

# LAND WEST OF WARRENBY, TEESWORKS, REDCAR

Contaminated Land Generic Quantitative Risk Assessment and Detailed Quantitative Risk Assessment

South Tees Development Corporation

REPORT NO: 10035117-AUK-XX-XX-RP-ZZ-0428-04-LWoW\_DQRA

AUGUST 2022

### **Contacts**



Neil Thurston Project Director

dd +01132 845300 m +07870 572824 e Neil.Thurston@arcadis.com Arcadis (UK) Limited

1 Whitehall Riverside Leeds LS1 4BN United Kingdom

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#### LAND WEST OF WARRENBY, TEESWORKS, REDCAR

Detailed Quantitative Risk Assessment

Author	Laura Garland
Checker	Simon Hay
Approver	Katy Baker
Document Ref.	10035117-AUK-XX-XX-RP-ZZ-0428-04-LWoW_DQRA
Date August	2022

# **Version Control**

Version	Date	Author	Checker	Approver	Changes
01	January 2022	L Garland	S Hay	K Baker	First Draft
02	May 2022	L Garland & R Barratt	S Hay	K Baker	Updated following EA comments
03	July 2022	L Garland & R Barratt	S Hay	C Piddington	Updated following EA comments
04	August 2022	L Garland & R Barratt	S Hay	C Piddington	Updated following SQP Review

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 &	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.			
Surrounding Area	A number potentially contaminative historical land uses have occurred at the Site. T include, but are not limited to, the steel plant, pellet plant, sinter plant, sinter and p stocking areas, slag, tar and macadam works, above ground storage tanks, transforr substations, iron ponds, disposal area, blast furnace stock house, workshop, stores, ra lines.			
Previous Environmental	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	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.			
	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:			
Scope and Objectives	<ul> <li>To further characterise pollutant linkages at the Site using site-specific information.</li> <li>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.</li> </ul>			
	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).

#### <u>Hydrology</u>

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).

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).

Generic Quantitative Risk Assessment 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.

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.

Sources 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.

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Pathways	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).
	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.
Receptors	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.
	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.
	The risk to the identified water resource and ecological receptors was modelled using the Remedial Targets Worksheet (RTW) v3.2.
	Two points of compliance were considered:
Modelling Approach	<ul> <li>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)</li> <li>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.</li> </ul>
Water Resource DQRA Outcome	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.
	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:

Executive Summary	
	<ul> <li>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.</li> <li>That a Predicted No Effect Concentration was adopted for thiocyanate in the absence of a statutory EQS.</li> <li>That the compliance criteria for ammoniacal nitrogen is potentially conservative on the basis of the species of ammoniacal nitrogen likely to be present.</li> </ul>
	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:
Conclusions	<ul> <li>Tar / NAPL was removed (in line with the Remediation Strategy developed for the Site).</li> <li>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.</li> </ul>
	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.
Other Considerations	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.

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# **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 Teeside 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 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 Enviros 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 132<sup>1</sup>; 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.

<sup>&</sup>lt;sup>1</sup> 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 18<sup>th</sup> 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 Nov	/ember 2017	and 9 August	2021
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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

LAND WEST OF WARRENBY, TEESWORKS, REDCAR Contaminated Land Generic Quantitative Risk Assessment and Detailed Quantitative Risk Assessment REPORT NO: 10035117-AUK-XX-XX-RP-ZZ-0428-04-LWoW\_DQRA

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  $8.64 \times 10^{-9}$  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<sup>-</sup>) 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

 $n_{(C\bar{l})} = m_{(C\bar{l})} / M_{(C\bar{l})}$ 

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

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

Where n = no. of moles

m = mass (g)

#### M = Molecular weight

Molecular weight of sodium (Na) = 22.99

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)		
Northorn Dortion of	Made Ground	S2-BHA04	544		
the Site	Made Ground / Tidal Flat Deposits or Tidal Flat Deposits	S2-BHA04 & S2-BHA05	1,219 – 2,966		
Southern Portion of	Made Ground	S1-BH04, S1-BH05, S1-BH06, S1-BH12, S1-BH18, S1-BH19	54 – 1,335 (average 278)		
the Site	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					

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 LF\BH01 (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 LF\BH01.

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 <b>sheen</b> on water entering put. Oily with black <b>staining</b> at 2 m and a strong oily odour	
S1-BH14	Made Ground	Reworked gravel has <i>contaminated black sand</i> between 4.0 and 8.9 m bgl	CH2M [2017a]
S1-TPH07	Made Ground	Waste materials, <i>oil contamination</i> from 0.2m bgl	CH2M [2017a]
S2-TPA53	Made Ground	Possible <i>tar</i> pockets from 2.2m bgl	CH2M [2017b]
S2-TPA59	Made Ground	Strong hydrocarbon odour and black layer of coal dust/ <i>coal tar fragments</i>	CH2M [2017b]
S2-TPA61	Made Ground	Slight <i>hydrocarbon sheen</i> from 2.1m bgl	CH2M [2017b]
S2-TPA62	Made Ground	Slight <b>oil sheen</b> at water level from 0.9m bgl	CH2M [2017b]
S2-TPA69	Made Ground	<i>Tar</i> odour and appearance between 1.8 and 2.1 m bgl	CH2M [2017b]
S2-TPA79	Made Ground	Becoming <b>oily</b> at the base of the trial pit (1.05 m bgl)	CH2M [2017b]
S2-TPA83	Made Ground	Rare glassy black crystalised <i>tar</i> in Made Ground (minimum depth of Made Ground of 0.3m bgl)	CH2M [2017b]
MS\BH07	Made Ground	<i>Tar</i> coating on slag and tar odour at 4.2m bgl	AEG [2022]
MS\TP06 / MS\TP06A	Made Ground	Sheen noted at 3.0m bgl	AEG [2022]
		Potential solidified <i>tar</i> cladding on buried pipe at 0.7m bgl	
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  $\mu$ g/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 the 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 2019<sup>2</sup>, 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 site <sup>3</sup> (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.

<sup>&</sup>lt;sup>2</sup> 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

<sup>&</sup>lt;sup>3</sup> 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 E	Exceeding Human Health	GAC in Soil
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Compound Group	Compound	Unit	No. Samples Exceeding	GAC Exceeded		Concentration (mg/kg), Location, Depth and Geology
	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)*
Polycyclic Aromatic Hydrocarbons	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 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 4nitrophenol 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

## <u>Soils</u>

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.

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
	Arsenic	55	25	10	1/2	87	Made Ground & Superficial
	Cadmium	3.1	0.2	5	7 / 0	87	Made Ground
Metals	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

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
	Cyanide (total)	1.5	1	50	1 / 0	20	Made Ground & Superficial
	Nitrite as NO <sup>2-</sup>	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)fluora nthene	3	See BaP	0.025	0 / 7	15	Made Ground
Polycyclic Aromatic Hydrocarbons	Benzo(k)fluora nthene	1.3	See BaP	0.025	0 / 6	15	Made Ground
	Benzo(a)pyren e	2	0.00017	0.01	7 / 7	15	Made Ground
	Benzo(g,h,i)pe rylene	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.

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

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
	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
	Ammoniacal Nitrogen as N	19,000 / 390	21	-	62 / -	63	Made Ground, Superficial & Bedrock
Inorganics	Ammoniacal Nitrogen as NH <sub>3</sub>	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 <sup>3-</sup>	140,000 / 17,000	-	50,000	- /1	27	Bedrock
	Nitrite as N	270 / 370	-	150	- / 2	20	Made Ground, & Bedrock
	Nitrite as NO <sup>2-</sup>	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
Detrolours	TPH (total)	430,000*** / 37	50	10	16 / 32	72	Made Ground, Superficial & Bedrock
Petroleum Hydrocarbons	Benzene	58 / <mdl< td=""><td>8</td><td>1</td><td>1/2</td><td>71</td><td>Superficial &amp; Bedrock</td></mdl<>	8	1	1/2	71	Superficial & Bedrock
	Ethylbenzene	210 / <mdl< td=""><td>20</td><td>300</td><td>1 / 0</td><td>71</td><td>Bedrock</td></mdl<>	20	300	1 / 0	71	Bedrock
	Naphthalene	25 / <mdl< td=""><td>2</td><td>-</td><td>7 / -</td><td>58</td><td>Made Ground &amp; Superficial</td></mdl<>	2	-	7 / -	58	Made Ground & Superficial
Polycyclic Aromatic	Fluoranthene**	5400*** / 0.01	0.0063	-	30 / -	58	Made Ground, Superficial & Bedrock
	Anthracene**	2.5 / <mdl< td=""><td>0.1</td><td>-</td><td>7 / -</td><td>58</td><td>Made Ground &amp; Superficial</td></mdl<>	0.1	-	7 / -	58	Made Ground & Superficial
	Benzo(b)fluora nthene**	140 / <mdl< td=""><td>-</td><td>0.025</td><td>- / 13</td><td>58</td><td>Made Ground</td></mdl<>	-	0.025	- / 13	58	Made Ground
Hydrocarbons	Benzo(k)fluora nthene**	0.38/ <mdl< td=""><td>-</td><td>0.025</td><td>- / 7</td><td>58</td><td>Made Ground</td></mdl<>	-	0.025	- / 7	58	Made Ground
	Benzo(a)pyren e**	0.88 / <mdl< td=""><td>0.00017</td><td>0.01</td><td>9/9</td><td>58</td><td>Made Ground</td></mdl<>	0.00017	0.01	9/9	58	Made Ground
	Benzo(g,h,i)pe rylene**	0.36 / <mdl< td=""><td>-</td><td>0.025</td><td>- / 7</td><td>58</td><td>Made Ground</td></mdl<>	-	0.025	- / 7	58	Made Ground
	Indeno(1,2,3- c,d)pyrene**	0.33 / <mdl< td=""><td>-</td><td>0.025</td><td>- / 8</td><td>58</td><td>Made Ground</td></mdl<>	-	0.025	- / 8	58	Made Ground
Volatile Organic Compounds & Semi Volatile Organic Compounds	Phenols Monohydric	2000 / <mdl< td=""><td>7.7</td><td>-</td><td>11/0</td><td>69</td><td>Made Ground, Superficial &amp; Bedrock</td></mdl<>	7.7	-	11/0	69	Made Ground, Superficial & Bedrock
	Bis(2- ethylhexyl)phthal ate	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.

LAND WEST OF WARRENBY, TEESWORKS, REDCAR

### 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/I (MS\BH12) was measured in groundwater collected from a monitoring well screening the bedrock and the second highest concentration of 3,600µg/I (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 100µgl 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 corelate 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.

## <u>Cyanide</u>

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  $\mu g/l$ ) 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 2,300 $\mu$ g/l was measured. In the south of the Site, thiocyanate was typically measured in the hundreds of  $\mu$ g/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.

## <u>TPH</u>

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 ( $670\mu g/l$ ) 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  $\mu g/l$  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 of 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.

## <u> PAH</u>

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  $\mu g/I$  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  $1\mu g/I$ . 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	The chemical data from EA (2008a) has been adopted where provided. A range of
Characterisation	literature sources have been reviewed and chemical properties applicable at 10°C have
Characterisation	been adopted where possible.

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	<ul> <li>Two compliance point distances (in the hydraulically down gradient direction) were adopted for the derivation of water resource SSAC;</li> <li>50m</li> <li>200m (compliance point protective of the North Sea).</li> </ul>	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. 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
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
		compliance point was considered, the WQS were adopted in order of preference as:
		<ul><li>saline EQS</li><li>Predicted no effect concentrations, (PNEC)</li><li>DWS.</li></ul>
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.

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\BH12D); 4100 (MS\BH11S); 5600 (MS\BH12D); 4100 (MS\BH12S); 5300 (MS\BH13D); 5300 (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)

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)
	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\BH15D); 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	Aromatic >EC10- EC12	1,910 / ND	1 / 0	7,000 (MS\TP06)***
Hydrocarbons	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 nonhazardous 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 <sup>4</sup> (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,

<sup>&</sup>lt;sup>4</sup> 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 x 10<sup>99</sup> 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.

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# **TABLES**

10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW DQRA									
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 Hy									
>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	1 205 02	1	ND	ND					
>C21-C35 Aliphatics	1.30E-03		ND						
>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		ND	ND					
Polycyclic Aromatic Hydrocar	bons								
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		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	rcury 7.40E+07		ND	ND					
Nickel	2.50E+09 <sup>7</sup>		ND	ND					
Zinc	4.32E+09		ND	ND					
Ammoniacal Nitrogen as N	mmoniacal 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 x $10^9 \mu \text{g/I}$ 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 Gudieline Values for mercury in soil. Science Report SC050021/Mercury SGV
	7	EA 2009. Soil Gudieline Values for nickel in soil. Science Report SC050021/Nickel SGV



10033111-401(-7/	-KF-ZZ-0420-03-LW0W_DV	QRA																						
Table 2: Comparison of	of Measured Concentrations	of CoC in Ground	dwater with SSAC																					
		Water	Water	Location	On-Site																			
	Resource* Site	Resource* 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	
Chemical Group	Compound	Assessment	Assessment	Well																				
	Criteria Compli Poir	Criteria - 50m	Criteria - 200m	Unit Screened	MG																			
		Point	Point	Unit	22/06/2021	20/04/2004	28/04/2004	20/04/2004	09/01/2019	08/01/2018	22/02/2018	08/01/2018	22/02/2018	00/01/2018	00/01/2018	00/01/2018	22/02/2018	00/01/2018	00/01/2018	23/02/2018	12/08/2021	17/11/2021	12/08/2021	12/08/2021
		ND	ND	oniit	4 7	23/04/2004	20/04/2004	23/04/2004	00/01/2010	00/01/2010	22/02/2010	00/01/2010	4.0	03/01/2010	03/01/2010	03/01/2010	22/02/2010	03/01/2010	03/01/2010	20/02/2010	12/00/2021	11/11/2021	12/00/2021	12/00/2021
Copp	oper	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	50	<0.4	<0.4	<0.4	<0.4
Iron	1	ND	ND	µg/L	1800	-	-	-	25	49	-	220	-	130	180	24	-	93	3600	-	14	86	41	12
Mang	nganese	50	ND	µg/L	-	-	-	-	230	1.3	-	25	-	2.9	0.93	26	-	4.5	2.3	-	-	-	-	-
Merc	cury	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
Metals & NICKe	kel	ND	ND	µg/L	1.5	3	2	4	3.9	4./	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	C	ND	ND 0.105	µg/L	130	3	<2	1	3.2	<1.3	3.9	<1.3	1	7.5	10	1.7	3.1	3.5	2	5.9	1.7	3	3.7	220
Amm	moniacal 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
Cyan	Cyanide Total	1	1	µg/L	1.5	<100	1000	<100	<40	68	<40	310	42	230	340	<40	<40	210	7000	9900	<40	8.4	<40	-
Sulpi	phate as SO4	250	250	mg/L	150	-	-	-	120	230	260	520	300	200	320	1000	1200	690	140	120	920	840	1100	//0
Thiod	ocyanate (as SCN)	9	9	µg/L	<20	-	-	-	<40	9900	240	85,000	5100	800	1000	450	-	370	140	-	<20	<20	52	-
>C5-	5-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
>C6-	5-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
>C8-	3-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
>C10	10-C12 Aliphatics	ND	ND	µg/L	1900	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	110
Total Petroleum >C12	12-C16 Aliphatics	ND	ND	µg/L	28,000	-	-	-	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	1	<1	<1	<1	<1	10
Hydrocarbon >C16	16-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	<1	4.9
Criteria Working >C21	21-C35 Aliphatics			µg/L	44,000	-	-	-	7.1	<1	<1	<1	<1	59	6.7	<1	<1	<1	18	<1	<1	<1	<1	1.1
Sloup >EC8	C8-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
>EC	C10-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	<1
>EC	C12-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	<1
>EC	C16-EC21 Aromatics	149	ND	µg/L	120,000	-	-	-	<1	1.8	7.3	<1	<1	2.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
>EC	C21-EC35 Aromatics	ND	ND	µg/L	28,000	-	-	-	<1	1.9	<1	<1	<1	21	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naph	ohthalene	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
Fluor	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
Anth	hracene	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
Polycyclic Benz	nzo(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
Hydrocarbons Benz	nzo(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	<1	<1	< 0.01
Benz	nzo(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	<1	<1	< 0.01
Benz	nzo(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	<1	< 0.01	<1 - 0.01
Inder	eno(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	<1	< 0.01	< 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


10035117-AUK-	XX-XX-RP-ZZ-0428-03-LWoW_[	DQRA																						
Table 2: Compa	ison of Measured Concentration	s of CoC in Ground	dwater with SSAC																					
				Location	On-Site																			
		Water	Water																					
		Specific	Specific	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\BH07	MS\BH07	MS\BH07	MS\BH08	MS\BH08	MS\BH08	MS\BH09
Chemical Grou	p Compound	Assessment	Assessment	Well														D	D	D	D	D	D	
		Criteria - 50m Compliance	Criteria - 200m Compliance	Unit Screened	MG	MG	MG / TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD					
		Point	Point	11-14	42/02/2024	10/11/2021	00/04/2040	00/04/2040	22/02/2040	00/04/2049	00/04/2040	00/00/0040	10/00/0001	10/11/2021	40/00/0004	10/10/2021	15/11/2001	10/00/2021	40/40/2024	45/44/0004	44/00/2024	10/10/2021	45/44/0004	12/02/2021
				Unit	13/06/2021	10/11/2021	00/01/2010	09/01/2016	22/02/2010	09/01/2016	09/01/2016	23/02/2010	12/06/2021	10/11/2021	12/00/2021	12/10/2021	15/11/2021	12/06/2021	12/10/2021	15/11/2021	11/06/2021	12/10/2021	15/11/2021	13/06/2021
	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	<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
Metals &	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
Inorganics	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	<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
	>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	<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	<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	<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
Total Petroleun	>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
Hydrocarbon	>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
Criteria Working	>C21-C35 Aliphatics			µg/L	1.8	<1	<1	<1	<1	<1	<1	<1	1.5	<1	<1	70	<1	<1	<1	<1	<1	<1	<1	<1
Group	>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	6.4	<1	<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
	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
Polycyclic	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	-	<1	<1	-	< 0.01
Hydrocarbons	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
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10035117-AUK-	XX-XX-RP-ZZ-0428-03-LWoW_E	DQRA																						
Table 2: Compa	rison of Measured Concentration	s of CoC in Ground	dwater with SSAC																					
				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
		Water Resource* Site	Water Resource* Site		MS\RH09	MS\BH09	MS\RH09	MS\RH11	MS\RH11	MS\RH13	MS\BH13	MS\BH13	MS\RH14	MS\RH14	MS\RH14	MS\BH15	MS\BH15	S2-BHA04	MS\BH12	MS\BH12	MS\BH12	MS\BH04	MS\BH04	MS\BH03
		Specific	Specific	Location ib	INIC (BI 100	-	-	-		-	-	NIC (BITTO	MOBILITY	MOBITI	MOBILITY	-	-	-	WO (DITIZ	WICKETTZ	INIC (BITTZ	-	-	
Chemical Grou	p Compound	Assessment Criteria - 50m	Assessment Criteria - 200m	Well	S	S	S	D	D	S	S	S				D	D	D	S	S	S	D	D	D
		Compliance	Compliance	Unit Screened	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD/GT	TFD/GT	TFD/GT	GT	GT	RMS
		Point	Point	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
	Copper	ND	ND	ug/l	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	12	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	ug/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
Metals &	Nickel	ND	ND	ug/l	1.3	0.00	12	2.3	1	0.00	1	1.3	52	5.5	<0.5	0.7	0.6	1.4	3.1	27	5.8	0.9	16	22
Inorganics	Zinc	ND	ND	µg/L	<1.3	3	21	1.8	34	6.3	3.8	8.8	<1.3	3.1	3	4.4	<1.3	28	3.2	19	<1.3	1.9	2.4	6
	Ammoniacal Nitrogen as N	0.0507	0.405	mg/l	5.4	52	5.2	1.8	3.8	2	4.5	5.3	0.79	47	4.8	1.1	1.9	0.88	0.66	4 1	4 1	0.12	0.07	0.12
	Cvanide Total	1	1	ug/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	ma/L	150	160	160	67	110	280	1100	350	540	420	400	130	1300	710	160	380	1100	2700	1400	1100
	Thiocvanate (as SCN)	9	9	ua/L	110	110	170	170	240	-	9300	7400	170	230	210	170	280	<40	<20	25	<20	<20	<20	26
	>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	ug/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
Total Datralaum	>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
Hvdrocarbon	>C16-C21 Aliphatics			µg/L	160	<1	<1	24	<1	<1	80	<1	<1	<1	<1	27	<1	<1	19	<1	<1	<1	14	<1
Criteria Working	>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
Group	>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	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
	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
Polycyclic	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
Hydrocarbons	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

#### Notes

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**	Grab sample from trial pit
CoC	Contaminants of Concern
SSAC	Site Specific Assessment Criteria
MG	Monitoring well screens Made Ground
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RMS	Monitoring well screens Redcar Mudstone
-	Not analysed
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	Measured concentration exceeds the SSAC based 50m compliance point only
	Measured concentration exceeds the SSAC based 50m & 200m compliance point



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_I	DQRA																				
Table 2: Compari	son of Measured Concentration	ns of CoC in Ground	dwater with SSAC																			
		Water	Water	Location	On-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site											
		Resource* Site	Resource* 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
Chemical Group	Compound	Assessment	Assessment	Well	D	D	D	D	D	D	D	D	D	D	D	D				D	D	D
		Criteria - 50m Compliance	Criteria - 200m Compliance	Unit Screened	RMS	TFD	TFD	TFD	RMS	RMS	RMS											
		Point	Point	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
	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
Metals &	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
Inorganics	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	<40	6.3	5.7	<40	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
	>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
Total Petroleum	>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
Hydrocarbon	>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
Criteria Working	>C21-C35 Aliphatics			µg/L	<1	14	1.4	<1	<1	<1	<1	<1	20	<1	<1	<1	<1	<1	<1	5.9	<1	<1
Group	>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
	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
Polycyclic	Benzo(b)fluoranthene	ND	ND	µg/L	-	< 0.01	-	<1	< 0.01	<1	<1	< 0.01	-	-	<0.01	<1	<1	<1	<1	<1	-	<1
Hydrocarbons	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

Project Address

Land west of Warrenby, Teesworks -Contaminated Land Generic Quantitative Risk Assessment and Detailed Quantitative Risk Assessment

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

Arcadis Consulting (UK) Ltd South Tees Development Corporation





## **Regulator's Contact Details**

### **Local Authority Details**

Local Authority Name Contact Name Contact Telephone Contact Email Contact Role

## **Regulator Details**

Regulator Contact Name Contact Telephone Contact Email Contact Role

## **SQP** Details

SQP Name SQP Registration No. Telephone Email Organisation Address

Chartered or Professional Institution

Chartered or Professional Institution Membership Reference Redcar & Cleveland Borough Council Mick Gent 01287 612249 Michael.Gent@redcar-cleveland.gov.uk Contaminated Land Officer

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

Ian Evans SQP0041 0758 453 8955 ian.evans2@arcadis.com Arcadis Consulting (UK) Ltd 16th Floor, 103 Colmore Row, Birmingham, B3 3AG Chartered Institution of Water Environmental Management 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



Figures



Figures



SCALE





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# Legend

**GI** Layers

Visual Observation

Sheen

Tar

Hydrocarbon Staining

Hydrocarbon Staining and Sheen

NAPL

Drawings <sup>Bing</sup> Land West of Warrenby

STDC\_Remediation\_Boundary

Notes: Title: Visual Evidence of Contamination REPRODUCED FROM OS MASTERMAP BY PERMISSION OF ORDNANCE SURVEY® ON BEHALF OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. © CROWN COPYRIGHT. ALL RIGHTS RESERVED. LICENCE NUMBER GD 100024393. Site: Teesworks - Potential Net Zero Site CONTACT ARCADIS IN CASE OF ANY QUERIES. Not all utilities shown Client: South Tees Developement 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 ARCADIS Design & Consulta for natural and built assets





## Legend

Red Line

#### Notes Title: Total Petroleum Hydrocarbons in Groundwater 2017-2021 - Superficial Deposits REPRODUCED FROM OS MASTERMAP BY PERMISSION OF ORDNANCE SURVEY® ON BEHALF OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. © CROWN COPYRIGHT. ALL RIGHTS RESERVED. LICENCE NUMBER GD 100024393. Site: Teesworks - Land West of Warrenby ${\tt Label-Monitoring\,Well\_Geology\_Maximum\,Concentration.}$ MG - Made Ground Client: TFD - Tidal Flat Deposit GT - Clacial Till South Tees Developement Corporation CONTACT ARCADIS IN CASE OF ANY QUERIES. Project: Figure 8a 37774100 Date: 28/04/2022 Drawn By: JALM DRG No: 10035117-AUK-XX-XX-DR-ZZ-0529-01-TPH\_Superficial Pesign & Consulta for natural and built assets





## Legend

Red Line

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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

LAND WEST OF WARRENBY, TEESWORKS, REDCAR

Contaminated Land Generic Quantitative Risk Assessment and Detailed Quantitative Risk Assessment REPORT NO: 10035117-AUK-XX-RP-ZZ-0428-04-LWoW DQRA



## **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, relevent wells are highlighted blue.

Location	Groundwater (mAOD)	Groundwater (mbgl)	Borehole Depth (mAOD)	Borehole Depth (mbgl)	pН	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	-	-

Table 6 Groundwater Monitoring Results - Redcar Site



File name: JSF1823.dwd Plot dale: Jun 22, 2004 - 10:44am Ref.I: \DG\CADTEAM \newcans\CO052\00

pyright Enviros Ltd.



## 2. TRIAL PIT AND BOREHOLE LOGS, REDCAR

ENN	/IROS®	Enviros Consulti Sanderson Hous Horsforth, Leeds LS18 5NT Tel: 0113 239 56	ng Ltd se, Station Road		Trialpit No <b>12AT7</b> Sheet 1 of 1
Project Na	me	Project No.	Co-ords: 56900E - 25800N		Date
Baseline s	ite investigation Teesside	CO05200017	Dimensions: 3.00m		Scale
		8	Depth E		1:25
Client:	Corus Plc		4.00m -	Sam	Logged By LaQ
Strata Depti (mbgl)	h Level (m AOD) Legend	Stratum D	Description	Dep (mb)	th Strike gl) (mbgl)
- 1.0		TOPSOIL: grass, rootlets and brown gravell. MADE GROUND: Loose gravel to boulder si occasional brick fragments, in a loose brown	y topsoil. ized fragments of slag, and a slag matrix.	0.2	5
- 3.0					- 3.0
-4.0 4.00		Trialpit Con	nplete at 4.00 m	4.0	)0 
Remarks:					

	ENV	IROS	<b>()</b>		Enviros Consu Sanderson Ho Horsforth, Lee I S18 5NT	lting Ltd use, Station Road ds	E		Trialpit No 12AT8
	ala at Niau				Tel: 0113 239	5600			Sheet 1 of 1
Ba	oject Nari Iseline Si	ne ite Investiaat	ion		CO0520017E	Level: -	JUE - 25600IN	1	6/04/2004
Lo	cation:	Teesside				Dimensions:	3.00m		Scale
						Depth			1:25
Cli	ent:	Corus Plc				4.20m -			Logged By KAB Groundwater
	Strata Depth (mbgl)	(m AOD) Lege	end		Stratum	Description		Depth (mbgl)	Strike (mbgl)
-			₩ ₩	ADE GROUNE aste	<ol> <li>Slag stone cobbles in a</li> </ol>	compacted dust matric w	ith metal		~
- -	0.20		C	ONCRETE - re	inforced				-
- 1.0	0.70			ADE GROUNI netalic scrap in	<ol> <li>Rubble, brick furnace b a sandy rubble matrix</li> </ol>	ricks, concrete, and slaf a	nd		- 1.0
2.0								2.00	
- 3.0									- 3.0
- 49,U	4.20		×		Trialpit Co	mplete at 4.20 m		- 4.20	· · · · · · · · · · · · · · · · · · ·
Re	marks:	1	I						_ L ]

ENV	IROS®	Enviros Consult Sanderson Hou: Horsforth, Leed: LS18 5NT Tel: 0113 239 50	ing Ltd se, Station Road s 600	S	Trialpit No <b>12AT10</b> Sheet 1 of	) ) 1
Project Nar	ne to investigation	Project No.	Co-ords: 57040E - 25775N		Date 16/04/200	4
Location:	Teesside	0003200017	Dimensions: 3.00m		Scale 1:25	
Client:	Corus Plc		4.00m +		Logged By LaQ	
Strata Depth (mbgl)	Level (m AOD) Legend	Stratum D	Description	Dept (mbg	th Strike gl) (mbgl)	
0.15		TOPSOIL: grass, rootlets and gravelly topso MADE GROUND: Loose gravel to boulder s loose grey slag matrix	il. ized fragments of slag in a	0.3	D	
- 2.0						- 
- 4.0 4.00		Trialpit Cor	nplete at 4.00 m	4.C	00	- 4.0
Remarks:						

	ENV	IR(	)\$®		Enviros Consu Sanderson Ho Horsforth, Lee LS18 5NT Tel: 0113 239	lting Ltd use, Station Rc ds 5600	ad	Cort	X	Trialpit I 12AT1 Sheet 1	NO   <b>1</b>   0f 1
Pr	oject Nan	ne			Project No.	Co-ords:	5702	25E - 25459N		Date	04
Ba	seline Si	te Repo	ort de		CO0520017B	Dimensio	ns:	4.00m		Scale	3
	outtorn					Depth	E			1:25	
CI	ient:	Corus	Plc	5		4.00m	1.5(			Logged GAD	By
	Strata Depth (mbgl)	Level (m AOD)	Legend		Stratum	Description			Dept (mbg	h Strike II) (mbgl)	
1.0	0.10			Brown moist to Brown orange gravel of slag a	ppsoil with many rootlets(MA cream angular cobbles of b ash and brick(MADE GROU	DE GROUND) ick and slag with ND)	I much fin	e	0.30		- 1.0
- - - - - - - -	2.50			Brown red gre gravel. Gravel	y orange cobbles and bould is fine to medium.(MADE G	ers of brick and s ROUND)	slag with r	much			- 3.0
- 4.0	4.00				Trialpit Co	mplete at 4.00 m			4.0	0	- 4.0 
Re	marks:	Lum	nps of meta	al piping from 3.4	Im bgl						

en en la	· · · · · · · · · · · · · · · · · · ·
Project Name Project	Co-ords: 57076E - 25582N Date
Baseline Site Report CO052	17B Level: - 16/04/2004 Dimensions: 3.00m Scale
	Depth E
Client: Corus Plc	4.00m - Logged By GAD Sample Groundwater
Strata Depth Level Legend (mbgl) (m AOD)	Stratum Description Depth Strike (mbgl) (mbgl)
-1.0       Grey white black angular ar concrete slabs(MADE GRO         -1.0       Image: Concrete slabs(MADE GRO         -2.0       Image: Concrete slabs(MADE GRO         -3.0       Image: Concrete slabs(MADE GRO         -4.0       4.00	0.20     0.20
Remarks:	

