<1	<1	1900	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	>C12-C16 Aliphatics	µg/L	1.6	<1	<1	<1	<1	<1	28,000	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	
	>C16-C21 Aliphatics	µg/L	27	12	<1	<1	<1	<1	180,000	1.7	<1	<1	<1	<1	<1	8.9	<1	<1	7.5	<1	<1	
	>C21-C35 Aliphatics	µg/L	<1	1.8	<1	<1	<1	<1	44,000	7.1	<1	<1	<1	<1	<1	59	<1	<1	6.7	<1	<1	
	Total >C5-C35 Aliphatics	µg/L	32	20	<10	<10	<10	<10	250,000	<10	<10	<10	<10	<10	<10	69	<10	<10	14	<10	<10	
	>EC5-EC7 Aromatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>EC7-EC8 Aromatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>EC8-EC10 Aromatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>EC10-EC12 Aromatics	µg/L	<1	<1	<1	<1	<1	<1	7000	<1	3.5	2.9	<1	<1	<1	2	10	<1	1.4	3.9	<1	
	>EC12-EC16 Aromatics	µg/L	<1	<1	<1	<1	<1	<1	23,000	<1	3.2	11	<1	<1	<1	<1	5.2	19	<1	1	<1	
	>EC16-EC21 Aromatics	µg/L	<1	<1	<1	<1	<1	<1	120,000	<1	1.8	7.3	<1	<1	<1	2.8	6.5	15	<1	<1	<1	
	>EC21-EC35 Aromatics	µg/L	<1	<1	<1	<1	<1	<1	28,000	<1	1.9	<1	<1	<1	<1	21	<1	<1	<1	<1	<1	
	Total >EC5-EC35 Aromatics	µg/L	<10	<10	<10	<10	<10	<10	180,000	<10	10	21	<10	<10	<10	24	14	45	<10	<10	<10	
TPH >C5-C35 Aliphatics/Aromatics	µg/L	32	20	<10	<10	<10	<10	430,000	<10	11	21	<10	<10	<10	93	14	45	14	<10	<10		
Petroleum Hydrocarbon	EPH >C10-40	µg/L	130	120	-	-	<10	-	<100	-	-	-	-	-	-	-	-	-	-	-		
	GRO C5-C10	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	TPH by GCFID (AR)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Benzene, Toluene, Ethylbenzene, Xylenes and Methyl tert butyl ether	Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	1	1	<1	<1	<1	<1		
	Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	Xylene (m & p)	µg/L	-	<2	-	<2	-	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	-	<2	<2		
	Xylene (o)	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	-	<1	<1	-		
	Xylene Total	µg/L	<1	<1	<1	<1	<1	<1	<1	-	-	<1	-	<1	-	-	<1	-	<1	<1		
Phenolics	3-&4-methylphenol	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	1.8	1.1	-	<1	<1		
	Phenol	µg/L	-	3.8	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	-	<1	<1			
	Phenols Monohydric	µg/L	<100	<100	<100	<100	<100	<100	<100	4.9	12	21	6.9	3.4	6	<100 - 5.9	<100 - 2.9	<0.5	<100 - 3.1	<100 - 1.7		

Location			Onsite				Onsite		Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite
Chem_Group	Compound	Location ID Well Sampled	MS\BH15				MS\BH17		MS\TP06	S1-BH04	S1-BH05	S1-BH05	S1-BH06	S1-BH06	S1-BH07A	S1-BH12	S1-BH13A	S1-BH13A	S1-BH14	S1-BH18	S1-BH18	S1-BH19
			D 13/03/2021	S 13/08/2021	D 16/11/2021	S 16/11/2021	D 10/08/2021	D 16/11/2021	22/06/2021	08/01/2018	08/01/2018	22/02/2018	08/01/2018	22/02/2018	08/01/2018	09/01/2018	09/01/2018	22/02/2018	09/01/2018	09/01/2018	22/02/2018	09/01/2018
Volatile Organic Compounds	Styrene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	cis-1,3-dichloropropene	µg/L	-	-	-	<1	-	<1	-	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	trans-1,3-dichloropropene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,1,1,2-tetrachloroethane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,1,1-trichloroethane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,1,2,2-tetrachloroethane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,1,2-trichloroethane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,1-dichloroethane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,1-dichloropropene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,2,3-trichloropropane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,2,4-trimethylbenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,2-dibromo-3-chloropropane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,2-dibromoethane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,2-dichloroethane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,3-Dichloropropene	µg/L	-	<1	-	-	-	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,2-dichloropropane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,3,5-trimethylbenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,3-dichloropropane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	2,2-dichloropropane	µg/L	-	<2	-	<2	-	<2	<2	<2	<2	-	<2	-	<2	<2	<2	-	<2	<2	-	<2
	2-chlorotoluene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	4-chlorotoluene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Bromobenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Bromochloromethane	µg/L	-	<4	-	<4	-	<4	<4	<4	<4	-	<4	-	<4	<4	<4	-	<4	<4	-	<4
	Bromodichloromethane	µg/L	-	<4	-	<4	-	<4	<4	<4	<4	-	<4	-	<4	<4	<4	-	<4	<4	-	<4
	Bromoform	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Bromomethane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Carbon tetrachloride	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Chlorodibromomethane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Chloroethane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Chloroform	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	1	<1	<1	-	<1	<1	-	<1
	Chloromethane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	cis-1,2-dichloroethene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Dibromomethane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
Dichlorodifluoromethane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
Dichloromethane	µg/L	-	<27	-	<27	-	<27	<27	<27	<27	-	<27	-	<27	<27	<27	-	<27	<27	-	<27	
Isopropylbenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
n-butylbenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
n-propylbenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
p-isopropyltoluene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
sec-butylbenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
Trichloroethene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
tert-butylbenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
Tetrachloroethene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
trans-1,2-dichloroethene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
Trichlorofluoromethane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
Vinyl chloride	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
Semi Volatile Organic Compounds / Volatile Organic Compounds	1,2,3-trichlorobenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
	1,2,4-trichlorobenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
	1,2-dichlorobenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
	1,3-dichlorobenzene	µg/L	-	<2	-	<2	-	<2	<2	<2	-	<2	-	<2	<2	<2	-	<2	<2	-	<2	
	1,4-dichlorobenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Chlorobenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
Hexachlorobutadiene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	

Location		Onsite				Onsite		Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	
Chem_Group	Compound	Location ID Well Sampled	MS\BH15				MS\BH17		MS\TP06	S1-BH04	S1-BH05	S1-BH05	S1-BH06	S1-BH06	S1-BH07A	S1-BH12	S1-BH13A	S1-BH13A	S1-BH14	S1-BH18	S1-BH18	S1-BH19
			D 13/03/2021	S 13/08/2021	D 16/11/2021	S 16/11/2021	D 10/08/2021	D 16/11/2021	22/06/2021	08/01/2018	08/01/2018	22/02/2018	08/01/2018	22/02/2018	08/01/2018	09/01/2018	09/01/2018	22/02/2018	09/01/2018	09/01/2018	22/02/2018	09/01/2018
Semi Volatile Organic Compounds	1,4-dinitrobenzene	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Benzyl alcohol	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	4-bromophenyl phenyl ether	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	4-nitroaniline	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	4-nitrophenol	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1,3-Dinitrobenzene	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1-Methylnaphthalene	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	1.7	-	<1	<1	-	<1
	2,3,4,6-tetrachlorophenol	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	2,3,5,6-Tetrachlorophenol	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	2,4,5-trichlorophenol	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	2,4,6-trichlorophenol	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	2,4-dichlorophenol	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	2,4-dimethylphenol	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	4	1.5	-	<1	<1	-	1.5
	2,4-dinitrotoluene	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	2,6-dinitrotoluene	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	2-chloronaphthalene	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	2-chlorophenol	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	2-methylnaphthalene	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	1.8	-	<1	<1	-	<1
	2-methylphenol	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	2-nitroaniline	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	3-nitroaniline	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	4-chloro-3-methylphenol	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	4-chlorophenyl phenyl ether	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Aniline	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Azobenzene	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Bis(2-chloroethoxy) methane	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Bis(2-chloroisopropyl) ether	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Bis(2-ethylhexyl) phthalate	µg/L	-	<1	-	<1	-	<1	<100	<1	20	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Bis(2-ethylhexyl)ester	µg/L	-	-	-	<1	-	<1	-	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Butyl benzyl phthalate	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
Carbazole	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	3.3	-	<1	<1	-	<1	
Di(2-ethylhexyl)adipate	µg/L	-	<1	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dibenzofuran	µg/L	-	<1	-	<1	-	<1	310	<1	<1	-	<1	-	<1	<1	3	-	<1	<1	-	<1	
Diethylphthalate	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
Dimethyl phthalate	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
Di-n-butyl phthalate	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
Di-n-octyl phthalate	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
Diphenylamine	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
Hexachlorobenzene	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
Hexachlorocyclopentadiene	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	
Pentachlorophenol	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	

Location			Onsite				Onsite		Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	
Chem_Group	Compound	Location ID Well Sampled	MS\BH15				MS\BH17		MS\TP06	S1-BH04	S1-BH05	S1-BH05	S1-BH06	S1-BH06	S1-BH07A	S1-BH12	S1-BH13A	S1-BH13A	S1-BH14	S1-BH18	S1-BH18	S1-BH19
			D	S	D	S	D	D	22/06/2021	08/01/2018	08/01/2018	22/02/2018	08/01/2018	22/02/2018	08/01/2018	09/01/2018	09/01/2018	22/02/2018	09/01/2018	09/01/2018	22/02/2018	09/01/2018
Polychlorinated Biphenyls	Heptachlorobiphenyl, 2,3,3,4,4,5,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,3,4,4,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,3,4,4,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 2,3,4,4,5,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobiphenyl, 3,3,4,4,5,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PCB 101	µg/L	-	-	-	-	-	-	-	<0.3	-	-	-	-	-	-	<0.3	-	-	<0.3	-	<0.3
	PCB 138	µg/L	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	<0.2	-	-	<0.2	-	<0.2
	PCB 118 + PCB 123	mg/L	-	-	-	-	-	-	-	<0.0006	-	-	-	-	-	-	<0.0006	-	-	<0.0006	-	<0.0006
	PCB 153	µg/L	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	<0.2	-	-	<0.2	-	<0.2
	PCB 180	µg/L	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	<0.2	-	-	<0.2	-	<0.2
	PCB 52	µg/L	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	<0.2	-	-	<0.2	-	<0.2
	PCB 28 + PCB 31	mg/L	-	-	-	-	-	-	-	<0.0003	-	-	-	-	-	-	<0.0003	-	-	<0.0003	-	<0.0003
	Pentachlorobiphenyl, 2,3,3,4,4-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 3,3,4,4,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,3,4,4- (PCB	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,4,4,5- (PCB	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB 7 Congeners	µg/L	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	<1	-	-	<1	-	<1	
Total PCB WHO 12	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PCBs (Sum of total)	µg/L	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	<1	-	-	<1	-	<1	

Location		Onsite			Onsite	Onsite		Offsite						
Chem_Group	Compound	Location ID Well Sampled	S2-BHA04			S2-BHA05	S2-BHA06		LFBH01					
			D	S	S	09/01/2018	09/01/2018	23/02/2018	13/08/2021	S	D	S	D	S
Metals	Antimony (Filtered)	µg/L	2.5	1.4	-	0.42	0.59	-	-	-	-	-	-	-
	Arsenic	µg/L	-	-	-	-	-	-	-	-	-	-	-	-
	Arsenic (Filtered)	µg/L	11	8.3	11	6.4	3.4	3.7	8.3	7	5.1	9.7	9.1	11
	Barium (Filtered)	µg/L	110	93	-	62	66	-	-	-	-	-	-	-
	Beryllium (Filtered)	µg/L	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Boron	µg/L	530	220	220	960	540	560	-	-	-	-	-	-
	Boron (Filtered)	µg/L	-	-	-	-	-	-	260	220	270	320	240	350
	Cadmium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-
	Cadmium (Filtered)	µg/L	0.18	0.05	0.04	0.08	0.39	0.26	0.05	0.05	0.04	0.03	0.04	<0.03
	Chromium (hexavalent)	µg/L	-	-	-	-	-	-	83	50	<7	<7	<7	<7
	Chromium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (Filtered)	µg/L	<0.25	11	8.2	0.42	0.26	<0.25	-	-	-	-	-	-
	Chromium (Trivalent) (Filtered)	µg/L	-	-	-	-	-	-	<1	<1	7.9	16	<1	<1
	Copper	µg/L	-	-	-	-	-	-	-	-	-	-	-	-
	Copper (Filtered)	µg/L	3.9	45	56	3.1	4.4	0.9	<0.4	0.5	3.3	0.5	1.8	<0.4
	Iron	µg/L	2700	3600	-	350	120	-	-	-	-	-	-	-
	Iron (Filtered)	µg/L	2700	3600	-	350	120	-	29	12	56	30	34	19
	Lead	µg/L	-	-	-	-	-	-	-	-	-	-	-	-
	Lead (Filtered)	µg/L	0.64	0.37	0.47	1.4	0.69	0.73	<0.09	0.14	1.4	0.4	0.23	<0.09
	Manganese (Filtered)	µg/L	10	2.3	-	1400	1200	-	-	-	-	-	-	-
	Mercury	µg/L	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury (Filtered)	µg/L	0.03	0.12	<0.01	<0.01	<0.01	<0.01	0.19	0.23	0.17	0.15	0.19	0.11
	Nickel	µg/L	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Filtered)	µg/L	1.4	14	12	1.4	6	6.3	6.5	4.4	6.2	1.5	4.4	0.9	
Selenium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Selenium (Filtered)	µg/L	1.6	11	-	0.82	4.8	-	4.9	15	3	1.4	2	1.3	
Vanadium (Filtered)	µg/L	100	82	24	3.6	2.9	7.5	15	15	8.1	3.8	7.1	0.7	
Zinc	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Zinc (Filtered)	µg/L	2.8	2	5.9	17	440	330	2.8	1.6	10	4.9	6.2	2.5	
Inorganics	Total Hardness	mg/l	-	-	-	-	-	-	518	772	723	1050	837	991
	Alkalinity (total) as CaCO3	mg/L	73	280	-	78	150	-	-	-	-	-	-	-
	Ammoniacal Nitrogen as N	mg/L	0.88	2.7	-	1.1	2.8	-	0.23	0.062	0.39	0.08	0.15	0.08
	Ammoniacal Nitrogen as NH3	mg/L	-	-	-	-	-	-	0.28	0.075	0.47	0.098	0.18	0.097
	Carbonate	µg/L	73,000	280,000	-	78,000	150,000	-	-	-	-	-	-	-
	Chloride	mg/L	740	330	-	1800	91	-	-	-	-	-	-	-
	Cyanide (Free)	µg/L	<20	<20	130	<20	<20	-	<20	<20	0.8	0.2	0.3	0.3
	Cyanide Total	µg/L	4600	7000	9900	<40	<40	43	<40	<40	4.8	6.3	5.2	5.7
	Cyanide Total (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-
	cyanides-complex	µg/L	4600	7000	9700	<40	<40	-	-	-	-	-	-	-
	Magnesium	mg/L	11	1	-	99	66	-	-	-	-	-	-	-
	Magnesium (Filtered)	mg/L	11	1	-	99	66	-	-	-	-	-	-	-
	Nitrate (as N)	mg/L	-	-	-	-	-	-	0.19	0.37	-	0.35	0.24	-
	Nitrate (as NO3-) (Filtered)	mg/L	-	-	-	-	-	-	-	-	17	-	-	0.31
	Nitrite (as N)	mg/L	-	-	-	-	-	-	0.052	<0.035	<0.035	<0.035	<0.035	-
	Nitrite (as NO2-) (Filtered)	mg/L	-	-	-	-	-	-	-	-	-	-	-	<0.1
	Sulphate (Filtered)	mg/L	-	-	-	-	-	-	390	690	-	-	-	-
	Sulphide (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphate as SO4	mg/L	710	140	120	1600	68	1300	-	-	820	900	7.5	840
Sulphur as S	mg/L	-	-	-	-	-	-	150	-	-	-	-	-	
Thiocyanate (as SCN)	µg/L	<40	140	-	<40	<40	-	-	-	46	<20	<20	37	
Thiocyanate (as SCN) (Filtered)	µg/L	-	-	-	-	-	-	25	100	-	-	-	-	
Other	Total Dissolved Solids	mg/L	2400	1100	-	5400	2200	-	-	-	-	-	-	
	Total Dissolved Solids (Filtered)	mg/L	2400	1100	-	5400	2200	-	-	-	-	-	-	
	pH (Lab)	pH_Units	10	11.7	11.8	8.4	7.7	7.9	11.4	11	11.3	10.2	10.6	9.2
	Total Organic Carbon	mg/l	-	-	-	-	-	-	<1	68	-	-	-	-