ENV	IROS	Enviros Consulting Ltd Sanderson House, Station Road Horsforth, Leeds I S18 5NT	E	Trialpit No <b>12AT16</b>
		Tel: 0113 239 5600		Sheet 1 of 1
Project Na Baseline S	me lite Report	CO0520017B Level: -	697N	16/04/2004
Location:	Teesside	Dimensions: 3	3.00m	Scale
		Depth §		1:25
Client:	Corus Plc	2.20m <del>?</del>		Logged By GAD
Strata Depth (mbgl)	n Level (m AOD) Legen	Stratum Description	Depti (mbg	h Strike I) (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	)
-2.0 - 2.20		Trialpit Complete at 2.20 m	2.20	0 -2.0
- 3.0				- 3.0 - - - - - - - - - - - - - - - - - - -
- 4.0				- 4.0

	IRO	S <sup>⊕</sup>		Enviros Co Sandersor Horsforth,	onsulting Ltd 1 House, Station Ro Leeds	ad	E		Trialpit No 12AT17	с 7
				Tel: 0113	239 5600		<u>solt</u>		Sheet 1 of	1
Project Nar	ne			Project No.	Co-ords:	57300E	- 25500N		Date	
Baseline S	te Report	1		CO0520017B	Level:	- ne:	3 50m		Scala	4
Location:	reesside	5			Dimension	нэ. Е	5.5011		1:25	
Client:	Corus P	lc			2.00m	1.50			Logged B GAD	y
Strata Depth	Level (m AOD)	Legend		Stra	tum Description			Sample Depth (mbgl)	Groundwate Strike (mbgl)	r
0.10	X	****	Brown loose top	osoil with many rootlet	s(MADE GROUND)			(	(	-
-1.0			Brown grey ang clinker(MADE G	ular cobbles and coar	se sandy gravel of ash	n brick and		0.25	¥	
2.0 2.00		XXXX	~ ~ ~ ~ ~ ~ ~ ~ ~	Tria	lpit Complete at 2.00 m			-		
- 3.0										- 3.0
-4.0										4.0

	ENV	IR	)\$®	Enviros Consulting Ltd Sanderson House, Station Road Horsforth, Leeds LS18 5NT Tot: 0112 230 5600	X	T S	rialpit No 1 <b>2BT9</b> neet 1 of	,
Pro	oject Nar	ne		Project No. Co-ords: 57021E - 25383N			Date	
Ba	seline si	te inves	tigation	CO05200017 Level: -		2	0/04/200 Scale	4
LU	cation.	166331	ue	Depth E			1:25	
Cli	ent:	Corus	Plc	4.00m		L	ogged B GAD	y
	Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	Der (mt	oth ogl)	Strike (mbgl)	
- 1.0	0.20			Loose brown topsoil with many rootlets (TOPSOIL) Brown orange yellow grey angular cobbles and boulders of slag and furnace brick (MADE GROUND)	0.9	50		- 1.0
- 3.0	3.00			Orange red very sandy gravel of brick and slag with many cobbles (MADE GROUND)	3.	20		- 3.0
- - - - - -	4.00			Trialpit Complete at 4.00 m				- 4.0
Re	marks:							-

	ENV	IRO	)\$®	Enviros Consu Sanderson Ho Horsforth, Lee LS18 5NT Tel: 0113 239	Iting Ltd use, Station Road ds 5600	Corus	Trialpit No <b>12BT12</b> Sheet 1 of 1
Pr	oject Nan	ne		Project No.	Co-ords: 57029E - 253	805N	Date
Ba	aseline si	e inves	tigation	CO05200017	Dimensions: 4	.00m	20/04/2004 Scale
		10000	40				1:25
CI	ient:	Corus	Plc		4.00m +	San	Logged By GAD
	Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum	Description	De (m	pth Strike bgl) (mbgl)
-				Loose brown topsoil with many rootlets (TOPSOIL)			-
- - - - - - - - - - - - - - - - - - -	0.20			Orange grey white yellow angular coarse s with many cobblesand ferrous metal debris (MADE GROUND)	andy gravel of brick and slag	0.	40
- - - - - 2.0	1.40			Bright orange brown angular fine to mediu slag with rare cobbles and boulders. Sand (MADE GROUND)	m sandy gravel of brick and d is medium to coarse.		- 2.0
- - - 3.0 -							- 3.0
- 4.0	4.00			Trialpit Co	mplete at 4.00 m	4	4.00 - 4.1 - - -
- - - R(	emarks:						

HoleBASE III (Bkt 301) Standard Trialpit Log v1 dated 26th Mar 03

	ENV	IR(	)S®		Enviros Cons Sanderson He Horsforth, Lee LS18 5NT Tel: 0113 239	ulting Ltd buse, Station Ro eds 5600	bad	COFI	Z	Tria <b>12</b> She	alpit No <b>BT14</b> eet 1 of	1
Pr	oject Nar	ne			Project No.	Co-ords:	5720	0E - 25300N		20/	Date	
Lc	aseline si ocation:	te inves Teessi	de		CO05200017	Dimensio	- ons: E	3.50m		20/	Scale 1:25	+
CI	ient:	Corus	Plc			4.00m	1.50			Log	gged By GAD	/
	Strata Depth (mbgl)	Level (m AOD)	Legend		Stratun	Description			Dep (mbg	th gl)	Strike (mbgl)	
1.0	0.20			Loose brown rr (TOPSOIL) Black orange a ferrous metal d (MADE GROU	noist topsoil with many rool Ingular cobbles and boulde lebris. ND)	lets irs of brick and sla	ag with mu	ch	0.3	0		1.0
- 												- 2.0
- - - - - - - -	4.00				Trialpit C	Complete at 4.00 m			3.9	ю		- 4.0
R	emarks:								<u> </u>			

ENV	/IROS®	Enviros Consult Sanderson Hou Horsforth, Leed LS18 5NT Tel: 0113 239 5	ing Ltd se, Station Road s 600	Corus	Tr 12 Sh	ialpit No 2 <b>BT15</b> eet 1 of 2
Project Na	me	Project No. Co-ords: 57200E - 25200N			21	Date /04/2004
Baseline S	Site Investigation	C00520017E	Dimensions:	3.00m		Scale
Location	10000100		Depth E		]	1:25
Client:	Corus Plc	5.70m				ogged By KAB
Strata Dept (mbgl)	h Level (m AOD) Legend	Stratum I	Description		Depth (mbgl)	Strike (mbgl)
-		TOPSOIL grass and roots				~
- 0.20		MADE GROUND. Steel making bi-products	s in a black gravelly matrix			-
						-
-						
- 1.0					1.00	- 1.0
						-
-						-
~						_
-2.0				,		-2.0
						-
and a second sec						-
						-
-						
-						-
-						-3.0
- 3.0						F F
~						-
-						
						<b>•</b>
- 4.0						
-						-
<b>n</b>		Contin	ued next sheet			-
Remarks:	Groundwater st Sample slightly	rike - 4m mixed with fall in from overlying grou	ſ		_	
L						<u> </u>

E	NV	IRC	)S®		Enviros Consulti Sanderson Hous Horsforth, Leeds LS18 5NT	ng Ltd se, Station Ro	ad	E	Z	Trialpit 12BT	No 15
Proje	ct Nam	ne			Project No.	Co-ords:	57200E	- 25200N	<u> </u>	Dat	e
Base	line Si	te Inves	stigation		CO0520017E	Level:	-			21/04/2	004
Locat	tion:	Teessi	de			Dimensio	ns:	3.00m		Sca 1:25	e
Clien	t:	Corus	Pic			Depth 5.70m	1.00n			Logged	d By B
Strat	ta Depth		Legend		Stratum D	escription			Samp Dept (mbr	le Groundy h Strik	vater e 1)
- (1	5.50	(IT AOD)		MADE GROUNI	D. Steel making bi-products	in a black grave	elly matrix		5.6	)	
- 6.0	5.70				Trialpit Com	plete at 5.70 m			5.6	)	- 6.0
- 7.0 											7.0 - - - - - -
- 8.0											
- 9.0 - - - - - - - - - -											
Rema	arks:	Gro San	undwater s nple slightly	trike - 4m / mixed with fall in	n from overlying groun						

ΕΝ	/IROS <sup>®</sup>	Enviros Consult Sanderson Hou Horsforth, Leed LS18 5NT Tel: 0113 239 5	ing Ltd se, Station Road s 600		Trialpit N 13AT Sheet 1 c	NO 1 Df 1
Project Na	me	Project No.	Co-ords: 57100E - 24700N		Date	~ 4
Baseline S	Site Report	CO0520017B	Level: -		13/04/20 Scale	04
Location.			Depth E		1:25	
Client:	Corus Plc		4.50m		Logged GAD	By
Strata Dept (mbgl)	h Level (m AOD) Legend	Stratum D	Description	Der (mb	oth Strike gl) (mbgl)	
-1.0		Grey brown sandy angular cobbles of brick a iron spherical pellets; sinter bi-product.(MAE	and stag with much gravel of DE GROUND)	0	0	- 1.0
- 3.70		Brown yellow grey angular cobbles of brick silty gravel (MADE GROUND)	ash and slag with much			-
- 4.0				4.	30	
4.50		Trialpit Con	nplete at 4.50 m			1 <u>(</u>
Remarks:	Groundwater s Stale organic o	trike - 4m dour at 4.0-4.5				

ENV	/IROS®	Enviros Consul Sanderson Hou Horsforth, Leed LS18 5NT Tel: 0113 239 5	ting Ltd ise, Station Road is 5600	<b>X</b>	Trialpit No <b>13AT2</b> Sheet 1 of	) 1
Project Na	me	Project No.	Co-ords: 57000E - 24700N		Date	Λ
Baseline S	Teesside	CO0520017B	Dimensions: 3.50m		Scale	4
			Depth E		1:25	
Client:	Corus Plc	Γ	4.10m +	Sam	Logged B GAD	y d
Strata Dept (mbgl)	h Level (m AOD) Legend	Stratum	Description	Dep (mb	th Strike gl) (mbgl)	
		Grey brown angular cobbles of sandy slag occasional boulders of slag. Gravel is medi	with much gravel and um to coarse.(MADE GROUND)	0.2	0	
						- 3.0
- 4.10 - 4.10		Trialpit Co	mplete at 4.10 m	4.	10	- 4.( - - -
Remarks:	Groundwater V damp at 3.5	strike - 4m strike - 4.0m.Water seeping at 4.0m (~base)				

ENN	/IROS®	Enviros Consulting Ltd Sanderson House, Station Road Horsforth, Leeds LS18 5NT Tol: 0112 220 5500		Trialpit No <b>13AT3</b> Sheet 1 of 1
Project Na	Ime	Project No. Co-ords: 56929E - 24771N	run, ₩8, <sup>0000</sup> udi	Date
Baseline	Site Report	CO0520017B Level: -		14/04/2004 Scale
Location:	Ieesside	Depth E		1:25
Client:	Corus Plc	4.00m		Logged By GAD
Strata Dep ∗ (mbgl)	h Level (m AOD) Legend	Stratum Description	Samp Dep (mbg	th Strike gl) (mbgl)
		White yellow orange gey brown angular cobbles of brick slag and ash with much gravel. Gravel is medium to caorse occasional cobbles of slag.(MADE GROUND) Brown red very sandy angular cobbles and boulders of slag and brick with much fine gravel(MADE GROUND)	0.2	
- 3.0				- 3.0
-4.0 4.00	Moist between	Trialpit Complete at 4.00 m 2.8 and4.0m bgl	4.(	JU -4.0

	ENV	IROS®	Enviros Consulting Ltd Sanderson House, Station Road Horsforth, Leeds LS18 5NT Tel: 0113 239 5600		Trialpit No <b>13AT4</b> Sheet 1 of	) 1
Pr	oject Nar	ne	Project No. Co-ords: 56837E - 24769N		Date	
Lo	cation:	Teesside	Dimensions: 3.50m		Scale 1:25	4
CI	ient:	Corus Plc	4.20m		Logged B GAD	у
	Strata Depth (mbgl)	Level (m AOD) Legend	Stratum Description	Depth (mbgl)	Strike (mbgl)	
- 1.0			Grey brown white angular coarse gravel and cobbles of slag with brick and ash (sandy)(MADE GROUND)	0.30		- 1.0
- - - 	2.50 2.60		Grey white angular fine to medium gravel of ash with cobbles of slag.(MADE GROUND) Grey brown white angular cobbles of slag with much gravel of slag and ash.			- - - - - - - - - 3.0
- 4.0				4.00	▼	4.0
· · · · · · · · · · · · · · · · · · ·	4.20		Trialpit Complete at 4.20 m			
Re	emarks:	Groundwater stri Hard slag at 3.0r organic odour at	ike - 4m n - peckerWater seeping in at 4.0m; wet from approximately 3.8mOily / base, no oil present and no oilyt sheen.			

	E NIV		nc 🕏	Enviros Consulti Sanderson Hous Horsforth Leade	ng Ltd e, Station Road	$(\mathbf{P})$		Trialpit No <b>13AT5</b>	,
				LS18 5NT Tel: 0113 239 56	00	coru		Sheet 1 of	1
P	roject Nar	ne		Project No.	Co-ords: 4668	9E - 24819N		Date	
В	aseline si	te inves	tigation	CO05200017	Level: -			15/04/2004	4
Lo	ocation:	Teessi	de		Dimensions:	3.00m	7	Scale	
					Depth 5				
С	lient:	Corus	Plc		4.0011 -		Sample	KaB Groundwate	у 
	Strata Depth (mbgl)	(m AOD)	Legend	Stratum D	escription		Depth (mbgl)	Strike (mbgl)	
	0.02 *			MADE GROUND: gravel of ore and sinter MADEGROUND: slag cobbles and boulders	in very sandy gravely m	atrix	0.80		
- - - - - - - - - - - - - - - - - - -									- - - - - - - - - - - - - - - - - - -
- 4.0	4.00			Trialpit Com	lete at 4.00 m		- 4.00	T	- 4.0
R	emarks:								-

			Enviros Consult	ing Ltd			Frialpit No	
	ENV	IROS 🐔	Sanderson Hous Horsforth, Leeds	se, Station Road			13AT6	
			LS18 5N I Tel: 0113 239 50	600	CORUS	S S	heet 1 of	1
Ρ	roject Nar	ne	Project No.	Co-ords: 56705E	- 24854N		Date	
B	aseline Si	ite Investigation	CO0520017E	Level: -	0.00	1	3/04/2004	¥
L	ocation:	leesside		Dimensions:	3.00m		Scale 1:25	
				Depth 5				
С	lient:	Corus Plc				-	KAB	
	Strata Depth	Level Legend	Stratum D	escription		Sample Depth	Groundwater Strike (mbgl)	
	0.05		MADE GROUND. Gravel of coal and sinter			(mogi)	(mogi)	
	0.80		MADE GROUND. Slag and coal gravel and coal dust matrix MADE GROUND. Cobbles and boulders of	cobbles and slag boulders in slag in a loose slag dust	na			
- 2.0	1.80		MADE GROUND. Cobbles and boulders of matrix	slag in a very sandy/gravelly	,	1.80		- - -  2.0
- 3.0	3.00		Slightly sandy mixed GRAVEL with frequen	t mixed cobbles				- - - 3.0
-						3.30		-
-	3.50			nolete at 3.50 m				-
			тарт сол	prete at 0.00 m				1
4.0   								- 4.0
İ								1
R	emarks:							

	ENV	IR	)\$®	Enviros Consulting Ltd Sanderson House, Station Road Horsforth, Leeds LS18 5NT Tel: 0113 239 5600		T <b>1</b> Sł	rialpit No <b>3BT9</b> neet 1 of	1
Pr	oject Nan	ne		Project No. Co-ords: 56690E - 25100N		1/	Date	,
Ba	aseline Si	te Inves Teessi	de	Dimensions; 3.00m		1-	Scale	
				Depth 8			1:25	
CI	ient:	Corus	Plc	0.60m <del>C</del>	San		ogged By KAB	/
	Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum Description	De (ml	pth ogl)	Strike (mbgl)	
-	0.05			Grass topsoil and rootlets Slag gravel and cobbles in a sandy gravelly ash	0.	10		-
	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	-			-
-								-
- 1.0								- 1.0
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Re	emarks:						<u> </u>	

	ENV	IROS®	Enviros Consu Sanderson Ho Horsforth, Lee LS18 5NT Tel: 0113 239	Iting Ltd use, Station Road ds 5600	Corus	Trialpit No <b>13BT10</b> Sheet 1 of 1
Pr	oject Nar	ne	Project No.	Co-ords: 56846E - 2	5068N	Date
Ba	aseline Si	Teesside	CO0520017B	Dimensions:	4.00m	Scale
LU				Depth E		1:25
CI	ient:	Corus Plc		1.80m <u></u>		Logged By GAD
	Strata Depth (mbgl)	Level (m AOD) Legend	Stratum	Description	Sar De (m	ppth Strike bgl) (mbgl)
-	0.10		Brown moist gravelly topsoil with rootlets(			
<b>~</b>			Grey brown angular cobbles of slag(MADE	: מחטטאט)	0	.20
-	0.50		Firm brown slightly gravelly peaty CLAY			
- 1.0						- 1.C
ŀ						80
ŀ	1.80		Trialpit Co	omplete at 1.80 m		.00
- 2.0						-2.0
3.0 - - -						- 3.
- 4.0						-4.
R	emarks:				L	II

HoleBASE III (Bid 301) Standard Trialpit Log v1 dated

	ENV	IRC	)S®	Enviros Cons Sanderson Ho Horsforth, Lee LS18 5NT Tel: 0113 239	ulting Ltd ouse, Station Road eds 5600	COL	Tr 13 Sh	ialpit No BBT11 eet 1 of 1
Pr	oject Nan	ne		Project No.	Co-ords: 56679E	- 25194N	1/	Date /04/2004
Ba	seline Si	Teese	stigation de	CO0520017E	Dimensions	3.00m	14	Scale
LU	σαισπ.	100330	40					1:25
CI	ient:	Corus	Plc		0.60m +			ogged By KAB
	Strata Depth (mbgl)	Level (m AOD)	Legend	Stratun	Description		Sample G Depth (mbgl)	Strike (mbgl)
-	0.05		XXXX	TOPSOIL grass and rootlets				-
	0.20			MADE GROUND. Coal cobbles in a loos	e topsoil		0.20	-
	0.40			MADE GHOUND. Coddles of slag in a se				F
-	0.40			Firm friable brown very gravelly very sand	ly mottled grey CLAY		0.50	F
-	0.60			Trialpit C	omplete at 0.60 m			
- 1.0								⊢ 1.0 └
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R	emarks:							•
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HoleBASE III (Bid 301) Standard Trialpit Log v1 dated 26th Mar 0

	ENV	IRC	)\$ <sup>©</sup>	Enviros Consu Sanderson Ho Horsforth, Lee LS18 5NT	Iting Ltd use, Station Road ds	X	Trialpit No 13BT12 Sheet 1 of 1
Pro	piect Nar	ne		Tel: 0113 239 Project No.	5600 Co-ords: 56700E - 25100N	: <b>.</b>	Date
Ва	seline Si	ite Repo	ort	CO0520017B	Level: -		14/04/2004
Lo	cation:	Teessi	de		Dimensions: 3.50m		Scale
					Depth 5		Logged By
Cli	ent:	Corus	Plc		2.00m -		GAD
	Strata Depth		Legend	Stratum	Description	Sample Depth (mbgl	e Groundwater Strike (mbal)
	(inugi)			Brown moist topsoil with many rootlets			, (
	0.10			Grey brown angular and rounded fine to n slag(MADE GROUND)	nedium gravel of ash and	0.30	- - - - - - - - - - - - - - - - - - -
-	1.10			Dark brown firm moist very gravelly CLAY			
- 2.0	2.00			Trialpit C	omplete at 2.00 m	2.00	)
- 3.0							- 3.0
- 4.0							- 4.0 - - - - - - - - - - -
R	emarks:	Grc Wa bgl,	bundwater st ter infilling h strong oily	rike - 1.7m ole at 1.7m bgl.Oily / diesel skim on s odour	surfaceVery oily and black at 2m		

	ENV	IR(	)S®	Enviros Consultin Sanderson Hous Horsforth, Leeds LS18 5NT Tel: 0113 239 56	ng Ltd e, Station Ro 00	ad	COL		Trialpit No 13BT13 Sheet 1 of 1	1
Pro	oject Nan	ne		Project No.	Co-ords:	56607E	- 25124N		Date	
Ba	seline Si	te Repo Teessi	de	CO0520017B	Dimensio	ns:	4.00m		Scale	
					Depth	ш			1:25	
Cli	ent:	Corus	Plc		3.50m	1.0			Logged By GAD	
47	Strata Depth (mbgl)	Level (m AOD)	Legend	Stratum D	escription			Depth (mbg	n Strike I) (mbgl)	
	0.10			Brown moist topsoil with many rootlets(MADI Brown red grey cream angular and rounded with much very sandy gravel of slag ash and	E GROUND) cobbles and bc brick(MADE G	Poulders of slag ROUND)		0.40		
ŀ	3.50			Trialpit Com	plete at 3.50 m					
- - - - - - -										- 4.0
	marke	Gra	undwater et	rike - 2 5m						<u> </u>
	andrks:	Gro	Junuwaler SI							

	ENV	() orus	Trialpit No <b>13CB1</b> Sheet 1 of 1				
Pr	oject Nar	ne	lingtion	Project No.	Co-ords: 57260E - 2506	50N	Date 14/04/2004
Lo	cation:	)0m	Scale				
			1:25				
CI	ient:		Logged By LaQ				
	Strata Depth (mbgl)	Level (m AOD)	San De (mi	nple Groundwater pth Strike ogl) (mbgl)			
				TOPSOIL: Grass, rootlets and brown grav	vely topsoil.		m
1.0	0.25			MADE GROUND: Loose gravel to boulde loose brown slag matrix	r sized fragments of slag in a		- 1.0
- 3.0							- 3.0
- 4.0	4.00			Trialnit	Complete at 4.00 m		-4.0
-							
R	emarks:			1		I	

	ENV	IROS®		Enviros Consult Sanderson Hou Horsforth, Leed LS18 5NT	ting Ltd Ise, Station Ro s	bad	E	ž	Tr 13	ialpit No <b>3CT14</b> eet 1 of	1
P	oiect Nar	ne		Tel: 0113 239 5 Proiect No.	600 Co-ords:	5699	5F - 25169N		011	Date	
B	aseline Si	te Investigation		CO0520017H	Level:	-			14	/04/2004	4
Location: Teesside					Dimensio	ns:	3.00m			Scale	
					Depth	D D D		к		1:25	
С	lient:	Corus Plc			4.00m	1.0		Sam	LC Die C	KAB Groundwater	
	(mbgl)	(m AOD) Legend		Stratum I	Description			Dep (mb	th gl)	(mbgl)	
1.0	0.05		Grass roots and Slag cobbles ar cables throughp	nd boulders in ash sand and bit	slag dust (MAD	DE GROUN	ND) 5	0.3	0		- 1.0
-	3.50		Mixed GRAVE	LS and SAND. Sand is coa	rse and brown			3.1	60		-
- 4.0	4.00			Trialpit Co	mplete at 4.00 m						- - 4.0 - - -
R	emarks:										-

	= NV		Enviros Consulti Sanderson Hous Horsforth, Leeds	ng Ltd se, Station Road	1	Trialpit No
			Tel: 0113 239 56		S   S	Sheet 1 of 1
Pro Ba	oject Nar Iseline si	ne te investigation	Project No. CO05200017	Co-ords: 57003E - 25136N Level: -	1	Date 4/04/2004
Lo	cation:	Teesside		Dimensions: 3.00m		Scale
				Depth 동		1:25
Client: Corus Plc				3.80m <del>C</del>		Logged By LaQ Groundwater
	Strata Depth (mbgl)	Level (m AOD) Legend	Stratum D	Description	Depth (mbgl)	Strike (mbgl)
-	0.25		TOPSOIL: grass, rootlets and brown very gra	avely topsoil.	0.20	-
	0.25		MADE GROUND: loose gravel to boulder siz loose greyish brown slag matrix	zed fragments of slag in a		
						- 2.0
3.0	3.80				- 3.80	
- 4.0			Trialpit Con	nplete at 3.80 m		-4.0
R	emarks:					

	ENV	IR	05®	Enviros Consultin Sanderson House Horsforth, Leeds LS18 5NT Tel: 0113 239 560	g Ltd e, Station Road 00	Corus	Tri 13 She	alpit No CT16 eet 1 of 1					
Pro	oject Nar	ne	_	Project No.	Co-ords: 57100E	- 24900N	14	Date /04/2004					
Ba	seline S	ite Repo	ort	CO0520017B	Dimensions:	3.50m	1-1/	Scale					
LO	cation.	10033	lue		Depth E			1:25					
Cli	ent:	Corus	Plc		4.00m -	Si	Lo ample G	gged By GAD roundwater					
	Strata Depth (mbgl)	h Level (m AOD)	Legend	Stratum De	escription	[	Depth mbgl)	Strike (mbgl)					
-				Brown moist clayey topsoil with many rootlets	Irown moist clayey topsoil with many rootlets(MADE GROUND)								
-	0.20			Purple brown grey cobbles and angular grave reinforcing bars and metal debris(MADE GRO	<sup>2</sup> urple brown grey cobbles and angular gravel of slag with metal einforcing bars and metal debris(MADE GROUND)								
-	0.50			Reinforced concrete				-					
-	0.70			Brown grey white cobbles and coarse angula	ar gravel of slag(MADE								
-				GROUND)				-					
1.0								-1.0					
ŀ								-					
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-2.0								-2.					
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- 3.0								-3					
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-4.0	4.00		XXXX	Trialpit Con	nplete at 4.00 m			-4					
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F	lemarks:												

Project Name     Project No. CO05200017     Co-ords: 57150E - 24850N     15/C       Location: Teesside     Dimensions: 3.00m     3.00m       Client: Corus Pic     Depth gits     3.20m       0.05     Israti Digits     Lagend     TOPPOIL: gass: motive and topoil.     View       0.05     View sock MADE GROUND containing slightly daysy sing cobles and income.     0.50       0.40     MADE GROUND: sing cobbies of one in a slip ore matrix.     0.50       0.40     MADE GROUND: sing cobbies and boulders in a slip ore matrix.     0.50       0.40     MADE GROUND: sing cobbies and boulders in a slip ore matrix.     0.50       0.40     MADE GROUND: sing cobbies and boulders in a slip ore matrix.     0.50       0.40     MADE GROUND: sing cobbies and boulders in a slip ore matrix.     0.50       0.40     MADE GROUND: sing cobbies and boulders in a slip ore matrix.     0.50       1.4     1.00     MADE GROUND: sing cobbies and boulders in a slip ore matrix.     0.50       2.80     CONCRETE - reinforced     3.00     3.10       2.80     CONCRETE - reinforced     3.10       3.20     CLAY: Soft damp very samp very gavelig brown motiod green clay     3.10	ENV	IROS®	Enviros Consulting Ltd Sanderson House, Station Road Horsforth, Leeds LS18 5NT Tel: 0113 239 5600	Trialpit No <b>13CT17</b> Sheet 1 of 1
Column     Depth	oject Nam aseline site	ne te investigation	Project No.         Co-ords:         57150E - 24850N           CO05200017         Level:         -           Dimensions:         3.00m	Date 15/04/2004 Scale
Client:     Corus PIc     3.20m     Close       Strata Death     Levels     Lagerd     Stratum Description     Stratum Description       0.05     1.005     TOPSOIL: grass, rootets and logacil.     Yellow andry MADE GROUND containing slightly dayey slag cobbles and nobel.     0.40       0.40     MADE GROUND: red brown oabbles of one in a silly ore matrix.     0.50       0.80     OONCRETE - reinforced     0.50       1.00     MADE GROUND: red brown oabbles and houders in a silly ore matrix.     0.50       1.01     1.00     MADE GROUND: slag cobbles and houders in a silly ore matrix.     0.50       1.02     CONCRETE - reinforced	cation:		Depth &	1:25
Strata Dight (mb0)       Level (mb0)       Level (mb0)       Level (mb0)       Level (mb0)       Level (mb0)       Level (mb0)       Stratum Description       Stratum Composition       Stratum Composition <th< td=""><td>lient:</td><td>Corus Plc</td><td>3.20m <del>•</del></td><td>Logged By KAB</td></th<>	lient:	Corus Plc	3.20m <del>•</del>	Logged By KAB
0.05     TOPSOLL: grass, nodests and topool.       0.40     Walk wandy MADE GROUND containing slightly clayey stag cobbles and nubble.       0.40     MADE GROUND: red brown cobbles of one in a sifty one matrix.     0.50       0.80     CONCRETE - reinforced	Strata Depth (mbgl)	Level (m AOD) Legend	Stratum Description Sam (mb	ple Groundwater th Strike gl) (mbgl)
0.40     MADE GROUND: red brown cobbles of one in a sity one matrix.     0.50       0.80     CONCRETE - reinforced       1.0     MADEGROUND: sieg cobbles and boulders in a sieg dust.       2.0     CONCRETE - reinforced       2.0     CONCRETE - reinforced       2.0     CONCRETE - reinforced       2.20     CONCRETE - reinforced       2.20     CONCRETE - reinforced       2.20     CONCRETE - reinforced       2.20     CONCRETE - reinforced       3.20     CONCRETE - reinforced	0.05		TOPSOIL: grass, rootlets and topsoil. Yellow sandy MADE GROUND containing slightly clayey slag cobbles and rubble.	-
0.80       CONCRETE - reinforced         -10       1.00         -10       1.00         -10       1.00         -20       CONCRETE - reinforced         -2.0       CLAY: Soft damp very sandy very gravelly brown moted green clay         -3.0       3.20         -4.0       Image: Clay i	0.40		MADE GROUND: red brown cobbles of ore in a silty ore matrix.	50
1.0       1.00       MADEGROUND: slag cobbles and boulders in a slag dust.         2.0       CONCRETE - reinforced         2.20       CONCRETE - reinforced         2.50       MADEGROUND: slag cobbles and boulders         2.90       CLAY: Solt damp very sandy very gravelity brown moted green clay         3.20       CLAY: Solt damp very sandy very gravelity brown moted green clay         3.20       Triebit Complete at 3.20 m	0.80		CONCRETE - reinforced	
2.20       CONCRETE - reinforced         2.50       MADEGROUND: slag cobbles and boulders         3.0       CLAY: Soft damp very sandy very gravelly brown motied green clay         3.0       CLAY: Soft damp very sandy very gravelly brown motied green clay         3.10       Trialpit Complete at 3.20 m	1.00		MADEGROUND: slag cobbles and boulders in a slag dust.	
2.50 2.90 3.20 ADEGROUND: slag cobbles and boulders CLAY: Soft damp very sandy very gravelly brown motled green clay Trialpit Complete at 3.20 m 4.0	2.20		CONCRETE - reinforced	-
2.90 3.0 3.20 CLAY: Soft damp very sandy very gravelly brown motiled green clay 3.10	2.50		MADEGROUND: slag cobbles and boulders	-
3.20 Trialpit Complete at 3.20 m	2.90		CLAY: Soft damp very sandy very gravelly brown motied green clay	.10
	3.20		Trialpit Complete at 3.20 m	
	0			
Pomarke:	Pomarka:			
	nemarks.			