Location		Onsite						Offsite						
Chem_Group	Compound	Location ID Well Sampled	S2-BHA04			S2-BHA05	S2-BHA06		LFBH01					
			D	S	S	09/01/2018	09/01/2018	23/02/2018	D	S	D	S	D	S
			09/01/2018	09/01/2018	23/02/2018	09/01/2018	09/01/2018	23/02/2018	13/08/2021	13/08/2021	18/10/2021	18/10/2021	17/11/2021	17/11/2021
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/L	0.06	<1 - 0.05	0.59	<1 - 0.05	<1 - 0.01	0.04	<1	<1	-	<1	<1	<1
	Acenaphthene	µg/L	<0.01	<0.01	0.18	<0.01	<0.01	0.02	0.05	<1	-	<1	<1	<1
	Acenaphthylene	µg/L	<0.01	<0.01	0.13	<0.01	<0.01	0.01	<0.01	<1	-	<1	<1	<1
	Fluoranthene	µg/L	0.02	<1 - 0.04	0.44	<0.01	<1 - 0.02	0.16	<0.01	0.01	-	<1	<1	<1
	Anthracene	µg/L	0.01	<1 - 0.04	0.14	<0.01	<1 - 0.01	0.03	<0.01	<0.01	-	<1	<1	<1
	Phenanthrene	µg/L	0.02	<1 - 0.07	0.71	<0.01	<1 - 0.03	0.18	<0.01	<0.01	-	<1	<1	<1
	Fluorene	µg/L	<0.01	<0.01	0.34	<0.01	<0.01	0.05	0.02	<1	-	<1	<1	<1
	Chrysene	µg/L	<0.01	<0.01	0.05	<0.01	<0.01	0.06	<1	<0.01	-	<1	<1	<1
	Pyrene	µg/L	0.02	<1 - 0.04	0.34	<0.01	<1 - 0.01	0.13	<1	<1	-	<1	<1	<1
	Benzo(a)anthracene	µg/L	<0.01	<0.01	0.07	<0.01	<0.01	0.07	<0.01	<0.01	-	<1	<1	<1
	Benzo(b)fluoranthene	µg/L	<0.01	<0.01	0.03	<0.01	<0.01	0.07	<1	<1	-	<1	<1	<1
	Benzo(k)fluoranthene	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	-	<1	<1	<1
	Benzo(a)pyrene	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<1	<0.01	-	<1	<1	<1
	Dibenz(a,h)anthracene	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<1	<1	<1
	Benzo(g,h,i)perylene	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	-	<1	<1	<1	
PAH 16 Total	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
PAHs (Sum of total)	µg/L	0.13	0.25	3	0.05	0.08	0.94	<0.2	0.26	-	-	-	-	
Total Petroleum Hydrocarbon Criteria Working Group	>C5-C6 Aliphatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>C6-C8 Aliphatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>C8-C10 Aliphatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>C10-C12 Aliphatics	µg/L	<1	<1	<1	<1	<1	<1	6.4	<1	<1	<1	<1	
	>C12-C16 Aliphatics	µg/L	<1	1	<1	<1	<1	<1	4.6	<1	<1	<1	<1	
	>C16-C21 Aliphatics	µg/L	<1	2.5	<1	<1	<1	<1	20	<1	<1	<1	<1	
	>C21-C35 Aliphatics	µg/L	<1	18	<1	<1	<1	<1	5.9	<1	<1	<1	<1	
	Total >C5-C35 Aliphatics	µg/L	<10	22	<10	<10	<10	<10	37	<10	<10	<10	<10	
	>EC5-EC7 Aromatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>EC7-EC8 Aromatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>EC8-EC10 Aromatics	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	>EC10-EC12 Aromatics	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	>EC12-EC16 Aromatics	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	>EC16-EC21 Aromatics	µg/L	<1	<1	<1	<1	6.4	<1	<1	<1	<1	<1	<1	
	>EC21-EC35 Aromatics	µg/L	<1	<1	<1	<1	14	<1	<1	<1	<1	<1	<1	
Total >EC5-EC35 Aromatics	µg/L	<10	<10	<10	<10	21	<10	<10	<10	<10	<10	<10		
TPH >C5-C35 Aliphatics/Aromatics	µg/L	<10	22	<10	<10	21	<10	37	<10	<10	<10	<10		
Petroleum Hydrocarbon	EPH >C10-40	µg/L	-	-	-	-	-	-	280	210	87	190	130	
	GRO C5-C10	µg/L	-	-	-	-	-	-	-	-	-	-	-	
	TPH by GCFID (AR)	µg/L	-	-	-	-	-	-	-	-	-	-	-	
Benzene, Toluene, Ethylbenzene, Xylenes and Methyl tert butyl ether	Benzene	µg/L	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Toluene	µg/L	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Ethylbenzene	µg/L	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Xylene (m & p)	µg/L	-	<2	-	<2	<2	-	<2	<2	-	<2	<2	
	Xylene (o)	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	
	Xylene Total	µg/L	-	-	<1	-	-	<1	<1	<1	<1	<1	<1	
Phenolics	MTBE	µg/L	-	<1	-	<1	<1	-	<1	<1	<1	<1	<1	
	3-&4-methylphenol	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	
	Phenol	µg/L	-	<1	-	<1	<1	-	4.4	7.9	-	1.9	1.3	
Phenols Monohydric	µg/L	3.7	19	7.4	2.7	3.6	<0.5	<100	<100	<100	<100	<100		

Location		Onsite			Onsite	Onsite		Offsite						
Chem_Group	Compound	Location ID Well Sampled	S2-BHA04			S2-BHA05	S2-BHA06		LFBH01					
			D	S	S	09/01/2018	09/01/2018	23/02/2018	13/08/2021	S	D	S	D	S
			09/01/2018	09/01/2018	23/02/2018	09/01/2018	09/01/2018	23/02/2018	13/08/2021	13/08/2021	18/10/2021	18/10/2021	17/11/2021	17/11/2021
Volatile Organic Compounds	Styrene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	cis-1,3-dichloropropene	µg/L	-	<1	-	<1	<1	-	-	-	-	<1	<1	<1
	trans-1,3-dichloropropene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,1,1,2-tetrachloroethane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,1,1-trichloroethane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,1,2,2-tetrachloroethane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,1,2-trichloroethane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,1-dichloroethane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,1-dichloroethene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,1-dichloropropene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,2,3-trichloropropene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,2,4-trimethylbenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,2-dibromo-3-chloropropane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,2-dibromoethane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,2-dichloroethane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,3-Dichloropropene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	-	-	-
	1,2-dichloropropane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,3,5-trimethylbenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,3-dichloropropane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2,2-dichloropropane	µg/L	-	<2	-	<2	<2	-	<2	<2	-	<2	<2	<2
	2-chlorotoluene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	4-chlorotoluene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Bromobenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Bromochloromethane	µg/L	-	<4	-	<4	<4	-	<4	<4	-	<4	<4	<4
	Bromodichloromethane	µg/L	-	<4	-	<4	<4	-	<4	<4	-	<4	<4	<4
	Bromoform	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Bromomethane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Carbon tetrachloride	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Chlorodibromomethane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Chloroethane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Chloroform	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Chloromethane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	cis-1,2-dichloroethene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Dibromomethane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Dichlorodifluoromethane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
Dichloromethane	µg/L	-	<27	-	<27	<27	-	<27	<27	-	<27	<27	<27	
Isopropylbenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1	
n-butylbenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1	
n-propylbenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1	
p-isopropyltoluene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1	
sec-butylbenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1	
Trichloroethene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1	
tert-butylbenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1	
Tetrachloroethene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1	
trans-1,2-dichloroethene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1	
Trichlorofluoromethane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1	
Vinyl chloride	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1	
Semi Volatile Organic Compounds / Volatile Organic Compounds	1,2,3-trichlorobenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,2,4-trichlorobenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,2-dichlorobenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,3-dichlorobenzene	µg/L	-	<2	-	<2	<2	-	<2	<2	-	<2	<2	<2
	1,4-dichlorobenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Chlorobenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
Hexachlorobutadiene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1	

Location		Onsite			Onsite	Onsite		Offsite						
Chem_Group	Compound	Location ID Well Sampled	S2-BHA04			S2-BHA05	S2-BHA06		LF1BH01					
			D	S	S		D	S	D	S	D	S		
			09/01/2018	09/01/2018	23/02/2018	09/01/2018	09/01/2018	23/02/2018	13/08/2021	13/08/2021	18/10/2021	18/10/2021	17/11/2021	17/11/2021
	1,4-dinitrobenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Benzyl alcohol	µg/L	-	<1	-	<1	<1	-	1.7	2.2	-	2.2	1.5	<1
	4-bromophenyl phenyl ether	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	4-nitroaniline	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	4-nitrophenol	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1,3-Dinitrobenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	1-Methylnaphthalene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2,3,4,6-tetrachlorophenol	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2,3,5,6-Tetrachlorophenol	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2,4,5-trichlorophenol	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2,4,6-trichlorophenol	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2,4-dichlorophenol	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2,4-dimethylphenol	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2,4-dinitrotoluene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2,6-dinitrotoluene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2-chloronaphthalene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2-chlorophenol	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2-methylnaphthalene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2-methylphenol	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
Semi Volatile Organic Compounds	2-nitroaniline	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	3-nitroaniline	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	4-chloro-3-methylphenol	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	4-chlorophenyl phenyl ether	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Aniline	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Azobenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Bis(2-chloroethoxy) methane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Bis(2-chloroisopropyl) ether	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Bis(2-ethylhexyl) phthalate	µg/L	-	2.1	-	3	<1	-	<1	<1	-	5	<1	<1
	Bis(2-ethylhexyl)ester	µg/L	-	<1	-	<1	<1	-	-	-	-	<1	<1	<1
	Butyl benzyl phthalate	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Carbazole	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Di(2-ethylhexyl)adipate	µg/L	-	-	-	-	-	-	<1	<1	-	-	-	-
	Dibenzofuran	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Diethylphthalate	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Dimethyl phthalate	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Di-n-butyl phthalate	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Di-n-octyl phthalate	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Diphenylamine	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Hexachlorobenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Hexachlorocyclopentadiene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Pentachlorophenol	µg/L	-	<1	-	<1	<1	-	<1	1.4	-	<1	<1	<1

10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA															
Appendix I, Table 4: Groundwater data (Enviros 2004, AEG 2018 and /															
Location			Onsite			Onsite	Onsite		Offsite						
Chem_Group	Compound	Location ID Well Sampled	S2-BHA04			S2-BHA05	S2-BHA06		LF\BH01						
			D	S	S	09/01/2018	09/01/2018	23/02/2018	09/01/2018	23/02/2018	D	S	D	S	D
			09/01/2018	09/01/2018	23/02/2018	09/01/2018	09/01/2018	23/02/2018	13/08/2021	13/08/2021	18/10/2021	18/10/2021	17/11/2021	17/11/2021	
Polychlorinated Biphenyls	Heptachlorobiphenyl, 2,3,3,4,4,5,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,3,4,4,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 2,3,4,4,5,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
	Hexachlorobiphenyl, 3,3,4,4,5,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
	PCB 101	µg/L	-	<0.3	-	<0.3	<0.3	-	-	-	-	-	-	-	-
	PCB 138	µg/L	-	<0.2	-	<0.2	<0.2	-	-	-	-	-	-	-	-
	PCB 118 + PCB 123	mg/L	-	<0.0006	-	<0.0006	<0.0006	-	-	-	-	-	-	-	-
	PCB 153	µg/L	-	<0.2	-	<0.2	<0.2	-	-	-	-	-	-	-	-
	PCB 180	µg/L	-	<0.2	-	<0.2	<0.2	-	-	-	-	-	-	-	-
	PCB 52	µg/L	-	<0.2	-	<0.2	<0.2	-	-	-	-	-	-	-	-
	PCB 28 + PCB 31	mg/L	-	<0.0003	-	<0.0003	<0.0003	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,3,4,4-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 2,3,4,4,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobiphenyl, 3,3,4,4,5-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,3,4,4- (PCB	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachlorobiphenyl, 3,4,4,5- (PCB	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total PCB 7 Congeners	µg/L	-	<1	-	<1	<1	-	-	-	-	-	-	-	-
Total PCB WHO 12	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
PCBs (Sum of total)	µg/L	-	<1	-	<1	<1	-	-	-	-	-	-	-	-	

Location_Code	Geological_Unit	Description	Investigation
MS\BH02	Made Ground	Mild hydrocarbon odour between 2.25m and 3.4m bgl	AEG [2022]
MS\BH03	Made Ground	Mild hydrocarbon odour relating to sand pockets between 1.75 and 2.8 m bgl	AEG [2022]
MS\BH07	Made Ground	Mild tar odour and tar coating on slag between 4.2 and 4.65 m bgl	AEG [2022]
MS\BH07	Tidal Flat Deposits	Mild hydrocarbon odour between 4.65 and 5.6 m bgl	AEG [2022]
MS\BH11	Made Ground	Chemical odour between 3.5 and 4.6 m bgl	AEG [2022]
MS\BH13	Made Ground	Mild hydrocarbon odour between 3.65 and 4.2 m bgl	AEG [2022]
MS\BH14	Made Ground	Occasional orange staining on slag between 1.2 and 3.55 m bgl	AEG [2022]
MS\BH14	Made Ground	Mild to moderate hydrocarbon odour noted between 4.2 and 4.4 m bgl	AEG [2022]
MS\BH15	Made Ground	Mild hydrogen sulphide odour between 4.2 and 5.2 m bgl.	AEG [2022]
MS\BH16	Made Ground	Mild hydrocarbon odour between 3.0 and 4.2 m bgl	AEG [2022]
MS\BH16	Made Ground	Mild hydrocarbon odour between 4.2 and 5.0 m bgl	AEG [2022]
MS\BH16	Made Ground	Hydrogen sulphide odour between 5.0 and 5.6 m bgl	AEG [2022]
MS\BH17	Made Ground	Mild hydrocarbon odour between 3.9 and 5.7 m bgl	AEG [2022]
MS\TP01	Made Ground	Mild hydrocarbon odour between 3.4 and 4.5 m bgl	AEG [2022]
MS\TP06	Made Ground	Water coming into trial pit had brown iridescent appearance with moderate hydrocarbon odour	AEG [2022]
MS\TP06A	Made Ground	Cobbles of metallic black rock with iridescent sheen at 0.7m bgl. Possible solidified tar used to insulate pipe.	AEG [2022]
MS\TP10	Made Ground	Metallic cobble with iridescent sheen at 0.4m bgl	AEG [2022]
S1-BH04	Made Ground	Hydrocarbon odour noted between 3.9 and 4.8 m bgl	AEG [2017]
S1-BH12	Made Ground	Slight hydrocarbon odour between 0 and 4.8 m bgl	AEG [2017]
S1-BH14	Made Ground	Slight hydrocarbon odour. Engineer notes reworked gravel has contaminated black sand between 4.0 and 8.9 m bgl	AEG [2017]
S1-TPA06	Made Ground	Faint hydrocarbon from 3.5 m bgl	CH2M [2017a]
S1-TPA14	Made Ground	Highly plastic (lime?) odour from 2.1 m bgl	CH2M [2017a]
S1-TPA22	Made Ground	Partially decomposed timer soaked in creosote. Strong odour at 2.4 m bgl	CH2M [2017a]
S1-TPA31	Made Ground	Strong ammonia odour between 0.1 and 1.0 m bgl	CH2M [2017a]
S1-TPB02	Made Ground	Ammonia odour below 1.5 m bgl	CH2M [2017a]
S1-TPB03	Made Ground	Slight ammonia odour below 2 m bgl	CH2M [2017a]
S1-TPB12	Made Ground	Ammonia odour below 1.0 m bgl	CH2M [2017a]
S1-TPH07	Made Ground	Evidence of oil on bricks between 0.2 and 2.1 m bgl	CH2M [2017a]
S1-TPH11	Made Ground	Slight hydrocarbon odour towards base of trial pit (2.1 m bgl)	CH2M [2017a]
S1-TPH23	Made Ground	Slight hydrocarbon odour between 0.3 to 3.5 m bgl	CH2M [2017a]
S1-TPH23	Made Ground	Hydrocarbon odour between 3.5 and 3.6 m bgl	CH2M [2017a]
S1-TPH24	Made Ground	Slight hydrocarbon odour between 1.6 and 2.7 m bgl	CH2M [2017a]
S1-TPH25	Made Ground	Hydrocarbon odour at 1 m bgl	CH2M [2017a]
S1-TPH33	Made Ground	Slight hydrocarbon odour from 2 m bgl	CH2M [2017a]
S1-TPI03	Made Ground	Hydrocarbon odour from 3.0 m bgl	CH2M [2017a]
S1-TPI12	Made Ground	Hydrocarbon (creosote?) odour from 2.0 m bgl	CH2M [2017a]
S1-TPI12	Made Ground	Wood fragments, some soaked in creosote, hydrocarbon odour between 3.0 and 4.6 m bgl	CH2M [2017a]
S2-TPA45	Made Ground	Slight hydrocarbon odour between 0.1 and 0.7 m bgl	CH2M [2017b]
S2-TPA48	Made Ground	Slight hydrocarbon odour between 0.5 and 3.3 m bgl	CH2M [2017b]
S2-TPA53	Made Ground	Rare pockets of soft black sandy clay with the appearance of tar from 2.2 m bgl	CH2M [2017b]
S2-TPA58	Made Ground	Occasional pockets of soft dark grey silty clay with hydrocarbon odour between 0.6 and 1.4 m bgl	CH2M [2017b]
S2-TPA59	Made Ground	Strong hydrocarbon odour and black layer of coal dust/coal tar fragments	CH2M [2017b]
S2-TPA61	Made Ground	Slight hydrocarbon sheen between 2.1 and 2.2 m bgl	CH2M [2017b]
S2-TPA61	Made Ground	Possible rare small lumps of coal tar between 0 and 1.2 m bgl	CH2M [2017b]
S2-TPA62	Made Ground	Slight oil sheen at water level	CH2M [2017b]
S2-TPA68	Made Ground	Hydrocarbon odour between 1.2 and 1.8 mbgl	CH2M [2017b]
S2-TPA69	Made Ground	Tar odour and appearance between 1.8 and 2.1 m bgl	CH2M [2017b]
S2-TPA69	Made Ground	Slight hydrocarbon odour between 2.1 and 3.0 m bgl	CH2M [2017b]
S2-TPA79	Made Ground	Becoming oily at the base of the trial pit (1.05 m bgl)	CH2M [2017b]
S2-TPA83	Made Ground	Rare black glassy crystallised tar and iron sheet with tar odour between 0.3 and 3.4 m bgl	CH2M [2017b]
12AT17	Made Ground	Oily odour from 1.5 to 2 m bgl but no visual evidence	Enviros [2004]
13AT4	Made Ground	Oily/organic odour at base of trial pit (4.2 m bgl)	Enviros [2004]
13BT9	Made Ground	Black staining with hydrocarbons	Enviros [2004]
13BT12	Made Ground	Oily sheen on water entering trial pit. Very oily and black at 2 m bgl, strong oily odour	Enviros [2004]

Notes

A sulphurous odour was noted in relation to the Made Ground at a number of the exploratory locations. The sulphurous odour is considered to be as a result of the slag fill material and not indicative of contamination.