## **Borehole Log**

Soil Mechanics

Drilled GB Logged RW Checked JT	Start 21/04/2004 End 22/04/2004	Equipment, Metho Dando 2000	ods and Remarks		Depth from to Diam 0.00m 8.00m 150m	eter Casing Depth Im 4.15m	Ground Level Coordinates National Grid	+7 E 5 N 2	.38 mOD 57029.28 25778.83
Samples a	nd Tests	<b>.</b>		Strata			Sinanaye .		
Depth	Type & No	Records	Date Ti	me	Description		Depth.Level		Backfil
Depth	B 1	Records	Date Ti Casing W	me ater MADE GROUND: Gre subangular COBBLE s slag. Gravel is angular fine to coarse fragmen	Description y gravelly angular to ize fragments of to subangular ts of slag.		Depth, <i>Level</i> (Thickness) (5.50)	Legend	Backfill
- 6.00-6.50	Β2		21/04/2004 4.15 4.	MADE GROUND: Dark coarse SAND. With occa fragments. Slight hydroo noted.	brown grey fine to isional shell arbon odour		5.50 +1.88 (2.00)		
7.50-8.00	Β3		22/04/2004 4.15 3.6	Brown grey medium and occasional shell fragmen 0 EXPLORATORY HOLE	coarse SAND. With ts. ENDS AT 8.00 m		7.50 -0.12 (0.50) 8.00 -0.62		SP
						-			
Depth T	ype & No	Records	Date Time Casing Water	-		-			
roundwater Entrie 5. Struck Post : (m) 4.00	s strike behavio	ur	Depth sealed (m)	Depth Related Remarks * From to (m)		C Di 4. 5.	<b>hiselling</b> epths (m) Time 00 -5.00 60 mi 00 -5.50 60 mi	Tools use ns ns	ed
es: For explanation of reviations see key sh als in metres. Stratum epth column. Ile 1:50	symbols and eet. All depths a thickness given (c) MESG 298 v1.1528/	nd reduced in brackets 05/2004 08:32:04	Project Project No. Carried out for	CORUS TEESSIDE B4009 Enviros Consulting Limited	A	E	Borehole 12A Sheet	<b>B2</b> 1 of 1	

## **Borehole Log**

Drilled GB Logged RW Checked JT	Start 21/04/2004 End 21/04/2004	Equipment, Method Dando 2000	ds and Remar	ks		Depth from 0.00m	to 8.00m	Diameter 150mm	Casing Depth 7.80m	Ground Level Coordinates National Grid Chainage	+ E N	7.66 m 57011 25385	DD 00 42
Samples a	and Tests	<u>.</u>			Strata								
Depth	Type & No	Records	Date	Time	otrata	Description				Depth,Level	Legend	Bac	cfill/
Depth	B 1	Records	Date Casing	Time Water	MADE GROUND: Dark b silty sandy angular to sub to coarse GRAVEL size f With occasional angular t cobbles of slag.	Description prown grey s prounded fini- fragments of to subrounde	ightly e slag. d			(5.40)	Legend		
5.50-6.00	Β2				Dark brown grey fine to cc With occasional shell frag (Possible Made Ground).	barse SAND. ments.				5.40 +2.26		0 000 0 0000 0 000	
7.50-8.00 Depth Groundwater Entr	B 3	Records	21/04/2004 7.80 Date T Casing V	5.50	Brown grey slightly gravell coarse SAND. Gravel is su coal. With occasional shell EXPLORATORY HOLE E	y fine to ubangular fin fragments.	e			7.30 +0.36 (0.70) 8.00 -0.34		SP	
No. Struck Pos (m) 1 4.00 -	ies t strike behavi	iour	Depth sea	iled (m)	Depth Related Remarks * From to (m)					Chiseiling Depths (m) Tim	e Tools	used	
lotes: For explanation bbreviations see key s evels in metres. Stratu n depth column. Scale 1:50	of symbols and sheet. All depths m thickness give (c) MESG 298 v1.15	s and reduced en in brackets 526/05/2004 08:30:08	Project Project No. Carried out	C B for E	ORUS TEESSIDE 44009 nviros Consulting Limited	Å				Borehole 12 Shee	<b>BB1</b> t 1 of 1		

Soil Mechanics

## **Borehole Log**

Soil	Mecha	inics
	11100110	

Drilled TQ Logged RW Checked JT	<b>Start</b> 19/04/2004 <b>End</b> 19/04/2004	Equipment, Metho Dando 175	ds and Remai	rks	Depth from to Diameter Casing Depth 0.00m 7.70m 150mm 7.70m	Ground Level Coordinates National Grid Chainage	+7 E : N :	.81 mOD 57254.65 25057.82
Samples	and Tests	L			Strata	Shamage		
Depth	Type & No	Records	Date	Time	Description	Depth.Level		Backfill
			Casing	Water	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.	(Thickness)	Legenu I	
- 1.40-2.20	Β1					(5.50)		
5.50-6.00	B 2 B 3 B 4		19/04/2004 7.70	4.60	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. 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. Grey brown slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine quartz and coal. With occasional shell fragments. (Possible Made Ground). EXPLORATORY HOLE ENDS AT 7.70 m	5.50 +2.31 (0.70) 6.20 +1.61 (0.80) 7.00 +0.81 (0.70) 7.70 +0.11		SP
Depth	Type & No	Records	Date T Casing W	ime ater	-			
Groundwater Ent lo. Struck Po (m) 4.00 -	ries st strike behavio	bur	Depth seal (	ed m)	Depth Related Remarks * From to (m)	Chiselling Depths (m) Time 2.20 -4.60 300 5.00 -5.25 30 m	e Tools us mins nins	ed
tes: For explanation previations see key els in metres. Strat depth column. ale 1:50	n of symbols and sheet. All depths um thickness giver (c) MESG 298 v1.152	and reduced n in brackets 6/05/2004 08:36:02	Project Project No. Carried out f	C B or E	ORUS TEESSIDE 4009 nviros Consulting Limited	Borehole 130 Sheet	<b>CB1</b> 1 of 1	



#### KEY:

	Proposed Teesco Boundaries
	Enviros Sampling Boundaries
$\frown$	Groundwater Contour
	Direction of Groundwater
+	Borehole
•	Surface Water

Surface Water

_		
As	Arsenic	UKDWS 0.01mg/l
В	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
pН	pН	UKDWS < 6.5 or >10
Se	Selenium	UKDWS 0.01mg/l
so	Total Sulphur as SO 4	UKDWS 250mg/l



Dutch Intervention Value

UKDWS - United Kingdom Drinking Water Standard

NOTES:

1. Locations only shown where exceedance have occured.

REV. DESCRIPTION

DATE



REDCAR

## FIGURE 9

# EXCEEDANCE OF TIER 1 WATER

SCREENING CRITERIA AND GROUNDWATER FLOW DIRECTION

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


## 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

LAND WEST OF WARRENBY, TEESWORKS, REDCAR Contaminated Land Generic Quantitative Risk Assessment and Detailed Quantitative Risk Assessment REPORT NO: 10035117-AUK-XX-XX-RP-ZZ-0428-04-LWoW\_DQRA 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.





								Trialpit N	No
ch	<b>12/M</b> :					Tr	ial Pit Log	TPA0	)1
				D.	( ) 1		0	Sheet 1 o	of 1
Projec Name	ct Redcar	DVA Initia	al Ground Investigation	Projec	t NO. G		Co-ords: 456898.00 - 524797.00	Date 11/01/20	)17
Loopti		door		01001	0		Dimensions 4.4	Scale	
Locau	001: 551 Re	ucar					(m):	1:25	
Client	: Homes	and Com	munities Agency				2.80	Logge MW	d
e e	Samp	les and In	Situ Testing	Depth	Level	Lagan			
Wat Strik	Depth	Туре	Results	(m)	(m)	Legend			1
Rema	0.60 1.70	B		2.80			GRAVEL of sinter MGR MADE GROUND: Dark brown very gravelly SA occasional to frequent cobbles of grey & yellow Gravel is fine to coarse slag & red brick fragme MGR From 1.5: Gravelly becoming slightly clayey. From 1.8: Hard slag layer approx 0.30m thick. End of pit at 2.80 m	ND with slag. nts rebar.	1 - 2 - 3 - 5 -
Stabili	ity:							AC	I S

								Trialpit N	10
Ch	<b>12</b> /M:					Tri	al Pit Log	TPA0	2
				Draia				Sheet 1 o	of 1
Projec	: Redcar	DVA Initi	al Ground Investigatior	1 67807	21 NO. 79		C0-0105: 450858.00 - 524815.00	30/11/20	16
Locati		dear		1	-		Dimensions	Scale	
Locali							(m):	1:25	
Client	Homes	and Com	nmunities Agency		1		2.95	Logged	I
Vater Strike	Sample Depth	Tvpe	n Situ Testing Results	Depth (m)	Level (m)	Legend	Stratum Description		
200 Str	Depth 1.00 - 1.40 1.00 - 1.40	BD	Results	<ul> <li>(III)</li> <li>0.10</li> <li>0.50</li> <li>2.95</li> </ul>			MADE GROUND: Sinter MGR MADE GROUND: Dense grey slightly sandy sli gravelly COBBLES and BOULDERS. Gravel is coarse, angular to sub-angular of slag and occasional concrete. Sand is of ash. MGR MADE GROUND: Yellow brown gravelly cobbly with medium boulder content. Gravel is fine to of angular to sub-angular of slag and occasional r Cobbles and boulders are of slag and occasional r Cobbles and boulders are of slag and occasional cobbles and boulders are of slag and occasional r Cobbles and boulders are of slag and coccasional r Cobbles and bounders are of slag and coccasional r Cobbles and bounders are of slag and coccasional r Cobbles are of slag and coccasional r Cobbles are of slag and coccasional r Cobbles are of slag and co	ghtly fine to asional lly (SAND coarse, ed brick.	2
Rema	rks:							AG	5 - J S

								Trialpit	No
c	12M:					Tri	ial Pit Log	TPA	04
								Sheet 1	of 1
Projec Name	ct Redcar	DVA Initi	ial Ground Investigation	Project 67807	ct No. '9		Co-ords: 456830.00 - 524798.00	Date 01/12/2	è 016
Locati		loor		1	-		Dimensions	Scale	e
LUCau	1011. 331 Ret	icai					(m):	1:25	;
Client	: Homes	and Con	nmunities Agency		1		1.10	Logge	ed
ater rike	Sample	es and I	n Situ Testing	Depth	Level	Legend	d Stratum Description		
ŝ	Depth	Туре	Results	(11)	(11)				
	0.10 - 1.10	ES							
									-
									1 -
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Rema	IFKS:								
Stabili	ity:								яð

								Trialpit No
c/	1 <b>2</b> /M:					Tr	ial Pit Log	TPA04A
							_	Sheet 1 of 1
Projec	ct Redcar I	DVA Init	al Ground Investigation	Projec	ct No.		Co-ords: 456837.00 - 524796.00	Date
				07007	9		Dimensions 4.9	Scale
Locat	ion: SSI Red	car					(m):	1:25
Client	:: Homes a	and Con	nmunities Agency		1	1	Depth N 3.30	Logged MW
ater rike	Sample	es and I	n Situ Testing	Depth	Level	Legend	d Stratum Description	
ŝ	Depth	Туре	Results	0.05	(11)		MADE GROUND: Dark grey black fine to coarse	e l
	0.10 - 1.10	ES		0.05			<ul> <li>MADE GROUND: Dark grey black fine to coarse GRAVEL of sinter. MGR</li> <li>MADE GROUND: Grey sandy gravelly COBBLE with occasional boulders. MGR</li> <li>MADE GROUND: Dark orangeish brown sandy GRAVEL. Gravel is fine to coarse of slag with free cobbles &amp; occasional boulders of slag. MGR</li> <li>MADE GROUND: Light to dark grey fine to coars gravelly SAND. Gravel is of slag. Occasional costag. MGR</li> <li>MADE GROUND: Cravel is of slag. Occasional costag. MGR</li> <li>From 2m: Layer of refractory bricks; fragments and whole</li> <li>From 2.5m: Bricks becoming abundant, Red + refractor. B slightly clayey. Demolition Rubble?</li> <li>From 3.2m: Groundwater in flow, Slightly discoloured. End of pit at 3.30 m</li> </ul>	e ES of slag equent se bbles of 1 - ecoming 3 - 4 -
Rema	irks:							5 -
Stabil	ity:							AGS

								Trialpit N	10
ch	<b>12</b> /M:					Tri	al Pit Log	TPA0	5
				Projoc	t No		Co. ordo: 456997.00 524774.00	Sheet 1 o	of 1
Projec	Redcar	DVA Initia	al Ground Investigation	67807	21 NO. '9		C0-010S. 450007.00 - 524774.00 Level:	30/11/20	16
Locati	on: SSI Per	lear					Dimensions 3.9	Scale	
		icai					(m): Donth oi	1:25	
Client	: Homes	and Com	munities Agency		1		3.40	FLM	1
/ater trike	Sample	es and Ir	Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
≤ ú	Deptit	туре	Results	0.08	. ,		MADE GROUND: Sinter		
	1.10 - 1.50	В		1.10			MADE GROUND: Grey slightly sandy slightly g         COBBLES with medium boulder content. Sand         white ash. Gravel, cobbles and boulders of slag.         Occasional cobbles of yellow refractory brick - a         5%.         MGR         From 0.4m: Sandy. Orange on south side of pit.         From 0.4m to 1.2m: Orange layer, sandy cobbles of slag.         MADE GROUND: Dark grey gravelly SAND wit         cobble content. Occasional cobble sized fragmemetal tube/pipe. Gravel is fine to coarse, angula         angular of refractory brick fragments, slag and         occasional red brick fragments. Cobbles are of         slag.         Af1.2m: Hard layer. Identified as slag.         Below 1.5m: Red brick content increasing to approx. 10%	ravelly locally j. approx. h low ents of ar to sub- brick and	1 -
T	3.10 - 3.40	В		3.40			At 2.1m: Slight seepage. Below 2.5m: Hard dig. Occasional timber and fabric. Below 3.1m: Grey sand and gravel with ash, slag and occ brick, wire and pipe. End of pit at 3.40 m	asionally	- 3 -
Rema	rks: Posit	ion Appro	oximate						4 -
Stabili	ity:							AG	S

								Trialpit No	0
Ch	<b>12</b> / <b>1</b> /:					Tri	al Pit Log	TPA06	6
				Droior	ot No		Co. ordo: 456860.00 524782.00	Sheet 1 of	i 1
Name	Redcar	DVA Init	ial Ground Investigation	67807	79		Level:	12/01/201	17
Locati	on: SSI Re	dcar					Dimensions 4.6	Scale	
		ucai					(m):	1:25	
Client	Homes	and Con	nmunities Agency				3.80	MW	
Vater trike	Sampl	les and I	n Situ Testing Results	Depth (m)	Level (m)	Legend	Stratum Description		
5 00	Dopin	Type		0.05			MADE GROUND: Dark grey black fine to coarse	e	
	0.70 1.10 2.00 2.10	ES B B		0.40			GRAVEL of sinter. MGR MADE GROUND: Dark grey sandy fine to coars GRAVEL of slag with occasional boulders and fi cobbles of slag. MGR MADE GROUND: Orangeish brown gravelly SA frequent cobbles and rare boulders of slag. MGR MADE GROUND: Dark grey gravelly SAND with frequent cobbles & occasional boulders of slag, include slag and red brick. MGR MADE GROUND: Black/grey slightly sandy fine medium, some coarse GRAVEL of porous slag. Occasional cobbles of slag. MGR MADE GROUND: Black/grey slightly sandy fine medium, some coarse GRAVEL of porous slag. Occasional cobbles of slag. MGR	ND with	1
×	3.70	ES		2.50			MADE GROUND: Dark brown slightly clayey gr SAND with frequent cobbles of brick, some woo shoes & steel. MGR From 2.5m: Possible wall section.	avelly <sup>bd</sup> & slag	3
Rema Stabili	rks: ty:					1		AG	S

								Trialpit N	٩N
	1 <b>2</b> M:					Tri	al Pit Log	TPA0	)7
								Sheet 1 c	of 1
Projec	ct Redcar [	DVA Initia	al Ground Investigatior		t No.		Co-ords: 456949.00 - 524786.00	Date	17
, turne				07807	9		Dimensions 4.5	Scale	
Locati	ion: SSI Red	car					(m):	1:25	
Client	: Homes a	and Com	munities Agency		1		Depth N 3.20	Logged MW	d
Nater Strike	Sample Depth	s and Ir	n Situ Testing Results	Depth (m)	Level (m)	Legenc	Stratum Description		
-				0.05			MADE GROUND: Dark grey black medium to c GRAVEL sinter. MGR	oarse	-
				3.20			MADE       GROUND: Grey sandy fine to coarse GF with abundant cobbles & frequent boulders. Col include slag, fragments of brick & refractory brick MGR         From 0.5m: Hard dig, ashy?	RAVEL bbles k.	2
Rema	ırks:							AG	5 -
Stabil	ity:								

									Trialpit N	No
<b>c</b>	12/	<b>M:</b>					Tr	ial Pit Log	TPA0	8
					Drojog	t No		Co. ordo: 456070.00 524775.00	Sheet 1 o	of 1
Name	Ct e:	Redcar D	OVA Init	al Ground Investigatior	67807	79		Level:	29/11/20	)16
Locat	ion	SSI Redo	car					Dimensions 4	Scale	
								(m): Depth	1:25	d
Client	t:	Homes a	ind Con	nmunities Agency		1	1	3.40	AC	<u> </u>
ike ike		Sample	s and I	n Situ Testing	Depth	Level	Legend	Stratum Description		
Str Ve	D	epth	Туре	Results	(m)	(m)				1
	1	2.80	B		0.10			MADE GROUND: Black to dark grey medium to GRAVEL of sinter. MGR MADE GROUND: Grey brown sandy gravelly CA AND BOULDERS of slag. Occasional fragments Gravel is fine to coarse, subangular and angular MGR <u>Below 1.3m: Red brown slag.</u> MADE GROUND: Red brown very sandy very gi COBBLES AND BOULDERS. Gravel is fine to c subangular of slag. MGR <u>Below 2.2m: Slightly silty</u> End of pit at 3.40 m	coarse DBBLES of brick. of slag. avelly parse, r and	2 -
Rema Stabil	arks: lity:								AC	J IS

								Trialpit I	No
	1 <b>2</b> M:					Tri	al Pit Log	TPAC	)9
							-	Sheet 1	of 1
Proje	ct Redcar I	DVA Init	ial Ground Investigatior	Projec	ct No. 70		Co-ords: 457025.00 - 524760.00	Date	117
Looot				101001	0		Dimensions 5	Scale	<u>, , , , , , , , , , , , , , , , , , , </u>
LUCAL		Cai					(m):	1:25	
Client	:: Homes a	and Con	nmunities Agency				3.50	MW	a
ke r	Sample	s and I	n Situ Testing	Depth	Level	Legenc	Stratum Description		
Wa Stri	Depth	Туре	Results	(m)	(m)				1
	3.10	B		0.05			MADE GROUND: Dark grey black sinter. MGR MADE GROUND: Dark yellowish brown gravell with frequent cobbles and rare boulders of light slag. MGR <i>From 1.0m: Becoming brown.</i> <i>From 2.5m: Very gravelly occasional cobbles.</i> <i>From 3.2m: Seepage.</i> End of pit at 3.50 m	y SAND grey	
Rema Stabil	irks:	1				1		AC	

								Trialpit N	No
	1 <b>2</b> M:					Tri	al Pit Log	TPA1	0
								Sheet 1 of	of 1
Proje	ct Redcar I	DVA Init	ial Ground Investigation	Projec	ct No.		Co-ords: 457066.00 - 524739.00	Date	16
	ione OOLDed			07007	9		Dimensions 4.2	Scale	
Local	1011: 551 Red	car					(m):	1:25	
Client	t: Homes a	and Con	nmunities Agency				3.25	AC	a
ter ke	Sample	es and I	n Situ Testing	Depth	Level	Legend	Stratum Description		
Stri Stri	Depth	Туре	Results	(m)	(m)				1
	0.90 0.90 0.90	B D		0.10			MADE GROUND: Black fine GRAVEL of Sinter MGR         MADE GROUND: Light grey sandy gravelly CC and BOULDERS of slag. Gravel is fine to coars angular to angular of slag. Cobbles are sub-ang angular of slag.         MGR         MADE GROUND: Orange brown gravelly SANI cobbles. Gravel is fine to coarse of sandstone a dark orange-brown slag. Cobbles are sub-angu angular of slag.         MGR         Below 1.9m: Becoming very sandy gravelly Cobbles and and the gravelly Cobbles and angular of slag.         Below 1.9m: Becoming slightly clayey         Below 3.0m: Becoming slightly clayey         Below 3.0m: Becoming damp         End of pit at 3.25 m	PBLES         ie, sub-         gular and	
									4
Rema	 arks: Sulph	lur odou	r during excavation					AC	5 - 1 1 1 1 1 1
Stabil	lity:								

								Trialpit N	٩N
Ch	<b>12</b> <i>M</i> :					Tri	al Pit Log	TPA1	1
Desis				Projec			Co. ords: 457101.00 524726.00	Sheet 1 c	of 1
Name	Redcar	DVA Initi	al Ground Investigatior	1 67807	'9		Level:	25/11/20	)16
Locati	on <sup>:</sup> SSI Red	lcar					Dimensions	Scale	1
Loouti							(m):	1:25	
Client:	Homes a	and Con	nmunities Agency		1		3.60	FLM	
Vater strike	Sample Depth	Type	n Situ Testing Results	Depth (m)	Level (m)	Legend	Stratum Description		
> 0)	0.10 - 0.50	В		0.10			MADE GROUND: Sinter		
	0.10 - 0.50	D					MADE GROUND: Very dense grey sandy GRA         COBBLES with low boulder content. Gravel and         are fine to coarse angular and subangular predio         of slag, occasional brick. Boulders are sub-angular         slag up to 400x250x170mm. Sand is fine to coar         ash. Brick are mostly refractory.         MGR         From 0.5 to 1m: Higher proportion of bricks.         Below 0.8m: Darker in colour	VEL and d cobbles ominantly ular of arse of	1 -
				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 -
				3.60			End of pit at 3.60 m		-
									-
									4 -
									-
									-
									5 -
Rema	rks:		I		<u> </u>		1	AG	I IS

								Trialpit N	No
<b>c</b>	<b>12</b> <i>m</i> :					Tri	ial Pit Log	TPA1	2
							<b>.</b>	Sheet 1 c	of 1
Projec Name	ct Redcar	DVA Initi	al Ground Investigation	Project 67807	ct No. ′9		Co-ords: 456962.00 - 524762.00 Level:	Date 11/01/20	)17
Locati	on: SSI Red	car					Dimensions 4.6	Scale	:
							Depth	1:25 Logger	d
Client	: Homes a	and Com	imunities Agency		1	1	2.90	MW	
ater rike	Sample	es and li	n Situ Testing	Depth (m)	Level	Legend	Stratum Description		
≤ Ω	Depth	Туре	Results	0.05	()		MADE GROUND: Dark grey black GRAVEL of si	inter.	
	1.80	ES		2.90			MGR MADE GROUND: Dark brown very sandy GRAV fine to coarse slag with abundant cobble & occas boulders of slag. MGR MADE GROUND: Dark brown slightly clayey ver fine to coarse GRAVEL of slag with occasional c of slag. MGR <i>From 1.4m: Sulphur odour.</i>	EL of sional	
Rema Stabili	ırks: ity:				·	·		AG	is

								Trialpit N	lo
ch	1 <b>2/M:</b>					Tri	al Pit Log	TPA13	
				Draias	t Nie		Co. ordov. 450000.00. 524745.00	Sheet 1 of	t 1
Projec	ct Redcar	DVA Initi	al Ground Investigatior	167807	πο. α		C0-010S: 456990.00 - 524745.00	Dale 20/11/201	16
				107007	0		Dimensions 3.8	Scale	10
Locati	ion: SSI Rec	Icar					(m):	1:25	
Client	: Homes	and Com	munities Agency				Depth N	Logged	i
5 0	Sample	es and li	n Situ Testing	Denth	Laval			AC	
Wate Strike	Depth	Туре	Results	(m)	(m)	Legenc	Stratum Description	/EL of	
	0.60 - 1.00	В					sinter MGR MADE GROUND: Grey brown sandy gravelly Cr and BOULDERS. Occasional fragments of brick Refractory) rarely intact bricks. Gravel is fine to subangular and angular of slag. Cobbles and bc are subangular and angular of slag. MGR Below 0.6m: Dark grey brown	DBBLES (Red & coarse, hulders	- 1 -
	2.40 2.40	B D		1.70			MADE GROUND: Red brown slightly clayey ver GRAVEL with cobbles and boulders of grey and brown slag. Gravel is subangular and angular, fi coarse of slag. MGR	y sandy orange ne to	2 -
▾				3.20			End of pit at 3.30 m		3
									4
Rema Stabili	ity:	I			<u> </u>	I		AG	S

-								Trialpit No
ch	<b>12/M:</b>					Tri	al Pit Log	TPA14
Dest	4			Project			Co.ords: 457030.00 524724.00	Sheet 1 of 1
Name	Redcar	DVA Initi	al Ground Investigation	67807	79		Level:	10/01/2017
Locati	on: SSI Red	lcar			-		Dimensions 4.4	Scale
							(m):	1:25
Client	: Homes :	and Com	munities Agency					MW
Water Strike	Depth	Type	Results	Depth (m)	Level (m)	Legend	I Stratum Description	
				0.05			MADE GROUND: Greyish black sinter.	
							MADE GROUND: Light grey sandy fine to coars	se -
				0.35			MGR	
							MADE GROUND: Dark yellowish brown slightly	clayey
							occasional refuse & cobbles.	-
	0.80	ES					MGR	-
							From 0.9m: Reinforced concrete slab.	-
				1 10				1-
				1.10			MADE GROUND: Dark brown gravelly SAND. ( fine to coarse includes slag & brick. Occasional	Gravel is
							cobbles. MGR	-
								-
								-
								-
								-
	2.00	В		2 10				2 -
				2.10			MADE GROUND: Very soft white CLAY.	
	2.30	D					From 2.1m: Highly plastic odour. Lime?	-
	2.50			2.50				
							GRAVEL with cobbles.	andy
							MGR	-
				2.90			End of oit at 2.90 m	
								3 -
								-
								-
								-
								4 -
								-
								-
								-
								-
								-
								5 -
Rema	rks:							AGS
Stabili	ity:							

								Trialpit N	١o
ch	<b>2</b> <i>M</i> :					Tri	al Pit Log	TPA1	5
							-	Sheet 1 c	of 1
Project Name:	t Redcar	DVA Initia	al Ground Investigation	Projec	ct No. 'a		Co-ords: 457082.00 - 524716.00	Date 10/01/20	17
Locatio		lear		101001	0		Dimensions 5.6	Scale	
							(m):	1:25	
Client:	Homes	and Com	munities Agency		1	_	0.90	MW	L
ike	Sample	es and In	Situ Testing	Depth	Level	Legenc	Stratum Description		
	0.45	ES		0.40			MADE GROUND: Dark blackish grey sinter. MGR MADE GROUND: Light grey sandy fine to coars GRAVEL with frequent cobbles & occasional bo slag. MGR MADE GROUND: Dark brownish grey gravelly S with some ash. Gravel is fine to coarse and inclu- slag. MGR From 0.6m: Becoming cobbly. End of pit at 0.90 m	se ulders of SAND udes	1
									3
									5 -
Remar Stabilit	ˈksː ty:							AG	I S