Appendix J

Comparison of Measured Concentrations of Contaminants of Concern in Soil with Human Health GAC

Appendix J: Comparison of Measured Concentrations of Contaminants of Concern in Soil with Human Health GAC

Compound Group	Compound*	Unit	Human Health Generic Assessment Criteria	Source	Number of Samples Analysed - Made Ground	Number of Detection - Made Ground	Maximum Measured Concentration - Made Ground	Number of Samples Analysed - Superficial	Number of Detections - Superficial Deposits	Maximum Measured Concentration - Superficial	Number of Samples Analysed - bedrock	Number of Detections - Bedrock	Maximum Measured Concentration - Bedrock
Metals	Aluminium	mg/kg			10	10	73000	0	0	<MDL	0	0	<MDL
	Antimony	mg/kg	470	US EPA	96	70	16	7	3	2.7	0	0	<MDL
	Arsenic	mg/kg	640	S4UL	244	244	468.7	42	42	27	1	1	9.2
	Barium	mg/kg	19,000	Arcadis	96	96	1200	7	7	130	0	0	<MDL
	Beryllium	mg/kg	12	S4UL	151	145	8.2	35	24	3.5	1	1	0.9
	Boron	mg/kg	240000	S4UL	241	239	9.3	41	39	9.6	1	1	2.9
	Cadmium	mg/kg	190	S4UL	244	215	31	42	19	16	1	0	<MDL
	Chromium	mg/kg	8600	S4UL	189	189	2580.4	14	14	60	0	0	<MDL
	Chromium (Trivalent)	mg/kg	86001	S4UL	56	55	990	28	28	760	1	1	29
	Copper	mg/kg	68000	S4UL	244	244	2700	42	42	270	1	1	32
	Iron	mg/kg			55	55	250000	5	5	57000	0	0	<MDL
	Lead	mg/kg	2300	C4SL	216	214	2030	41	41	520	1	1	8.4
	Manganese	mg/kg			10	10	9300	0	0	<MDL	0	0	<MDL
	Mercury ^{#1}	mg/kg	1100	S4UL	244	67	8.4	42	5	2.5	1	0	<MDL
	Molybdenum	mg/kg			96	91	36	6	5	2.1	0	0	<MDL
	Nickel	mg/kg	980	S4UL	244	240	300	42	42	50	1	1	46
	Selenium	mg/kg	12000	Arcadis	105	96	14	31	7	5.1	1	0	<MDL
	Silicon	mg/kg			10	10	120000	0	0	<MDL	0	0	<MDL
	Vanadium	mg/kg	9000	S4UL	151	151	3000	35	35	1400	1	1	35
Zinc	mg/kg	730000	S4UL	244	244	7200	42	42	980	1	1	47	
Inorganics	Cyanide (Free)	mg/kg	66	DQRA	208	15	2	30	0	<MDL	1	0	<MDL
	Cyanide Total	mg/kg			235	156	160	38	10	30	1	0	<MDL
	Cyanide Complex	mg/kg			100	60	59	3	1	0.3	0	0	<MDL
	Magnesium	mg/kg			10	10	38000	0	0	<MDL	0	0	<MDL
	Nitrate (as NO3-)	mg/kg			53	44	21	24	21	16	1	1	2.5
	Sulphate	mg/kg			53	52	49000	24	24	7700	1	1	1100
	Sulphate as SO4	mg/kg			62	61	53000	8	8	1200	0	0	<MDL
	Sulphide	mg/kg			102	96	14000	27	23	7600	1	1	40
	Sulphur as S	%			161	159	26	35	32	0.8	1	1	0.77
	Sulphur (free)	mg/kg			53	41	690	24	13	89	1	0	0
	Thiocyanate (as SCN)	mg/kg	230	US EPA	161	46	3.7	28	4	15	1	0	<MDL
	pH (Lab)	pH_Units			258	257	13	38	38	12.5	1	1	8.9
	Petroleum Hydrocarbons	>C5-C6 Aliphatics	mg/kg	3200	S4UL	167	1	0.04	22	0	<MDL	1	0
>C6-C8 Aliphatics		mg/kg	7800	S4UL	167	8	0.04	22	0	<MDL	1	0	<MDL
>C8-C10 Aliphatics		mg/kg	2000	S4UL	167	10	0.1	22	1	0.22	1	0	<MDL
>C10-C12 Aliphatics		mg/kg	9700	S4UL	166	11	530	22	0	<MDL	1	0	<MDL
>C12-C16 Aliphatics		mg/kg	59000	S4UL	166	32	880	22	0	0	1	0	<MDL
>C16-C21 Aliphatics		mg/kg	800000	S4UL	166	47	4900	22	1	2.8	1	0	<MDL
>C21-C35 Aliphatics		mg/kg	800000	S4UL	166	57	27000	22	1	27	1	0	<MDL
>EC8-EC10 Aromatics		mg/kg	3500	S4UL	167	4	0.28	22	1	0.02	1	0	<MDL
>EC10-EC12 Aromatics		mg/kg	16000	S4UL	166	13	4.1	22	3	10	1	0	<MDL
>EC12-EC16 Aromatics		mg/kg	36000	S4UL	166	34	200	22	2	6.5	1	0	<MDL
>EC16-EC21 Aromatics		mg/kg	28000	S4UL	166	54	2700	22	5	17	1	0	<MDL
>EC21-EC35 Aromatics		mg/kg	28000	S4UL	166	55	14000	22	5	59	1	0	<MDL
Polycyclic Aromatic Hydrocarbons	Naphthalene	mg/kg	1900	Wood	201	66	1.8	43	2	0.07	4	0	<MDL
	Acenaphthene	mg/kg	84000	S4UL	200	51	12	43	1	0.17	4	0	<MDL
	Acenaphthylene	mg/kg	83000	S4UL	200	42	3	43	1	0.12	4	0	<MDL
	Fluoranthene	mg/kg	23000	S4UL	200	156	160	43	4	1.2	4	0	<MDL
	Anthracene	mg/kg	520000	S4UL	200	81	30	43	3	0.27	4	0	<MDL
	Phenanthrene	mg/kg	22000	S4UL	200	143	140	43	5	1.2	4	0	<MDL
	Fluorene	mg/kg	63000	S4UL	200	58	18	43	1	0.26	4	0	<MDL
	Chrysene	mg/kg	350	S4UL	200	140	55	43	5	0.34	4	1	0.03
	Pyrene	mg/kg	54000	S4UL	200	152	110	43	5	0.92	4	0	<MDL
	Benzo(a)anthracene	mg/kg	170	S4UL	200	134	62	43	4	0.39	4	0	<MDL
	Benzo(b)fluoranthene	mg/kg	44	S4UL	200	141	60	43	5	0.4	4	0	<MDL
	Benzo(k)fluoranthene	mg/kg	1200	S4UL	200	118	22	43	3	0.15	4	0	<MDL
	Benzo(a)pyrene	mg/kg	77	Wood	200	118	45	43	3	0.21	4	0	<MDL
	Dibenz(a,h)anthracene	mg/kg	3.5	S4UL	200	70	6.6	43	0	<MDL	4	0	<MDL
	Benzo(g,h,i)perylene	mg/kg	3900	S4UL	200	111	21	43	1	0.12	4	0	<MDL
	Indeno(1,2,3-c,d)pyrene	mg/kg	500	S4UL	200	110	19	43	1	0.1	4	0	<MDL
	Volatile Organic Compounds / Semi Volatile Organic Compounds	3-84-methylphenol ^{#2}	mg/kg	9310	Arcadis	62	1	0.2	10	0	<MDL	2	0
Phenol		mg/kg	760	S4UL	116	6	5.1	22	0	<MDL	4	0	<MDL
Phenols Monohydric		mg/kg	760	S4UL	192	12	1.2	35	0	<MDL	1	0	<MDL
1,1-dichloropropene		mg/kg			67	17	0.01	16	0	<MDL	3	0	<MDL
1,2,3-trichloropropane		mg/kg	9.37	Arcadis	67	2	0.1	16	1	0.11	3	0	<MDL
1,2,4-trimethylbenzene		mg/kg			67	3	0.02	16	0	<MDL	3	0	<MDL
1,2-dibromo-3-		mg/kg	0.064	US EPA	67	0	<MDL	16	1	0.01	3	0	<MDL
1,3,5-trimethylbenzene		mg/kg			67	1	0.01	16	0	<MDL	3	0	<MDL
Chloromethane		mg/kg	1.51	Arcadis	4	3	0.856	6	1	0.269	1	1	0.12
n-butylbenzene		mg/kg			67	1	0.01	16	0	<MDL	3	0	<MDL
p-isopropyltoluene		mg/kg			67	1	0.01	16	0	<MDL	3	0	<MDL
1,2,3-trichlorobenzene		mg/kg	102	S4UL	67	4	0.03	16	1	0.02	3	0	<MDL
1,2,4-trichlorobenzene		mg/kg	220	S4UL	70	2	0.03	16	0	<MDL	3	0	<MDL
Hexachlorobutadiene		mg/kg	31	S4UL	67	2	0.04	16	0	<MDL	3	0	<MDL
4-nitroaniline		mg/kg	110	US EPA	65	2	1.1	16	0	<MDL	3	0	<MDL
4-nitrophenol		mg/kg			65	2	1	16	0	<MDL	3	1	0.2
2,4-dimethylphenol		mg/kg	24,900	Arcadis	67	1	0.1	19	0	<MDL	4	0	<MDL
2-methylnaphthalene		mg/kg			65	9	1.2	16	0	0	3	0	<MDL
4-chlorophenyl phenyl ether		mg/kg			65	1	0.2	16	0	<MDL	3	0	<MDL
Azobenzene		mg/kg	26	US EPA	65	1	0.2	16	0	<MDL	3	0	<MDL
Carbazole		mg/kg	943	Arcadis	65	10	12	16	0	<MDL	3	0	<MDL
Dibenzofuran		mg/kg	1580	Arcadis	65	10	7.9	16	0	<MDL	3	0	<MDL
Polychlorinated Biphenyls		Total PCB 7 Congeners ^{#3}	mg/kg	9	Arcadis	42	2	0.18	5	0	<MDL	1	0
Asbestos	Asbestos	%	NA	NA	220	23	0.333	6	0	NA	0	0	NA

Notes

* Only compounds measured above the laboratory Method Detection Limit during the ground investigation in 2004 (Enviros 2004), 2017 (CH2M 2017c and 2017d), 2018 (AEG 2018) and 2021 (AEG 2021) are included here, where analytical testing suites comprised metals and inorganics, Total Petroleum Hydrocarbon Criteria Working Group (with the exception of 2004, where only sum TPH was analysed) and speciated Polycyclic Aromatic Hydrocarbons. In addition, Volatile Organic Compounds & Semi Volatile Organic Compounds, asbestos and Polychlorinated Biphenyls data was analysed from 2017 onwards. It is noted that while the 2004 Enviro investigation included speciated PAH analysis, only the sum PAH analytical testing data from this investigation is presented here (51No. samples analysed for speciated PAH). This is due to the nature of the data provided for review, as such, while the measured concentrations have been included in the consideration of the human health risk assessment for the individual PAH fractions, they have not been included in this screening table.

GAC for inorganic mercury presented

#1 GAC presented for 2-methylphenol, which is the lower of the criteria derived for either 2 or 4-methylphenol, in the absence of criteria for 3-methylphenol

#2 Total PCB 7 Congeners presented rather than the individual congeners detected (PCB 101, PCB 28 + PCB 31 and PCB 52), given that the GAC is derived for total PCBs rather than the individual congeners.

#3

NA

Not applicable

GAC Generic Assessment Criteria

S4UL Land Quality Management / Chartered Institute of Environmental Health (LQM / CIEH) Suitable for Use Levels (S4UL) (LQM / CIEH, 2015)

Arcadis Arcadis derived generic assessment criteria, using CLEA v1.07, and adopting the model set up for the S4ULs

C4SL DEFRA Category 4 Screening Levels (C4SL) (DEFRA, 2014)

Wood Former Steelworks Land, South Tees Outline Remedial Strategy, Prepared for South Tees Development Corporation by Wood, ref 41825-wood-XX-XX-RP-OC-0001_S0_P01 dated 25th June 2019

US EPA USEPA Regional Screening Levels (RSLs) (US EPA, November 2021)

No criteria readily available

10 Maximum measured concentration exceeds the human health GAC

Appendix K

Comparison of Measured Concentrations of Contaminants of Concern in Groundwater with GAC

Appendix K- Table 1: Comparison of Measured Concentrations of Contaminants of Concern in Groundwater with GAC On-Site

Compound Group	Compound*	Unit	Human Health Generic Assessment Criteria (Commercial Worker)	Adopted Drinking Water Standards**	Adopted Estuaries and coastal waters EQS**	Number of Samples Analysed	Number of Detects	Maximum Measured Concentration - well screens Made Ground / Made Ground & Tidal Flat Deposits	Maximum Measured Concentration - Well Screens Superficial Deposits	Maximum Measured Concentration - Well Screens Bedrock	Number of Samples Exceeding Human Health GAC	Number of Samples Exceeding EQS	Number of Samples Exceeding of DWS
Metals	Antimony	µg/L		5		13	13	2	2.5	<MDL	-	-	0
	Arsenic	µg/L	NVP	10	25	71	71	25	24	9.6	0	0	14
	Barium	µg/L	NVP	1300		13	13	150	110	<MDL	0	-	0
	Boron	µg/L	NVP	1000	7000	72	62	1000	700	700	0	0	0
	Cadmium	µg/L	NVP	5	0.2	72	24	0.39	0.18	0.2	0	3	0
	Chromium (hexavalent)	µg/L	NVP	50	0.6	50	3	<MDL	<MDL	120	0	3	1
	Chromium #1	µg/L	NVP	50		22	13	11	<MDL	<MDL	0	-	0
	Chromium (Trivalent)	µg/L	NVP	50		50	4	4.3	6.1	2.2	0	-	0
	Copper	µg/L	NVP	2000	3.76	72	37	56	3.9	2	0	7	0
	Iron	µg/L		200	1000	63	63	3600	2700	4500	-	7	16
	Lead	µg/L	NVP	10	1.3	72	46	10	0.64	2.5	0	5	0
	Manganese	µg/L		50		13	13	1400	10	0	-	-	3
	Mercury	µg/L	>SOL	1	0.07	72	49	0.33	0.41	0.72	0	19	0
	Nickel	µg/L	NVP	20	8.6	72	69	14	5.8	22	0	6	1
	Selenium	µg/L	NVP	10		66	62	38	28	27	0	-	13
Vanadium	µg/L			100	66	58	280	100	59	-	2	0	
Zinc	µg/L	NVP	3000	7.9	72	59	440	11	22	0	15	0	
Inorganics	Ammoniacal Nitrogen as N	mg/L			0.021	63	63	9.6	19	13	-	62	0
	Ammoniacal Nitrogen as NH3	mg/L			0.021	50	50	1.8	23	15	-	49	0
	Cyanide (Free)	µg/L	18,000	50	1	67	27	130	5.6	1.6	0	8	2
	Cyanide Total	µg/L		50	1	69	42	9900	4600	76	-	38	11
	Nitrate (as N)	mg/L				23	17	0.35	1.5	0.83	-	-	0
	Nitrate (as NO3-)	mg/L		50		27	13	0.34	0.82	140	-	-	1
	Nitrite (as N)	mg/L				20	2	0.27	<MDL	0.25	-	-	0
	Nitrite (as NO2-)	mg/L		0.5		30	15	1.7	44	440	-	-	13
	Sulphate	mg/L		250		69	69	1600	2700	3000	-	-	44
	Sulphur as S	mg/L				12	12	400	380	570	-	-	0
Thiocyanate (as SCN)	µg/L			9	63	44	85,000	9300	3900	-	44	0	
pH (Lab)	pH _{Units}		6.5-9.5	6-8.5	72	72	11.9	11.8	12.2	-	0	0	
Petroleum Hydrocarbons	>C5-C6 Aliphatics	µg/L	>SOL	See TPH	See TPH	69	1	<MDL	<MDL	120	0	1	1
	>C6-C8 Aliphatics	µg/L	>SOL	See TPH	See TPH	69	1	<MDL	<MDL	210	0	1	1
	>C8-C10 Aliphatics	µg/L	>SOL	See TPH	See TPH	69	3	<MDL	1	15	0	0	1
	>C10-C12 Aliphatics	µg/L	>SOL	See TPH	See TPH	69	15	1900	45	30	0	2	7
	>C12-C16 Aliphatics	µg/L	>SOL	See TPH	See TPH	69	17	28,000	18	13	0	1	5
	>C16-C21 Aliphatics	µg/L	NR	See TPH	See TPH	69	21	180,000	160	79	0	5	13
	>C21-C35 Aliphatics	µg/L	NR	See TPH	See TPH	69	17	44,000	220	20	0	4	9
	>EC5-EC7 Aromatics	µg/L	57000	See TPH	See TPH	69	2	<MDL	5.2	58	0	1	1
	>EC7-EC8 Aromatics	µg/L	>SOL	See TPH	See TPH	69	3	<MDL	13	22	0	0	3
	>EC8-EC10 Aromatics	µg/L	>SOL	See TPH	See TPH	69	3	<MDL	23	250	0	1	3
	>EC10-EC12 Aromatics	µg/L	>SOL	See TPH	See TPH	69	12	7000	3.9	3.1	0	1	1
	>EC12-EC16 Aromatics	µg/L	>SOL	See TPH	See TPH	69	14	23,000	11	9.2	0	1	4
	>EC16-EC21 Aromatics	µg/L	NR	See TPH	See TPH	69	14	120,000	110	42	0	4	9
	>EC21-EC35 Aromatics	µg/L	NR	See TPH	See TPH	69	11	28,000	110	6.2	0	2	7
	TPH >C5-C35 Aliphatics/Aromatics	µg/L	na	10	50	72	32	430,000	630	670	-	16	32
	Benzene	µg/L	57000	1	8	71	5	1	5.2	58	0	1	2
	Toluene	µg/L	>SOL	700	74	71	1	<MDL	<MDL	20	0	0	0
Ethylbenzene	µg/L	>SOL	300	20	71	1	<MDL	<MDL	210	0	1	0	