								Trialpit No
ch	<b>2</b> <i>m</i> :					Tri	al Pit Log	TPA16
Projec	t			Proied	t No.		Co-ords: 456917.00 - 524765.00	Date
Name:	Redcar	DVA Initi	al Ground Investigation	67807	'9		Level:	29/11/2016
Locatio	on: SSI Red	lcar		•			Dimensions 3.7	Scale
							Depth <del>c</del>	1:25 Logged
Client:	Homes	and Corr	nmunities Agency		1	1	3.10	ĂĊ
ater ike	Sample	es and l	n Situ Testing	Depth	Level	Legenc	Stratum Description	
ŝ	Depth	Туре	Results	(11)	(11)		MADE GROUND: Black/brown fine and mediur	n l
				0.10			GRAVEL of Sinter	
	1.00 1.00	B D		0.40			MADE GROUND: Grass over; firm orangeish b sandy CLAY; locally very clayey gravelly sand v cobble content. Gravel is subangular to angula coarse of mixed lithologies. Cobbles are mixed slag, some red brick fragments. MGR MADE GROUND: Grey reddish brown sandy v gravelly COBBLES and BOULDERS of slag. C and boulders are angular to subangular. Grave coarse, angular to subangular. Fragments of re yellow refractory brick. MGR Below 0.7m: Becoming red brown/grey.	rown very with low ar fine to , some ery obbles l is fine to d and 1
				1.60			Below 1.1m: Light grey.         MADE GROUND: Medium dense dark grey slig gravelly SAND with low cobble content. Gravel coarse angular to rounded of slag pellets, red b iron ore, yellow brick. Assorted metal scrap incl steel plate, tin sheet, conveyor rollers and re-ba MGR         Below 0.7m: Becoming red brown/grey.         MADE GROUND: Medium dense grey gravelly with low cobble and boulder content. Gravel is coarse, angular to subangular of slag, iron ore, frags. Cobbles are slag, iron ore and brick. Bou slag. Assorted metal scrap, see above (large el motor x2 approx. 2.0m depth.) MGR         Below 1.1m: Light grey.	ghtly is fine to prick frags, uding ar. 2 SAND fine to brick ulders are lectrical
	3.10 3.10	B D		3.10				3
				4.40			MADE GROUND: Reddish brown very sandy g COBBLES and BOULDERS. Gravel is fine to c angular to subangular of red-brown/grey slag. ( and boulders are angular to subangular of slag MGR	ravelly oarse Cobbles
Remar Stabilit	rks: ty:					1	1	AGS

								Trialpit No
	1 <b>2</b> M:					Tri	al Pit Log	TPA17
				<u> </u>				Sheet 1 of 1
Projec	ct Redcar I	DVA Initia	al Ground Investigatior	Projec	ct NO. 19		Co-ords: 456975.00 - 524737.00	Date 11/01/2017
Locati				01001	0		Dimensions 5	Scale
Lucau		cai					(m): <sup>∞</sup> .	1:25
Client	: Homes a	and Com	munities Agency		1	1	3.20	MW
Nater Strike	Depth	Type	Results	Depth (m)	Level (m)	Legenc	I Stratum Description	
	2.20 2.20	BES	Results	(m) 0.05 0.80 2.70 3.20	(m)		MADE GROUND: Dark grey black sinter.         MADE GROUND: Light grey sandy GRAVEL of frequent cobbles and rare boulders of slag.         MGR         MADE GROUND: Dark brown very gravelly SAI frequent cobbles & rare boulders. Cobbles inclubrick fragments. Boulders are slag.         MGR         From 2.3m: Sulphur odour.         MADE GROUND: Brown slightly clayey sandy 0 of fine to coarse slag. Rare cobbles of slag.         MGR         From 2.7m: Sulphur odour.         End of pit at 3.20 m	slag with         ND with ide slag &         1         2         3         -         3         -         4         -         4
Rema Stabili	ırks: ity:							AGS

								Trialpit N	No
C	<b>12</b> <i>M</i> :					Tri	al Pit Log	TPA1	8
							-	Sheet 1 c	of 1
Projec	t . Redcar	DVA Initi	al Ground Investigatior	Projec	ct No.		Co-ords: 457011.00 - 524724.00	Date	16
				07007	9		Dimensions 4.3	Scale	
Locati	on: SSI Red	icar					(m):	1:25	
Client	: Homes a	and Com	munities Agency			_	3.10	Logged AC	d
/ater trike	Sample	es and li	n Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
≤ <u>v</u>	Depth	Type	Results	0.05	()		MADE GROUND: Black fine and medium GRA	/EL of	
	1.50 - 1.70 1.50 - 1.70 3.10	B D		3.10			Sinter MGR MADE GROUND: Light grey sandy gravelly CO and BOULDERS of slag. Gravel is fine to coars subangular to angular of slag. Occasional fragm red brick. MGR Below 0.8m: Becoming dark grey brown, very sandy, no b fragments. End of pit at 3.10 m	BBLES e, nents of <i>rick</i>	1 2 3 4 5
Rema Stabili	rks: ity:							AG	IS

								Trialpit I	No
ch	<b>12</b> /M:					Tri	al Pit Log	<b>TPA19</b>	
Droigo	.4			Projec	st No		Co-ords: 457053.00 - 524707.00	Sheet 1 (	of 1
Name	Redcar	DVA Initia	I Ground Investigation	ורס <u>ופר</u> 67807	'9		Level:	28/11/20	)16
Locati	on: SSI Red	lcar					Dimensions 3.8	Scale	,
							(m): Depth	1:25	d
Client	: Homes	and Com	munities Agency				3.20	AC	u
ater rike	Sample	es and In	Situ Testing	Depth	Level	Legend	Stratum Description		
ŠĪ	Depth	Туре	Results	0.05	(11)		MADE GROUND: Black fine GRAVEL of Sinter		<u> </u>
	0.50 - 0.90 0.50 - 0.90 2.00 - 2.20 3.10 - 3.20 3.10 - 3.20	B		3.20			MADE GROUND: Black fine GRAVEL of Sinter MGR MADE GROUND: Grey/brown sandy gravelly C and BOULDERS of slag with occasional fragme brick. Gravel is fine to coarse, subangular and a slag. MGR Below 1.0m: Becoming very sandy and no brick fragments	OBBLES nts of ingular of	
Rema	rke: Quint		during excevation						5 -
Stabili	ity:							AC	I S

								Trialpit N	10
	1 <b>2/M:</b>					Tri	al Pit Log	TPA2	0
				Ducies	4 1.1		0	Sheet 1 c	of 1
Projec	et Redcar	DVA Initi	al Ground Investigation	67807	21 NO. 19		Level:	09/01/20	17
Locat	ion: SSI Red	lcar			-		Dimensions 5	Scale	
							(m):	1:25	4
Client	:: Homes a	and Corr	Imunities Agency		1		3.40	MW	
iter ike	Sample	es and l	n Situ Testing	Depth	Level	Legenc	Stratum Description		
Wa Stri	Depth	Туре	Results	(m)	(m)				
	1.10 - 1.40 1.30 3.30	B		0.05 0.80 3.30 3.40			MADE GROUND: Loose dark grey black GRAV sinter MGR MADE GROUND: Light grey sandy fine to coars GRAVEL. Gravel of slag includes fragments of the refractory brick. MGR MADE GROUND: Brown very sandy cobbly fine coarse GRAVEL of slag. Gravel includes brick, r brick, rare boulders of slag. Rare wood fragment MGR From 0.8m: Sulphur odour, becoming gravelly SAND. From 1.0m: Ashy (black fine).	EL of Se prick & e to refractory ts. SAND	2
Rema Stabil	irks:					<u> </u>		AG	5 — I S

								Trialpit No
	<b>12</b> /M:					Tri	al Pit Log	TPA21
				<b>D</b>	1.51.		0	Sheet 1 of 1
Projec	rt Redcar	DVA Initi	al Ground Investigation	Projec	21 NO. 70		Co-ords: 456828.00 - 524767.00	Date 12/02/2016
				07007	5		Dimensions 3.9	Scale
Locati	on: SSI Red	Icar					(m): م	1:25
Client	: Homes a	and Corr	nmunities Agency				3.50	Logged AC
ter ke	Sample	es and I	n Situ Testing	Depth	Level	Legend	Stratum Description	
Wat Stri	Depth	Туре	Results	(m) 0.05	(m)	Eegene	MADE GROUND: Black fine and medium GRA	/EL of
	0.90 - 1.10 0.90 - 1.10 1.70 - 2.20	B D		0.50			MGR         MADE GROUND: Red brown fine to coarse GR         with cobbles and boulders of grey/brown slag. C         subangular and angular. Cobbles are subangula         angular of slag with occasional fragments of red         MGR         MADE GROUND: Dark grey brown sandy grave         COBBLES and BOULDERS. Subangular mediu         coarse. Gravels are subangular and angular of s         MGR         MADE GROUND: Light grey very sandy gravelly         COBBLES with boulders of grey slag. Gravel is         coarse, subangular and angular of slag. Some r         gravels. Cobbles of slag.         MGR         Below 1.7m: Becoming dark grey with occasional orange-I         Slightly cobble very sandy gravel. Occasional refractory but         fragments.	AVEL iravel is ir and i brick. illy m and slag. 1
				3.50			From 2.4 to 2.7m: Greyish brown layer of fine sandy grave From 2.7 to 3.5m: As from 1.7m with more frequent fragme Dark grey colouration possibly ash. End of pit at 3.50 m	I. ents of brick.
Rema	rks:							
Stabili	ity:							

								Trialpit I	No
	<b>12/M:</b>					Tri	al Pit Log		22
Desis				Projec	st No		Co. ords: 456860.00 524754.00	Sheet 1 o	of 1
Name	Redcar	DVA Initi	al Ground Investigation	67807	'9		Level:	15/12/20	)16
Locati	ion <sup>.</sup> SSI Red	lcar					Dimensions 4.1	Scale	;
							(m): Depth	1:25	d
Client	: Homes	and Com	Imunities Agency		1	T	3.40	TL	u
ike ike	Sample	es and I	n Situ Testing	Depth	Level	Legenc	Stratum Description		
Wa Str	Depth	Туре	Results	(m)	(m)				<del></del>
	0.20 0.70 - 1.10	В		0.50			MADE GROUND: Loose dark grey/black sinter MGR MADE GROUND: Loose grey very gravelly SA low cobble content. Gravel is fine to coarse, an subangular of slag and clinker. Cobbles are sla clinker. MGR MADE GROUND: Medium dense light grey ver SAND with medium cobble and boulder conten is fine medium and coarse, subangular and ang slag, clinker and rare brick fragments. Cobbles boulders are slag, clinker and brick. MGR	ND with gular to g and y gravelly t. Gravel gular of and	1
	1.50 - 2.00	LB		1.20			MADE GROUND: Medium dense dark grey gra SAND with medium cobble content and low bor content. Cobbles and boulders are slag. MGR	ivelly ulder	
	2.30	ES		2.10			At 2.0m: Large boulder. 1050 x 900 x 400mm.         MADE GROUND: Loose to medium dense grey         SAND with low cobble and low boulder content         sand-sized white 'ash'. Cobbles are slag and or         yellow brick. Boulders are slag.         MGR         At 2.4m: Partially decomposed timber. Soaked in creosote         odour.         Below 2.5m: Low ash content.	y gravelly and fine ccasional e. Strong	2
×				3.40					4
Rema Stabili	ity:							AG	5 - S

								Trialpit No
<b>c</b>	<b>12/M:</b>					Tri	ial Pit Log	TPA23
	- 1			Droio	ot No		Co. ordo: 456807.00 524730.00	Sheet 1 of 1
Projec	et Redcar	DVA Initia	al Ground Investigatior	1 67807	79		C0-0105. 450697.00 - 5247.59.00	05/12/2016
Loooti		loor					Dimensions	Scale
Locali	1011. 331 Rec	ICAI					(m):	1:25
Client	: Homes	and Com	munities Agency		1	1	3.30	Logged FLM
ater rike	Sample	es and Ir	n Situ Testing	Depth	Level	Legend	Stratum Description	
≷ Ω	Depth	Туре	Results	0.02	(11)		MADE GROUND: Sinter	/
	0.20 - 0.70	LB		0.70			MGR MADE GROUND: Loose to medium dense gre GRAVEL with medium cobble content and occa boulders. Gravel is fine to coarse, angular and subangular of slag and clinker, occasional whit Cobbles are subangular of slag and clinker. Slig sulphur odour. Occasional coarse gravel-sized/ cobble sized metal.	/ sandy isional e ash. ght - small
	0.80 - 1.20	В					From 0.5 to 0.7m: Slightly darker colouration. MADE GROUND: Loose to medium dense slig clayey SAND and GRAVEL with low cobble cor occasional cobble-sized fragments of reworked grey firm laminated clay with coarse subangula (possible slag). Locally reddish brown. MGR	ntly itent and   brown 1 – r gravel
	2.10 - 2.30	В					Below 1.5m: Sidewalls unstable.	2 -
	2.50 - 2.80	LB		2.30			MADE GROUND: Medium dense grey slightly s slightly gravelly COBBLES and BOULDERS of clinker. MGR	sandy slag and
				2.90			MADE GROUND: Loose to medium dense slig clayey SAND and GRAVEL with low cobble co occasional cobble-sized fragments of reworked grey firm laminated clay with coarse subangula	htly ntent and 3 – I brown Ir gravel
				3.30			End of pit at 3.30 m	4 - 5 -
Rema Stabili	irks: ity:							AGS

								Trialpit No	)
	1 <b>2</b> /M:					Tri	al Pit Log	TPA24	
				Desian	-4 NI -		0	Sheet 1 of	1
Projec	ct Redcar I	DVA Init	ial Ground Investigation	Projec	21 NO. 70		C0-0fds: 456927.00 - 524726.00	Date 06/12/2016	6
				107007	5		Dimensions 4.2	Scale	<u> </u>
Locat	ion: SSI Red	car					(m):	1:25	
Client	:: Homes a	and Con	nmunities Agency				Depth ∾i	Logged TI	
ه م	Sample	s and I	n Situ Testing	Denth	l evel				
Wate Strik	Depth	Туре	Results	(m)	(m)		I Stratum Description MADE GROUND: Dark grev to black fine and m	nedium	
	0.50 - 0.80	В		3.40			gravel-sized sinter         MGR         MADE GROUND: Loose dark grey slightly sand GRAVEL with medium cobble content and low to of slag, clinker and rare burnt lime. Rare red bri fragments less than 50mmx30mmx20mm. MGR         Between 0.1 and 0.7m: Discontinuous layer of loose brow slightly sandy GRAVEL with occasional yellow refractory to 5-10% content.         Between 0.1 and 0.7m: Discontinuous layer of loose brow slightly sandy GRAVEL with occasional yellow refractory to 5-10% content.         Between 0.7 and 2.4m: Medium boulder content. Very slightly below 2.0m: Brownish grey.         Below 2.0m: Brownish grey.	ly poulder coarse ck mish grey pricks approx while sandy.	1
Rema Stabil	ity:	<u> </u>			· 		·	AGS	5

								Trialpit N	10
c/	1 <b>2</b> /M:					Tri	al Pit Log	TPA25	
				Draia	Project No		Co. order: 450007.00 524742.00	Sheet 1 of 1	
Projec	ct Redcar I	DVA Initi	al Ground Investigatior	1 Projec	678079		Co-ords: 456967.00 - 524712.00	Date 14/12/20	16
Looot				101001	•		Dimensions 4.3	Scale	
LUCAL	1011. 331 Reu	Cai					(m):	1:25	
Client	:: Homes a	and Corr	imunities Agency			1	3.10		נ 
ater rike	Sample	s and li	n Situ Testing	Depth	Level	Legend	Stratum Description		
₿ġ	Depth	Туре	Results	0.05	(11)			ad	
	0.40	B		0.05			MADE GROUND: Loose dark grey to black fine ar medium gravel-sized sinter MGR MADE GROUND: Loose reddish brown gravelly S with medium cobble and low boulder content. Grav fine medium and coarse, subangular and angular o clinker and yellow brick. Boulders are slag. MGR MADE GROUND: Loose becoming medium dense sandy GRAVEL with medium cobble and low to me boulder content. Gravel and cobbles are slag and Boulders are slag, up to 500 x 250 x 200mm. Som boulders have white crystallisation on outer surfac MGR Between 0.7 and 2.0m: Rare yellow 'refractory' brick. Between 0.7 and 2.0m: Rare yellow 'refractory' brick.	AAND vel is of slag, ag and e grey edium clinker. he slag je.	2
Rema	ırks:								5 — 
Stabil	ity:							AG	S

								Trialpit No	C
	1 <b>2</b> /M:			Tria			al Pit Log	TPA26	
				Desis	-4 N1-		Sheet		
Projec	ct Redcar	DVA Initi	al Ground Investigation	Projec	CT INO. 79		C0-0fdS: 457003.00 - 524697.00	Date 13/12/201	6
Loooti				01001	0		Dimensions 4.4 Scs		
Local	1011: 551 Red	icar					(m): م	1:25	
Client	: Homes a	and Corr	nmunities Agency				3.20	Logged TL	
e e	Sample	es and l	n Situ Testing	Depth	Level				
Wat Stril	Depth	Туре	Results	(m) 0.05	(m)		MADE GROUND: Dense dark grey fine grained	sinter	
	0.80	ES		0.80			MADE GROUND: Loose light grey very sandy G with medium cobble and low boulder content. G fine medium and coarse, angular and subangula clinker and rare yellow brick. Cobbles and bould slag. MGR Between 0.3 and 0.5m: Medium boulder content. MADE GROUND: Loose becoming medium den sandy GRAVEL with medium cobble and boulde content. Gravel is fine to coarse, subangular and of slag, clinker and burnt lime. Cobbles and bou slag and rare yellow brick (<5% content). Some fragments have white crystallisation on outer su MGR Between 1.1 and 1.4m: High boulder content.	RAVEL ravel is ar of slag, ers are se very r d angular Iders are slag rface.	1
	2.00 2.20 - 2.50	LВ В					Below 2.0m: Boulder size increasing.		2 —
►				3.20			End of pit at 3.20 m		3 —
									4
Rema Stabil	arks: ity:	· · · · · ·			<u> </u>	<u> </u>	·	AGS	S

								Trialpit N	٩٨
	<b>12</b> / <b>1</b> /:			Tr			al Pit Log	TPA27	
				D			0	Sheet 1 of 1	
Projec	ct Redcar I	DVA Initia	al Ground Investigation	Projec	21 NO. 70		Co-ords: 457042.00 - 524682.00		16
							Dimensions 4.6	Scale	
Locali	011. 331 Reu	Cal					(m):	1:25	
Client	: Homes a	and Com	munities Agency					Logged TL	נ 
Nater Strike	Sample Depth	es and In	Results	Depth (m)	Level (m)	Legend	Stratum Description		
				0.05			MADE GROUND: Dark grey to black fine gravel- sinter	-sized	
	0.30 - 0.60	В		0.60			MGR MADE GROUND: Loose dark greyish brown ver gravelly SAND with low cobble content. Gravel is and medium rarely coarse of slag and clinker. Ce are slag and red and yellow brick. MGR Note: Yellow 'Refractory' bricks are approx. 5 - 10% of total MADE GROUND: Loose grey very sandy become sandy GRAVEL with medium cobble and boulde content. Gravel is fine medium and coarse of sla some clinker. Cobbles and boulders are slag. MGR	y s fine obbles / <i>content.</i> ing r ig and	2
									5 -
Rema Stabili	rks:	. I					·	AG	I S

								Trialpit N	10
	<b>12</b> /M:					Tri	al Pit Log	<b>TPA28</b>	
	. 1			Droior	t No		Co. ordo: 457077.00 524662.00	Sheet 1 o	if 1
Name	et Redcar [	OVA Initi	al Ground Investigatior	67807	79		Level:	12/12/20 <sup>-</sup>	16
Locati	ion: SSI Red	car		1			Dimensions 3.7	Scale	
Loouti							(m):	<u>1:25</u>	4
Client	: Homes a	ind Corr	nmunities Agency				3.40	TL	1
er Ke	Sample	s and I	n Situ Testing	Depth	Level	Logong	Stratum Description		
Wat Stril	Depth	Туре	Results	(m)	(m)	Legend			
	0.20 - 0.50 0.50 2.70 - 3.00	BES		0.05 1.10 1.70 2.30 3.40			MADE GROUND: Medium dense dark grey fine medium gravel-sized sinter         MGR         MADE GROUND: Loose dark grey gravelly SAN low cobble and low boulder content. Gravel is fin medium and coarse, subangular and angular of clinker and red/yellow brick fragments. Cobbles boulders are slag and red/yellow brick, rare clink MGR         Greyish yellow gravelly SAND with low cobble content. Grave is for to coarse subrounded to subangular of slag. Cobbles are sof slag.         Below 1.0m: Pit unstable, undermined on 3 sides.         MADE GROUND: Loose dark grey very sandy C with medium cobble and boulder content. Grave imedium and coarse, subangular of slag and clin Cobbles and boulders are slag with rare red/yell MGR         MADE GROUND: Loose light grey with light bro patches sandy GRAVEL and COBBLES with moulder content. Gravel is fine medium and coar subangular of slag, rare clinker. Boulders are slag MGR         MADE GROUND: Loose to medium dense light grey sandy GRAVEL with low cobble and low be content. Gravel is fine and medium rarely coars subangular and angular of slag and clinker. Cob boulders are slag.         MADE GROUND: Loose to medium dense light grey sandy GRAVEL with low cobble and low be content. Gravel is fine and medium rarely coars subangular and angular of slag and clinker. Cob boulders are slag.         MGR       MADE GROUND: Loose to medium dense light grey sandy GRAVEL with low cobble and low be content. Gravel is fine and medium rarely coars subangular and angular of slag and clinker. Cob boulders are slag.         MGR       MADE GROUND: Loose to medium dense light grey sandy GRAVEL with low cobble and low be content. Gravel is fine and medium rarely coars subangular and angular of slag	and ID with Ne slag, and (er. avel is fine :ubangular BRAVEL d is fine ker. ow brick. wn edium rse, ag. brownish oulder e, bles and	1
Rema	ırks:								5 -
Stabili	ity:							AG	S

								Trialpit No	
<b>c</b>	<b>12/M:</b>					Tri	al Pit Log	TPA29	
				<u> </u>				Sheet 1 of 1	
Projec	ct Redcar	DVA Initi	al Ground Investigation	Projec	ct NO. 'O		Co-ords: 456839.00 - 524742.00	Date 05/12/2016	
Loooti		laar		070079			Dimensions 4.5	Scale	
Locau		icar					(m):	1:25	
Client	: Homes	and Con	nmunities Agency						
/ater trike	Sample	es and I	n Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
	0.50 - 0.80 0.80 - 1.00 1.50 - 1.70	LB B ES		0.05			MADE GROUND: Sinter         MGR         Top 0.5m: Occasional patches of white dust/sand. Possible ash on surface of slag.         MADE GROUND: Medium dense dark grey sar         GRAVEL and COBBLES with low boulder conted         Gravel is fine to coarse, angular to subrounded         clinker and occasional refractory brick/tile. Cobles         slag and clinker. Sand portion possibly ash with         clinker, all grey. Slight sulphur odour.         MGR         Below 0.8m: Slight lightening in colour.         MADE GROUND: Loose white and grey gravell         with low cobble content and white ash of burnt 1         Gravel is fine to coarse, angular and subangula         clinker and occasional lime/burnt lime. Cobbles         subangular and angular of clinker, slag and occ         red brick.         MGR         Below 1.7m: Medium dense.         From 1.7 to 1.85m: Pockets of red brick, approximately 40         volume.         Below 2.1m: Refractory bricks approximately 5-10% of tot         MADE GROUND: Dense dark orange brown sa         GRAVEL with low cobble content. Gravel is slag         clinker. Cobbles are slag and clinker.         MGR         Below 2.2m: Very dense/dense         Below 2.2m: Very dense/dense         Below 2.2m: Very dense/dense <tr< td=""><td>y burnt lime idy int. of slag, bles of slag and 1 - y SAND ime. r of slag, are asional 2 - 1% of total <u>al volume.</u> indy g and</td></tr<>	y burnt lime idy int. of slag, bles of slag and 1 - y SAND ime. r of slag, are asional 2 - 1% of total <u>al volume.</u> indy g and	
	3.10 - 3.30	В		3.30			GRAVEL. Gravel is fine to coarse, subangular a angular of clinker and slag occasionally lime an brick/tile. MGR	d yellow 3 -	
Rema Stabili	ity:							AGS	

								Trialpit I	No
	1 <b>2</b> M:					Tri	al Pit Log	TPA30	
								Sheet 1 of	of 1
Projec	ct Redcar I	DVA Initi	al Ground Investigatior		ct No. 70		Co-ords: 456872.00 - 524729.00	Date	116
				078079			Dimensions 4.3	Scale	
Locati	ion: 551 Red	car					(m):	1:25	
Client	: Homes a	and Con	nmunities Agency				3.00	Logge TL	d
r e	Sample	s and I	n Situ Testing	Depth	Level				
Wate Strik	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
	0.50 - 0.90	В		1.40			MADE GROUND: Dark grey to black tine and m gravel-sized sinter           MGR           MADE GROUND: Loose to medium dense dark sandy GRAVEL with low cobble content. Gravel cobbles are slag, clinker, yellow/red brick and re lime.           MGR           At 0.4m: Metal debris. Sheet approx. 500 x 300mm. Bar approx. diameter 500mm long.           Below 0.5m: Grey           Below 0.9m: Low boulder content. Slag.           MADE GROUND: Loose to medium dense light slightly sandy gravelly COBBLES with medium content. Gravel and cobbles are subangular of s clinker and burnt lime. Boulders are mostly slag clinker, up to 380 x 380 x 280mm.           MGR           Below 2.3m: Red brick and tile approx. 1-2% of total volum           Below 2.6m: Sandy.	grey and ire burnt prox 20mm grey poulder slag, rarely ne.	
Stabili	ity:							AC	I IS

								Trialpit I	No
	<b>12</b> / <b>M</b> :					Tri	al Pit Log	TPA31	
				Draia			Co. order: 450000.00 524712.00	Sheet 1	of 1
Projec	t Redcar I	DVA Initi	al Ground Investigation		21 NO. 79		Co-ords: 456908.00 - 524713.00	15/12/20	)16
Locati		car			•		Dimensions 4.4	Scale	) )
Lucau		cai					(m):	1:25	-1
Client	: Homes a	and Con	nmunities Agency				3.20	TL	a
Vater strike	Sample Depth	es and I	n Situ Testing Results	Depth (m)	Level (m)	Legenc	I Stratum Description		
Wate	Depth 0.60 2.30 - 2.60	ES	Results	(m) 0.02 0.60			MADE GROUND: Medium dense dark grey/blact         MADE GROUND: Loose light brownish grey sar         GRAVEL with low to medium cobble content. Gr         fine medium and coarse, subangular of slag occ         clinker. Cobbles are slag and rare yellow brick         fragments.         MGR         Between 0.1 and 1.0m: Strong ammonia odour.         At 0.5m: Large boulder. 1150 x 800 x 850mm. 'Conglomer.'         boulders.         MADE GROUND: Loose becoming medium der         very sandy GRAVEL with low to medium cobble         and low boulder content. Gravel is fine medium         coarse, subangular and angular of slag, clinker.         Cobbles and boulders are slag and clinker, rare         MGR         Below 1.5m: Low cobble content.         Between 1.5 and 2.7m: Medium boulder content.         Below 2.7m: Low boulder content.         Below 2.7m: Low boulder content.	ck sinter	
									5 -
Rema Stabili	rкs: ity:							AG	I IS

								Trialpit N	lo	
Ch	<b>12</b> /M:					Tri	al Pit Log	TPA32		
				<u> </u>				Sheet 1 of	eet 1 of 1	
Projec	rt . Redcar	DVA Initia	al Ground Investigation	Projec	ct NO. 70		Co-ords: 456940.00 - 524702.00	Date 07/12/20/	16	
				010010			Dimensions 4.8	Scale	10	
Locati	on: 551 Red	icar					(m):	1:25		
Client	: Homes	and Com	munities Agency				3.30	Logged TL	1	
/ater trike	Sample	es and Ir	n Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description			
≤ 0	Deptil	Type	Results	0.02			MADE GROUND: Dark grey to black fine and m	edium		
	0.70 - 1.00	В		0.70			gravel-sized sinter         MGR         MADE GROUND: Loose greyish brown and gre         GRAVEL with low cobble content. Gravel is fine         and coarse, sub angular and angular of clinker,         MGR         MADE GROUND: Loose becoming medium der         very sandy GRAVEL with low to medium cobble         boulder content. Gravel is fine, medium and coa         subangular rare angular of slag, clinker and poso         ore. Coarse gravels are mixed grey and reddish         MGR         Below 1.0m: No reddish brown iron ore.         Between 1.2 and 1.4m: Dark grey.         MADE GROUND: Loose locally dense grey sligl sandy GRAVEL with low cobble content and me boulder content. Gravel is angular and subangu medium and coarse of slag, rare clinker. Boulder slag.         MGR         At 3.1m: Hard layer of compacted slag. Slowed excavation         End of pit at 3.30 m	y sandy medium rare slag. Ise grey and low irse, sible iron brown. htly dium lar, fine rs are	2	
Rema	rks:								5 — 5 —	
Stabili	ity:							AG	S	
								Trialpit N	No	
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c/	1 <b>2</b> /M:					Tri	al Pit Log	TPA3	3	
				Draia			Co. ordov. 456077.00. 504696.00	Sheet 1 c	of 1	
Projec	ct Redcar I	DVA Initia	al Ground Investigation		21 NO. 79		C0-0rds: 456977.00 - 524686.00	Date 07/12/20	)16	
Looot					•		Dimensions 4.3	Scale		
LUCAL		Cal					(m):	1:25		
Client	:: Homes a	and Com	munities Agency				3.10	Logged	a	
er (e	Sample	es and Ir	n Situ Testing	Depth	Level	Lagana				
Wat Stri	Depth	Туре	Results	(m)	(m)	Legenc	Stratum Description			
	0.10 - 0.40	в		0.05			MADE GROUND: Dark grey to black fine and m gravel-sized sinter MGR MADE GROUND: Loose grey locally brownish of sandy GRAVEL with low cobble and low boulde Gravels are clinker and slag, rare red/yellow bri- MGR Between 0.5 and 0.7m: Greyish brown with approx. 5% ye brick content. MADE GROUND: Loose to medium dense grey becoming dark grey with depth sandy GRAVEL medium cobble and boulder content. Gravel, co and boulders are clinker and slag with some fer staining and white staining on edges. MGR At 0.7m: Large boulder. Conglomerate of slag. 950 x 600 : Between 0.7 and 1.1m: Medium grey. Between 0.7 and 1.1m: Medium grey. Between 0.7 and 1.1m: Medium grey.	redium grey r content. ck. illow/red with bbles rous x 500mm.	2	
Rema Stabil	ırks: ity:				<u> </u>	<u> </u>	1	AG		