Notes

- * Only compounds measured above the laboratory Method Detection Limit during groundwater monitoring in 2004 (Enviros 2004), 2018 (AEG 2018) and 2021 (AEG 2021) are included here. Analytical testing suites comprised metals and inorganics, Total Petroleum Hydrocarbon Criteria Working Group (with the exception of 2004, where only sum TPH was analysed) and speciated Polycyclic Aromatic Hydrocarbons. In addition, Volatile Organic Compounds & Semi Volatile Organic Compounds and Polychlorinated Biphenyls were analysed for selected samples in data collected in 2018 and 2021. Compounds that are present in seawater (primarily associated with inorganics such as magnesium, chloride and carbonate) have not been included given that a large proportion of the land included within the Site boundary is reclaimed land.
- ** See Appendix F for source of adopted DWS and EQS
- EQS Environmental Quality Standard
- DWS Drinking Water Standard
- GAC Generic Assessment Criteria
- #1 DWS is applicable for total chromium, while the EQS is applicable to hexavalent chromium only. Where total chromium analysis was undertaken, speciation was not undertaken. However, hexavalent chromium was not detected in any of the 203 soil samples analysed, or in any of the 15 leachate samples analysed. With the exception of three detections of hexavalent chromium in groundwater from monitoring wells screening the bedrock aquifer, hexavalent chromium was not detected in the remaining 47 groundwater samples analysed. The detections of hexavalent chromium within monitoring wells screening bedrock are not considered representative, and as such, comparison to the total chromium DWS has been undertaken.
- #2 Phenol GAC adopted for the assessment of monohydric phenols, which includes a number of phenolic compounds, including methyl phenols, xylenols and phenol
- GAC, DWS or EQS not readily available for comparison
- See BaP Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015. Benzo(a)pyrene can be considered as a marker for other PAH for comparison with the corresponding AA-EQS in water.
- see TPH No DWS or EQS for TPH, or speciated TPH fractions. As such, a value of 50 µg/l has been for sum TPH based on 50µg/l-1000µg/l (Surface Waters (Abstraction for Drinking Water) Regulations 1989) while a value of 10 µg/l is adopted for sum TPH based on the rescinded Private Water Supply Regulations, 1991.
- >SOL Target acceptable risk not exceeded at theoretical solubility concentration
- NVP No vapour pathway. Contaminant has only a low vapour pressure in groundwater.
- na Comprises multiple contaminants - no GAC derived
- NR No appropriate inhalation reference dose identified during review of toxicological data
- No criteria readily available
- 10 Maximum measured concentration exceeds either the DWS, EQS or both. Further consideration of the risk to water resources required - see Appendix E Table 3

Appendix K- Table 1: Comparison of Measured Concentrations of Contaminants of Concern in Groundwater with GAC On-Site

Compound Group	Compound*	Unit	Human Health Generic Assessment Criteria (Commercial Worker)	Adopted Drinking Water Standards**	Adopted Estuaries and coastal waters EQS**	Number of Samples Analysed	Number of Detects	Maximum Measured Concentration - well screens Made Ground / Made Ground & Tidal Flat Deposits	Maximum Measured Concentration - Well Screens Superficial Deposits	Maximum Measured Concentration - Well Screens Bedrock	Number of Samples Exceeding Human Health GAC	Number of Samples Exceeding EQS	Number of Samples Exceeding of DWS
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/L	>SOL		2	58	33	25	4.9	0.31	0	7	-
	Acenaphthene	µg/L	>SOL			58	30	150	2.3	0.12	0	-	-
	Acenaphthylene	µg/L	>SOL			58	18	0.38	0.02	0.02	0	-	-
	Fluoranthene	µg/L	>SOL		0.0063	58	30	5400	0.24	0.04	0	30	-
	Anthracene	µg/L	>SOL		0.1	58	21	2.5	0.19	0.02	0	7	-
	Phenanthrene	µg/L	>SOL			58	28	27	2.6	0.2	0	-	-
	Fluorene	µg/L	>SOL			58	29	12	0.52	0.08	0	-	-
	Chrysene	µg/L	>SOL			58	16	460	0.02	0	0	-	-
	Pyrene	µg/L	>SOL			58	32	5400	0.14	0.03	0	-	-
	Benzo(a)anthracene	µg/L	>SOL			58	14	660	0.02	0	0	-	-
	Benzo(b)fluoranthene	µg/L	>SOL	0.025	See BaP	58	13	140	0	0	0	-	13
	Benzo(k)fluoranthene	µg/L	>SOL	0.025	See BaP	58	10	0.38	0	0	0	-	7
	Benzo(a)pyrene	µg/L	>SOL	0.01	0.00017	58	9	0.88	0	0	0	9	9
	Dibenz(a,h)anthracene	µg/L	>SOL			58	4	0.09	0.01	0	0	-	-
Benzo(g,h,i)perylene	µg/L	>SOL	0.025	See BaP	58	9	0.36	0.01	0	0	-	7	
Indeno(1,2,3-c,d)pyrene	µg/L	>SOL	0.025	See BaP	58	8	0.33	0	0	0	-	8	
Volatile Organic Compounds / Semi Volatile Organic Compounds	3-&4-methylphenol	µg/L				41	2	1.8	0	0	-	-	-
	Phenol	µg/L	>SOL	5800	7.7	44	7	5	3.7	3.5	0	0	0
	Phenols Monohydric	µg/L	>SOL ^{#2}	5800 ^{#2}	7.7 ^{#2}	69	24	21	910	2000	0	0	0
	1,1-dichloroethane	µg/L	1600000	2.8		41	1	0	1	0	0	-	0
	Chloroform	µg/L	820000	25	2.5	41	1	1	0	0	0	0	0
	Chloromethane	µg/L				41	7	2	3	0	-	-	-
	Benzyl alcohol	µg/L				41	1	0	1.6	0	-	-	-
	1-Methylnaphthalene	µg/L				41	1	1.7	0	0	-	-	-
	2,4-dimethylphenol	µg/L				41	3	4	0	0	-	-	-
	2-methylnaphthalene	µg/L				41	1	1.8	0	0	-	-	-
	Bis(2-ethylhexyl) phthalate	µg/L			1.3	41	3	20	0	0	-	3	-
Carbazole	µg/L				41	1	3.3	0	0	-	-	-	
Dibenzofuran	µg/L				41	2	310	0	0	-	-	-	

Env Stds Description

UK Drinking Water Standards:UK Drinking Water Standards - Water Supply (Water Quality) Regulations, 2016 [http://www.legislation.gov.uk/uksi/2016/614/pdfs/ukxi_20160614_en.pdf] plus other key CoC. To be used to assess risk to an aquifer.

UK Freshwater EQS:UK freshwater EQS Annual Average (AA) [https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit] plus other key CoC. 'UK Freshwater EQS - further assessment' provides further assessment of criteria dependent CoC.

UK Estuaries and coastal waters EQS:UK Estuaries and Coastal EQS Annual Average (AA) [https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit] plus other key CoC.

Notes

- * Only compounds measured above the laboratory Method Detection Limit during groundwater monitoring in 2004 (Enviros 2004), 2018 (AEG 2018) and 2021 (AEG 2021) are included here. Analytical testing suites comprised metals and inorganics, Total Petroleum Hydrocarbon Criteria Working Group (with the exception of 2004, where only sum TPH was analysed) and speciated Polycyclic Aromatic Hydrocarbons. In addition, Volatile Organic Compounds & Semi Volatile Organic Compounds and Polychlorinated Biphenyls were analysed for selected samples in data collected in 2018 and 2021.
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- 10 Maximum measured concentration exceeds either the DWS, EQS or both. Further consideration of the risk to water resources required - see Appendix E Table 3
- No criteria readily available

Appendix K- Table 2: Comparison of Measured Concentrations of Contaminants of Concern in Groundwater with GAC Off-Site

Compound Group	Compound*	Unit	Human Health Generic Assessment Criteria (Commercial Worker)	Adopted Drinking Water Standards**	Adopted Estuaries and coastal waters EQS**	Number of Samples Analysed	Number of Detects	Maximum Measured Concentration - well screens superficial deposits	Maximum Measured Concentration - well screens bedrock	Number of Samples Exceeding Human Health GAC	Number of Samples Exceeding EQS	Number of Samples Exceeding of DWS
Metals	Arsenic	µg/L	NVP	10	25	6	6	11	9.1	0	0	1
	Boron	µg/L	NVP	1000	7000	6	6	350	270	0	0	0
	Cadmium	µg/L	NVP	5	0.2	6	5	0.05	0.05	0	0	0
	Chromium (Trivalent)	µg/L	NVP	50		6	2	16	7.9	0	-	0
	Copper	µg/L	NVP	2000	3.76	6	4	0.5	3.3	0	0	0
	Iron	µg/L		200	1000	6	6	30	56	-	0	0
	Lead	µg/L	NVP	10	1.3	6	4	0.4	1.4	0	1	0
	Mercury	µg/L	>SOL	1	0.07	6	6	0.23	0.19	0	6	0
	Nickel	µg/L	NVP	20	8.6	6	6	4.4	6.5	0	0	0
	Selenium	µg/L	NVP	10		6	6	15	4.9	0	-	1
	Vanadium	µg/L			100	6	6	15	15	-	0	-
	Zinc	µg/L	NVP	3000	7.9	6	6	4.9	10	0	1	0
Inorganics	Ammoniacal Nitrogen as N	mg/L			0.021	6	6	0.08	0.39	-	6	-
	Ammoniacal Nitrogen as NH3	mg/L				6	6	0.098	0.47	-	-	-
	Cyanide (Free)	µg/L	18,000	50	1	6	4	0.3	0.8	0	0	0
	Cyanide Total	µg/L		50	1	4	4	6.3	5.2	-	4	0
	Nitrate (as N)	mg/L				4	4	0.37	0.24	-	-	-
	Nitrate (as NO3-)	mg/L		50		2	2	0.31	17	-	-	0
	Nitrite (as N)	mg/L				5	1	<MDL	0.052	-	-	-
	Sulphate	mg/L		250		6	6	900	820	-	-	8
	Sulphur as S	mg/L				1	1	<MDL	150	-	-	-
	Thiocyanate (as SCN)	µg/L			9	6	4	100	46	-	4	-
pH (Lab)	pH Units		6.5-9.5	6-8.5	6	6	11	11.4	-	0	-	
Petroleum Hydrocarbons	>C10-C12 Aliphatics	µg/L	>SOL	See TPH	See TPH	6	1	<MDL	6.4	0	-	-
	>C12-C16 Aliphatics	µg/L	>SOL	See TPH	See TPH	6	1	<MDL	4.6	0	-	-
	>C16-C21 Aliphatics	µg/L	NR	See TPH	See TPH	6	1	<MDL	20	0	-	-
	>C21-C35 Aliphatics	µg/L	NR	See TPH	See TPH	6	1	<MDL	5.9	0	-	-
Polycyclic Aromatic Hydrocarbons	TPH >C5-C35 Aliphatics/Aromatics	µg/L	na	10	50	6	1	<MDL	37	-	0	1
	Acenaphthene	µg/L	>SOL			5	1	<MDL	0.05	0	-	-
	Fluoranthene	µg/L	>SOL		0.0063	5	1	0.01	<MDL	0	1	-
Volatile Organic Compounds / Semi Volatile Organic Compounds	Fluorene	µg/L	>SOL			5	1	<MDL	0.02	0	-	-
	Phenol	µg/L	>SOL	5800	7.7	5	4	7.9	4.4	0	1	0
	Benzyl alcohol	µg/L				5	4	2.2	1.7	-	-	-
	Bis(2-ethylhexyl) phthalate	µg/L			1.3	5	1	5	<MDL	-	1	-
	Pentachlorophenol	µg/L			0.4	5	1	1.4	<MDL	-	1	-

Env Stds Description

UK Drinking Water Standards:UK Drinking Water Standards - Water Supply (Water Quality) Regulations, 2016 [http://www.legislation.gov.uk/uk/si/2016/614/pdfs/uk/si_20160614_en.pdf] plus other key CoC. To be used to assess risk to an aquifer.

UK Freshwater EQS:UK freshwater EQS Annual Average (AA) [<https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit>] plus other key CoC. 'UK Freshwater EQS - further assessment' provides further assessment of criteria dependent CoC.

UK Estuaries and coastal waters EQS:UK Estuaries and Coastal EQS Annual Average (AA) [<https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit>] plus other key CoC.

Notes

* Only compounds measured above the laboratory Method Detection Limit during groundwater monitoring of dual installed off-Site monitoring well LFBH01 included, with monitoring undertaken in 2021 (AEG 2021). Analytical testing suites comprised metals and inorganics, Total Petroleum Hydrocarbon Criteria Working Group, speciated Polycyclic Aromatic Hydrocarbons, Volatile Organic Compounds & Semi Volatile Organic Compounds.

** See Appendix F for source of adopted DWS and EQS

*** Hexavalent chromium was detected in groundwater from one and five groundwater samples collected from monitoring wells screening the superficial and bedrock aquifer, respectively (considering not only LFBH01 but also on-Site wells). Hexavalent chromium was not detected in the remaining 17 groundwater samples analysed or in any of the 203 soil samples analysed, or 15 leachate samples analysed. The detections of hexavalent chromium within monitoring wells screening bedrock are not considered representative, and as such, have not been considered further.

EQS Environmental Quality Standard

DWS Drinking Water Standard

GAC Generic Assessment Criteria

- GAC, DWS or EQS not readily available for comparison

see TPH No DWS or EQS for TPH, or speciated TPH fractions. As such, a value of 50 µg/l has been for sum TPH based on 50µg/l-1000µg/l (Surface Waters (Abstraction for Drinking Water) Regulations 1989) while a value of 10 µg/l is adopted for sum TPH based on the rescinded Private Water Supply Regulations, 1991.

>SOL Target acceptable risk not exceeded at theoretical solubility concentration

NVP No vapour pathway. Contaminant has only a low vapour pressure in groundwater.

na Comprises multiple contaminants - no GAC derived

NR No appropriate inhalation reference dose identified during review of toxicological data

10 Maximum measured concentration exceeds either the DWS, EQS or both

No criteria readily available

Appendix K- Table 3: Comparison of Measured Concentrations of Contaminants of Concern in Groundwater with GAC_W-Site

Compound Group	Compound*	Unit	Human Health Generic Assessment Criteria (Commercial Worker)	Adopted Drinking Water Standards	Adopted Estuaries and coastal waters EQS	Soil Testing: Maximum Measured Concentration	Leachate Testing: Maximum Measured Concentration	Number of Samples Analysed	Number of Defects	Maximum Measured Concentration - well screens Made Ground / Made Ground & Tidal Flat Deposits	Maximum Measured Concentration - Well Screens Superficial Deposits	Maximum Measured Concentration - Well Screens Bedrock	Number of Samples Exceeding EQS	Number of Samples Exceeding of DWS	Consider Further?	Rationale	
Metals	Arsenic	µg/L	NVP	10	25	468,700	55	71	71	25	24	9.6	0	14	No	1	
	Cadmium	µg/L	NVP	5	0.2	31,000	3.1	72	24	0.39	0.18	0.2	3	0	No	2	
	Copper	µg/L	NVP	2000	3.76	2,700,000	33	72	37	56	3.9	2	7	0	Yes	3	
	Iron	µg/L		200	1000	38,000,000	4400	63	63	3600	2700	4500	7	16	Yes	3	
	Lead	µg/L	NVP	10	1.3	2,030,000	26	72	46	10	0.64	2.5	5	0	No	2	
	Manganese	µg/L		50		7,300,000	190	13	13	1400	10	<MDL	-	3	Yes	3	
	Mercury	µg/L	>SOL	1	0.07	8400	0.25	72	49	0.33	0.41	0.72	19	0	Yes	3	
	Nickel	µg/L	NVP	20	8.6	300,000	35	72	69	14	5.8	22	6	1	Yes	3	
	Selenium	µg/L	NVP	10		14,000	9	66	62	38	28	27	-	13	No	1	
	Vanadium	µg/L			100	3,000,000	58	66	58	280	100	59	2	-	No	2	
	Zinc	µg/L	NVP	3000	7.9	7,200,000	450	72	59	440	11	22	15	0	Yes	3	
Inorganics	Ammoniacal Nitrogen as N	mg/L			0.021	-	37	63	63	9.6	19	13	62	-	Yes	3	
	Ammoniacal Nitrogen as NH3	mg/L			0.021	-	0.8	50	50	1.8	23	15	49	-	Yes	3	
	Cyanide (Free)	µg/L	18,000	50	1	2000	0.1	67	27	130	5.6	1.6	8	2	Yes(i)	3	
	Cyanide Total	µg/L		50	1	160,000	1.5	69	42	9900	4600	76	38	11	Yes	3	
	Nitrate (as N)	mg/L		11.3***		-	-	23	17	0.35	1.5	0.83	-	0	No	4	
	Nitrate (as NO3-)	mg/L		50		54	18	27	13	0.34	0.82	140	-	1	No	4	
	Nitrite (as N)	mg/L		0.15***		-	-	20	2	0.27	<MDL	0.25	-	2	No	4	
	Nitrite (as NO2-)	mg/L		0.5		-	6.8	30	15	1.7	44	440	-	13	No	4	
Sulphate	mg/L		250		49,000	2900	69	69	1600	2700	3000	-	44	Yes	3		
Petroleum Hydrocarbons	Thiocyanate (as SCN)	µg/L			9	15,000	-	63	44	85,000	9300	3900	44	-	Yes	3	
	TPH >C5-C35 Aliphatics/Aromatics**	µg/L	na	10	50	51,000,000	14	72	32	430,000	630	670	16	32	Yes**	3	
	Benzene	µg/L	57000	1	8	<MDL	-	71	5	1	5.2	58	1	2	No	5	
Polycyclic Aromatic Hydrocarbons	Ethylbenzene	µg/L	>SOL	300	20	<MDL	-	71	1	<MDL	<MDL	210	1	0	No	5	
	Naphthalene	µg/L	>SOL		2	1800	0.55	58	33	25	4.9	0.31	7	-	Yes	3	
	Acenaphthene	µg/L	>SOL			12,000	1.59	58	30	150	2.3	0.12	-	-	Yes ⁽ⁱⁱ⁾	6	
	Acenaphthylene	µg/L	>SOL			3000	0.03	58	18	0.38	0.02	0.02	-	-	Yes ⁽ⁱⁱ⁾	6	
	Fluoranthene	µg/L	>SOL		0.0063	160,000	1.4	58	30	5400	0.24	0.04	30	-	Yes	3	
	Anthracene	µg/L	>SOL		0.1	30,000	0.23	58	21	2.5	0.19	0.02	7	-	Yes	3	
	Phenanthrene	µg/L	>SOL			140,000	0.82	58	28	27	2.6	0.2	-	-	Yes ⁽ⁱⁱ⁾	6	
	Fluorene	µg/L	>SOL			18,000	0.61	58	29	12	0.52	0.08	-	-	Yes ⁽ⁱⁱ⁾	6	
	Chrysene	µg/L	>SOL			55,000	1.1	58	16	460	0.02	<MDL	-	-	Yes ⁽ⁱⁱ⁾	6	
	Pyrene	µg/L	>SOL			110,000	1.7	58	32	5400	0.14	0.03	-	-	Yes ⁽ⁱⁱ⁾	6	
	Benzo(a)anthracene	µg/L	>SOL			62,000	1.1	58	14	660	0.02	<MDL	-	-	Yes ⁽ⁱⁱ⁾	6	
	Benzo(b)fluoranthene	µg/L	>SOL	0.025	See BaP	60,000	3	58	13	140	<MDL	<MDL	-	13	Yes	3	
	Benzo(k)fluoranthene	µg/L	>SOL	0.025	See BaP	22,000	1.3	58	10	0.38	<MDL	<MDL	-	7	Yes	3	
	Benzo(a)pyrene	µg/L	>SOL	0.01	0.00017	45,000	2	58	9	0.88	<MDL	<MDL	9	9	Yes	3	
	Dibenz(a,h)anthracene	µg/L	>SOL			6600	0.33	58	4	0.09	0.01	<MDL	-	-	Yes ⁽ⁱⁱ⁾	6	
	Benzo(g,h,i)perylene	µg/L	>SOL	0.025	See BaP	22,000	1.5	58	9	0.36	0.01	<MDL	-	7	Yes	3	
	Indeno(1,2,3-c,d)pyrene	µg/L	>SOL	0.025	See BaP	21,000	1.6	58	8	0.33	<MDL	<MDL	-	8	Yes	3	
	Volatile Organic Compounds / Semi Volatile Organic Compounds	3-4-methylphenol	µg/L				200	-	41	2	1.8	<MDL	<MDL	-	-	No	7
		Phenols Monohydric	µg/L	>SOL	5800	7.7	1200	-	69	24	21	910	2000	11	0	No	8
		Chloromethane	µg/L				856	-	41	7	2	3	<MDL	-	-	No	7
Benzyl alcohol		µg/L				<MDL	-	41	1	<MDL	1.6	<MDL	-	-	No	7	
1-Methylnaphthalene		µg/L				-	-	41	1	1.7	<MDL	<MDL	-	-	Yes ⁽ⁱⁱ⁾	6	
2,4-dimethylphenol		µg/L				<MDL	-	41	3	4	<MDL	<MDL	-	-	No	7	
2-methylnaphthalene		µg/L				1200	-	41	1	1.8	<MDL	<MDL	-	-	Yes ⁽ⁱⁱ⁾	6	
Bis(2-ethylhexyl) phthalate		µg/L			1.3	<MDL	-	41	3	20	<MDL	<MDL	3	-	No	9	
Carbazole		µg/L				12,000	-	41	1	3.3	<MDL	<MDL	-	-	Yes ⁽ⁱⁱ⁾	6	
Dibenzofuran		µg/L				7900	-	41	2	310	<MDL	<MDL	-	-	Yes ⁽ⁱⁱ⁾	6	

Env Stds Description

UK Drinking Water Standards:UK Drinking Water Standards - Water Supply (Water Quality) Regulations, 2016 [http://www.legislation.gov.uk/uksi/2016/614/pdfs/uksi_20160614_en.pdf] plus other key CoC. To be used to assess risk to an aquifer.
 UK Freshwater EQS:UK Freshwater EQS Annual Average (AA) [https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit] plus other key CoC. 'UK Freshwater EQS - further assessment' provides further assessment of criteria dependent CoC.
 UK Estuaries and coastal waters EQS:UK Estuaries and Coastal EQS Annual Average (AA) [https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit] plus other key CoC.

Notes

- * Only compounds which were measured above the WQS or for which no WQS was readily available for comparison following screening presented in Appendix E Table 1 are included here.
- ** Assessed as speciated aromatic / aliphatic Total Petroleum Hydrocarbons rather than sum Total Petroleum Hydrocarbons.
- *** WQS for NO₂ and NO₃ adjusted based on species reported as N.
- WQS Water Quality Standard
- EQS Environmental Quality Standard
- DWS Drinking Water Standard
- GAC Generic Assessment Criteria
- 1 Arsenic was measured in excess of the DWS (albeit below the EQS), with the maximum measured concentration in the same order of magnitude as the DWS. Review of the exceedances indicated that they were distributed across the Site rather than isolated to a particular area. While arsenic was measured in a number of samples above the DWS (14 of 72 samples) and could be present as a result of the Made Ground, further assessment is not considered required on the basis that the exceedances were typically marginal and that there were no exceedances of the EQS. The same rationale applies for selenium, for which typically marginal DWS exceedances were observed.
- 2 Review of the detections of cadmium, lead and vanadium indicates that the maximum measured concentrations were generally in the same order of magnitude as the EQS, with no exceedances of the DWS (where available) identified. Further, only a limited number of samples were measured in excess of the criteria. On this basis, further assessment of these metals is not considered to be required.
- 3 The maximum concentrations of these compounds were at least an order of magnitude higher than the WQS, and as such they have been considered further.
- 4 Further consideration of nitrate has not been undertaken given that concentrations of nitrate were in excess of DWS in only one of the 27 samples analysed (ion chromatography method reported as NO₃). While the concentration in excess was an order of magnitude greater than the DWS, concentrations in the remaining 26 samples were below 1.5 mg/L, an order of magnitude lower than the DWS. Additionally, where nitrate was analysed as N (colourimetric analysis), concentrations were measured below the DWS adjusted based on species reported as N in the 23No samples analysed. Similarly to nitrate, nitrite analysis was reported by both the ion chromatography (IC) method (as NO₂ and colourimetric method (as N)). Via the IC method, 13 out of 30 exceeded the DWS. Whereas via the colourimetric method, 2 out of 20 exceeded the DWS. Analysis of nitrite at the same location via the two methods yields differing results. Nitrate, nitrite and ammoniacal nitrogen tend to form a relationship. No observed change (increase or decrease) in nitrate or ammoniacal nitrogen concentrations was measured in those wells which reported higher nitrite via the IC method and concentrations were similar across the site. Nitrite does not tend to occur at higher concs than nitrate unless reducing conditions, such as high iron, are present. Iron concentrations in these locations were similar to those across the site. Given the above, nitrite has not been assessed further as it is considered that only limited concentrations are likely marginally above the DWS. It is noted that assessment of ammonia has been undertaken which evaluates the risk from nitrogen species. Ammoniacal nitrogen typically occurs at higher concentrations and is consistently present across the site above the EQS.
- 5 Benzene was detected in 5 of 72 samples analysed (including on-site wells and off-site well LFBH01) with the highest concentration of 58µg/l measured in groundwater collected from MSBH03D (screening bedrock and located in the northeast of the Site, with the compounds measured consistent with the presence of light end TPH measured in this location). The remaining detections were within monitoring wells screening the Made Ground, at a maximum concentration of 5.2µg/l. Ethylbenzene was detected in a single sample of 72No. analysed associated with the groundwater sample collected from MSBH03D at 210µg/l. The source of BTEX measured within MSBH03D at depth is unclear. The absence of measurable benzene and ethylbenzene in the 159No. soil samples analysed from the Site, alongside the absence of significant concentrations within groundwater collected from monitoring wells screening Made Ground or superficial deposits (which are in part considered to provide a barrier to the vertical migration of CoC downwards due to their cohesive nature) is suggestive of a potential off-site source. However, concentrations of benzene and ethylbenzene in hydraulically up-gradient locations screening the bedrock aquifer were below the laboratory MDL. Regardless, on the basis of the above, the risk to water resources from the measured concentrations of benzene and ethylbenzene is not considered significant.
- 6 The compounds detected are PAH, with a review of the distribution of the remaining PAH for which criteria were available for comparison indicating that they were typically identified in the same location and at similar concentrations. As such, the remaining PAH for which WQS are available for comparison have been selected as indicator compounds.
- 7 Comparison of the maximum measured concentration with WQS presented by the US EPA (US EPA 2021) for tapwater and the marine Predicted No Effect Concentration (PNEC - protective of aquatic species) based on the European Chemicals Agency (ECHA) Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) has been undertaken in the absence of UK DWS and readily available EQS. Tapwater criteria of 370µg/l, 190µg/l, 2,000µg/l and 360µg/l were presented for 3-4-methylphenol (the lowest methylphenol criteria was selected), chloromethane, benzyl alcohol and 2,4-dimethylphenol, respectively, while PNECs of 10µg/l (-4-methylphenol), 20µg/l (chloromethane) and benzyl alcohol (100µg/l) were presented (no PNEC was available for 2,4-dimethylphenol). On the basis that the maximum measured concentration was typically at least an order of magnitude below the WQS, further evaluation has not been undertaken.
- 8 Monohydric phenols represents a group of compounds including phenol, methyl phenols and xylenols. The WQS presented is based on the EQS for phenol, with none of the measured concentrations of phenol in groundwater sampled from beneath the Site in excess of the EQS. Concentrations of monohydric phenol have been measured in excess of the EQS for phenol by several orders of magnitude however it is not clear what is driving the elevated concentrations of monohydric phenol with concentrations of both methylphenols, chlorophenols and phenol below the EQS for phenol and in the majority of cases, below the laboratory MDL. In locations where the highest concentrations of monohydric phenol have been measured, they have not been consistently elevated for example, concentrations of monohydric phenol in MSBH13D were less than MDL in August 2021 and during the two subsequent monitoring visits were measured in 1000's µg/l. The Skaler method, used to detect monohydric phenols, can be open to interference and is not considered to be as accurate as the GC-MS method used to detect phenol and methylphenol. On the basis of the above, further consideration of concentrations of monohydric phenols has not been undertaken at this stage.
- 9 Bis(2-ethylhexyl)phthalate was detected in three samples above the EQS of 1.3µg/l, with two of the detections only marginally above (2.1 and 3µg/l in S2-BHA04 and S2-BH05, respectively). Bis(2-ethylhexyl)phthalate is a plasticizer, with no significant source identified in association with the Site. On this basis, and that the exceedances were typically marginal, further consideration is not warranted.
- See BaP Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015. Benzo(a)pyrene can be considered as a marker for other PAH for comparison with the corresponding AA-EQS in water.
- see TPH No DWS or EQS for TPH, or speciated TPH fractions. As such, a value of 50 µg/l has been for sum TPH based on 50µg/l-1000µg/l (Surface Waters (Abstraction for Drinking Water) Regulations 1989) while a value of 10 µg/l is adopted for sum TPH based on the rescinded Private Water Supply Regulations, 1991.

Yes Compound considered to require further consideration
 Both total and free cyanide were measured above the MDL. Measured total cyanide concentrations are generally one or more orders of magnitude higher than free cyanide. WQS are available for 'cyanide' and relate to the presence of CN⁻ (free cyanide), with toxic effects relating to the presence of hydrogen cyanide (HCN). CN⁻ is formed in an equilibrium by dissociation of HCN and from simple cyanides and some complexes. Total cyanide analysis includes both compounds which can readily form CN⁻, and those more strongly associated which cannot so readily form CN⁻. In order to account for all cyanide species and potentially differing pH within surface water, total cyanide data has been used in the assessment. This is considered conservative as it is likely that the majority of the risk only relates to the portion of total cyanide which was measured as free cyanide.
 Yes⁽ⁱⁱ⁾ Compounds associated with Polycyclic Aromatic Hydrocarbons have been assessed further via and an indicator compound approach. Indicator compounds have been selected based on readily available MRV, WQS for either EQS, DWS or both and following a review of PAH concentrations to ensure they represent the PAH present. Concentrations of all 16 PAH compounds were measured above the MDL in the leachate and Made Ground. The indicator compounds selected represented a relatively high proportion of the contaminant mass identified. Within the superficial and bedrock, measured PAH concentrations were generally lower with some PAH below the MDL. However, at least some of the PAH indicators selected were measured above WQS and/or MDL. As such, The use of indicator compounds for assessment of PAH is considered appropriate to represent the risk from the 16 PAH.

Appendix L

Water Quality Standard Sources

Appendix L

Water Quality Standard Sources

The selection of compliance criteria in land contamination assessments in England and Wales is not clearly defined within Environment Agency guidance, as the changes introduced as a result of the Water Framework Directive have led to a number of water quality standards historically used in land contamination risk assessments (e.g. taken from the Dangerous Substance Directive 1975) being superseded or are in the process of being superseded by new standards introduced under the Water Framework Directive. Further, guidance released by the Environment Agency in 2009 (Fretwell et al., 2009) which identified a number of potential compliance criteria now needs revision as some of the sources quoted for the criteria are no longer valid. As such, consideration has to be given on a case by case as to what is appropriate as a compliance criterion, taking into account the high level guidance on selection of compliance criteria in the Remedial Targets Worksheet.

Arcadis' approach is to adopt Drinking Water Standards (DWS), where available, unless the site under evaluation is located in close proximity to a surface watercourse, at which point Environmental Quality Standards (EQS) are instead considered. Where the DWS is higher than the EQS, typically the EQS will be used as a substitute DWS.

Total Petroleum Hydrocarbons

There is no quantitative criterion for total petroleum hydrocarbons (TPH), or speciated TPH fractions. Historically, standards provided for petroleum hydrocarbons ranges from 10µg/l (Private Water Supply Regulations 1991, removed from the 2009 regulations) to 50µg/l-1000µg/l (Surface Waters (Abstraction for Drinking Water) Regulations 1989) which related to the degree of treatment of water prior to use as drinking water. Over time, the legislative standards have been rescinded and no alternative standard provided within the UK. A summary of water quality assessment criteria for petroleum hydrocarbons is provided in CL:AIRE 2017 which presents criteria ranging from 90µg/l to 15,000µg/l for individual TPH fractions. In the absence of suitable criteria, Arcadis adopts a value of 10 µg/l split between the TPH fractions for the more sensitive locations (e.g. Principal Aquifer, drinking water abstraction), and a value of 50µg/l split between the TPH fractions for locations considered less sensitive (e.g. low permeability aquifers) or where a site is located in close proximity to a surface watercourse. .