								Trialpit N	No
Ch	<b>2</b> <i>M</i> :					Tri	al Pit Log	TPA3	<b>;4</b>
				Droing			Co. order: 457045.00 504670.00	Sheet 1 o	of 1
Projec	t Redcar	DVA Init	ial Ground Investigation	67807	9. NO.		Co-olds: 457015.00 - 524670.00	13/12/20	)16
Locati		loor		10.001	•		Dimensions 4.5	Scale	
LUCau		icai					(m): o	1:25	
Client:	Homes	and Con	nmunities Agency				3.10	TL	u
Vater štrike	Sample Depth	es and I	n Situ Testing Results	Depth (m)	Level (m)	Legend	I Stratum Description		
> 00	2000	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		0.05			MADE GROUND: Dark grey/black sinter		
	0.30 0.70 - 1.00	ES		0.60			MGR MADE GROUND: Loose grey very sandy GRAV medium cobble content. Gravel is fine medium is coarse, angular and subangular of clinker, slag lime. Cobbles are slag and clinker, rare red/yelle MGR <u>At 0.2m: Fragment of iron ore. 400</u> x 200 x 100mm. MADE GROUND: Medium dense dark brownish gravelly SAND with low cobble and low boulder Gravel is fine medium and coarse, subangular of and occasional yellow brick fragments. Cobbles boulders are slag and red/yellow brick. MGR	/EL with and and burnt ow brick. n grey content. of slag and	1 -
				1.20			MADE GROUND: Loose locally medium dense sandy GRAVEL and COBBLES with medium bo content. Cobbles and boulders are slag. Gravel medium and coarse, subangular and angular of clinker and rare yellow brick fragments. MGR	grey very bulder is fine slag,	2
Rema Stabili	rks: ty:	1			<u> </u>	1	1	AC	I S

								Trialpit No
Ch	<b>12/M:</b>				Tri	al Pit Log	TPA35	
				Desis	-4 NI -		0	Sheet 1 of 1
Projec	ct Redcar	DVA Initi	al Ground Investigatior		21 NO. 70		Co-ords: 457053.00 - 524657.00	Date 09/12/2016
				01001	5		Dimensions 4.1	Scale
Locati	ion: SSI Rec	icar					(m):	1:25
Client	: Homes	and Com	munities Agency				Depth ო 3.10	Logged TL
ater ike	Sample	es and li	n Situ Testing	Depth	Level	Legend	I Stratum Description	
ŝš	Depth	Туре	Results	0.05	(m)		MADE GROUND: Dark grey to black fine and r	nedium
	1.70 - 2.00 2.40 - 2.70	В		0.60			<ul> <li>MADE GROUND: Loose brownish grey very sa GRAVEL with high cobble content and low bou content. Gravel is fine medium and coarse, sub rarely angular mostly slag some clinker. Cobble slag, clinker and yellow brick. Boulders are slag MGR</li> <li>MADE GROUND: Loose dark brownish grey very GRAVEL with medium cobble content and med boulder content. Gravel is fine medium and coa subangular of slag and clinker. Cobbles and bo slag and clinker. MGR</li> <li>Below 0.7m: Boulder size increasing with depth. At 1.0m: Two large boulders. 1150 x 900 x 550mm and 16 800mm.</li> <li>MADE GROUND: Loose light grey very sandy with low to medium cobble content and low bou content. MGR</li> <li>MADE GROUND: Loose to medium dense ligh orangeish brown very sandy GRAVEL/gravelly with medium cobble content and low boulder co Sand is medium to coarse. Gravel is fine mediu coarse, angular and subangular of slag and clin coarse, angular and subangular of slag and clinker. Boulders are slag MGR</li> <li>End of pit at 3.10 m</li> </ul>	t SAND ontent. J. 300 x 1400 x GRAVEL Ilder 300 x 1400 x 300 x 1400 x 300 x 1400 x 300 x 1400 x 4 -
								5 -
Rema Stabili	ity:				<u> </u>			AGS

								Trialpit No	0
	<b>12</b> / <b>1</b> /:					Tri	ial Pit Log	TPB02	2
				Ducies	4 1.1		0	Sheet 1 of	1
Projec	ct Redcar I	DVA Initia	al Ground Investigation	Projec	rt NO. 'a		Co-ords: 456545.00 - 524906.00	Date 19/01/201	17
				01001	5		Dimensions 4.5	Scale	-
Locati	on: SSI Red	car					(m):	1:25	
Client	: Homes a	and Com	munities Agency		1	1	Depth   Ni     3.10	Logged TL	
Vater Strike	Sample Depth	es and In	Results	Depth (m)	Level (m)	Legend	d Stratum Description		
> 0)		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		0.05			MADE GROUND: Loose grey/black fine to med	ium	-
	0.30 - 0.60	В		0.20			MGR         MADE GROUND: Medium dense dark grey san         GRAVEL with low cobble content. Gravel is fine         medium, occasionally coarse, angular to subany         includes slag, clinker, yellow brick fragments an         lime. Cobbles are assorted types of slag and cli         some white staining.         MGR         Below 0.1m: Sulphur odour @ 0.5m: iron ~ 400 x 400 x 1         MADE GROUND: Loose light grey gravelly SAN         some white ash.         MGR         Below 0.1m: Sulphur odour @ 0.5m: iron ~ 400 x 400 x 1         MADE GROUND: Loose light grey gravelly SAN         some white ash.         MGR         Below 0.1m: Sulphur odour @ 0.5m: iron ~ 400 x 400 x 1         MADE GROUND: Medium dense light grey san         GRAVEL AND COBBLES with low boulder cont         abundant white ash/possible crystallisation. Gra         cobbles are poorly sorted, angular to subangula         clinker and occasional yellow brick fragments. E         are slag.         MGR         Below 1.5m: Ammonia odour         At 1.7m: Hard compacted slag layer	ady to gular and d burnt nker with <u>00mm</u> ND with <u>00mm</u> dy ent and avel and ar of slag, 3oulders	1
×	2.60	ES		2.40			MADE GROUND: Medium dense brownish grey GRAVEL with low cobble content and fragments and yellow brick. MGR	y sandy s of red	
				3.10			End of pit at 3.10 m		4
Rema Stabili	rks: ity:	<u> </u>			<u> </u>	1	1	AG	S

								Trialpit N	10
c/	1 <b>2</b> /M:					Tri	ial Pit Log	TPB0	3
								Sheet 1 o	of 1
Projec	ct Redcar	DVA Init	al Ground Investigation	Projec	ct No. 'a		Co-ords: 456603.00 - 524920.00	Date 23/01/20	17
				07007	9		Dimensions 4.6	Scale	
Locat	ion: SSI Red	car					(m): 4	1:25	
Client	:: Homes a	and Con	nmunities Agency				3.40	Logged TI	ł
e er	Sample	es and I	n Situ Testing	Depth	Level				
Wate Strik	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
	0.40 2.60 2.80 - 3.10	ES B		0.50 0.60			MADE GROUND: Loose to medium gravel sized SINTER MGR Below 0.2m: Sulphur odour MADE GROUND: Loose dark grey very gravelly S/ with low cobble content. Gravel is slag, clinker and occasionally yellow brick fragments, angular to subangular of slag, clinker and rare yellow brick MGR MADE GROUND: Loose grey very sandy GRAVEL low to medium cobble content. Gravel is slag, clink rare yellow brick fragments and lime. Cobbles are r slag, rare yellow brick fragments and clinker. Bould are slag. Some slag has white crystallisation on ou surface. Locally sandy gravel. MGR Below 1.5m: Dark grey. Refractory brick content < 5% of total Below 2m: Ammonia odour, slight End of pit at 3.40 m	rey/ R AND J lar to L with ker and mostly ders Jter al volume.	1
Rema Stabil	ity:				<u> </u>	<u> </u>		AG	。       

								Trialpit N	lo
	12M:					Tri	ial Pit Log	TPB0	4
							-	Sheet 1 o	of 1
Projec	ct Redcar I	DVA Init	ial Ground Investigation	Projec	ct No.		Co-ords: 456637.00 - 524872.00	Date	17
				0/00/	9		Dimensions 4.3	Scale	17
Locati	ion: SSI Red	car					(m):	1:25	
Client	: Homes a	and Cor	nmunities Agency				3.50	Logged TL	1
er (e	Sample	s and I	n Situ Testing	Depth	Level	Logon	d Stratum Description		
Wat Strij	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
	0.50	B		0.10			MADE GROUND: Loose dark grey/black coarse medium gravel - sized SINTER MGR MADE GROUND: Medium dense light brownist very gravelly SAND with medium cobble conter boulder content. Gravel is fine to coarse, anguli subangular of slag and clinker. Cobbles and bo slag, clinker, yellow brick and weak white tufa. Fragments of tufa throughout MGR <u>At 0.9m: Hard layer of compacted slag - Took 15 mins to p</u> From 0.9m to 1.4m: Medium to high boulder MADE GROUND: Medium dense grey very sar GRAVEL with medium cobble content and low 1 medium boulder content. Gravel is fine to coars angular to subangular of slag, clinker rare burm rare red and yellow brick fragments. Cobbles and clinker, re & yellow brick fragments and rare bu Boulders are mostly slag and some clinker. MGR	e sand to	1
Rema Stabili	ırks: ity:							AG	S

								Trialpit No	
	<b>12</b> /M:					Tri	al Pit Log	TPB05	
							_	Sheet 1 of 1	
Projec	ct Redcar	DVA Initi	al Ground Investigation	Projec	t No.		Co-ords: 456693.00 - 524882.00	Date	
				07007	9		Dimensions 5	Scale	
Locati	on: SSI Rec	lcar					(m):	1:25	
Client	: Homes	and Com	nmunities Agency				3.40	Logged TL	
ike	Sample	es and l	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wa Str	Depth	Туре	Results	(m)	(m)			se sand	
	0.70	B		0.50 0.60 1.10			MADE GROUND: Loose to medium dense light and the gravel - sized SINTER MGR At Om: Dense material. Pit located on an area used by he MADE GROUND: Loose to medium dense light sandy GRAVEL with very low cobble content. Of fine to coarse, angular to subangular of slag, si concrete fragments. MGR MADE GROUND: Medium dense dark grey slig gravelly SAND with low cobble content and rare low) boulders. Gravel and cobbles are of subar slag MGR MADE GROUND: Loose grey very sandy GRA medium cobble and low boulder content. Grave cobbles are slag, clinker occasionally. Yellow bu fragments and burnt lime. Boulders are slag. MGR From 1.5: medium boulder content Below 2.1m: Dark grey, very sandy.	avy plant. grey iravel is nter htty (very igular /EL with and ick and 2 3	
Rema	rks: ity:							AGS	

								Trialpit I	No
Ch	<b>12</b> / <b>1</b> /:					Tri	ial Pit Log	TPBC	)6
Droiog				Projec	t No		Co-ords: 456729.00 - 524834.00	Sheet 1	of 1
Name	: Redcar l	DVA Initi	al Ground Investigatior	67807	'9		Level:	20/01/20	)17
Locati	on: SSI Red	car		_			Dimensions 4.5	Scale	;
							(m): Depth من	1:25	d
Client	Homes a	and Com	imunities Agency		1	1	3.20	TL	ŭ
ke r	Sample	es and li	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wa Stri	Depth	Туре	Results	(m)	(m)				1
	0.20	ES		0.05			MADE GROUND: Loose dark grey/black coarse medium gravel - sized SINTER         MGR         MADE GROUND: Medium dense greyish brown SAND with low to medium cobble content and lo boulder content. Gravel is fine to coarse, angula subangular of slag, clinker rarely burnt lime and fragments. Cobbles and boulders are slag & clin occasionally yellow brick fragments.         MGR         MADE GROUND: Medium dense grey very graves SAND AND GRAVEL with medium cobble content low to medium boulder content. Gravel is fine to angular to subangular of slag, clinker rarely burnt Cobbles are slag, clinker and occasional red brin fragments. Boulders are slag.         MGR         Below 0.4m: Light grey with white ash tufa         Below 2.0m: Low boulder content         Below 2.5m: Boulder size increasing	e sand to n gravelly ow ar to brick hker velly ent and coarse, ht lime. ck	2 -
									4
Rema Stabili	rks: ty:							AC	

								Trialpit No	)
Ch	<b>12/M:</b>					Tri	al Pit Log	TPB08	3
				Ducies	4 1.1		0	Sheet 1 of	1
Projec	Redcar	DVA Initia	al Ground Investigation	67807	21 NO. 19		C0-010S: 450530.00 - 524880.00	18/01/201	7
Locati	ion: SSI Rec	lcar		10.001			Dimensions 3.7	Scale	
Locat							(m):	1:25	
Client	: Homes	and Com	munities Agency				3.40	TL	
ke r	Sample	es and Ir	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wa Stri	Depth	Туре	Results	(m)	(m)				
	0.30	ES		0.80			MADE GROUND: Loose dark grey black sinne MGR MADE GROUND: Medium dense grey gravelly with low cobble content and occasional boulders is fine to coarse, angular to subangular of slag, brick fragments. Cobbles are slag and clinker or yellow brick. Boulders are slag. Some gravel an white possibly ash or tufa. MGR MADE GROUND: Medium dense light grey grav SAND with medium locally high cobble and low boulder content. Gravel is slag, clinker burnt lim yellow brick fragments, cobbles and boulders ar clinker and brick fragments. No intact bricks see staining on some slag. MGR Below 1.0m: compacted slag, very dense, slow dig Below 1.5m: Medium boulder content. Suspected not natu hydraulic fill.	SAND s. Gravel clinker, ccasional d sand is velly medium ie and re slag, en. White	1
	1.70 - 2.00	В		2.20			MADE GROUND: Loose to medium dense yello brown slightly gravelly SAND with occasionally 300 x 200 x 200 of soft brown clay. Gravel is fin- medium, occasionally coarse, subangular to rou mixed lithologies. Some gravel not natural possi down. MGR	wish pockets > e to unded of ible drop	2
	3.00	ES		3.40			End of pit at 3.40 m		3
Rema Stabili	ity:	· · · · · ·			<u> </u>	<u> </u>	1	AGS	5

								Trialpit N	ю
<b>c</b> /	<b>12/M:</b>					Tri	al Pit Log	TPB1	0
				Droior	+ No		Co. ordo: 456655.00 524841.00	Sheet 1 of	† 1
Projec	Redcar	DVA Initi	al Ground Investigation	ורי ו67807	9 '9		Level	16/01/20 <sup>2</sup>	17
Locati	on: SSI Dog	loor		101001	-		Dimensions 4.5	Scale	<u> </u>
		icai					(m): oi	1:25	
Client	: Homes	and Con	nmunities Agency		1		3.20	Logged	
Vater trike	Sample	es and I	n Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
Vi Str	Depth 0.70 - 1.00 1.70 - 2.00	B	Results	(III) 0.05 1.50 3.20			MADE GROUND: Dark grey black gravel-sized MGR         Below 0.5m: Becoming medium dense         MADE GROUND: Loose light yellowish grey ve GRAVEL with low becoming medium cobble co low boulder content. Locally very gravely sand fine to coarse, angular to subangular of slag, cl burnt lime and some yellow brick. Cobbles are clinker burnt lime and yellow brick. Boulders ar MGR         MADE GROUND: Loose to medium, dense gree fine to coarse, angular to subangular of GRAVE medium cobble content and low boulder Grave clinker and occasional burnt lime. Cobbles are subangular of Slag, clinker rare yellow brick. Bu are slag. White staining tufa on some slag boul MGR         Below 2.0m: Tending to travel and cobbles	SINTER ry sandy intent and . Gravel is inker, slag, e slag. y sandy EL with I is of bulders iders.	1 - 2 - 3 - 4 -
Rema Stabili	rks: ity:							AG	l S

								Trialpit N	٩٨
	1 <b>2</b> /M:					Tri	al Pit Log	TPB1	2
Desis				Projec	st No		Co. ords: 456688.00 524820.00	Sheet 1 o	of 1
Name	et Redcar	DVA Init	ial Ground Investigatior	67807	79		Level:	16/01/20	17
Locati		lear			-		Dimensions 4.5	Scale	
							(m): 4	1:25	
Client	: Homes	and Cor	nmunities Agency				3.20		1
/ater trike	Sample	es and	n Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
≤ \0	Depth	туре	Results	()	(,		MADE GROUND: Loose dark grey black gravell	y SAND	
	0.30	ES		0.70			with low cobble content and rare boulders. Gravito coarse, angular to subangular of slag and clin brick fragments. Cobbles and boulders are slag, and yellow and red brick fragments MGR At OM: TPB12 moved 10m west due to drain shown on set MADE GROUND: Loose light brownish grey ver fine to coarse, angular to subangular GRAVEL w	él is fine ker and clinker <i>rvice plan.</i> y sandy vith	
	1.00 - 1.30	В					medium cobble content and low boulder content is mostly slag with clinker, cobbles and boulders slag. MGR Below 1.0m: Gravelly sand. Below 1.0m: Ammonia odour	/itn . Gravel are	1
				3 20			Below 2.0m: Grey, less sandy.		2
				3.20		××××××××	End of pit at 3.20 m		4
Rema Stabil	ırks: ity:							AG	J S

								Trialpit N	٩٨
Ch	<b>12/M:</b>					Tri	al Pit Log	TPH0	)2
				<u> </u>				Sheet 1 o	of 1
Projec	ct Redcar	DVA Init	ial Ground Investigatior		ct NO.		Co-ords: 456617.00 - 525092.00	Date	17
				07807	9		Dimensions 4.5	Scale	17
Locati	on: SSI Red	dcar					(m): 4	1:25	
Client	: Homes	and Cor	nmunities Agency		1		2.10	Logged TL	Ł
Vater strike	Sampl Depth	es and I	n Situ Testing Results	Depth (m)	Level (m)	Legend	Stratum Description		
Rema	0.70	ES		0.10			MADE GROUND: Grass over TOPSOIL: mediu dark brown/black slightly gravelly sandy SILT w numerous rootlets. TPS MADE GROUND: Medium dense grey gravelly with medium cobble and low boulder content. G fine to coarse, angular to subangular of slag, cli brick and concrete. Cobbles and boulders are n slag, rarely clinker, occasional intact red and ye brick. Rare wire and metal waste. Rare pockets brownish grey and dark grey - possibly sah/sint sand content. Some slag has white crystallisatic edges. MGR Very dense <u>Suftrr odour</u> Very gravelly <u>Steel H-Beam ~1m long</u>	m dense ith	2
Stabili	ity:							AG	S

								Trialpit No	D
<b>c</b>	<b>12/M:</b>					Tri	al Pit Log	TPH03	3
				D			0	Sheet 1 of	1
Projec	Redcar	DVA Initi	al Ground Investigatior		CT INO. 70		Co-ords: 456655.00 - 525078.00	Date 14/02/201	7
				01001	0		Dimensions	Scale	
Locau	on: 551 Red	car					(m):	1:25	
Client	: Homes a	and Com	munities Agency		1		0.80	Logged TL	
/ater trike	Sample	es and li	n Situ Testing	Depth (m)	Level (m)	Legenc	I Stratum Description		
Rema	rks:			0.10			MADE GROUND: Grass over TOPSOIL: Mediu dark brown/black slightly gravelly sandy SILT w cobbles and abundant rootlets. TPS MADE GROUND: Medium dense grey very gra SAND with medium to high cobble content and medium boulder content. Gavel is fine to coarse to subangular and includes slag, clinker and so fragments. Cobbles and boulders are mostly sla some clinker and red/refractory brick. Occasion pockets (<500x200x400mm) of greyish brown of sand. Some slag pieces have white crystallisati outer edge. MGR Very dense, compacted End of pit at 0.80 m	m dense ith rare velly low to e, angular me brick ag with al :layey on on the	1 2 3 
Stabili	ity:							AGS	S

								Trialpit N	٧o
Ch	<b>2</b> <i>M</i> :					Tri	ial Pit Log	TPH0	)4
							_	Sheet 1 c	of 1
Projec	t . Redcar l	DVA Initia	al Ground Investigation	Projec	ct No. vo		Co-ords: 456701.00 - 525080.00	Date	17
Leasti	en: CCI Ded			107 007	5		Dimensions 3.6	Scale	
Locali		Cal					(m): o	1:25	
Client:	Homes a	and Com	munities Agency				2.50	Logged AC	a
ter ke	Sample	es and Ir	n Situ Testing	Depth	Level		Stratum Description		
Wa Stri	Depth	Туре	Results	(m) 0.10	(m)		MADE GROUND: Grass over dark brown/black TOPSOIL.	silty	-
	0.90	ES					TPS MADE GROUND: Light grey and dark greyish b very sandy medium to coarse, angular to suban GRAVEL of slag and red brick with cobbles and boulders. Occasional whole refractory and red b MGR	rown gular ricks.	
							Occasional metal bars. Yellowish		
▼	2.40	ES		2.50			<u>Slightly clayey</u> End of pit at 2.50 m		2
									3
									4
									5 -
Remai	rks: ty:	<u> </u>			<u>.</u>	1	1	AG	J

								Trialpit I	No
<b>c</b> /	1 <b>2</b> /M:					Tri	al Pit Log	TPHO	)5
				Droior	at No.		Co. ordo: 456744.00 525064.00	Sheet 1 o	of 1
Projec	ct Redcar I	DVA Init	ial Ground Investigatior	167807	79. 79		C0-0105. 450744.00 - 525004.00	25/04/20	)17
				101001	0		Dimensions 3.2	Scale	<u>, , , , , , , , , , , , , , , , , , , </u>
Locali	ION: SSI Red	car					(m):	1:25	
Client	: Homes a	and Cor	nmunities Agency				2.30	Logge JNB	d
ter ke	Sample	es and	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wat Stri	Depth	Туре	Results	(m)	(m)				1
	0.40 - 1.10 1.10 - 1.80 1.10 - 1.80	ES		0.20			TOPSOIL TPS MADE GROUND: Loose greyish brown slightly very gravelly fine to coarse SAND with low cob boulder content. Gravel is of slag, red and refra brick and lime (?). MGR Grey very sandy gravel. MADE GROUND: Soft to firm brown and white sandy slightly gravelly CLAY with a low cobble Gravel is of red and refractory brick and slag. MGR Increased sand and gravel content End of pit at 2.30 m	clayey ble and actory slightly content.	2
Rema	ırks:							AG	5 – I

-								Trialpit No
Ch	<b>2</b> <i>M</i> :					Tr	ial Pit Log	TPH06
Draiaa				Projec	et No		Co-ords: 456782.00 - 525054.00	Sheet 1 of 1
Name:	Redcar	DVA Initi	al Ground Investigatior	1 67807	79		Level:	25/04/2017
Locatio	on: SSI Re	dcar					Dimensions 3.5	Scale
							(m): Depth	1:25
Client:	Homes	and Con	nmunities Agency		1		2.80	AC
Vater strike	Sampl	Type	n Situ Testing Results	Depth (m)	Level (m)	Legend	d Stratum Description	
	0.50 2.50 3.00	ES ES D	Results	<ul> <li>(III)</li> <li>0.10</li> <li>1.10</li> <li>1.90</li> <li>3.10</li> </ul>			MADE GROUND: Grass over dark brown slight gravelly sandy slity TOPSOIL. TPS MADE GROUND: Grey brown clayey gravelly S with cobbles. Gravel is fine to coarse grey slag Fragments and whole red and refractory brick. Occasional fragments of cloth. Occasional cobb lumps of black clayey material and decompose MGR MADE GROUND: Greyish brown clayey gravel with occasional fragments of brick concrete and organic matter. MGR Slightly gravelly sand, occasional intact yellow brick MADE GROUND: soft to firm grey gravelly very CLAY. Gravel is fine to coarse, angular to subal and includes slag, whole and fragmented red b concrete. Fragments of wood. MGR	tly SAND Dele sized d wood. 1 ly SAND d black 2 rick and 3 - 3
								5 -
Remar Stabilit	rks: ty:					·		AGS

								Trialpit N	No
<b>c</b>	1 <b>2</b> /M:					Tri	al Pit Log	TPH0	)7
				Draias	t Nia		Co. order: 450024.00, 525020.00	Sheet 1 c	of 1
Proje	ct Redcai	<sup>-</sup> DVA Initi	al Ground Investigatior	Projec	21 NO. 19		C0-0fdS: 456821.00 - 525026.00	16/02/20	)17
				101001	0		Dimensions 3.2	Scale	
Locat	1011: 551 Re	acar					(m):	1:25	
Client	t: Homes	and Com	nmunities Agency				2.10	Loggeo LK	d
л e	Samp	les and l	n Situ Testing	Depth	Level				
Wate Strik	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
	0.50	ES		0.20			MADE GROUND: Grass over brown and very da slightly gravelly silty SAND with abundant rootled Gravel is fine to coarse subrounded to subangul slag and coke. TPS MADE GROUND: Greyish brown very sandy GR with abundant cobbles and occasional boulders. pockets of firm brown clay in the upper metre. G fine to coarse subrounded to subangular of slag. whitish slag. Cobbles and boulders of slag. Occa brick fragments (red, refractory) Rare scrap meta wood, plastic and glass fragments. Lump of tufa 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 who refractory) slightly clayey at the bottom 0.5m. Ev of Oil on bricks. MGR	ark grey s. ar of VAVEL Some ravel is some asional al, small at e. cle (red, ridence	
				2.10			End of pit at 2.10 m		3
Rema Stabil	arks:							AG	J IS

								Trialpit No	
c/	1 <b>2</b> /M:					Tri	al Pit Log	TPH09	
								Sheet 1 of 1	
Projec	ct Redcar	DVA Init	ial Ground Investigatio	n Projec	ct No.		Co-ords: 456636.00 - 525136.00	Date	
	<i>.</i>			07007	9		Dimensions 3.9	14/02/2017 Scale	
Locati	ion: SSI Re	dcar					(m):	1:25	
Client	:: Homes	and Cor	nmunities Agency				Depth $\breve{e}$	Logged LK	
/ater trike	Sampl	Type	n Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
	0.40	ES		0.20			MADE GROUND: Grass over dark brown grave SAND with abundant rootlets. Gravel is fine to subrounded to subangular of predominately sla some coke. Rare brick fragments. MGR MADE GROUND: Grey slightly sandy GRAVEL abundant cobbles and rare boulders. Gravel is coarse subrounded to subangular of slag. Rare metal fragments. 2 cables/pipes at 0.6m. Yello gravelly SAND around them. Gravel is fine to co slag. TP terminated due to pipes/cables. MGR <u>TP Terminated at 0.6m due to pipes / cables being discov</u> End of pit at 0.60 m	elly silty coarse g and with fine to scrap w slightly parse of ered 1 2 3 3 4	
Rema Stabil	arks: ity:							AGS	

								Trialpit N	No
Ch	<b>12/M:</b>					Tri	al Pit Log	TPH1	0
				<u> </u>				Sheet 1 c	of 1
Projec Name	ct Redcar	DVA Initia	I Ground Investigatio	n Projec	CT NO. 79		CO-ords: 456674.00 - 525116.00	Date 14/02/20	)17
				01001	0		Dimensions 3.8	Scale	
Locati	001: 551 Red	icar					(m):	1:25	
Client	: Homes	and Comr	nunities Agency				2.40	Loggeo I K	d
ت م	Sample	es and In	Situ Testing	Denth	Level				
Wate Strik	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
	1.50 1.70 - 2.00	ES B		0.10			MADE GROUND: Grass over dark brown signity gravelly sitty SAND. Gravel is fine to coarse subro to subangular of slag. TPS MADE GROUND: Grey slightly sandy GRAVEL w frequent cobbles and rare boulders. Gravel is fine coarse subrounded to subangular of slag, whitish Rare brick fragments (red, refractory). MGR MADE GROUND: Greyish brown slightly gravelly Gravel is fine to coarse subrounded to subangula Difficult to tell lithologies due to sand, probably sis Rare very small shell fragments. Rare cobbles of Some very dark grey coloured layers, some pock dark brown clay in the upper part. MGR TP Terminated at 2.4m due to groundwater End of pit at 2.40 m	sunded rith to slag. SAND. r. ag. slag. ets of	1 2 3 4 5
Rema Stabili	rks: ity:							AC	I S

								Trialpit N	No
<b>c</b> /	12M					Tri	al Pit Log	TPH1	11
				Ducies	4 1.1		0	Sheet 1 c	of 1
Projec	ct Redca	r DVA Initi	al Ground Investigation	Projec 1 67807	21 NO. 19		Co-oras: 456711.00 - 525095.00	Date 16/02/20	)17
Looot		dear		101001	•		Dimensions 4.2	Scale	
LUCAL	1011. 331 Ke	sucai					(m): v.	1:25	
Client	t: Homes	s and Corr	nmunities Agency		1	T			a
Vater strike	Samp Depth	Type	n Situ Testing Results	Depth (m)	Level (m)	Legend	Stratum Description		
▼.	1.70	ES		0.20			MADE GROUND: Grass over dark greyish brown gravelly silty SAND with abundant cobbles. Grav to coarse subrounded to subangular of slag and TPS MADE GROUND: Brown very sandy gravel to ve gravelly SAND with abundant cobbles and freque boulders. Some firm brown and light brown clay Gravel is fine to coarse subrounded to subangula some whitish slag. Cobbles and boulders of slag slag. Rare wood fragments, one is up to 1.5m lor glass fragments, railway line, wood sleepers, free bricks (mostly broken, red 50% and 50% refracto occasional scrap metal, wood fragments at the b TP (associated with railway line) slightly clayey to bottom, slight hydrocarbon odour. MGR	Ty el is fine coke.	
Stabil	lity:							AG	S

								Trialpit N	ю
Ch	<b>12/M:</b>					Tri	al Pit Log	TPH1	2
					1.51.		0	Sheet 1 of	f 1
Projec	rt Redcar	DVA Init	ial Ground Investigation		21 NO. 20		Co-ords: 456760.00 - 525088.00	Date 15/02/20/	17
				07007	5		Dimensions 47	Scale	
Locati	on: SSI Rec	Icar					(m): 4	1:25	
Client	: Homes	and Cor	nmunities Agency		1		Depth	Logged LK	1
Nater Strike	Sample Depth	es and I	n Situ Testing Results	Depth (m)	Level (m)	Legend	Stratum Description		
Rema	1.00 - 1.30	В		0.20			MADE GROUND: Grass over dark brown gravel SAND with abundant rootlets. Gravel is fine to co subrounded to subangular of slag. Rare gravel s fragments. TPS MADE GROUND: Brownish grey very sandy GR with frequent cobbles, occasional boulders and r large boulders. Gravel is fine to coarse subround subangular of slag, whitish slag. Cobbles and bo of slag, whitish slag. Occasional bricks, both who broken (red, refractory). Layer of abundant red b with black material underneath, between 0.8-1.2 side looking at excavator. MGR <u>TP Terminated at 1.9m due to grou</u> ndwater End of pit at 1.90 m	y silty parse ize brick AVEL are led to ulders ble and ricks m at the	1
Stabili	ity:							AG	S