Appendix L: Water Quality Standard Sources

Chemical Group	Compound	Unit	UK Estuaries and coastal waters Environmental Quality Standards (with a limited number of exceptions, as noted)	UK Drinking Water Standards
Metals	Antimony	µg/L		5 ^{#1}
	Arsenic	µg/L	25 ^{#2}	10 ^{#1}
	Barium	µg/L		1300 ^{#3}
	Boron	µg/L	7000 ^{#2}	1000 ^{#1}
	Cadmium	µg/L	0.2 ^{#2}	5 ^{#1}
	Chromium (hexavalent)	µg/L	0.6 ^{#2}	
	Chromium	µg/L		50 ^{#1}
	Chromium (Trivalent)	µg/L		
	Copper	µg/L	3.76 ^{#2}	2000 ^{#1}
	Iron	µg/L	1000 ^{#2}	200 ^{#1}
	Lead	µg/L	1.3 ^{#2}	10 ^{#1}
	Manganese	µg/L		50 ^{#1}
	Mercury	µg/L	0.07 ^{#2}	1 ^{#1}
	Nickel	µg/L	8.6 ^{#2}	20 ^{#1}
	Selenium	µg/L		10 ^{#1}
	Vanadium	µg/L	100 ^{#2}	
Zinc	µg/L	7.9 ^{#2}	3000 ^{#5}	
Inorganics	Ammoniacal Nitrogen as N	mg/L	0.021 ^{#2}	
	Cyanide (Free)	µg/L		50 ^{#1}
	Cyanide Total	µg/L	1 ^{#2}	50 ^{#1}
	Nitrate (as NO ₃ -)	mg/L		50(NO ₃) ^{#6}
	Nitrite (as NO ₂ -)	mg/L		0.5(NO ₂) ^{#7}
	Sulphate as SO ₄	mg/L		250 ^{#4}
	Thiocyanate (as SCN)	µg/L	9 ^{#8}	
Other	pH (Lab)	pH_Unit		6.5-9.5 ^{#1}
Petroleum Hydrocarbons	TPH >C5-C35 Aliphatics/Aromatics	µg/L	50 ^{#9}	10 ^{#9}
	Benzene	µg/L	8 ^{#2}	1 ^{#1}
	Toluene	µg/L	74 ^{#2}	700 ^{#3}
	Ethylbenzene	µg/L	20 ^{#2}	300 ^{#3}
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/L	2 ^{#2}	
	Fluoranthene	µg/L	0.0063 ^{#2}	
	Anthracene	µg/L	0.1 ^{#2}	
	Benzo(b)fluoranthene	µg/L	See BaP	0.025 ^{#10}
	Benzo(k)fluoranthene	µg/L	See BaP	0.025 ^{#10}
	Benzo(a)pyrene	µg/L	0.00017 ^{#2}	0.01 ^{#1}
	Benzo(g,h,i)perylene	µg/L	See BaP	0.025 ^{#10}
Indeno(1,2,3-c,d)pyrene	µg/L	See BaP	0.025 ^{#10}	
Volatile Organic Compounds and Semi Volatile Organic Compounds	Phenol	µg/L	7.7 ^{#2}	5800 ^{#11}
	1,1-dichloroethane	µg/L		2.8 ^{#11}
	Chloroform	µg/L	2.5 ^{#2}	25 ^{#12}
	Bis(2-ethylhexyl) phthalate	µg/L	1.3	

Notes

█ No Drinking Water Standard or Environmental Water Quality Standard (saline) readily available

UK Drinking Water Standards: UK Drinking Water Standards - Water Supply (Water Quality) Regulations, 2016

[http://www.legislation.gov.uk/ukksi/2016/614/pdfs/ukxi_20160614_en.pdf] plus other key CoC. To be used to assess risk to an aquifer.

UK Estuaries and coastal waters EQS: UK Estuaries and Coastal EQS Annual Average (AA) [<https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit>] plus other key CoC.

#1: Water Supply (Water Quality) Regulations 2016.

#2: Saline EQS

#3: Guidelines for Drinking-water Quality, 4th Edition. WHO, 2011

#4: Water Supply (Water Quality) Regulations 2016. As SO₄

#5: Guidelines for Drinking-water Quality, 4th Edition. WHO, 2011. Based on taste rather than a formal guideline.

#6: Water Supply (Water Quality) Regulations 2016. As NO₃.

#7: Water Supply (Water Quality) Regulations 2016. As NO₂.

#8: PNEC - REACH 2021

#9: No UK DWS for total petroleum hydrocarbons (TPH), or speciated TPH fractions. A value of 10 µg/l is adopted for sum TPH based on the rescinded Private Water Supply Regulations, 1991. No UK EQS for total petroleum hydrocarbons (TPH), or speciated TPH fractions. A value of 50 µg/l is adopted for sum TPH protection of surface water based on 50 µg/l-1000 µg/l (Surface Waters (Abstraction for Drinking Water) Regulations 1989).

#10: Water Supply (Water Quality) Regulations 2016. Value of 0.1 µg/l for PAH split between four individual PAH. Requires summation of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene and indeno(123cd)pyrene to use 0.1 µg/l value.

#11: US EPA Regional Screening Levels, May 2019. <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>

#12: Water Supply (Water Quality) Regulations 2016. Value of 100 µg/l for sum trihalomethanes split between individual compounds. Requires summation of chloroform, bromoform, chlorodibromomethane and bromodichloromethane to use 100 µg/l value.

Appendix M

Comparison of Measured Concentrations of Contaminants of Concern in Soil Leachate with GAC

Appendix M: Comparison of Measured Concentrations of Contaminants of Concern in Soil Leachate with GAC

Compound Group	Compound*	Unit	Adopted Drinking Water Standards**	Adopted Estuaries and coastal waters EQS**	Number of Samples Analysed	Number of Detections	Maximum Measured Concentration	Number of Samples Exceeding EQS	Number of Samples Exceeding of DWS
Metals	Arsenic	µg/L	10	25	88	84	55	1	2
	Barium	µg/L	1300		63	63	120	-	0
	Beryllium	µg/L			61	1	0.2	-	-
	Boron	µg/L	1000	7000	87	46	320	0	0
	Cadmium	µg/L	5	0.2	88	24	3.1	7	0
	Chromium ^{#1}	µg/L	50		74	43	16	0	0
	Chromium (Trivalent)	µg/L		15	4	32	-	-	
	Copper	µg/L	2000	3.76	88	71	33	9	0
	Iron	µg/L	200	1000	69	46	4400	1	6
	Lead	µg/L	10	1.3	88	50	26	9	1
	Manganese	µg/L	50		64	61	190	-	2
	Mercury	µg/L	1	0.07	88	33	0.25	3	0
	Nickel	µg/L	20	8.6	88	30	35	1	1
	Selenium	µg/L	10		87	75	9	-	-
	Vanadium	µg/L		100	63	51	58	0	0
Zinc	µg/L	3000		87	65	450	-	0	
Inorganics & Other	Total Hardness	mg/l			15	15	387	-	-
	Ammoniacal Nitrogen as N	mg/L		0.021	77	42	37	37	-
	Ammoniacal Nitrogen as NH3	mg/L			15	6	0.8	-	-
	Chloride	mg/L	250		37	37	7.2	-	0
	Cyanide (Free)	µg/L	50	1	15	2	0.1	0	0
	Cyanide Total	µg/L	50	1	21	3	1.5	1	0
	Nitrate (as NO3-)	mg/L	50		15	12	18	-	0
	Nitrite (as NO2-)	mg/L	0.5		15	8	6.8	-	3
	Sulphate	mg/L	250		15	15	2900	-	8
	pH (Lab)	pH Units	6.5-9.5	6-8.5	74	74	12	0	0
Petroleum Hydrocarbons	Total Organic Carbon	mg/l			15	5	7.9	-	-
Petroleum Hydrocarbons	TPH >C5-C35								
	Aliphatics/Aromatics ^{#2}	µg/L	10	50	2	2	14	0	1
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/L		2	16	8	0.55	0	-
	Acenaphthene	µg/L			16	4	1.59	-	-
	Acenaphthylene	µg/L			16	3	0.03	-	-
	Fluoranthene	µg/L		0.0063	16	11	1.4	10	-
	Anthracene	µg/L		0.1	16	7	0.23	1	-
	Phenanthrene	µg/L			16	12	0.82	-	-
	Fluorene	µg/L			16	7	0.61	-	-
	Chrysene	µg/L			16	7	1.1	-	-
	Pyrene	µg/L			16	11	1.7	-	-
	Benzo(a)anthracene	µg/L			16	7	1.1	-	-
	Benzo(b)fluoranthene	µg/L	0.025	See BaP	16	8	3	0	7
	Benzo(k)fluoranthene	µg/L	0.025	See BaP	16	7	1.3	0	6
	Benzo(a)pyrene	µg/L	0.01	0.00017	16	7	2	7	7
	Dibenz(a,h)anthracene	µg/L			16	5	0.33	-	-
	Benzo(g,h,i)perylene	µg/L	0.025	See BaP	16	8	1.5	0	7
Indeno(1,2,3-c,d)pyrene	µg/L	0.025	See BaP	16	7	1.6	0	6	
PAHs (Sum of total)	µg/L			2	1	15	-	-	
Phenolics	Phenols Monohydric	µg/L		7.7	2	1	<100	0	-

Notes

* Only compounds measured above the laboratory Method Detection Limit during the ground investigation in 2018 (AEG 2018) and 2021 (AEG 2021) are included here from on-Site locations, where analytical testing suites comprised metals and inorganics, Total Petroleum Hydrocarbon Criteria Working Group, Polycyclic Aromatic Hydrocarbons and monohydric phenols. It is noted that the 2004 Enviro investigation did not include soil leachate testing.

** See Appendix F for source of adopted DWS and EQS

EQS Environmental Quality Standard

DWS Drinking Water Standard

^{#1} Criteria protective of DWS are available for total chromium only, with EQS available for hexavalent chromium only. Hexavalent chromium was not measured above the laboratory MDL. As such, criteria have been presented for total chromium.

^{#2} Speciated Total Petroleum Hydrocarbon analysis undertaken for the single sample analysed. However, for the purpose of screening, only the sum TPH is presented

- DWS or EQS not readily available for comparison

See BaP Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015. Benzo(a)pyrene can be considered as a marker for other PAH for comparison with the corresponding AA-EQS in water.

10 Maximum measured concentration exceeds either the DWS, EQS or both
No criteria readily available

Appendix N

Chemical Input Parameter Values

Appendix N: Chemical Input Parameter Values

Contaminant	Organic Carbon Coefficient	Soil Water Partition Coefficient	
Symbol	K_{oc}	K_d	
Units	l/kg	l/kg	
Total Petroleum Hydrocarbons			
Aliphatic >C ₅ -C ₆	790	NA	[1]
Aliphatic >C ₆ -C ₈	4 000	NA	[1]
Aliphatic >C ₈ -C ₁₀	32 000	NA	[1]
Aliphatic >C ₁₀ -C ₁₂	250 000	NA	[1]
Aliphatic >C ₁₂ -C ₁₆	5 x 10 ⁶	NA	[1]
Aliphatic >C ₁₆ -C ₃₅	1 x 10 ⁹	NA	[1]
Aromatic >C ₈ -C ₁₀	1 600	NA	[1]
Aromatic >C ₁₀ -C ₁₂	2 500	NA	[1]
Aromatic >C ₁₂ -C ₁₆	5 000	NA	[1]
Aromatic >C ₁₆ -C ₂₁	16 000	NA	[1]
Aromatic >C ₂₁ -C ₃₅	130 000	NA	[1]
Polycyclic Aromatic Hydrocarbons			
Naphthalene	646	NA	[2]
Fluoranthene	18197	NA	[2]
Anthracene	5012	NA	[3]
Benzo[b]fluoranthene	1.05 x 10 ⁵	NA	[2]
Benzo[k]fluoranthene	1.48 x 10 ⁵	NA	[2]
Benzo(a)pyrene	1.29 x 10 ⁵	NA	[2]
Benzo(g,h,i)perylene	4.17 x 10 ⁵	NA	[2]
Indeno[123-cd]pyrene	87096	NA	[2]
Metals & Inorganics			
Copper	NA	316	[4]
Iron	NA	220	[5]
Manganese	NA	50	[5]
Mercury	NA	500	[6]
Nickel	NA	500	[7]
Zinc	NA	501	[4]
Ammoniacal Nitrogen as N	NA	0.4*	[8]
Cyanide Total	NA	5.0	[9]
Thiocyanate	NA	5.0**	[9]
Sulphate	NA	0.43***	[10]

Notes

*

The partitioning coefficient, k_d , for ammoniacal nitrogen has been adopted from Buss, S. R. et al., 2004. *A Review of Ammonium Attenuation in Soil and Groundwater, Quarterly Journal of Engineering Geology and Hydrogeology*. The mid value for a sand and gravel was adopted.

**

Total cyanide K_d adopted in the absence of a readily available K_d for thiocyanate

The partitioning coefficient, k_d , for sulphate has been adopted from the Environment Agency, 2005b. *Development of the partition coefficient (Kd) test method for use in environmental risk assessments. Science Report SC020039/4*. The value adopted was based on a siltstone and concentration of 250mg/l.

Sources

¹ TPH CWG 1997

² EA 2008. Compilation of data for priority organic pollutants for derivation of Soil Guideline Values. Science Report SC050021/SR7

³ Estimated by linear regression from log Kow (Montgomery 2007)

⁴ US EPA 2005. Partition coefficients for metals in surface water, soil and waste. Table 3.

⁵ ConSim 2000

⁶ EA 2009. Soil Guideline Values for mercury in soil. Science Report SC050021/Mercury SGV

⁷ EA 2009. Soil Guideline Values for nickel in soil. Science Report SC050021/Nickel SGV

⁸ Buss, S. R. et al., 2004. *A Review of Ammonium Attenuation in Soil and Groundwater, Quarterly Journal of Engineering Geology and Hydrogeology*.

⁹ US EPA 2005a. Partition coefficients for metals in surface water, soil and waste No, EPA/600/R-05/074

¹⁰ EA 2005b. Development of the partition coefficient (Kd) test method for use in environmental risk assessments. Science Report SC020039/4.

Appendix N: Chemical Input Parameter Values

Contaminant	Half Life*	Degradation Coefficient
Symbol	$t_{1/2}$	I
Units	days	days ⁻¹
Total Petroleum Hydrocarbons		
Aliphatic >C ₅ -C ₆	360	1.93 x 10 ⁻³ [2]
Aliphatic >C ₆ -C ₈	360	1.93 x 10 ⁻³ [2]
Aliphatic >C ₈ -C ₁₀	712	9.74 x 10 ⁻⁴ [3]
Aliphatic >C ₁₀ -C ₁₂	1750	3.96 x 10 ⁻⁴ [3]
Aliphatic >C ₁₂ -C ₁₆	1750	3.96 x 10 ⁻⁴ [3]
Aliphatic >C ₁₆ -C ₃₅	1750	3.96 x 10 ⁻⁴ [3]
Aromatic >C ₈ -C ₁₀	200	3.47 x 10 ⁻³ [1]
Aromatic >C ₁₀ -C ₁₂	300	2.31 x 10 ⁻³ [2]
Aromatic >C ₁₂ -C ₁₆	204	3.40 x 10 ⁻³ [2]
Aromatic >C ₁₆ -C ₂₁	1000	6.93 x 10 ⁻⁴ [2]
Aromatic >C ₂₁ -C ₃₅	2000	3.47 x 10 ⁻⁴ [2]
Polycyclic Aromatic Hydrocarbons		
Naphthalene	300	2.31 x 10 ⁻³ [1]
Fluoranthene	880	7.88 x 10 ⁻⁴ [2]
Anthracene	920	7.53 x 10 ⁻⁴ [2]
Benzo[b]fluoranthene	1220	5.68 x 10 ⁻⁴ [2]
Benzo[k]fluoranthene	4280	1.62 x 10 ⁻⁴ [2]
Benzo(a)pyrene	1060	6.54 x 10 ⁻⁴ [2]
Benzo(g,h,i)perylene	1300	5.33 x 10 ⁻⁴ [2]
Indeno[123-cd]pyrene	1460	4.75 x 10 ⁻⁴ [2]
Metals & Inorganics		
Iron	9E+99	- [4]
Manganese	9E+99	- [4]
Mercury	9E+99	- [4]
Nickel	9E+99	- [4]
Zinc	9E+99	- [4]
Ammoniacal Nitrogen as N	2190	- [4]
Cyanide (Free)	9E+99	- [4]
Cyanide Total	9E+99	- [4]
Thiocyanate	9E+99	- [4]

Notes

*

Where possible, half life data for compounds within TPH fractions was used, adopted from Howard et al, 1991 and Noble and Morgan 2003. Where no half life data for compounds within the fractions was available, reference was made to CCME^[3], December 2000, which details conservative half lives for a range of fractions.

Sources:

[1]

Noble and Morgan, 2002. The Effects of Contaminant Concentration on the Potential for Natural Attenuation.

[2]

Howard et al. Handbook of Environmental Degradation Rates, Lewis Publishers Inc. Chelsea, MI (1991).

[3]

Canadian Council of Ministers of the Environment, December 2000.

[4]

Assumed no degradation

[5]

Buss et al, 2004 presents a range in half life for ammonium in sand and gravel of 1 - 6 years for aerobic conditions, with half life under anaerobic conditions considered to be infinite. The upper end of the aerobic range has been adopted which is considered most likely to represent site conditions.

Appendix O

Sensitivity Testing

Appendix O

Sensitivity Testing

To account for the inherent uncertainty present when simplifying the environment for modelling purposes, a range of values was specified for each parameter adopted within the assessment. The RTW model is set up using a value from each of the ranges; this value is not necessarily the final chosen value.

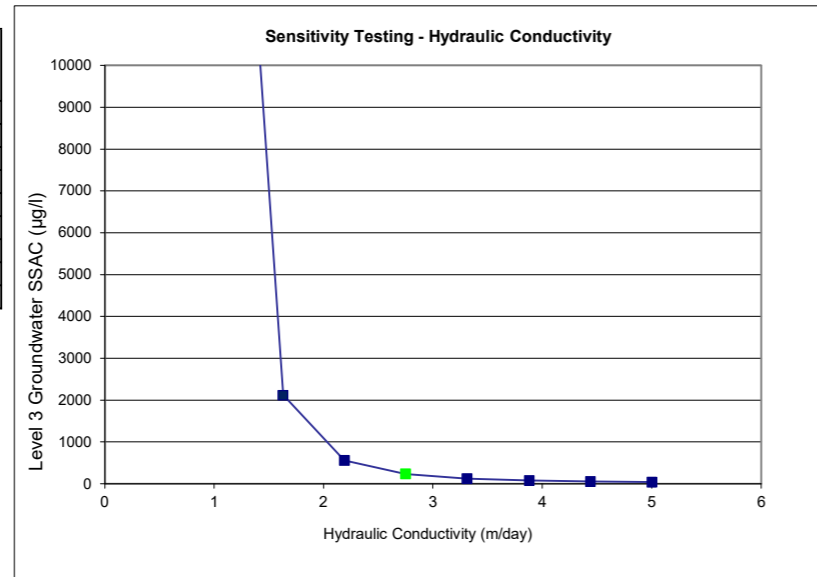
Each parameter is modified, one at a time, whilst maintaining the remaining parameters at the starting values to identify which parameters have the greatest effect on the site model.

The process is repeated to ensure the site model is appropriate for the site conditions. The RTW model was setup with the chemical parameters for naphthalene and a 50m compliance point. The physical input value selection and sensitivity of each parameter are presented on the following sheets.

Appendix O: Sensitivity Testing

Parameter	Range	Data Source
Hydraulic Conductivity (m/day)	0.5 - 5.0	Variable head tests were performed in 4 wells screening the Tidal Flat Deposits on the Site and indicated a range in hydraulic conductivity of 84 to 353 m/day with an average of 150 m/day. This range in hydraulic conductivity is considered to be fast for the Tidal Flat Deposits encountered below the Site and does not correlate well with the hydraulic gradients calculated from site specific data (0.001 - 0.002). For completeness, when a value of 150 m/day is considered in the sensitivity testing, the resulting SSAC for benzene is 2.3 µg/l. Overall the hydraulic conductivities calculated from variable head tests performed in the on-site wells are not considered to be representative of the Tidal Flat Deposits, as such variable head permeability testing undertaken across the wider Teesworks site has been adopted.
		Testing reported for 5No. wells screening the granular Tidal Flat Deposits across the wider Teesworks site indicated a range in hydraulic conductivity of 0.56 to 2.9m/day. This is considered representative of the slightly silty slightly gravelly sands encountered both beneath the Site and hydraulically down-gradient of the Site to the north. As such, a range in hydraulic conductivity of 0.5 to 5.0m/day was selected for sensitivity testing.

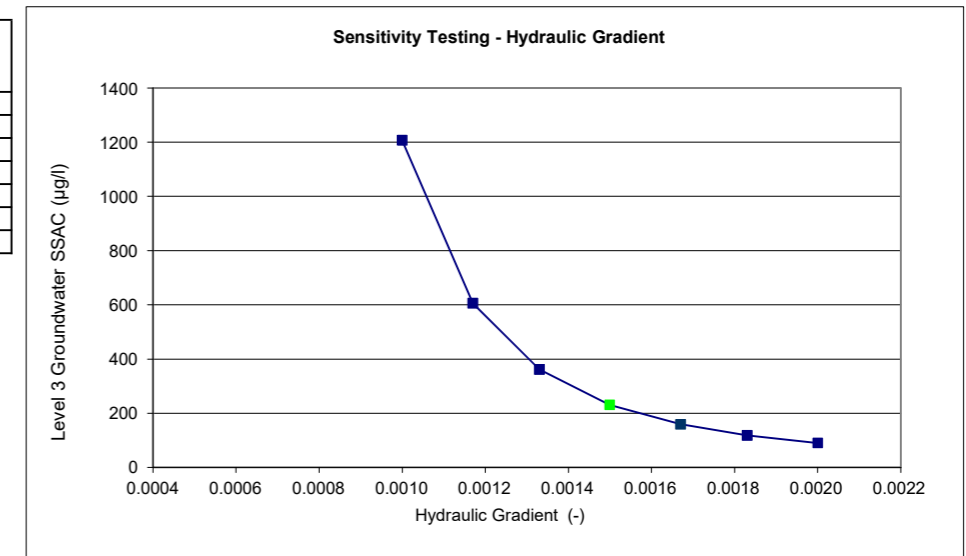
Hydraulic Conductivity (m/day) Groundwater	Level 3 Groundwater SSAC (µg/l)
0.50	8402088
1.06	23587
1.63	2115
2.19	555
2.75	231
3.31	123
3.88	76
4.44	53
5.00	39



Selected value highlighted in green | 2.75

Parameter	Range	Data Source
Hydraulic Gradient (-)	0.001 - 0.002	Hydraulic gradient was calculated using site specific groundwater elevation data gathered during groundwater monitoring undertaken in 2018 and in 2021, including off-Site monitoring well LF\BH01 (2021 only). The wells selected for the calculation were those screening the Made Ground and Made Ground / Tidal Flat Deposits, given that the two units are considered to be in hydraulic continuity, with only a limited number of wells screening solely the Tidal Flat Deposits. The calculated hydraulic gradient ranged from around 0.001 to 0.002.
		It is noted that hydraulic gradient and hydraulic conductivity are intrinsically linked, with steep gradients unable to support more rapid hydraulic conductivities and vice versa. The hydraulic gradient calculated is considered to correlate with the hydraulic conductivity of the underlying Tidal Flat Deposits selected for sensitivity testing.

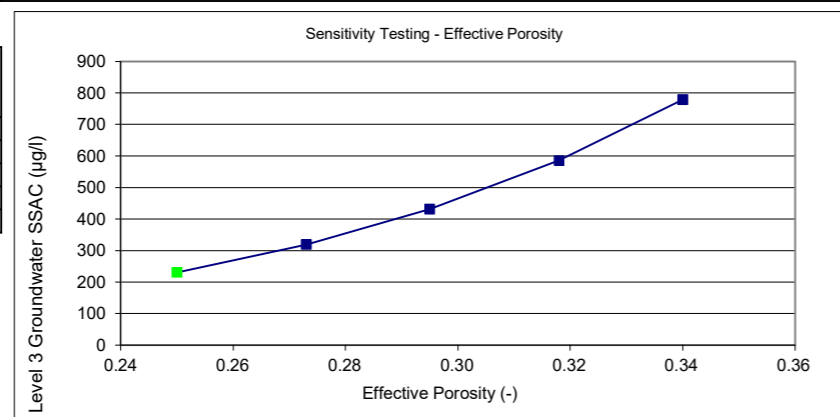
Hydraulic Gradient (-) Groundwater	Level 3 Groundwater SSAC (µg/l)
0.0010	1207
0.0012	605
0.0013	361
0.0015	231
0.002	159
0.0018	118
0.0020	90



Selected value highlighted green | 0.0015

Parameter	Range	Data Source
Effective Porosity (-)	0.25 - 0.34	A range of values for effective porosity was defined based on values reported by McWhorter & Sunada (1977) for a fine sand (arithmetic mean of 0.33), fine gravel (arithmetic mean of 0.28) and silt (arithmetic mean of 0.20). These values were further refined after considering values for a silt of 0.34 to 0.61, 0.26 to 0.53 for a fine sand and 0.25 to 0.38 for a fine gravel as reported within ConSIM (2000), and 0.2 for a silty sand, 0.3 for a sand, 0.3 for a gravel and 0.25 for a silt as presented in RBCA (1998). As such, a range of 0.25 - 0.34 was adopted for sensitivity testing.

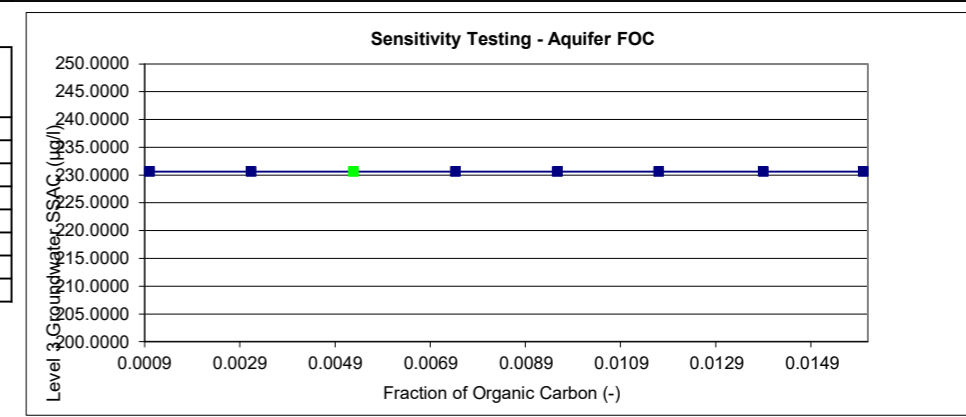
Effective Porosity (-) Groundwater	Level 3 Groundwater SSAC (µg/l)
0.3	231
0.273	319
0.30	431
0.318	586
0.34	779



Selected value highlighted green | 0.25

Parameter	Range	Data Source
Aquifer Fraction of Organic Carbon (-)	0.001 - 0.016	The aquifer Fraction of Organic Carbon (FOC) was based on Site data, where Soil Organic Matter (SOM) testing of the granular Tidal Flat Deposits indicated a range from 0.2 to 2.8% (average of 0.8%). This excluded samples in which gross contamination was identified (samples containing sum PAH greater than 1mg/kg were excluded). The SOM was converted to FOC, which indicated a range in FOC of 0.001 to 0.016, with an average of 0.005). As such, a range in FOC of 0.001 to 0.016 was selected for sensitivity testing.
		It is noted that while aquifer FOC appears to be an insensitive parameter, it is sensitive in relation to travel time.

Aquifer Fraction of Organic Carbon (-) Groundwater	Level 3 Groundwater SSAC (µg/l)
0.001	231
0.003	231
0.005	231
0.01	231
0.01	231
0.012	231
0.014	231
0.016	231

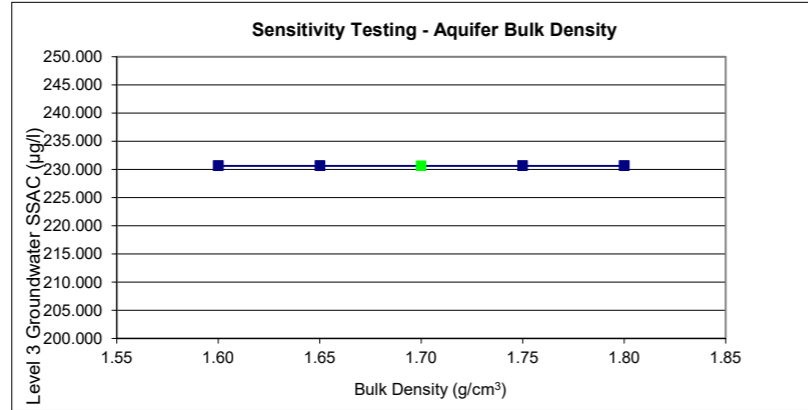


Selected value highlighted green | 0.005

Appendix M: Sensitivity Testing

Parameter	Range	Data Source
Aquifer Bulk Density (g/cm³)	1.6 - 1.8	A range of values for bulk density were defined based on values reported by ConSim (2000) for a gravel (1.36 to 2.19g/cm ³), a sand (1.37 to 1.81g/cm ³) and silt (1.82 to 2.15g/cm ³) while Tomlinson reported values for a fine and silty sand of 1.75 to 2.15g/cm ³ and 1.6 to 2.0g/cm ³ for a gravel. As such, a range of values between 1.6 g/cm ³ and 1.8g/cm ³ was adopted for sensitivity testing.

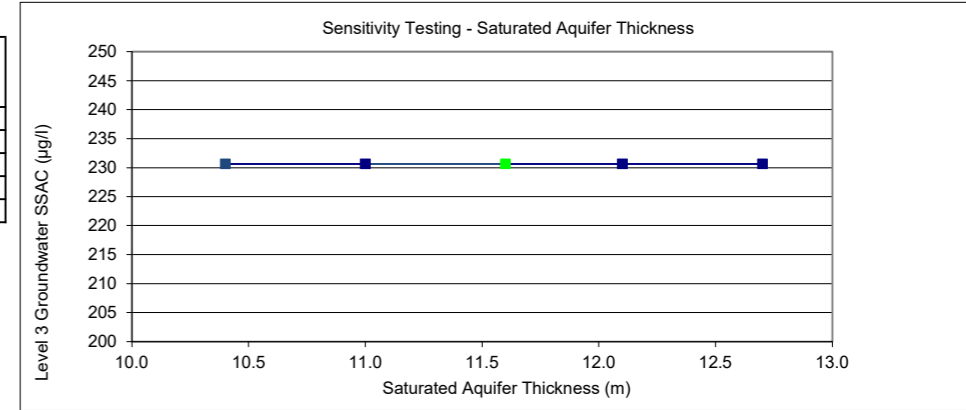
Aquifer Bulk Density (g/cm ³) Groundwater	Level 3 Groundwater SSAC (µg/l)
1.6	231
1.7	231
1.7	231
1.8	231
1.8	231



Selected value highlighted green | 1.7

Parameter	Range	Data Source
Saturated Aquifer Thickness (m)	10.4 - 12.7	The average groundwater elevation within the off-Site well LFBH01 (screening Tidal Flat Deposits) of 2.7m AOD (based on AEG 2021 data) and LFBH02 (based on the vibrating wire piezometer data for the Tidal sand) of 3.1m AOD (as reported within AECOM 2021) were combined with the depth to base of the granular Tidal Flat Deposits for the same locations (-8.8m AOD and -8.4m AOD, respectively) to define the saturated aquifer thickness. This resulted in a saturated aquifer thickness of 11.5 to 11.6m. The average of the two thickness' was adopted (11.5m) with sensitivity testing undertaken over a range of ±10% (i.e. 10.4 to 12.7).

Saturated Aquifer Thickness (m) Groundwater	Level 3 Groundwater SSAC (µg/l)
10.4	231
11.0	231
11.6	231
12.1	231
12.7	231



Selected value highlighted green | 11.55

Appendix P

Physical Input Parameter Values

10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA

Appendix P: Physical Input Parameter Values

Parameter	Value	Source
Width of groundwater source area (m)	650	Site data (approximate width of Site)
Aquifer Lithology	Slightly silty slightly gravelly sand (granular Tidal Flat Deposits)	Site data
Effective porosity (cm ³ /cm ³)	0.25	
Hydraulic conductivity (m/day)	2.75	
Hydraulic gradient (m/m)	0.0015	See Appendix M (sensitivity testing)
Saturated Aquifer Thickness (m)	11.55	
Fraction of organic carbon (g oc/g soil)	0.005	
Soil bulk density (g/cm ³)	1.70	
Plume thickness	11.55	Assumed to be equal to the saturated aquifer thickness

Appendix Q

Risk Assessment Methodology

Appendix Q
Risk Assessment Methodology

Non-statutory Regulatory Technical Guidance

The following documents, which have been consulted in undertaking this DQRA, present guiding principles in assessing potentially contaminated land:

General	Land Contamination: Risk Management – available online and published in October 2020, and last updated in April 2021
Water Resources	Remedial Targets Methodology (RTM): Hydrogeological Risk Assessment for Land Contamination (EA, 2006).

Calculating Evaluation Criteria

Water Resources

In order to estimate the risk to water resource receptors, fate and transport algorithms are used to predict a concentration at a defined receptor point, which is then compared to an appropriate water quality standard. A predicted concentration in excess of the water quality standard suggests the need to undertake a further level of investigation or action. Water resources SSAC are defined using a water quality standard at the point of compliance, then back-calculating to determine the contaminant level which is acceptable beneath the site in soils and/or groundwater.

The SSAC can be compared to the measured concentrations of the CoC to evaluate whether unacceptable risks are present, and with which pollutant linkage or linkages the unacceptable risks are associated.

Modelling Tools

Modelling tools are developed to enable the calculations associated with fate and transport, exposure modelling and risk evaluation to be undertaken by risk assessors in a time-efficient manner, and producing defensible and consistent outputs.

Water Resources

There are two commonly used modelling tools that have been developed to implement the guidance presented within the EA’s Remedial Targets Methodology. These are:

RTW v.3.2	The Remedial Target Worksheet (RTW) version 3.2 is an excel-based model tool produced by the EA to implement the guidance presented in the hydrogeological risk assessment methodology. RTW assesses the potential risk to a defined receptor point using a tiered analysis process (Level 1 soils – partitioning, Level 2 soils – dilution, Level 3 soils and groundwater – attenuation). RTW is a deterministic model.
ConSim v.2.5	Contamination Impact on Groundwater: Simulation by Monte Carlo Method, version 2.5 (ConSim), was developed by Golder Associates in association with the EA. ConSim is a probabilistic modelling tool, which implements the hydrogeological risk assessment guidance in a similar manner to RTW. However, ConSim allows a more detailed assessment of vertical migration pathways in the unsaturated zone, and, as such, is a useful tool for sites where groundwater is present at a considerable depth.

Appendix R

TPH Breakthrough Times

Appendix R: TPH Breakthrough Times

Contaminant of Concern	Breakthrough Time (years) at 50m Compliance Point	Group	Adopted Compliance Criteria ($\mu\text{g/l}$)
TPH Aliphatic			
Aliphatic C5-C6	30	A	16.6
Aliphatic >C6-C8	120	B	25
Aliphatic >C8-C10	1000	C	25
Aliphatic >C10-C12	>1000		
Aliphatic >C12-C16	>1000		
Aliphatic >C16-C35	>1000		
TPH Aromatic			
Aromatic >EC8-EC10	50	A	16.6
Aromatic >EC10-EC12	80	A	16.6
Aromatic >EC12-EC16	140	B	25
Aromatic >EC16-EC21	510	C	25
Aromatic >EC21-EC35	>1000		

Notes:

The environmental quality standard for sum TPH of 50 $\mu\text{g/l}$ (has been split between the number of TPH fractions that reach the defined compliance point 50m) within a set time period (100 to 999 years for example). These groups are defined as follows:

A	<100 years
B	100 - 500 years
C	500 - 1000 years

The guidance presented within the RTM (2006) indicates that no remediation is considered necessary where a compound is not predicted to reach the defined compliance point within 1,000 years. Therefore, for the TPH fractions which are predicted to reach the compliance point after 1,000 years, no significant risk is considered to be present and no criteria is adopted.