								Trialpit No
Ch	<b>12</b> /M:					Tri	ial Pit Log	TPH13
				<b>D</b>				Sheet 1 of 1
Projec	ct Redcar	DVA Initia	al Ground Investigatior	1 Projec	CT INO. 79		Co-ords: 456801.00 - 525072.00	Date 16/02/2017
				01001	0		Dimensions 3.8	Scale
Locau	001: 551 Rec	icar					(m):	1:25
Client	: Homes	and Com	imunities Agency		1	T	2.00	Logged TL
/ater trike	Sample	es and Ir	n Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description	
	0.50	ES	Kesults	0.10			MADE GROUND: Grass over TOPSOIL: Loose of brown slightly gravelly silty SAND with numerous rootlets. TPS MADE GROUND: Medium dense brownish grey gravelly SAND with medium cobble and low boul content and numerous pockets (<100x50x50mm brown sandy clay. Gravel is fine to coarse, angul subangular of slag, clinker and red/refractory bric Cobbles are mostly slag with some brick. Boulde slag, rarely intact brick. MGR MADE GROUND: Stiff greyish brown sandy grav CLAY with pockets of very gravelly sand through MGR	iark very der ) of stiff ar to k. rs are elly out. 1 - 2 - 3 - 3 - 5 -
Stabili	ity:							AGS

								Trialpit N	٧o
	1 <b>2</b> /M:					Tr	ial Pit Log	TPH1	4
								Sheet 1 c	of 1
Projec Name	ct Redcar I	ova Init	al Ground Investigation	Projec	rt No. '9		Co-ords: 456836.00 - 525062.00 Level:	Date 16/02/20	)17
Locati	ion: SSI Red	car		1			Dimensions 3.8	Scale	
							(m): Depth	1:25	d
Client	: Homes a	ind Con	nmunities Agency		1	T	2.50	LUGGGEC	2
Nater Strike	Sample Depth	s and I Type	n Situ Testing Results	Depth (m)	Level (m)	Legend	d Stratum Description		
Rema	2.00 2.10 - 2.30	ES B		0.10			MADE GROUND: Grass over dark brown silty of SAND with abundant rootlets. Gravel is fine to of subrounded to subangular of slag. TPS MADE GROUND: Grey sandy GRAVEL with ab cobbles and boulders of slag. 1 large boulder 1 Occasional brick fragments (red, refractory). MGR MADE GROUND: Firm brown sandy gravelly C occasional cobbles. Gravel is fine to coarse sub to subangular of slag. Cobbles are of slag. Poc firm clay, rare small wood fragments. MGR TP Terminated at 2.5m due to groundwater - fast inflow End of pit at 2.50 m	undant to sh slag. m long.	2
Stabili	ity:							AG	I S

								Trialpit No
	<b>12/M:</b>					Tri	ial Pit Log	TPH16
				<b>D</b>			0	Sheet 1 of 1
Projec	Redcar	DVA Initi	al Ground Investigation	Projec	CT INO. 70		Co-ords: 456644.00 - 525177.00	Date 14/02/2017
				01001	0		Dimensions 4.2	Scale
Locati	on: SSI Red	Icar					(m):	1:25
Client	: Homes a	and Com	nmunities Agency				2.60	Logged TL
ater rike	Sample	es and l	n Situ Testing	Depth	Level	Legend	d Stratum Description	
	0.70 1.40 - 1.70 2.20	ES	Results	(m) 0.10 0.90 2.60	(m)		MADE GROUND: Grass over TOPSOIL: Loose brown/black silty sand with abundant fine to coa subangular gravel of coke and numerous rootlet TPS MADE GROUND: Medium dense brownish grey SAND with medium cobble content and rare poc (<500x300x300mm) of stiff brown sandy clay. Gine to coarse, angular to subangular of slag, clir occasional brick fragments. Cobbles are mostly lesser red and yellow brick (silica and refractory) MGR MADE GROUND: Medium dense grey gravelly of SAND with medium cobble content and rare bou Gravel is fine to coarse, angular to subangular o clinker and brick fragments. Cobbles are slag and Boulders are slag rarely intact yellow and red brick casional wire casing. Locally very clayey to sa clay. MGR	dark rse s. gravelly kets 'avel is iker, slag, ' 'alayey ilders. f slag, id brick. ick with indy 2 - 3 - 3 -
Rema	rks: ity:						1	AGS

								Trialpit N	٩٥
ch	<b>2</b> <i>M</i> :					Tr	ial Pit Log	TPH1	7
							_	Sheet 1 of 1	
Project Name:	t Redcar I	DVA Initi	al Ground Investigatior	Projec 1 67807	ct No. ′9		Co-ords: 456687.00 - 525161.00 Level:	Date 14/02/20	17
Locatio	on: SSI Red	lcar					Dimensions 4.3	Scale	
							Depth	1:25 Logged	d
Client:	Homes a	and Com	imunities Agency		1		2.40	TL	
Nater Strike	Sample Depth	es and li	n Situ Testing Results	Depth (m)	Level (m)	Legend	d Stratum Description		
Reman	'ks:			2.40			MADE GROUND: Grass over TOPSOIL: Media dark grey/black slightly gravelly sandy SILT. Gr medium to coarse of coke. TPS MADE GROUND: Loose yellowish grey slightly SAND with rare cobbles. Gravel is subangular rounded. Cobbles include occasional red brick and some intact. Occasional linear bands of de black sand. Rare wood fragments, plastic wast concrete fragments. MGR <u>2m wide piece of reinforced concre</u> te <u>End of pit at 2.40 m</u>	um dense avel is / gravelly to fragments ark grey to e and	1 2 3 
Stabilit	t <b>y</b> :							AG	S

								Trialpit N	0
<b>c</b> /	1 <b>2/M</b> :					Tri	al Pit Log	TPH18	
				Draia			Co. ordo: 456722.00 525146.00	Sheet 1 of	t 1
Projec	ct Redcar	DVA Init	ial Ground Investigatio	n 67807	20 NO. 29		C0-0105. 430733.00 - 523140.00	15/02/201	17
					•		Dimensions 3.7	Scale	
Local	1011: 551 Red	car					(m):	1:25	
Client	:: Homes	and Cor	nmunities Agency				Depth ∾ 2.20	Logged	I
/ater trike	Sample	es and	In Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
Rema	1.30	ES		0.20			MADE GROUND: Grass over dark grey silty sal gravel with abundant rootlets. Gravel is fine to n coke (predominately) and slag. TPS MADE GROUND: Greyish brown very gravelly 3 with frequent cobbles, occasional boulders, rare boulders and occasional clay pockets. Gravel is coarse subrounded to subangular of slag, cobbl boulders of clay, some whitish slag, occasional 50/50 broken/whole (red, refractory) frequent to the bottom of TP. Rare wood and scrap metal fr Occasional clay pockets, greyish brown with ligi and black patches. Rare slate, glass and pottern fragments. Very sandy slightly clayey/silty grave bottom of the TP. MGR TP Terminated at 2.2m due to groundwater	ndy nedium of SAND large fine to es and bricks, wards agments. nt brown / l at the	1 2 
Stabil	ity:							AG	S

								Trialpit N	٩٥
Ch	<b>12</b> /M:					Tri	al Pit Log	TPH1	9
								Sheet 1 o	of 1
Projec	t . Redcar	DVA Init	ial Ground Investigation		ct No.		Co-ords: 456775.00 - 525128.00	Date	17
	·			07007	9		Dimensions 3.6	Scale	17
Locati	on: SSI Rec	lcar					(m):	1:25	
Client	: Homes	and Con	nmunities Agency		1		Depth N 2.10	Logged TL	ţ
Nater Strike	Sample Depth	es and I	n Situ Testing Results	Depth (m)	Level (m)	Legend	Stratum Description		
.▼ Rema	0.80 rks:	ES		2.10			MADE GROUND: Grass over TOPSOIL: loose v brown/black slightly gravelly sandy SILT with abu rootlets. Gravel is medium to coarse, some fine, subangular of coke and assorted lithologies TPS MADE GROUND: Medium dense dark grey grav SAND with low to medium cobble and low bould content. Gravel is fine to coarse, angular to suba of slag, clinker, some brick fragments and contre Cobbles are slag, some brick fragments and contre Cobbles are slag and occasional intact refractor Bricks ~5-10% of total volume. Rare scrap metal MGR Nery dense Numerous intact refractory bricks Rare partially decomposed wood waste	ery dark Indant	1 2 3 4 5
Stabili	ity:							AG	S

								Trialpit N	ю
Ch	<b>12</b> /M:					Tri	al Pit Log	TPH2	0
				<u> </u>				Sheet 1 of	f 1
Projec	t Redcar	DVA Initi	al Ground Investigation	Projec	a NO.		Co-ords: 456818.00 - 525115.00	Date 15/02/202	17
				101001	0		Dimensions 4.2	Scale	
Locau	011: 551 Rec	icar					(m):	1:25	
Client	Homes	and Com	imunities Agency				2.20	Logged LK	i
ike	Sample	es and li	n Situ Testing	Depth	Level	Legenc	Stratum Description		
št	Depth	Туре	Results	(m)	(m)		MADE GROUND: Grass over dark brown silty gra	avelly	
	2.00	ES		0.20			MADE GROUND: Grass over dark brown silty grashing solution and the subangular of slag. Rare brick frag (red). TPS MADE GROUND: Brown very gravelly sand to vere sandy GRAVEL with abundant cobbles, occasion boulders and rare large boulders. Rare clay pock Gravel is fine to coarse subrounded to subangular slag. Cobbles and boulders are of slag. Frequent mostly broken (red, refractory). Rare tile fragmen (pipe?), wood and pottery fragments. MGR MADE GROUND: Stiff greyish brown mottled blaslightly gravelly CLAY. Gravel is fine to coarse subrounded of sandstone and possibly slag. MGR	avelly arse gments :ry al ets. Ir of bricks, ts ck,	1
Rema	rks:								4
Stabili	ity:							AG	S

								Trialpit I	No
	1 <b>2</b> M:					Tri	al Pit Log	TPH2	21
								Sheet 1 o	of 1
Projec	ct Redcar I	DVA Init	al Ground Investigatior	1 Projec	21 NO. 79		C0-0f0S: 450857.00 - 525106.00	Date 16/02/20	)17
Locati	ion: SSI Ded	car		101001	•		Dimensions 3.6	Scale	)
Lucau		cai					(m):	1:25	
Client	:: Homes a	and Con	nmunities Agency				2.40	TL	u
ke r	Sample	s and I	n Situ Testing	Depth	Level	Legend	Stratum Description		
<u>≥ ಭ</u>	Depth	Туре	Results	0.20			MADE GROUND: Grass over TOPSOIL: Dark bi silty SAND with gravel and rootlets. TPS MADE GROUND: Medium dense, locally dense, grev very gravely SAND with low to medium col	rown , dark	
	1.60	ES		2.40			End of pit at 2.40 m	oble and a fine to ick (red/ ick.	
									5 -
Rema	arks:	1			<u> </u>	1	1		
Stabili	ity:							AC	S

								Trialpit N	No
<b>c</b>	1 <b>2</b> /M:					Tr	ial Pit Log	TPH2	23
							_	Sheet 1 o	of 1
Proje	ct Redcar I	DVA Initi	al Ground Investigation	Projec	ct No. 70		Co-ords: 456658.00 - 525224.00	Date	17
				07007	9		Dimensions 4.3	Scale	/1/
Locat	ion: SSI Red	car					(m):	1:25	
Client	t: Homes a	and Con	nmunities Agency		1	1	3.60	Logged LK	d
iter ike	Sample	es and I	n Situ Testing	Depth	Level	Legend	Stratum Description		
Str Str	Depth	Туре	Results	(m)	(m)			abtly silty	
	1.50 2.50 - 2.80 3.40	ES		0.20 0.30			Image: start of the start	ND to pravel is odour. agments,	2
Stabil	lity:							AG	I S

								Trialpit N	10
<b>c</b> /	1 <b>2</b> /M:					Tri	ial Pit Log	TPH2	4
				Ducies	-4 NI		0	Sheet 1 o	of 1
Projec	ct Redcar I	DVA Init	ial Ground Investigatior		21 NO. 70		Co-ords: 456702.00 - 525204.00	Date	17
				101001	5		Dimensions 4.3	Scale	
Locat	ion: SSI Red	car					(m):	1:25	
Client	: Homes a	and Cor	nmunities Agency				2 70	Logged	1
ater rike	Sample	s and	n Situ Testing	Depth	Level	Legend	Stratum Description		
ŝ	Depth	Туре	Results	(11)	(11)			thy clayey	
Rema	2.30 rks:	ES		0.20			MADE GROUND: delass over dark brown sign gravelly SAND with frequent cobbles and abum rootlets. Gravel is fine to coarse subrounded to subangular of slag and coke. Rare brick fragme refractory). TPS MADE GROUND: Brown very gravelly to grave with frequent cobbles and occasional boulders slag. Greyish brown from around 1m. Gravel is coarse subrounded to subangular of slag. Occa bricks, both broken and whole (red, refractory). scrap metal fragments up to 1m long. MGR MADE GROUND: Dense brownish grey slightly SAND. Gravel is fine to coarse subrounded to subangular of various lithologies (difficult to tell sand). Some beach pebbles, possibly slag. Rar fragments. Occasional rootlets and black patch hydrocarbon odour. MGR	' gravelly due to 'e shell es. Slight	1 - 2 - 3 - 5 -
Stabil	ity:							AG	J S

				Trialpit No
ch2m:		ial Pit Log	TPH25	
	Draig at N	la.	Co. ordo: 456744.00 505485.00	Sheet 1 of 1
Project Name: Redcar DVA Initial Ground Investigation	Project N	10.	C0-0rdS: 456744.00 - 525185.00	Date 15/02/2017
Leastion: SSI Dedeer	0.0010		Dimensions 3.4	Scale
			(m):	1:25
Client: Homes and Communities Agency			2.20	Logged TL
Samples and In Situ Testing	Depth L	evel Logon	Stratum Description	
현 현 전 Depth Type Results	(m)	(m)	Stratum Description	
Solution     Depth     Type     Results       1.20     ES	2.20 (m)		MADE GROUND: Grass over TOPSOIL: loose brown/black slightly silty gravelly SAND. TPS         MADE GROUND: Medium dense brownish gre SAND with low to medium cobble and low boul content with pockets (<500x400x300mm) of sti sandy clay. Gravel is fine to coarse subangular angular of slag, clinker, possibly mortar or som concrete. Cobble and boulders are mostly slag some clinker and possible lime material. Occas wood pieces, partially decomposed up to 500m Some small pockets of black possibly ashy mat MGR	very dark y gravelly der ff brown to e with ional m long. ierial. 1 - 2 - 3 - 3 -
Remarks:				AGS

								Trialpit N	No
	1 <b>2</b> /M:					Tri	al Pit Log	TPH2	26
	.1			Broior	t No		Co. ordo: 456788.00 525175.00	Sheet 1 c	of 1
Projec	et Redcar	DVA Init	ial Ground Investigatio	n 67807	20 NO. 29		C0-0108. 430766.00 - 523175.00	15/02/20	)17
Locati		door		101.001	•		Dimensions 3.5	Scale	, ,
LUCat		ucai					(m): v	1:25	
Client	: Homes	and Cor	nmunities Agency		1		2.20	Logged	a
Vater trike	Samp Depth	Type	n Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
	0.60 1.50	ES		0.10			MADE GROUND: Grass over TOPSOIL: Loose brown/black slightly gravelly slightly sitty SAND numerous rootlets with abundant coke, ash and TPS MADE GROUND: Medium dense brownish gre gravelly SAND with medium cobble content and boulder content. Gravel is fine to coarse, angul subangular of slag and clinker with some yellow fragments. Cobbles are slag and some brick fra Boulders are slag with occasional intact yellow Occasional pockets (<200x100x100mm) of stiff brown clay. Rare scrap metal waste. MGR <u>Very dense.</u> Dark grey, possible ash content Boulder, slag 650x400x200mm Greyish brown, clayey End of pit at 2.20 m	dark with gravel. y very 1 low ar to vs brick greyish y very 1 low ar to vs brick greyish	
Stabil	ity:							AG	iS

								Trialpit N	10
Ch	<b>2</b> <i>M</i> ;					Tri	al Pit Log	TPH27	
				Droio			Co. ordo: 456820.00 525456.00	Sheet 1 o	of 1
Projec Name	t Redcar l	DVA Initia	I Ground Investigation	on 67807	79 2010		Level.	15/02/20 <sup>-</sup>	17
Loooti		loor			•		Dimensions 3.5	Scale	
Locali	011: 551 Red	icar					(m):	1:25	
Client:	Homes a	and Comr	nunities Agency	1	1		2.00	Logged TL	1
ater rike	Sample	es and In	Situ Testing	Depth	Level	Legend	Stratum Description		
S 5	Depth	Туре	Results	(11)	(11)		MADE GROUND: Grass over TOPSOIL: Loose	e dark	
	0.10 1.20 1.50 - 1.80	ES		2.00			brown/black slightly gravelly sitty SAND with at medium to coarse, subangular gravel of coke a base, numerous rootlets throughout. TPS MADE GROUND: Dense very gravelly SAND v medium cobble content and rare boulders. Gra to coarse, angular to subangular of slag, clinke brick fragments. Cobbles are slag and brick fra Boulders are slag and intact yellow bricks. Ran decomposed wood fragments. MGR Dark grey Pockets of stiff brown clay up to 500x300x200mm.	vundant it the vith vel is fine r and gments. e partially	1 2 3 4
Stabili	ty:							AG	J S

								Trialpit N	No
	1 <b>2</b> /M:					Tri	al Pit Log	TPH2	28
				Ducies	4 1.1		0	Sheet 1 c	of 1
Projec	ct Redcar	DVA Initi	al Ground Investigatior	1 1 167807	21 NO. 19		C0-0fdS: 456872.00 - 525151.00	Date 16/02/20	)17
Locati		loor		10.001	•		Dimensions 3.8	Scale	
LUCAL		icai					(m):	1:25	
Client	: Homes a	and Com	nmunities Agency				2.00	Logged	a
er	Sample	es and l	n Situ Testing	Depth	Level				
~ ~ ~				0.10			MADE GROUND: Grass over TOPSOIL: loose d brown slightly gravelly silty SAND with numerous rootlets. TPS MADE GROUND: Dense brownish grey, very gra SAND with medium cobble and low boulder cont Gravel is fine to coarse, angular to subangular o clinker and red/yellow brick fragments. Cobbles clinker and mostly yellow, some red brick. Bould	ark 3 avelly cent. f slag, are slag, ers are	
×	1.50	ES					slag and intact brick. Some wood fragments, me waste.         MGR         Very dense         Dark grey         Stiff brown sandy clay in north wall         Stiff brown sandy clay in west wall.	tal	1
				2.00			End of pit at 2.00 m		2
Stabil	ity:							AG	I S

								Trialpit N	٩N
	1 <b>2</b> M:					Tri	ial Pit Log	TPH3	30
								Sheet 1 c	of 1
Projec	ct Redcar I	DVA Initi	al Ground Investigation	Projec	ct No.		Co-ords: 456678.00 - 525263.00	Date	17
				07007	9		Dimensions 5	Scale	
Locat	ion: SSI Red	car					(m):	1:25	
Client	:: Homes a	and Com	imunities Agency		1		2.90	Logged LK	d
ater rike	Sample	es and li	n Situ Testing	Depth	Level	Legend	d Stratum Description		
S S	Depth	Туре	Results	(111)	(11)		MADE GROUND: Dark grey silty sandy GRAVE	L with	-
	1.80 1.80 - 2.10	ES B		0.20			In the Control of the structure of the stru	wn is fine to re y dark	2
Rema	arks:								5 -
Stabil	ity:								
								Trialpit N	No
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<b>c</b> /	1 <b>2</b> /M:					Tri	al Pit Log	TPH3	31
							-	Sheet 1 c	of 1
Projec	ct Redcar I	DVA Initi	al Ground Investigation	Projec	t No. a		Co-ords: 456718.00 - 525246.00	Date	)17
	ianu COL Dad			107 007	5		Dimensions 3.8	Scale	
Local	1011. 331 Reu	Car					(m):	1:25	
Client	:: Homes a	and Con	nmunities Agency				2.90	Loggeo	a
er Ke	Sample	es and I	n Situ Testing	Depth	Level	Logono	Stratum Depaription		
Wa <sup>:</sup> Stri	Depth	Туре	Results	(m) 0.10	(m)		MADE GROUND: Grass over dark brown gravel	lly silty	-
				00			subrounded of predominately coke and some sla	ag.	-
				0.30			MADE GROUND: Dark brown sandy silty GRAV	EL.	-
							(predominately) and slag.		-
							MADE GROUND: Brownish grey very gravelly s	and with	-
							boulders (up to 0.8m long) Rare brick fragments	(red,	-
							MGR		
									-
									-
									-
				1.50			MADE GROUND: Greyish light brown/yellow slig gravelly SAND. Gravel is fine to coarse subroun	ghtly ded of	-
							possibly slag. Rare shell fragments.		
							TP Terminated at 2.9m due to groundwater and collapsing		-
	2.00	ES							2 -
									-
									-
									-
									-
									-
				2.90			End of pit at 2.90 m		-
									3 -
									-
									-
									-
									-
									4 -
									-
									-
									-
									-
Domo	arke:								5 -
Rema	ai no.								
Stabil	ity:							AC	Ъ

								Trialpit N	No
Ch	<b>12</b> /M:					Tri	al Pit Log	TPH3	32
				Ducies	4 1.1-		0	Sheet 1 c	of 1
Projec	Redcar	DVA Initi	al Ground Investigation	1 67807	21 NO. 29		C0-010S. 456759.00 - 525232.00	15/02/20	)17
Loooti		loor			•		Dimensions 3.4	Scale	, ,
LUCall	011. 331 Ret	ICal					(m):	1:25	
Client	Homes	and Corr	nmunities Agency				2.50	Logged	a
er ée	Sample	es and li	n Situ Testing	Depth	Level	Logon	Stratum Description		
Wat Stril	Depth	Туре	Results	(m)	(m)	Legend			
	1.50	ES		0.10			INADE GROUND: Medium dense light brownish frequent rootlets.         TPS         MADE GROUND: Medium dense light brownish gravelly SAND with low to medium cobble and to boulder content. Gravel is fine to coarse, angula subangular of slag, clinker and yellow brick fragr Cobbles are mostly slag with some yellow brick fragments and clinker. Boulders are slag. Some pieces have white mineralisation on outer edge. MGR         End of pit at 2.50 m	grey w r to nents. slag	1
Rema Stabili	rks: ty:							AC	I S

								Trialpit N	No
ch	<b>12/M:</b>					Tri	al Pit Log	TPH3	33
							_	Sheet 1 of	of 1
Projec Name	ct Redcar	DVA Initi	al Ground Investigation	Projec	rt No. 'a		Co-ords: 456804.00 - 525218.00	Date	117
Loooti		loor		107 007	0		Dimensions 4	Scale	<u>, , , , , , , , , , , , , , , , , , , </u>
Locati		lcai					(m): u	1:25	
Client	: Homes	and Corr	munities Agency				2.30	LOGGE	a
er Ke	Sampl	es and li	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wat Stri	Depth	Туре	Results	(m)	(m)	Legenc			
	2.00	ES		0.20			MADE GROUND: Occasional grass over brown silty SAND with occasional rootlets. Gravel is fine coarse subrounded of slag and coke. MGR MADE GROUND: Brownish grey very gravelly si- very sandy gravel with abundant cobbles and oc- boulders. Gravel is fine coarse subrounded to subangular of slag. Whitish slag in the upper me Cobbles and boulders of slag (with whitish slag i upper metre). Occasional bricks, frequent toward bottom of trial pit, both broken and whole (red, refractory). Rare wood fragments up to 0.4m long fragments of plastic material, fragment of metal 0.4m long. Rare scrap metal and glass fragment hydrocarbon odour from around 2m. MGR TP Terminated at 2.3m due to groundwater	graveliy and to casional tre. n the is g. Rare jipe s. Slight	1 2 3 4 5
Stabili	ity:							AC	I iS

								Trialpit No
<b>c</b> /	<b>12/M:</b>					Tri	al Pit Log	TPH35
Ducies	-1			Projec	st No		Co. ords: 456875.00 525178.00	Sheet 1 of 1
Name	et Redcar	DVA Init	tial Ground Investigation	וריסופינ 1 67807	79 20		Level:	16/02/2017
Loopti		loor		1	-		Dimensions 3.8	Scale
LUCAU		icai					(m):	1:25
Client	: Homes	and Cor	mmunities Agency				2.20	Logged LK
/ater trike	Sample	es and	In Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description	
<u>&gt; 0</u>	Doptil	Type		0.10			MADE GROUND: Grass over brown gravelly si with abundant rootlets. Gravel is fine to coarse	Ity sand
	0.50	ES		0.80			<ul> <li>With abuffician footbest. Graver is life to Coarse subrounded to subangular of slag. Rare small the fragments (red).</li> <li>TPS</li> <li>MADE GROUND: Brownish grey very sandy grequent cobbles and occasional boulders. Grave to coarse, subrounded to subangular of slag ar slag. Cobbles and boulders of slag, whitish slag occasional brick both whole and broken (red, r Rare scrap metal and wood fragments.</li> <li>MGR</li> <li>MADE GROUND: Firm to stiff brown slightly sa gravelly clay. Gravel is fine to coarse subround subangular of slag and possibly sandstone. Oc brick fragments (red, refractory). Rare scrap my pottery and glass fragments. Some very dark g layers. Gravel of grey slag at the bottom of the MGR</li> <li>TP Terminated at 2.2m due to groundwater - fast inflow from the first of pit at 2.20 m.</li> </ul>	prick avel with vel is fine id whitish j. efractory). I ndy ed to casional etal, rey trial pit. om 2m 2 -  3 - 5 -
Rema Stabili	ırks: ity:							AGS

								Trialpit No
Ch	<b>2</b> <i>M</i> :					Tri	al Pit Log	TPI01
							_	Sheet 1 of 1
Projec	t . Redcar	DVA Initi	al Ground Investigation	Projec	ct No. 70		Co-ords: 456930.00 - 524859.00	Date
				07007	9		Dimensions	Scale
Location	on: SSI Rec	icar					(m):	1:25
Client:	Homes	and Com	nmunities Agency		T	1	1.20	Logged TL
Nater Strike	Sample Depth	es and I	n Situ Testing Results	Depth (m)	Level (m)	Legend	Stratum Description	
Wa	0.80	ES	Results	(m) 0.50 1.20	(m)		MADE GROUND: Grass over loose orangeish t gravelly clayey SAND with numerous roots and large pieces of red brickwork intact, up to 800x400x200mm. Occasional pieces of rebar < MGR MADE GROUND: Loose dark brown slightly gra SAND with very low cobble content of slag and Locally clayey. Gravel is fine to coarse, angular subangular of slag, red/yellow brick, clinker. At f solid concrete base covering full extent of hole. abandoned. MGR End of pit at 1.20 m	rown rootlets, 1000mm. velly brick. to 1.2m Hole 1 - 2 - 3 - 4 -
Remai	rks: ty:							AGS

								Trialpit I	No
Ch	<b>12/M:</b>					Tri	ial Pit Log	TPI0	2
				Ducies	4 1.1		0	Sheet 1	of 1
Projec Name	ct Redcar I	DVA Initial	Ground Investigation	Projec	21 NO. 19		C0-0fdS: 456982.00 - 524826.00	31/01/20	017
Loooti				01001	•		Dimensions 4.3	Scale	<u>}</u>
Locau	ION: SSI Red	car					(m):	1:25	
Client	: Homes a	and Comm	nunities Agency				5.00	Logge TI	d
ت م	Sample	es and In	Situ Testing	Depth	Level				
Wate Strik	Depth	Туре	Results	(m)	(m)	Legend	d Stratum Description		
	0.20	ES		0.50			MADE GROUND: Grass over loose slightly graclayey SAND with low cobble content. Gravel is medium, occasionally course. Numerous roots rootlets.         TPS         From 0.3m: Sulphur odour.         MADE GROUND: Medium dense grey sandy G with low cobble and low boulder content. Cobbl slag, red brick frags, and concrete frags. Boulder as cobbles.         MGR         From 0.6m: Concrete, fractured rebar in place.         MADE GROUND: Medium dense brownish grey SAND with low cobble content and rare boulder slag and brick. Gravel is fine to coarse, angular subangular of slag, clinker, brick fragments and lime.         MGR	velly s fine to and RAVEL le are ers same y gravelly rs both of to I burnt	1 -
	2.70 - 3.00	B		3.50			MADE GROUND: Soft to firm dark brownish gro- gravelly CLAY with low cobble content of slag, occasionally brick and concrete. Gravel is fine t angular to subangular of slag, occasionally bric fragments. MGR From 3.9m: No water seen until hole reached depth and s Strong inflow of water after 10 mins.	ey sandy to coarse, k stopped.	3
				5.00			End of pit at 5.00 m		5 -
Rema Stabili	ırks:							AG	D is

								Trialpit I	No
Ch	<b>12</b> /M:					Tri	al Pit Log	TPI0	3
				<u> </u>				Sheet 1	of 1
Projec	rt . Redcar	DVA Initia	al Ground Investigation	Projec	CT NO. 70		Co-ords: 457037.00 - 524821.00	Date 30/01/20	017
				01001	3		Dimensions 4.5	Scale	<u></u>
Locati	on: SSI Rec	icar					(m):	1:25	
Client	Homes	and Com	munities Agency				Depth ∾ 4 30	Logge	d
50	Sample	es and Ir	n Situ Testing	Denth					
Wate Strik	Depth	Туре	Results	(m)	(m)	Legend	I Stratum Description		
	0.30 0.40 - 0.70 3.40 - 3.70 4.00	ES B ES		4.30			MADE GROUND: Grass over loose orangeish t clayey SAND with low gravel, cobble and bould content. Locally sandy clay. Occasional red bric white tile. MGR MADE GROUND: Loose dark grey gravelly SAM medium cobble and low boulder content both of occasional red/yellow brick, yellow brick conten some intact. Occasional areas of high white/gre content. Gravel is fine to coarse, angular to sub of slag, slate, sinter, yellow and red brick fragmer rare glass fragments. MGR	VD with er k and <sup>i</sup> slag with t ~5%, y ash angular ents with	
Rema Stabili	rks: ty:							AC	