Appendix S

Example RTW Output Sheet

Appendix S - Table 1: RTW Results and Example RTW Output Sheets for Naphthalene - 50m

Contaminant of Concern	Compliance Criteria (µg/l)	Attenuation Factor	Level 3 Remedial Target (µg/l)	Porewater Target > SOL?	Breakthrough time exceeds 1,000 yrs?
Aliphatic C5-C6	16.6 ^[1]	6.21E+01	1.03E+03		No
Aliphatic >C6-C8	25 ^[1]	6.71E+01	1.68E+03		No
Aliphatic >C8-C10	25 ^[1]	1.17E+09	2.93E+10	•	No
Aliphatic >C10-C12	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Aliphatic >C12-C16	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Aliphatic >C16-C35	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Aromatic >EC8-EC10	16.6 ^[1]	6.04E+02	1.00E+04		No
Aromatic >EC10-EC12	16.6 ^[1]	1.15E+02	1.92E+03		No
Aromatic >EC12-EC16	25 ^[1]	5.85E+02	1.46E+04	•	No
Aromatic >EC16-EC21	25 ^[1]	1.37E+04	3.43E+05	•	No
Aromatic >EC21-EC35	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Benzo(a)pyrene	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Naphthalene	2	1.15E+02	2.31E+02		No
Sulphate	250000 ^[2]	1.00E+00	2.50E+05		No
Copper	*	*No significant breakthrough at 50m			No
Fluoranthene	0.0063	7.32E+00	4.61E-02		No
Anthracene	0.1	6.79E+00	6.79E-01		No
Benzo(b)fluoranthene	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Benzo(k)fluoranthene	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Benzo(ghi)perylene	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Indeno(123-c,d)pyrene	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Iron	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Manganese	50 ^[2]	1.00E+00	5.00E+01		No
Mercury	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Nickel	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Zinc	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Ammoniacal Nitrogen as N	21 ^[2]	2.41E+00	5.07E+01		No
Cyanide total	1 ^[2]	1.00E+00	1.00E+00		No
Thiocyanate	9 ^[2]	1.00E+00	9.00E+00		No

Notes:

[1]

Sum TPH criteria value of 50µg/l from EC Surface Water Directive, 1975. This criterion has been split between individual TPH fractions depending on their breakthrough times at the theoretical compliance point. See Appendix P.

[2]

Compliance criteria selected as detailed in Appendix J.

•

Groundwater remedial target exceeds the theoretical solubility concentration (source: TPHCWG, 1995).

*

The guidance presented within the RTM (2006) indicates that remediation may not be required where a compound is not predicted to reach a defined compliance point within 1,000 years. Therefore, for the compounds which are predicted to reach the compliance point after 1,000 years, no significant risk is considered to be present.

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Appendix S - Table 2: RTW Results and Example RTW Output Sheets for Naphthalene - 200m

Contaminant of Concern	Compliance Criteria (µg/l)	Attenuation Factor	Level 3 Remedial Target (µg/l)	Porewater Target > SOL?	Breakthrough time exceeds 1,000 yrs?
Aliphatic C5-C6	* [1]	6.45E+04	1.07E+06	•	No
Aliphatic >C6-C8	* [1]	6.45E+04	1.61E+06	•	No
Aliphatic >C8-C10	*	*No significant breakthrough at 200m compliance point - no significant risk is considered to be present			Yes
Aliphatic >C10-C12	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Aliphatic >C12-C16	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Aliphatic >C16-C35	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Aromatic >EC8-EC10	16.6 [1]	9.80E+06	1.63E+08	•	No
Aromatic >EC10-EC12	16.6 [1]	2.59E+05	4.31E+06	•	No
Aromatic >EC12-EC16	25 [1]	8.05E+06	2.01E+08	•	No
Aromatic >EC16-EC21	*	*No significant breakthrough at 200m compliance point - no significant risk is considered to be present			Yes
Aromatic >EC21-EC35	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Benzo(a)pyrene	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Naphthalene	2	2.59E+05	5.19E+05	•	No
Sulphate	250000 [2]	1.00E+00	2.50E+05		No
Copper	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Fluoranthene	*	*No significant breakthrough at 200m compliance point - no significant risk is considered to be present			Yes
Anthracene	0.1	3.26E+02	3.26E+01		No
Benzo(b)fluoranthene	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Benzo(k)fluoranthene	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Benzo(ghi)perylene	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Indeno(123-c,d)pyrene	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Iron	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Manganese	*	*No significant breakthrough at 200m compliance point - no significant risk is considered to be present			Yes
Mercury	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Nickel	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Zinc	*	*No significant breakthrough at 50m compliance point - no significant risk is considered to be present			Yes
Ammoniacal Nitrogen as N	21 [2]	1.93E+01	4.05E+02		No
Cyanide total	1 [2]	1.00E+00	1.00E+00		No
Thiocyanate	9 [2]	1.00E+00	9.00E+00		No

Notes:

[1]

Sum TPH criteria value of 50µg/l from EC Surface Water Directive, 1975. This criterion has been split between individual TPH fractions depending on their breakthrough times at the theoretical compliance point. See Appendix P.

[2]

Compliance criteria selected as detailed in Appendix J.

•

Groundwater remedial target exceeds the theoretical solubility concentration (source: TPHCWG, 1995).

*

The guidance presented within the RTM (2006) indicates that remediation may not be required where a compound is not predicted to reach a defined compliance point within 1,000 years. Therefore, for the compounds which are predicted to reach the compliance point after 1,000 years, no significant risk is considered to be present.

Appendix S - Table 3: RTW Results and Example RTW Output Sheets for Naphthalene - 50m



Level 3 - Groundwater

See Note

Input Parameters (using pull down menu)	Variable	Value	Unit	Source
Contaminant		Naphthalene		from Level 1
Target Concentration	C _T	2.00E-03	mg/l	from Level 1

Select analytical solution (click on brown cell below, then on pull-down menu)

Ogata Banks Equations in HRA publication

Approach for simulating vertical dispersion: Simulate vertical dispersion in 1 direction

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: Apply degradation rate to dissolved pollutants only

Variable	Value	Unit	Source of parameter value
Initial contaminant concentration in groundwater at plume core	C ₀	1.00E+00	mg/l
Half life for degradation of contaminant in water	t _{1/2}	3.00E+02	days
Calculated decay rate	λ	2.31E-03	days ⁻¹
Width of plume in aquifer at source (perpendicular to flow)	Sz	6.50E+02	m
Plume thickness at source	Sy	1.16E+01	m
Saturated aquifer thickness	da	1.16E+01	m
Bulk density of aquifer materials	ρ	1.70E+00	g/cm ³
Effective porosity of aquifer	n	2.50E-01	fraction
Hydraulic gradient	i	1.50E-03	fraction
Hydraulic conductivity of aquifer	K	2.75E+00	m/d
Distance to compliance point	x	5.00E+01	m
Distance (lateral) to compliance point perpendicular to flow direction	z	0.00E+00	m
Distance (depth) to compliance point perpendicular to flow direction	y	0.00E+00	m
Time since pollutant entered groundwater	t	9.00E+99	days
<i>Parameters values determined from options</i>			
Partition coefficient	Kd	3.23E+00	l/kg
Longitudinal dispersivity	ax	5.00E+00	m
Transverse dispersivity	az	5.00E-01	m
Vertical dispersivity	ay	1.00E-99	m

Calculated Parameters

Variable	Value	Unit
Groundwater flow velocity	v	1.65E-02 m/d
Retardation factor	Rf	2.30E+01 fraction
Decay rate used	λ	1.01E-04 d ⁻¹
Rate of contaminant flow due to retardation	u	7.19E-04 m/d
Contaminant concentration at distance x, assuming one-way vertical dispersion	C _{1D}	8.67E-03 mg/l
Attenuation factor (one way vertical dispersion, COICED)	AF	1.15E+02

Remedial Targets

Remedial Target	Value	Unit	Notes
Ogata Banks	2.31E-01	mg/l	For comparison with measured groundwater concentration.
Distance to compliance point	50	m	
Concentration of contaminant at compliance point after	C _{1D} /C ₀	8.67E-03 mg/l	Ogata Banks
		9.0E+99 days	

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target. The recommended value for time when calculating the remedial target is 9.9E+99.

Select Method for deriving Partition Co-efficient (using pull down menu)

Calculate for non-polar organic chemicals

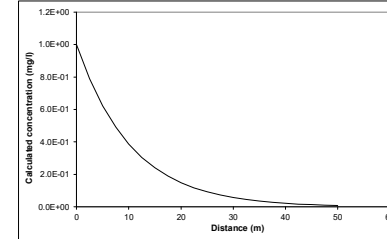
Entry if specify partition coefficient (option)	Kd		l/kg
Soil water partition coefficient	K _d		l/kg
Entry for non-polar organic chemicals (option)	foc	5.00E-03	fraction
Fraction of organic carbon in aquifer	foc	6.46E+02	l/kg
Organic carbon partition coefficient	K _{oc}		l/kg
Entry for ionic organic chemicals (option)	K _{oc,ion}		l/kg
Sorption coefficient for related species	K _{oc,i}		l/kg
Sorption coefficient for ionised species	K _{oc,i}		l/kg
pH value	pH		
acid dissociation constant	pKa		
Fraction of organic carbon in aquifer	foc		fraction
Soil water partition coefficient	Kd	3.23E+00	l/kg

Define dispersivity (click brown cell and use pull down list)

User defined values for dispersivity

Longitudinal dispersivity	ax	Enter value	Calc value Xu & Eckstein	m
Transverse dispersivity <td>az</td> <td>5.00E+00</td> <td>0.00E+00</td> <td>0.00E+00</td>	az	5.00E+00	0.00E+00	0.00E+00
Vertical dispersivity <td>ay</td> <td>5.00E-01</td> <td>0.00E+00</td> <td>0.00E+01</td>	ay	5.00E-01	0.00E+00	0.00E+01
		1.00E-99	0.00E+00	0.00E+00

Note values of dispersivity must be > 0
For calculated value, assumes ax = 0.1 * x, az = 0.01 * x, ay = 0.001 * x
Xu & Eckstein (1995) report ax = 0.83(log₁₀x)^{2.414}; az = ax/10, ay = ax/100 are assumed



Note graph assumes plume disperses vertically in one direction only. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

Note

This sheet calculates the Level 3 remedial target for groundwater, based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks. By setting a long travel time it will give the steady state solution, which should be used to calculate remedial targets.

The measured groundwater concentration should be compared with the Level 3 remedial target to determine the need for further action. Note if contaminant is not subject to first order degradation, then set half life as 9.0E+99.

This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best described by an electron limited degradation such as oxidation by O₂, NO₃, SO₄ etc than an alternative solution should be used

Site being assessed:	Redcar NetZero
Completed by:	Laura Garland
Date:	#####
Version:	1

Calculated concentrations for distance-concentration graph

Distance	Concentration
	mg/l
0	1.0E+00
2.5	7.89E-01
5.0	6.22E-01
7.5	4.91E-01
10.0	3.87E-01
12.5	3.05E-01
15.0	2.41E-01
17.5	1.90E-01
20.0	1.50E-01
22.5	1.18E-01
25.0	9.31E-02
27.5	7.34E-02
30.0	5.79E-02
32.5	4.57E-02
35.0	3.60E-02
37.5	2.84E-02
40.0	2.24E-02
42.5	1.77E-02
45.0	1.39E-02
47.5	1.10E-02
50.0	8.67E-03

Appendix S - Table 4: RTW Results and Example RTW Output Sheets for Naphthalene - 200m



Level 3 - Groundwater See Note

Input Parameters (using pull down menu)	Variable	Value	Unit	Source
Contaminant		Naphthalene		from Level 1
Target Concentration	C _T	2.00E-03	mg/l	from Level 1

Select analytical solution (click on brown cell below, then on pull-down menu)

Ogata Banks	Equations in HRA publication
-------------	------------------------------

Approach for simulating vertical dispersion: Simulate vertical dispersion in 1 direction

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: Apply degradation rate to dissolved pollutants only

	Variable	Value	Unit	Source of parameter value
Initial contaminant concentration in groundwater at plume core	C ₀	1.00E+00	mg/l	
Half life for degradation of contaminant in water	t _{1/2}	3.00E+02	days	
Calculated decay rate	λ	2.31E-03	days ⁻¹	
Width of plume in aquifer at source (perpendicular to flow)	Sz	6.50E+02	m	
Plume thickness at source	Sy	1.16E+01	m	
Saturated aquifer thickness	da	1.16E+01	m	
Bulk density of aquifer materials	ρ	1.70E+00	g/cm ³	
Effective porosity of aquifer	n	2.50E-01	fraction	
Hydraulic gradient	i	1.50E-03	fraction	
Hydraulic conductivity of aquifer	K	2.75E+00	m/d	
Distance to compliance point	x	2.00E+02	m	
Distance (lateral) to compliance point perpendicular to flow direction	z	0.00E+00	m	
Distance (depth) to compliance point perpendicular to flow direction	y	0.00E+00	m	
Time since pollutant entered groundwater	t	9.00E+99	days	time variant options only
Parameters values determined from options				
Partition coefficient	Kd	3.23E+00	l/kg	see options
Longitudinal dispersivity	ax	2.00E+01	m	see options
Transverse dispersivity	az	2.00E+00	m	see options
Vertical dispersivity	ay	1.00E-99	m	see options

Calculated Parameters Variable

Groundwater flow velocity	v	1.65E-02	m/d
Retardation factor	Rf	2.30E+01	fraction
Decay rate used	λ	1.01E-04	d ⁻¹
Rate of contaminant flow due to retardation	u	7.19E-04	m/d
Contaminant concentration at distance x, assuming one-way vertical dispersion	C _{ED}	3.85E-06	mg/l
Attenuation factor (one way vertical dispersion, CO/CED)	AF	2.59E+05	

Remedial Targets

Remedial Target	Value	Unit	For comparison with measured groundwater concentration.
Ogata Banks	5.19E+02	mg/l	
Distance to compliance point	200	m	
Concentration of contaminant at compliance point after	C _{ED} /C ₀	3.85E-06	mg/l
		9.0E+99	days

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target. The recommended value for time when calculating the remedial target is 9.0E+99.

Select Method for deriving Partition Co-efficient (using pull down menu)

Calculate for non-polar organic chemicals

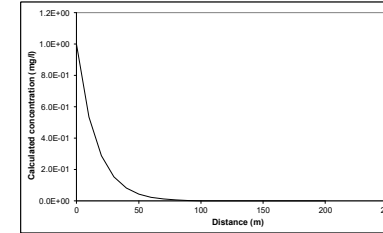
Soil water partition coefficient	Kd		l/kg
Entry for non-polar organic chemicals (option)	foc	5.00E-03	fraction
Fraction of organic carbon in aquifer	Koc	6.46E+02	l/kg
Organic carbon partition coefficient	K _{oc,n}		l/kg
Entry for ionic organic chemicals (option)	K _{oc,i}		l/kg
Sorption coefficient for related species	pH		
Sorption coefficient for ionised species	pKa		
acid dissociation constant	foc		fraction
Fraction of organic carbon in aquifer	Kd	3.23E+00	l/kg

Define dispersivity (click brown cell and use pull down list)

User defined values for dispersivity

	Enter value	Calc value	Xu & Eckstein	m
Longitudinal dispersivity	ax	2.00E+01	2.00E+01	2.00E+01
Transverse dispersivity	az	2.00E+00	2.00E+00	2.00E+00
Vertical dispersivity	ay	1.00E-99	2.90E-03	6.24E-02

Note values of dispersivity must be > 0
For calculated value, assumes ax = 0.1 * x, az = 0.01 * x, ay = 0.001 * x
Xu & Eckstein (1995) report ax = 0.83(log₁₀x)^{2+1.1}; az = ax/10, ay = ax/100 are assumed



Note graph assumes plume disperses vertically in one direction only. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

Note

This sheet calculates the Level 3 remedial target for groundwater, based on the distance to the receptor or compliance located down hydraulic gradient of the source. Three solution methods are included, the preferred option is Ogata Banks.

By setting a long travel time it will give the steady state solution, which should be used to calculate remedial targets.

The measured groundwater concentration should be compared with the Level 3 remedial target to determine the need for further action.

Note if contaminant is not subject to first order degradation, then set half life as 9.0E+99.

This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best described by an electron limited degradation such as oxidation by O₂, NO₃, SO₄ etc than an alternative solution should be used

Calculated concentrations for distance-concentration graph

Ogata Banks	From calculation sheet	Concentration
Distance	Concentration	mg/l
0		1.0E+00
10.0		5.36E-01
20.0		2.87E-01
30.0		1.54E-01
40.0		8.26E-02
50.0		4.43E-02
60.0		2.39E-02
70.0		1.27E-02
80.0		6.83E-03
90.0		3.66E-03
100.0		1.96E-03
110.0		1.05E-03
120.0		5.64E-04
130.0		3.03E-04
140.0		1.62E-04
150.0		8.70E-05
160.0		4.65E-05
170.0		2.50E-05
180.0		1.34E-05
190.0		7.19E-06
200.0		3.85E-06

Site being assessed:	Redcar NoZero
Completed by:	Laura Garland
Date:	16/12/2021
Version:	1

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