								Trialpit I	No
Ch	1 <b>2</b> /M:					Tri	ial Pit Log	TPI0	4
							-	Sheet 1	of 1
Projec	Redcar I	DVA Init	al Ground Investigation	Projec	ct No. vo		Co-ords: 457099.00 - 524798.00	Date	117
Land				0/00/	3		Dimensions 4.2	Scale	)   / ;
Locati	on: SSI Red	car					(m):	1:25	
Client	: Homes a	and Con	nmunities Agency				5.00	Logge TL	d
er Ge	Sample	s and I	n Situ Testing	Depth	Level				
Wat Strik	Depth	Туре	Results	(m)	(m)		MADE GROUND: Grass over soft to firm orange	ish brown	T
Rema	2.20 - 2.50 3.00	B		0.50			MADE GROUND: Firm to stiff grey and reddish v.sandy gravelly CLAY with low boulder content. High scrag content throughout, lots of rebar, corrugated platrays, tread boards and some concrete with reb place. Boulders are slag and concrete. Rebar - dia < 2.5m long. Gravel includes pellets. MGR From 0.5m: More like demolition than trial pitting. MADE GROUND: Firm to stiff grey and reddish v.sandy gravelly CLAY with low boulder content Boulders are slag. Numerous pieces of rebar, 3 diameter up to 1.5m long. Rare yellow brick. Sc is yellowish brown. MGR End of pit at 5.00 m	MD with ometal ate, cable ar in 30mm 30mm grey  00mm ome clay	2
Stabili	ity:							AG	IS

								Trialpit No
	1 <b>2</b> /M:					Tri	al Pit Log	TPI05
								Sheet 1 of 1
Projec	ct Redcar I	DVA Init	al Ground Investigation	Projec	ct No. 70		Co-ords: 457146.00 - 524794.00	Date
				07007	9		Dimensions 4.8	Scale
Locat	ion: SSI Red	car					(m):	1:25
Client	:: Homes a	and Con	nmunities Agency				4.20	Logged TI
e er	Sample	es and I	n Situ Testing	Depth	Level			
Wate Strik	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description	
Rema	1.40 3.00 - 3.30 3.50	ES		0.60			slightly clayey SAND with occasional fine to me gravel. Pockets of firm sandy CLAY <80x50x50 MGR From 0.3m: Sulphur odour. MADE GROUND: Medium dense grey gravelly with medium cobble and medium boulder conte slag and clinker and abundant rounded iron ore Gravel includes abundant rounded iron ore pell Boulders up to 600x300x300mm, rare metal wa MGR From 0.6m: Dark purplish grey, possible iron ore. From 1.2m: Reddish grey, iron ore rich. MADE GROUND: Medium dense dark grey gra SAND with medium cobble & low boulder conte Gravel is fine to coarse, angular to subangular clinker, red & yellow brick fragments and round pellets. Cobbles are slag & red/yellow brick. Bo are slag. Refractory brick content 5-10% of tota MGR	SAND nt of pellets. ets. iste. 1 velly nt. of slag, ed ulders il volume. 4
Stabil	ity:							AGS

_								Trialpit N	No
ch	<b>2</b> M:					Tri	al Pit Log	TPI0	6
							-	Sheet 1 c	of 1
Project	Redcar	DVA Initia	al Ground Investigation	Projec	ct No. 'a		Co-ords: 456966.00 - 524885.00	Date	17
Locatio		loor		07007	5		Dimensions	Scale	;
	551 Ret	ICal					(m):	1:25	
Client:	Homes	and Com	munities Agency				1.00	Logged TL	a
/ater trike	Sample	es and In	n Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
≥ છ	Depth	туре	Results	()	()		MADE GROUND: Grass over; soft brown sandy	y CLAY	-
	3.50	ES		0.10			with occasional fine to medium gravels and num rootlets. MGR MADE GROUND: Medium dense brownish grey SAND with low boulder & low cobble content. Of fine to coarse, rounded to subrounded of slag, p (iron ore), clinker and red/yellow brick. Boulders Cobbles are slag & brick frags. Lots of debris: m to 1m long ~30mm diameter. Tin sheeting, cable yellow brick ~10% of total volume. MGR End of pit at 1.00 m	y gravelly iravel is pellets s are slag. ebar up e trays,	
Remar Stabilit	ks: y:	· · · · · ·	I				,	AC	is

								Trialpit N	١o
	<b>12</b> / <b>M</b> :					Tri	al Pit Log	TPI0	7
				Ducies	-4 NI -		O	Sheet 1 c	of 1
Projec	ct Redcar I	DVA Initia	al Ground Investigation	Projec	21 NO. 79		CO-OFAS: 457002.00 - 524869.00	Date 25/01/20	)17
Locati		loor		01001	•		Dimensions 4	Scale	
Locali	011. 331 Reu	icai					(m): vi	1:25	
Client	: Homes a	and Com	munities Agency		1		4.30	Logged TL	d
ater :rike	Sample	es and Ir	n Situ Testing	Depth (m)	Level	Legend	Stratum Description		
≤ <u>છ</u>	Depth	туре	Results	()	(,		MADE GROUND: Grass over soft to firm orang	eish	-
	1.50	B		0.30			brown sandy CLAY with occasional tine to medi gravels.         MGR         MADE GROUND: Medium dense dark grey gra SAND with medium cobble content and rare bo Gravel is fine to coarse, angular to subangular o clinker, occasional red/yellow brick. Cobbles ard slag, occasional red/yellow brick frags. Boulder: slag, Wood fragments, iron wire, cable casing, i noted. Wood is partially decomposed without or MGR         From 0.3m: Very dense. Excavation slowed.         From 0.3m: Cable casing is yellow plastic with inner alum removed.         From 0.5m: On south side of pit, reinforced concrete apprint thick with wire ~20mm diameter. Noted by excavation con cleared to proceed.         From 2m: Boulder of concrete, 1000x400x400mm.	velly ulders. of slag, e mostly s are rebar reosote. inium core ox 300mm troller and	2
Rema Stabili	rks: ity:							AG	I S

								Trialpit No
Ch	<b>2</b> <i>M</i> :					Tri	al Pit Log	<b>TPI08</b>
Draiaa				Projec	et No		Co-ords: 457051.00 - 524834.00	Sheet 1 of 1
Name	Redcar l	DVA Initi	al Ground Investigatio	n 67807	79		Level:	25/01/2017
Locati	on: SSI Red	car					Dimensions 4.1	Scale
							(m):	1:25
Client:	Homes a	and Com	munities Agency				4.40	TL
/ater trike	Sample	es and li	n Situ Testing	Depth (m)	Level (m)	Legenc	Stratum Description	
≤ છ	Depth	туре	Results	()	()		MADE GROUND: Grass over; firm orangeish b	rown very
	0.20	ES		0.40			MADE GROUND: Grass over; firm orangeish b         sandy CLAY with rare fine to medium gravels. 0         reworked, low plasticity, red brick frag and pieco         rusted metal recovered.         MGR         MADE GROUND: Loose dark grey gravelly SA         medium cobble and low boulder content. Grave         coarse, subangular of slag, clinker, lesser yello         frags. Cobbles are mostly slag, lesser clinker a         red brick. Boulders are slag. Silica bricks noted         MGR         From 0.4m: Very dense layer approximately 0.3m thick cc         slag.         From 0.6m: Eastern face of pit: concrete, not reinforced, approximately 0.2m thick.         approximately 0.2m thick.         From 3.5m: Numerous pieces of timber. Partially decomp         Creosote noted.         From 4.0m: Clayey locally very clayey. Low cobble conter	rown very Clay is e of ND with el is fine to w brick nd yellow/ ompacted 1 - 2 - 3 - osed. No nt. 4 -
				4.40			∑	
Rema	rks: ty:							AGS

								Trialpit I	No
<b>c</b> /	<b>12</b> /M:					Tri	ial Pit Log	TPI0	9
				Droiog	+ No		Co. ordo: 457104.00 524821.00	Sheet 1	of 1
Projec	ct Redcar I	DVA Init	al Ground Investigation	67807	9. NO.		C0-010S: 457104.00 - 524831.00	25/01/20	)17
Locat	ion: SSI Dod	car		10.000	-		Dimensions 3.6	Scale	,
LUCAL		cai					(m): œ.	1:25	
Client	: Homes a	and Con	nmunities Agency				3.90	TL	u
e é	Sample	es and I	n Situ Testing	Depth	Level	Logona	Stratum Description		
Wat Strij	Depth	Туре	Results	(m)	(m)			eliabtly	1
	0.20 2.50 - 2.80 3.00	B		0.40			MADE GROUND: Grass over soft to firm brown sandy CLAY with occasional fine to medium gra- rare subangular cobbles. MGR MADE GROUND: Medium dense becoming loc gravelly SAND with low to medium cobble conten- low boulder content. Gravel is fine to coarse, at subangular of slag, clinker and rare brick. Cobb boulders are slag. MGR From 0.4m: Sharp contact with layer below. From 1.0m: Boulder of slag with white and ferrous stain -500x500x300mm. MADE GROUND: Loose dark grey gravelly SA low cobble content and rare boulders. Gravel is medium, rarely coarse, subangular of slag, clin red/yellow brick. Cobbles are slag and fragmen intact yellow refractory brick. Boulders are slag bricks are approximately 5% of the total volume MGR From 2.4m: Approximately 10% yellow refractory brick.	ND with fine to ker and ts/rarely Yellow 2.	2
Rema	irks:							<b>F</b>	5 - 5
Stabil	ity:							AC	15

								Trialpit I	No
C/	12M:					Tri	al Pit Log	TPI1	0
							0	Sheet 1 of	of 1
Projec	t Redcar	DVA Initi	al Ground Investigatior	Projec	ct No. 'o		Co-ords: 457151.00 - 524811.00	Date	117
Locati		door		101001	0		Dimensions	Scale	
Locali	011. 331 Re	ucai					(m):	1:25	
Client	: Homes	and Com	nmunities Agency				3.80	TL	u
ike r	Samp	les and li	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wa Stri	Depth	Туре	Results	(m)	(m)			rowp	
	1.50	в		0.80			Image: SAND with occasional fine to medium or occasional pockets of firm sandy clay (<60x30x MGR	Novel and 30mm).	2
Rema Stabili	іткs: ity:							AC	I S

								Trialpit No	,
ch	1 <b>2</b> /M:					Tri	ial Pit Log	TPI11	
				<u> </u>				Sheet 1 of 2	1
Projec	t . Redcar	DVA Init	ial Ground Investigatior		ct No.		Co-ords: 456976.00 - 524916.00	Date	7
Name	•			67807	9		Level:	20/01/2017 Scale	/
Locati	on: SSI Re	dcar					(m):	1:25	
Client	Homes	and Cor	nmunities Agency				Depth C	Logged	
	Comm		n Citu Teeting			1	1.40	IL	
Water Strike	Depth	Type	Results	Depth (m)	Level (m)	Legend	d Stratum Description		
Pomo	1.00	ES		0.50			MADE GROUND: Grass over; Loose orangeist clayey SAND with occasional fine to medium gr MGR MADE GROUND: Loose dark grey/black grave with low cobble content and medium boulder co Gravel is fine to coarse, angular to subangular clinker, red/yellow brick. Abundant waste ing concrete, red/yellow brick. Abundant waste ing cable tray, rebar, assorted steelwork, red/yellow lead and tin sheeting. Boulders of slag up to 750x600x400mm. MGR End of pit at 1.40 m	Ily SAND ontent. of slag, , uding / brick,	1
Rema Stabili	rks: ty:							AGS	5

								Trialpit N	10
ch	<b>12/M:</b>					Tri	al Pit Log	TPI12	2
				Droio			Calendary 457010.00 524000.00	Sheet 1 o	if 1
Projec	Redcar	DVA Initi	al Ground Investigat	ion 67807	79 79		Level	26/01/20 <sup>-</sup>	17
Locati	ion: SSI Doc	loor		10.001	•		Dimensions	Scale	
LUCAU	011. 331 Ret	ICal					(m):	1:25	
Client	: Homes	and Com	munities Agency				4.60	Logged TL	1
ke r	Sample	es and li	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wa; Stri	Depth	Туре	Results	(m)	(m)	xxxxxxxx			
	0.60 2.70 - 3.00 3.80	ES ES		0.40			MADE GROUND: Grass over; loose orangeist clayey SAND with rare fine to medium gravels numerous rootlets and roots.         MGR         MADE GROUND: Loose dark grey slightly gra SAND with low cobble content and low boulde Yellow bricks (look like building, not refractory) throughout - approx 10% total. Volume of cobt gravels are SA of slag and red/yellow brick. Bot slag. Lots of tin sheet, rebar, metalwork throug MGR         From 0.5m: Sulphur odour.         From 0.5m: Sulphur odour.         From 0.7m: Approx 70% yellow brick.         MADE GROUND: Orangeish brown clayey SA above.) No roots.         MGR         MADE GROUND: Medium dense dark grey griss SAND with low cobble content. Gravel is slag a clinker. Cobbles are slag and yellow brick. Wois some soaked in creosote. HC odour.         MGR         From 3.5m: Slightly gravelly.	velly r content. abundant bes & bulders are hout. ND (as	1 - 2 - 3 - 4 -
				4.60			End of pit at 4.60 m		5 -
Stabili	ity:							AG	ı S

								Trialpit I	No
c/	1 <b>2</b> /M:					Tri	ial Pit Log	TPI1	3
				<u> </u>				Sheet 1	of 1
Projec	ct Redcar	DVA Init	ial Ground Investigatior		ct NO. 70		Co-ords: 457064.00 - 524886.00	Date 31/01/20	017
				07007	5		Dimensions 4.6	Scale	<u></u>
Locat	ion: SSI Rec	Icar					(m):N	1:25	
Client	: Homes	and Cor	nmunities Agency		1		0.90 ∾i	Logge TL	d
Vater strike	Sample Depth	es and I	n Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
	0.70	ES		0.40			MADE GROUND: Grass over; firm orangeish b sandy CLAY with occasional fine gravels and ro MGR MADE GROUND: Medium dense dark grey gra SAND with rebar, metalwork, wood, red and ye slate (roofing), low cobble content. Gravel is fin medium, rarely course, angular to rounded of p (round) slag. Red/yellow brick. Concrete base a unable to break out. Covers full length and widt hole aborted. MGR End of pit at 0.90 m	rown potlets.	2
									4
Rema Stabil	ırks: ity:	.]	I		<u> </u>		1	AC	

-								Trialpit N	١o
	<b>12</b> /M:				Tri	al Pit Log	TPI1	4	
				-			0	Sheet 1 c	of 1
Projec	t Redcar	DVA Init	ial Ground Investigatio	n Projec	CT NO. 79		Co-ords: 45/12/.00 - 5248/0.00	Date	)17
				01001	0		Dimensions 4.7	Scale	
Locati	on: SSI Red	icar					(m):	1:25	
Client	: Homes	and Cor	nmunities Agency				0.70	Logged	d
л ө	Sample	es and l	n Situ Testing	Depth	Level				
Vate Strik	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
	0.60	ES		0.50			MADE GROUND: Grass over; firm orangeish b slightly sandy CLAY with rare fine to medium grootlets throughout. MGR MADE GROUND: Medium dense dark grey gra SAND with low cobble content and rare boulde Metalwork, gravel is fine to coarse, angular to subangular of slag, red/yellow brick frags, pelle Cobbles and boulders are slag, concrete frags yellow bricks. Concrete base at 0.7m, full lengt width covered, unable to break out, hole aband MGR End of pit at 0.70 m	rown ravels and	2 - 3 - 3 - 5 - 5
Rema Stabili	rks:							AC	J IS

								Trialpit	No
<b>c</b> /	1 <b>2/M:</b>					Tri	al Pit Log	TPI1	5
				Ducia	-4 NI-		0	Sheet 1	of 1
Projec Name	ct Redcar	DVA Initia	al Ground Investigati	on 67807	CT INO. 79		C0-0rdS: 457165.00 - 524853.00	Date	017
				107007	0		Dimensions	Scale	311
Locati	ion: SSI Rec	lcar					(m):	1:25	-
Client	: Homes	and Com	munities Agency				Depth 5.00	Logge TI	d
ter ke	Sample	es and Ir	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wa Stri	Depth	Туре	Results	(m)	(m)				
	0.80 1.50 - 1.80 2.00 4.00 - 4.30	ES B B		2.50			gravelly sandy CLAY. Gravel is fine to medium, subangular . Numerous rootlets. MGR MADE GROUND: Dense dark grey gravelly SA low to medium cobble content and low boulder With occasional partially decomposed timber find Gravel is fine to medium, subagular to angular clinker, cement. Cobbles are slag and clinker. I are slag up to 300x200x300mm. Waste include <20mm and rebar <20mm. Rare red brick. MGR From 0.5m: Dark purplish grey high iron ore content. App brick frags. MADE GROUND: Medium dense yellowish broot grey slightly gravelly SAND. Gravel is fine to co angular to subangular of slag rare red brick fra cobbles of slag. MGR	AND with content. rags. of slag, Boulders es cables <i>rox 10% red</i>	1 - 1 - 2 - 3 - 4 -
									_
				5.00			End of pit at 5.00 m		5 -
Stabil	ity:							AC	□ iS

								Trialpit No
c/	1 <b>2</b> /M:					Tri	ial Pit Log	TPI16
							3	Sheet 1 of 1
Projec	ct Redcar	DVA Initial	Ground Investigation	Projec	ct No.		Co-ords: 457077.00 - 524924.00	Date
Name	:		g	67807	79		Level:	01/02/2017
Locati	ion: SSI Rec	dcar					(m):	Scale
Client	: Homes	and Comm	nunities Agency				Depth N 4.40	Logged
re Ke	Sampl	es and In S	Situ Testing	Depth	Level	Logon	d Stratum Description	1
Wat Stril	Depth	Туре	Results	(m)	(m)	Legend		
	0 70	FS						
	0.1.0							
								1 -
								2 -
								3 -
								5
	3.20 - 3.50	В						
	4.00	ES						4 -
								5 -
Rema	ırks:				1	1	1	
1								AGS
Stabil	ity:							

								Trialpit N	10
c/	1 <b>2/M:</b>					Tri	al Pit Log	TPI17	7
				Droiog			Co. ordov. 457104.00. 504010.00	Sheet 1 o	of 1
Projec	ct Redcar I	DVA Initi	al Ground Investigation	67807	20 NO.		C0-0105. 457 104.00 - 5249 10.00	01/02/20	17
Locat		oor		10.001	-		Dimensions 4.3	Scale	<u></u>
LUCAL		Cal					(m):	1:25	
Client	:: Homes a	and Com	imunities Agency		1	1		Logged TL	1
ater rike	Sample	es and li	n Situ Testing	Depth	Level	Legend	Stratum Description		
s s	Depth	Туре	Results	(11)	(11)			rown	
	0.20 0.60 - 0.90	ES B		0.40			slightly gravelly clayey SAND with occasional c and numerous rootlets. Gravel is fine to medium subangular of mixed lithologies. Cobbles are sli Locally sandy CLAY. MGR MADE GROUND: Medium dense dark grey gra SAND with low cobble content and low boulder Gravel is fine to coarse, angular to subangular red/yellow brick, concrete, pellets. Cobbles are yellow/red brick, concrete. Boulders are brick, c	obbles n, ag. velly content. of slag, slag, soncrete, ble track	
	1.00	ES		1.10			Stag: Waste in pit includes metalwork, repar, ca conveyor oblets, misc. Rubber Concrete base at 1.1m. Hole terminated. MGR <u>From 0.8m: Polythene sheet, waste</u> . End of pit at 1.10 m	waste.	1
Rema	urks:								2
Stabil	ity:							AG	S

								Trialpit I	No
C	<b>12</b> /M:					Tri	ial Pit Log	TPI1	8
								Sheet 1	of 1
Projec	ct Redcar I	DVA Initi	al Ground Investigation		ct NO. 70		Co-ords: 457181.00 - 524904.00	Date	017
				07007	3		Dimensions	Scale	317
Locati	ion: SSI Red	car					(m):	1:25	
Client	: Homes a	and Con	nmunities Agency				1.50	Logge	d
50	Sample	es and I	n Situ Testing	Denth					
Wate Strik	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description	( gravelly	
				0.50			MADE GROUND: Him yellowish brown slightly sandy CLAY with rare subangular cobbles. Gra to coarse, angular to subangular with abundan MGR MADE GROUND: Medium dense, locally loose gravelly SAND with low to medium cobble cont low boulder content with occasional timber frag and metal waste. Gravel is fine to coarse, angu subangular of slag, clinker and yellow brick frag Boulders are slag, rarely intact brick. Gravel inte iron ore pellets. MGR End of pit at 1.50 m	grey ent and ments lar to gments. cludes	
Rema	irks:							AG	_ 5 — □ GS

								Trialpit No	)
<b>c</b> /	1 <b>2</b> /M:					Tri	al Pit Log	TPI19	
				Ducies	-4 NI-		0	Sheet 1 of	1
Projec	ct Redcar	DVA Initi	al Ground Investigation	1 67807	21 NO. 79		Co-olds: 457007.00 - 525014.00	08/02/2017	7
Locati		loar			•		Dimensions	Scale	
LUCAL		icai					(m):	1:25	
Client	:: Homes a	and Com	imunities Agency				4.20	Logged	
ke r	Sample	es and li	n Situ Testing	Depth	Level	Legenc	Stratum Description		
Str	Depth	Туре	Results	(m)	(m)			Hy .	
	1.00	ES		0.20			gravely silty SAND with frequent rootlets. Grav to coarse subrounded to subangular of slag. Or gravel size red brick fragments. MGR MADE GROUND: Grey whitish grey slightly sar sandy GRAVEL with abundant cobbles and free boulders. Rare large boulders (up to 0.8m). Gra to coarse subrounded to subangular of whitish possibly some clinker. Cobbles and boulders subrounded of whitish grey slag, slag. Occasio fragments (gravel - small cobble sized) both ye (refractory) and red. Frequent bricks from arour both whole and broken, mostly broken, from gra to cobble size - 65% refractory, 35% red. Rare metal fragments, wood fragments. N.B, betwee occasional cobble size lumps of grey white spe material, crumbles easily. It was suggested it is refractory brick being affected by water. MGR	ndy to quent avel is fine slag, slag, unal brick llow nd 2m, avel size scrap in 1-2m ckled	1 -
	3.40 - 3.70	В		3.90 4.20			MADE GROUND: Yellow slightly gravelly SANE is fine to coarse difficult to describe gravel due material being mixed. MGR End of pit at 4.20 m	D. Gravel to	3 -
Rema Stabil	ity:	ı				I	1	AGS	5

								Trialpit I	No
	<b>12/M</b> :					Tri	al Pit Log	TPI2	0
				<u> </u>				Sheet 1	of 1
Projec Name	ct Redcar	DVA Initi	al Ground Investigatior	Projec	CT NO. 79		Co-oras: 457048.00 - 524998.00	Date 08/02/20	)17
Locati		loor		101001	0		Dimensions 3.9	Scale	)
LUCAU		icai					(m): v	1:25	
Client	: Homes	and Com	nmunities Agency		_		4.00	TL	u
ke r	Sample	es and I	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wa Stri	Depth	Туре	Results	(m)	(m)		MADE GROUND: Medium dense dark grev SA	ND &	1
	1.00	ES		4.00			GRAVEL with medium cobles and low boulder of Gravel is fine to coarse, angular to subangular of clinker, rare brick fragments. Cobbles are slag, clinker and brick fragments. Boulders are slag, intact refractory brick. Occasional bands approx 150mm thick, light grey, white mineralisation on (possible ash). MGR	ND & content. of slag, lesser Rare kimately o slag	1
Rema Stabili	irks: ity:							AG	I IS

								Trialpit I	No
<b>c</b> /	<b>12/M:</b>					Tri	al Pit Log	TPI2	1
				Draiaa	+ No		Co. ordo: 457000.00 534078.00	Sheet 1 o	of 1
Projec	et Redcar	DVA Initi	al Ground Investigation	67807	9 9		C0-0105. 457099.00 - 524976.00	06/02/20	)17
Locat	ion <sup>,</sup> SSI Red	lcar			-		Dimensions 5.1	Scale	,
Local							(m):	1:25	
Client	: Homes a	and Com	munities Agency				3.60	LOgge	u
ter ke	Sample	es and li	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wa Stri	Depth	Туре	Results	(m)	(m)				T
	0.90	В		0.20			AND with frequent rootlets. Gravel is fine to co slag, possibly sandstone. TPS MADE GROUND: Dark grey sandy GRAVEL wit occasional cobbles and coke boulders. Sand is to coarse. Gravel is fine to coarse subrounded to subangular of slag, clinker. Cobbles and boulde slag. Occasional brick, both broken and whole, I are red, silica, refractory with similar proportions Occasional wood fragments. Some white staining slag. MGR TP Terminated at 3.6m due to groundwater End of pit at 3.60 m	In solution of the second seco	
Rema Stabil	ırks: ity:							AG	I IS

								-	
	1 <b>2</b> /M:					Tri	al Pit Log	TPI2	2
				-				Sheet 1 o	of 1
Projec	ct Redcar	DVA Initi	al Ground Investigatio	n Projec	CT NO. 70		Co-ords: 45/151.00 - 524957.00	Date	17
				07007	3		Dimensions	Scale	)   /
Locat	ion: SSI Red	lcar					(m):	1:25	
Client	: Homes	and Com	nmunities Agency				Depth 4.00	Logged TI	d
л е	Sampl	es and li	n Situ Testing	Denth	Level				
Wate Strik	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
Rema	1.00 1.60	ES		1.40			MADE GROUND: Loose yellow fine to medium coblesc on yellow brick (silica and refractory) fragments, cli concrete fragments. Occasional tile fragments. MGR Some light grey ash. Very dense MADE GROUND: Loose yellow fine to medium with rare rounded to angular, fine to coarse grav MGR 200mm dia clayware pipe	SAND rel.	2-
Stabil	ity:							AG	iS

								Trialpit I	No
<b>c</b> /	1 <b>2</b> M:					Tri	al Pit Log	TPI2	3
								Sheet 1 of	of 1
Projec	ct Redcar I	DVA Initi	al Ground Investigation		ct No. 70		Co-ords: 456960.00 - 525078.00	Date	117
				07807	9		Dimensions 4.9	Scale	
Locat	ion: SSI Red	car					(m):	1:25	
Client	: Homes a	and Con	nmunities Agency				3.80	Logge TL	d
e e	Sample	s and I	n Situ Testing	Depth	Level				
Wate Strik	Depth	Туре	Results	(m)	(m)	Legend			1
Rema	2.20 2.30 - 2.60	ES B		1.90			MADE GROUND: Medium dense brownish grey slag. Locally very gravelly. MGR MADE GROUND: Medium dense brownish grey gravelly SAND with numerous pockets (up to 100x100x100mm) of firm brownish grey clay. Lo medium cobble content and low boulder conten is fine to coarse, angular to subangular of slag, rare brick fragments. Cobbles are slag rarely cli brick fragments. Boulders are slag, rare intact y brick. Some wood fragments and clayware tile/f MGR Very clayey on east edge of pit.	very f very very w to t. Gravel clinker, nker and ellow bipe.	1
Stabil	ity:							AC	S

								Trialpit N	ю
ch	<b>12</b> / <b>1</b> /2					Tri	al Pit Log	TPI24	1
				Ducies	-4 NI-		On and a 157010 00 505050 00	Sheet 1 of	f 1
Projec	t Redcar I	DVA Initi	al Ground Investigation	Projec	21 NO. 70		Co-ords: 457013.00 - 525050.00	Date 08/02/20/	17
				101001	5		Dimensions 5.5	Scale	
Locati	on: SSI Red	car					(m):	1:25	
Client	: Homes a	and Com	nmunities Agency				Depth N	Logged	Í
5 0	Sample	es and l	n Situ Testina	Donth					
Wate Strike	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
	1.50	ES		0.10			TPS MADE GROUND: Medium dense brownish grey SAND with low to medium cobble and low bould content. Gravel is fine to coarse, angular to suba of slag, clinker and occasional brick fragments. ( are slag, clinker, occasional yellow brick fragments Boulders are slag. MGR Light grey (slag mineralisation?). Intact red brick wall in ea	gravelly er angular Cobbles nts. st of pit.	1
	2.60	ES		3.80			MADE GROUND: Medium dense dark grey grav SAND with low cobble and low boulder content a occasional intact yellow and red brick. Gravel ar cobbles are mostly slag, rarely clinker and brick fragments. Boulders are slag. MGR	relly and id	3
Rema Stabili	rks: ity:							AG	5 – S

								Trialpit No	)
	<b>12/M:</b>					Tri	ial Pit Log	TPI25	)
							0	Sheet 1 of	1
Projec	ct Redcar	DVA Initi	al Ground Investigation	Projec	CT NO. 79		Co-ords: 457064.00 - 525039.00	Date	7
				07007	3		Dimensions 4.4	Scale	<u> </u>
Locati	on: SSI Red	lcar					(m):N	1:25	
Client	: Homes	and Com	nmunities Agency				Depth ∾ 3.80	Logged	
л e	Sample	es and l	n Situ Testing	Denth	Level			Litt	
Wate Strik	Depth	Туре	Results	(m)	(m)	Legend	MADE GROUND: Grass over dark brown slight	ly 🗌	
	1.50 2.70 - 3.00 3.70	ES		0.20			gravelly silty SAND. Gravel is fine to coarse subto subangular of slag.         TPS         MADE GROUND: Grey slightly sandy to sandy i with abundant cobbles, frequent boulders and ra boulders. Gravel is fine to coarse subrounded to subangular of slag/whitish slag. Cobbles and boulders developed to slag/whitish slag. Some whitish staining. Light g colour between 0.2-0.6m. Orangish red in colou between 0.4-0.6m. Rare yellow and red brick fra (gravel - small cobble size). More sandy, freque cobbles and occasional boulders towards base. wood fragments 200mm long.         MGR         MADE GROUND: Yellow slightly gravelly SAND is fine to coarse of slag(?). Frequent bricks, most broken (red, refractory, silica) at the bottom of th pit. Rare tiny shell fragments. Pocket of dark gresslightly sandy silt. Beach odur.         MGR         IP Terminated at 3.8m due to groundwater End of pit at 3.80 m	orounded GRAVEL arre large builders of rey in r agments nt Rare	1 2 3 
Stabili	ity:							AGS	S

								Trialpit N	No
<b>c</b>	1 <b>2/M:</b>					Tri	al Pit Log	TPI2	6
				Ducies	-4 NI-		0. and 457445.00 505000.00	Sheet 1 c	of 1
Proje	ct Redcar I e:	DVA Init	ial Ground Investigation	Projec	21 NO. 79		C0-0F0S: 457115.00 - 525020.00	Date 06/02/20	117
				101001	•		Dimensions 4.3	Scale	;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
LUCAL	1011. 331 Reu	Cai					(m): o	1:25	
Client	t: Homes a	and Con	nmunities Agency				4.70	Loggeo	a
er (e	Sample	es and I	n Situ Testing	Depth	Level	Lagana			
Wat Strij	Depth	Туре	Results	(m)	(m)	Legend		ly condy	
	2.60	ES		0.20			MADE GROUND: Dark grey very sandy GRAVE frequent cobbles and occasional boulders. Grav to coarse subrounded to subangular of slag, clir Cobbles and boulders of slag. Frequent bricks b whole and broken of silica, red and refractory. N bricks are yellow, occasional wood fragments. MGR MADE GROUND: Light brown/grey slightly grav SAND. Gravel is fine to coarse subrounded to subangular of sandstone or slag. Occasional I wood fragments, damp. MGR TP Terminated at 4.7m due to reaching limit of excavator	relly iarge	2
Rema	arks:								5 -
Stabil	lity:							AU	Ð

								Trialpit N	No
<b>c</b> /	<b>12</b> /M:					Tri	ial Pit Log	TPI2	7
				<b>D</b>			0	Sheet 1 o	of 1
Projec	ct Redcar	DVA Init	ial Ground Investigation		CT NO. VO		Co-ords: 457150.00 - 525012.00	Date	117
				07007	5		Dimensions 3.6	Scale	)   / e
Locat	ion: SSI Red	car					(m):	1:25	
Client	: Homes a	and Cor	nmunities Agency		1	1	2.00	Logged TL	d
Vater štrike	Sample Depth	es and I	n Situ Testing Results	Depth (m)	Level (m)	Legend	d Stratum Description		
Rema	0.70 - 1.00 1.30	B		2.00			MADE GROUND: Grass over loose to medium and dark grey gravelly SAND with low cobble ar boulder content. Gravel is fine to coarse, angula subangular of slag, clinker, brick and rare burnt Cobbles are of slag, clinker, brick fragments and burnt lime. Boulders are slag rarely clinker and i large brick fragments. Occasional yellow refract bricks in upper meter. MGR B00x300x300mm concrete beam in north face, Below 1.1 light grey ashy coloured sand	dense nd low ir to lime. d rare ntact/ ory	
Stabil	ity:							AC	S

								Trialpit No	1
	<b>12/M:</b>					Tri	al Pit Log	TPI28	
				Droiog	t Nia		Co. ordot. 156070.00. 525110.00	Sheet 1 of 2	1
Projec	ct Redcar	DVA Init	ial Ground Investigation	Projec	71 NO. 19		C0-0fdS: 456978.00 - 525119.00	Date 08/02/2017	7
		door		01001	0		Dimensions 4.1	Scale	
Locali	011. 331 Ret	ucai					(m):	1:25	
Client	: Homes	and Con	nmunities Agency				4.10	Logged LK	
er	Sampl	es and I	n Situ Testing	Depth	Level				
Wat Strik	Depth	Туре	Results	(m)	(m)	Legend	MADE CROUND: Cross over dark brown slight	h.	
	3.50	ES		0.20			MADE GROUND: Dark grey sandy GRAVEL with abundant cobbles and frequent coulders. Gravel coarse. Subrounded to subangular of slag, wh possibly some clinker. Cobbles and boulders of whitish slag. Rare large boulders. Occasional broken, mostly gravel sized (red, refractory). Fro frequent cobbles and occasional boulders, more Rare pockets of clay. MGR MADE GROUND: Dark grey sandy GRAVEL with abundant cobbles and provide the state of the more state of the state of the state of the state white state of the state of the state of the state state of the state of the state of the state of the state where the state of the state of the state of the state state of the state of the state of the state of the state state of th	y is fine to it is fine itish slag, slag, icks, om 3m a sandy.	1 2 3 
Stabili	ity:							AGS	

								Trialpit No
<b>ch</b>	<b>2</b> /M:					Tri	al Pit Log	<b>TPI29</b>
Ducient				Projec	st No		Co. orde: 457016.00 525115.00	Sheet 1 of 1
Project Name:	Redcar	DVA Initial	Ground Investigation	67807	'9		Level:	08/02/2017
Location		dear			-		Dimensions 5	Scale
Location	1. 001100	acai					(m): Depth	1:25
Client:	Homes	and Comm	unities Agency				3.60	LUgged
ke fe	Sampl	es and In S	Situ Testing	Depth	Level		Stratum Description	
Wat Stri	Depth	Туре	Results	(m)	(m)	Legend		
	0.60	ES		0.20			MADE GROUND: Grass over dark brown slight gravelly silty SAND with frequent rootlets. Grav to coarse subrounded to subangular of slag, Ra gravel-size red brick fragments TPS MADE GROUND: Dark brown very gravelly SAI frequent cobbles and occasional boulders. Grav to coarse subrounded to subangular of slag, po some clinker. Cobbles and boulders are subrou slag. Rare gravel-cobble size brick fragments (r refractory). Some bright red material, possibly a the excavator end of trial pit. Has coloured the s slag around it. MGR MADE GROUND: Greyish white slightly sandy of with abundant cobbles of frequent boulders. Gr fine to coarse subrounded to subangular of white slag. Cobbles and boulders of whitish slag, slag gravel-cobble size brick fragments (refractory, re MGR MADE GROUND: Dark brown slightly sandy GF with abundant cobbles and frequent boulders. Of fine to coarse subrounded to subangular of slag, som slag. Some pieces of slag have holes in it. Rare cobble size brick fragments, mostly red, some r (total <5%) MGR	ly el is fine re ND with vel is fine ssibly nded of ed, in ore in soli and GRAVEL avel is ish slag, i. Rare ed) >5%. RAVEL Gravel is gravel- efractory 2 - 3 - 4 -
Remark	<b>s</b> : :							AGS

_								Trialpit No
Ch	<b>12/M:</b>					Tri	al Pit Log	<b>TPI30</b>
				Ducies	-4 NI -		0	Sheet 1 of 1
Projec	ct Redcar	DVA Initi	al Ground Investigation	Projec	21 NO. 79		Co-ords: 457093.00 - 525078.00	Date 26/04/2017
Locati	on: SSI Rec	lcar		101001	<u> </u>		Dimensions 3.7	Scale
Locati							(m):	1:25
Client	: Homes	and Com	munities Agency		1	1		JNB
Nater Strike	Depth	Type	n Situ Testing Results	Depth (m)	Level (m)	Legenc	Stratum Description	
	1.00 - 1.50	ES					MADE GROUND: Medium dense grey very grav SAND with medium cobble and low boulder con slag, red and refractory brick. Gravel is fine to c angular to subangular of slag, red and refractory MGR	velly tent of oarse, y brick. 1 -
				2.30			MADE GROUND: Loose yellowish brown slightl gravelly SAND. MGR End of pit at 2.40 m	y 
Rema	rks: ity:						,	AGS

								Trialpit N	10
ch	<b>2</b> / <b>1</b> /:					Tri	al Pit Log	TPI3 <sup>2</sup>	1
				Projoc	t No		Co. ordo: 457127.00 525050.00	Sheet 1 o	of 1
Name	Redcar	DVA Initial	Ground Investigation	67807	'9		Level:	07/02/20 <sup>-</sup>	17
Locati	on <sup>.</sup> SSI Re	dcar					Dimensions 4.3	Scale	
Loodu							(m):	1:25	4
Client	Homes	and Comm	nunities Agency				4.00	LUgged	
ke r	Samp	les and In	Situ Testing	Depth	Level	Legend	Stratum Description		
St	Depth	Туре	Results	(m)	(m)		MADE GROUND: Grass over dark brown slightl slightly gravelly silt with frequent rootlets. Grave	y sandy I is fine	 - -
	0.30	ES		0.20			TPS MADE GROUND: Dark grey very sandy GRAVE occasional cobbles and boulders. Sand is fine to Gravel is fine to coarse subrounded to subangul slag, some clinker. Cobbles and boulders of slag Occasional scrap metal fragments up to 0.5m, occasional bricks, mostly brown with red, refract Rare tile fragments. MGR	EL with o coarse. lar of g.	
	1.30	ES		1.10			MADE GROUND: Light grey slightly sandy to sa GRAVEL. Gravel is fine to coarse subrounded to subangular of slag. Slag is whitish grey in colour and dolomite mix suggested). Rare wood fragmo MGR	ndy o r (lime ents.	
				1.60			MADE GROUND: Dark grey very sandy GRAVE occasional cobbles and boulders. Sand is fine to Gravel is fine to coarse subrounded to subangul slag, some clinker. Cobbles and boulders of slag Occasional scrap metal fragments up to 0.5m, occasional bricks, mostly brown with red, refract Rare tile fragments. MGR	EL with o coarse. lar of g. cory.	2
				2.70			MADE GROUND: Light brown/grey slightly grav SAND. Gravel is fine to coarse of slag. Occasion mostly whole of red and refractory. Some Grave red brick fragments. Rare ceramic fragments. MGR <u>TP Terminated at 4m due to groundwater</u>	elly nal brick, I sized	3 -
				4.00			End of pit at 4.00 m		4
Rema Stabili	rks: ty:					1	I	AG	J S

								Trialpit I	No	
<b>c</b> /	1 <b>2</b> /M:					Tri	al Pit Log	TPI3	<b>2</b>	
				Draia	at No.		Co. order: 457169.00 525051.00	Sheet 1	of 1	
Projec	ct Redcar	DVA Init	ial Ground Investigation	1 67807	79		Level	09/02/20	017	
Looot		loor		101001			Dimensions 4.4	Scale	3	
Local	1011. 331 Ret	ical					(m):	1:25		
Client	:: Homes	and Cor	nmunities Agency		1		2.10	Logge TL	d	
ater rike	Sample	es and	n Situ Testing	Depth	Level	Legend	Stratum Description			
St	Depth	Туре	Results				TOPSOIL: Dark brown sandy gravelly silt.			
	0.80	ES B		2.10			TPS Roots/rootlets MADE GROUND: Very dense grey and brownis sandy GRAVEL AND COBBLES with medium t boulder content. Gravel is fine to coarse, angul subangular of mostly slag with clinker. Cobbles rare red brick fragments. Boulders are slag up 600x500x500mm. Numerous fragments of pig 30mm thick up to 1000x800mm. Locally dark g MGR Large section of dark brickwork, not in-situ, north face of 1000x800x800mm piece of pig iron (possible bottom of la Yellow sand on east wall of pit. End of pit at 2.10 m	sh grey o high ar to are slag, co ron. rey/black. <i>bit. die</i> )		
Rema Stabil	irks:	1	·					AC	L S	
Checkel         Trial Pit Log         TP13           Street 10         Street 10         Street 10           Name:         Redear DVA Initial Ground Investigation (578079         Co-ords: 456091.00 - 525165.00         070222           Location:         SSI Redear         Dimensions         Samples         Samples           Clent:         Homes and Communities Agency         Depth         Location:         Samples and in Situ Testing         Depth         MADE GROUND: Cincas over signify growing samples and in Situ Testing         Depth         MADE GROUND: Cincas over signify sample samples         MADE GROUND: Cincas over signify samples         MADE GRO									Trialpit N	٩٥
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Project Name:     Redoar DVA Initial Ground Investigation (770202)     Project No. (78073     Co-ords: 45991.00 - 525165.00     Date (770202)       Location:     SSI Redcar     Dimensions (m)     Sale (m)     Sale (m) </td <td></td> <td>1<b>2</b>/M:</td> <td></td> <td></td> <td></td> <td></td> <td>Tri</td> <td>ial Pit Log</td> <td>TPI3</td> <td>3</td>		1 <b>2</b> /M:					Tri	ial Pit Log	TPI3	3
Project         Redcar DVA Initial Ground Investigation         Project No. (370222         Co-ordis: 439991.00 - 325165.00         Due (770222           Location:         SSI Redcar         Dimensions         55ele (1.25)         Science					<u> </u>			_	Sheet 1 c	of 1
Continue     (p) 000 / 3     Cerete.     Cerete.     (p) 000 / 3     Cerete.     Cerete.     (p) 000 / 3     Cerete.     <	Projec	ct Redcar I	DVA Init	ial Ground Investigatior		ct No. zo		Co-ords: 456991.00 - 525165.00	Date	17
LOCADION:       SSI RedCar       12:5         Client:       Homes and Communities Agency       Depth 3:70       12:5         Set       Samples and in Situ Testing       Depth (m)       Level (m)       Legend       Stratum Description         MADE       CROUND: Crass over slightly revel works and sing.       Scravel is fine to care available of scrave is fine to care suburdance to subangular of whilen sing (white mineral ingrew), rare clinker. Rare bricks, both broken and whole (rot, refractory). Broken; gravel- cobies and occasional boulders. Gravel is fine to care suburdance to subangular of shalls sing (white mineral ingrew), rare clinker. Rare bricks, both broken and whole (rot, refractory). Broken; gravel- cobies and boulders. Gravel is fine to care suburdance to subangular of sing, rare efficier / Cobbes and boulders of sing of the bounder to stangular of sing and the bottom of the train the coare subbinded to subangular of sing, rare efficier / Cobbes and boulders of sing of the bottom of the train provers. SAND AND GRAVEL with Request cobbes and boulders of sing of the bottom of the train provers. Sand Sand the bottom of the train provers. Sand Sand of the bottom of the train provers. Sand Sand of the bottom of the train provers. Sand Sand of the bottom of the train provers.         2.80       ES         3.30 - 3.60       B         3.370       Bed trained 3.56 m.					07007	9		Dimensions	Scale	17
Client:     Homes and Communities Agency     Level (m)     MAPE GROUND: Grass over slightly gravely very sandy slight the constraints of the cost over slightly gravely very sandy slight the cost over slightly gravely sandy GRAVEL with frequent cobles and costs on a bouldware of which the gravele coble slight cost over slightly gravely brown SAND AND GRAVEL with frequent cobles and costs on a docasional bouldware of slight gravele in the to cost over slightly gravely brown SAND AND GRAVEL with frequent cobles and costs on a docasional bouldware of slight gravele in the to cost over slightly gravele bazed, Solid slight at MGR       2.80     ES       3.30 - 3.60     B       3.30 - 3.60     B       3.30 - 3.60     B	Locat	ion: SSI Red	car					(m):	1:25	
By B	Client	:: Homes a	and Con	nmunities Agency		1	1	3.70	Loggeo LK	t
5 /g     Explinit     1/jest     including       0 20     0 20     MDE GROUND: Crass over slightly gravelly very sandy slight very sandy GRAVEL.       1 with request todates and occasional boulders. Gravel is fine to coarse of the mine all gravity methods and occasional boulders. Gravel is fine to coarse subrounded to subraugular of white leag todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine to coarse subrounded to subraugular of white height todates. Gravel is fine todates. Grave	/ater trike	Sample	s and I	n Situ Testing	Depth (m)	Level (m)	Legend	d Stratum Description		
	Water Strik	Depth 2.80 3.30 - 3.60	Type	Results	0.20 1.00			Image: Stratum Description         MADE GROUND: Grass over slightly gravelly versilag.         TPS         MADE GROUND: Whitish grey slightly sandy GR with frequent cobbles and occasional boulders. Of fine to coarse subrounded to subangular of whitis (white mineral ingrow), rare clinker. Rare bricks, the broken and whole (red, refractory). Broken; grave cobble sized.         MGR         MADE GROUND: Dark greyish brown SAND ANI GRAVEL with frequent cobbles and occasional boulders of slag, rare clinker?. Cobbles and boulders of slag (whitish), less cobbly towards base. Rare refractor red brick fragments (gravel-cobble sized). Solid st the bottom of the trial pit. MGR         TP Terminated at 3.7m due to groundwater         End of pit at 3.70 m	y sandy e of AVEL ravel is sh slag both al- D oulders. ar of bry and slag at	2
Remarks:	Rema	ırks:							AG	5 –

								Trialpit I	No
ch	<b>2</b> M:					Tri	ial Pit Log	TPI3	4
								Sheet 1 of	of 1
Project	Redcar I	DVA Initia	al Ground Investigation	Projec ו	ct No.		Co-ords: 457040.00 - 525151.00	Date	117
i tume.				07807	9		Dimensions 4.5	Scale	
Locatio	n: SSI Red	car					(m):	1:25	
Client:	Homes a	and Com	munities Agency				Depth ∾ 3.80	Logge TI	d
له م	Sample	s and In	Situ Testing	Depth	Level				
Strik	Depth	Туре	Results	(m)	(m)	Legend	d Stratum Description		
			Kesuits	0.05			TOPSOIL: Grass and dark brown silt. TPS MADE GROUND: Medium dense dark grey ver SAND with low to medium cobble content and it boulder content. Gravel is fine to coarse, angula subangular of slag, clinker, brick fragments and concrete. Boulders are slag. Ref content 5-10% MGR Dense compacted slag Up to 20% refractory brick, fragments and intact. Up to 20% refractory brick, fragments and intact.	y gravelly bw ar to	
Remark	<s: /:</s: 							AG	5 –

								Trialpit No	
	1 <b>2</b> /M:					Tri	ial Pit Log	<b>TPI35</b>	
				Droiog	t Nia		Calarday 457002.00 525120.00	Sheet 1 of 1	
Projec	ct Redcar I e:	DVA Initi	al Ground Investigation	67807	9 '9		Level.	07/02/2017	
Locati	ion: SSI Dod	car		10.000	-		Dimensions 4.6	Scale	
Locau		cai					(m): Depth	<u>1:25</u>	
Client	: Homes a	and Com	imunities Agency				2.40	Logged	
er	Sample	es and li	n Situ Testing	Depth	Level	Lagang			
Wat Strij	Depth	Туре	Results	(m)	(m)	Legend			
Rema	1.40 - 1.60 1.50	B ES		0.20			gravelly sandy silt with frequent rootlets. Gravel i coarse of slag. TPS MADE GROUND: Dark grey very gravelly SANE occasional cobbles and rare boulders. Sand is fi coarse. Gravel is fine to coarse subrounded to subangular of slag, clinker. Cobbles and boulders NGR MADE GROUND: whitish grey slightly sandy gra occasional cobbles. Gravel is fine to coarse subr to subangular of slag (white mineral ingrow). MGR MADE GROUND: Greyish yellow slightly gravelly Gravel is fine to coarse subrounded to subangula slag. Rare gravel-cobble sized broken brick fragr (red and refractory). MGR TP Terminated at 2.4m due to suspected services. End of pit at 2.40 m	s fine to vith ne to s of ry. vel with ounded 1 (SAND. ar of nents 3 4 5	
Stabili	ity:							AGS	

								Trialpit N	٩N
ch	<b>12</b> / <b>1</b> /:					Tri	al Pit Log	TPI3	6
								Sheet 1 c	of 1
Projec Name	ct Redcar I	DVA Initi	al Ground Investigatior	1 Projec	CT INO. 79		Co-ords: 457144.00 - 525106.00	Date 07/02/20	)17
				01001	0		Dimensions 4.6	Scale	
Locati	on: SSI Red	car					(m):	1:25	
Client	: Homes a	and Corr	nmunities Agency				4.20		b
/ater trike	Sample	es and l	n Situ Testing	Depth (m)	Level (m)	Legenc	Stratum Description		
	1.50 2.00 - 2.40 3.50	ES		2.40			MADE GROUND: Grass over medium dense di gravelly SAND with low to medium cobble and l boulder content. Gravel is fine to coarse, angula subangular of slag, clinker, brick and burnt lime are slag, clinker and brick. Abundant white strai slag pieces. MGR Strong sulfur odour noted Railways sleeper in east wall MADE GROUND: Loose greyish yellow slightly SAND with occasional shells. Gravel is rounder coarse of mixed lithologies. Occasional interbeds grey bands ~50mm thick. Occasional interbeds grey sandy gravel dipping west. (POSSIBLE N/ MGR	ark grey ow ar to . Cobbles ning on gravelly j, fine to tal dark of light \TURAL)	1 2 3 4 5
Rema Stabili	rks: ity:				<u> </u>	<u> </u>	1	AC	I S

								Trialpit N	0
Ch	1 <b>2</b> /M:					Tri	ial Pit Log	TPI37	7
Droigo				Projec	t No		Co-ords: 457186.00 - 525092.00	Sheet 1 of	1
Name	: Redcai	DVA Initi	al Ground Investigation	67807	'9		Level:	09/02/201	17
Locati	on: SSI Re	dcar		1			Dimensions 4.6	Scale	
							(m): Depth	1:25	
Client	Homes	and Com	imunities Agency		1	1	4.20	LK	
ike	Samp	les and li	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wa Str	Depth	Туре	Results	(m)	(m)			ha l	
	1.00	ES		0.20			MADE GROUND: Crass over dark brown slightly gravelly silty sand with frequent rootlets and ram cobbles. Gravel is fine to coarse subrounded to subangular of slag. TPS MADE GROUND: Greyish brown gravelly SANI occasional cobbles and boulders. Gravel is fine coarse subrounded to subangular of slag, possi clinker. Occasional bricks, mostly broken gravel size (70% red, 30% refractory) total <5%. Rare size pieces of white weak material (looks like sh Patches of orangish red material. Patches of lig sand, yellow sand, black gravelly sand around t 2 cast iron pipes @0.6m (possibly waste). Rare tiles/slate. Red brick wall with a coating on the r looking at excavator, from around 0.8m to the bi the trial pit, dipping slightly away from excavator MGR MADE GROUND: Whitish grey slightly sandy G with frequent cobbles and rare boulders. Gravel coarse subrounded to subangular of whitish slag. Cobbles and boulders of whitish slag, slag. Red the left side looking at the excavator, more sand MGR	D with to bly some - cobble gravel nale). ht yellow he pipes. roof ight side ottom of r. RAVEL I is fine to g, slag. Idish on dy.	1
				2.90			excavator 50/50 broken/whole MGR MGR MADE GROUND: Greyish yellow slightly gravel Sand is fine to coarse subangular to subrounde Occasional gravel size brick fragments (red and refractory. Rare glass fragments, occasional sm fragments. MGR TP Terminated at 2.4m due to groundwater	ly SAND. d of slag. l possibly all shell	3
				4.20			End of pit at 4.20 m		4
Rema Stabili	rкs: ty:							AG	S

							Trialpit N	lo
Ch	<b>2</b> <i>M</i> :					Tri	al Pit Log S2-TP4	45
							Sheet 1 o	of 1
Projec Name	t Redcar	DVA Initia	al Ground Investigation	Project 67807	ct No. ′9		Co-ords: 456940.00 - 525800.00 Date Level: 11/05/201	17
Locati	on: SSI Rec	lcar			-		Dimensions 4 Scale	
Locali							(m): Denth	4
Client:	Homes	and Com	munities Agency		1	1		I 
/ater trike	Sample	es and In	Results	Depth (m)	Level (m)	Legend	Stratum Description	
≤ 0	Deptit	Туре	Results	0.10			TOPSOIL	
				0.70			TPS MADE GROUND: Medium dense, brown very gravelly SAND with medium cobble content of slag. Gravel is angular to subrounded. Slight hydrocarbon odour. MGR 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	1 2 3 4
Rema	rks:							5 -
Stabili	ty:						AG	S

								Trialpit	No
Ch	<b>2</b> <i>M</i> :					Tri	al Pit Log	S2-TP	<b>'46</b>
							0	Sheet 1	of 1
Projec	t Redcar	DVA Initia	I Ground Investigation	Projec	ct No.		Co-ords: 456991.00 - 525785.00	Date	_ / _
Name				67807	79		Level:	11/05/20	)17
Location	on: SSI Red	lcar					(m):	1:25	;
Client:	Homes	and Comr	munities Agency					Logge	d
<u> </u>	Sample	es and In	Situ Testing	D			4.50	AC	
Water Strike	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description	- 4-	1
	0.70 - 1.00	в					Course, angular to subangular GRAVEL of slag cobble content and medium boulder content wit Sulfur odour. MGR Occasional fine to medium, angular to subangular fragmen brick	with high h a slight nts of red	1
	2.00	ES		4.50			"End of pit at 4.50 m		2
Remai	rks: tv:							AC	5 –

-								Trialpit N	No
ch	<b>2</b> M:					Tri	al Pit Log	S2-TP	47
								Sheet 1 c	of 1
Project Name:	Redcar I	DVA Initia	al Ground Investigation	Projec	a NO.		Co-ords: 457064.00 - 525786.00	Date 11/05/20	17
Loootio		oor		01001	0		Dimensions 4.3	Scale	
Locatio	011. 331 Reu	Cal					(m):	1:25	
Client:	Homes a	and Com	imunities Agency				4.30	Logged LK	a
ke r	Sample	es and Ir	n Situ Testing	Depth	Level	Legenc	Stratum Description		
Wa Stri	Depth	Туре	Results	(m)	(m)				_
	0.50	ES		0.20			TOPSOIL TPS MADE GROUND: Medium dense brown very gr SAND with medium cobble, medium boulder and large boulder content, all of slag. Gravel is fine t angular to subangular of slag. Rare brick fragme scrap metal. MGR MADE GROUND: Medium dense greyish brown fine to coarse, angular to subangular GRAVEL w cobble and medium boulder content, both of slar rare small red and refractory brick fragments an scrap metal. Sulfur odour. MGR	avelly d low o coarse, ents and n sandy vith high g. With d rare	2 -
▼	4.00	ES		4.30			End of pit at 4.30 m		4
Remark	кs: y:							AG	S

								Trialpit I	No
ch	<b>2</b> <i>M</i> :					Tri	al Pit Log	S2-TP	<b>248</b>
	#							Sheet 1	of 1
Projec	t Redcar	DVA Initial	Ground Investigation	Projec	ct No.		Co-ords: 457115.00 - 525756.00	Date	
		loor		0/80/	9		Dimensions 4.3	Scale	)   / )
Locatio	on: SSI Rec	ICAL					m): Depth	1:25	d
Client:	Homes	and Comm	nunities Agency				4.20	AC	u
ike r	Sample	es and In S	Situ Testing	Depth	Level	Legend	Stratum Description		
Stri Stri	Depth	Туре	Results	(m)	(m)				
	0.80 0.80 - 1.10	ES B		0.10			TOPSOIL TPS         MADE GROUND: Light greyish brown silty very fine to coarse, angular to subrounded GRAVEL and clinker.         MGR         MADE GROUND: Dark grey/black slightly clays fine to coarse angular to subangular GRAVEL of clinker, red brick with large half brick/fragments refractory brick, plastic, cloth, red brick and occ wood fragments. Slight hydrocarbon odour.         MGR         MADE GROUND: Dark grey very sandy fine to angular to subangular GRAVEL of slag and aer with cobbles of slag.	y sandy of slag ey, sandy of slag, s of casional	2
	4.20	ES		4.40			Ēnd of pit at 4.20 m		5 -
Remai Stabili	rks: ty:							AC	

								Trialpit I	No
Ch	<b>12</b> <i>M</i> :					Tri	ial Pit Log	S2-TP	'49
								Sheet 1	of 1
Projec	Redcar I	DVA Initi	al Ground Investigation	Projec	ct No.		Co-ords: 457175.00 - 525726.00	Date	
Name				67807	′9		Level:	12/05/20	)17
Locati	on: SSI Red	car					(m):	1:25	:
Client	: Homes a	and Con	nmunities Agency				Depth N 4.00	Logge LK	d
er (e	Sample	s and I	n Situ Testing	Depth	Level	Lagana			
Wat Strik	Depth	Туре	Results	(m)	(m)	Legend			1
	0.40	ES		0.10			MADE GROUND: Layer of solid slag with frequ	SAND with oulder gular to	
				1.30			refractory whole/fragmented refractory brick. MGR		1
	2.00	ES		4.00			MADE GROUND: Loose slightly reddish dark of slightly gravelly SAND with low cobble content Gravel is fine to coarse, subangular to subrour slag. Occasional refractory brick/brick fragmen scrap metal, plastic bags and wood fragments. MGR	prey of slag. Ided of ts. Rare	2
Rema Stabili	rks: ity:				<u> </u>	<u> </u>		AG	

-								Trialpit I	No
<b>c</b>	<b>12</b> <i>m</i> :					Tri	ial Pit Log	S2-TP	' <b>50</b>
								Sheet 1 of	of 1
Projec	t Redcar	DVA Initi	al Ground Investigatior	Projec	ct No.		Co-ords: 457227.00 - 525688.00	Date	
				0/80/	9		Level: Dimensions	Scale	)   /
Locati	on: SSI Rec	lcar					(m):	1:25	
Client	: Homes	and Com	munities Agency				2.40	Logge FM	d
er (e	Sample	es and li	n Situ Testing	Depth	Level	Lagana			
Wat Strik	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
	0.30 - 0.70 1.20 - 1.40 1.20 - 1.40	ES		0.70 2.30 2.40			MADE GROUND: Loose brown slightly gravelly with low cobble content of slag. Gravel is fine to angular of slag, aerate slag and iron. MGR Localised pockets of gravels and cobbles of slag. MADE GROUND: Loose yellow SAND with occ gravel of slag. Gravel is fine to coarse, angular subangular of slag (Possible hydraulic fill). MGR Loose dark yellow slightly gravelly SAND. Grav shell and occasional coal. MGR End of pit at 2.40 m	r SAND > coarse, asional to rel is of	
Rema Stabili	rks: ity:							AG	5 - 1 1 1 1 1

								Trialpit No	D
	1 <b>2</b> M:					Tri	al Pit Log	S2-TP5	51
								Sheet 1 of	1
Projec	ct Redcar I	DVA Initi	al Ground Investigation	Projec	ct No.		Co-ords: 457267.00 - 525672.00	Date	7
	·· · · · · · · ·			07007	9		Dimensions 3.9	Scale	/
Locati	ion: SSI Red	car					(m):	1:25	
Client	: Homes a	and Com	nmunities Agency		1	1	2.20	Logged LK	
ater ike	Sample	s and I	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wa Str	Depth	Туре	Results	(m)	(m)		MADE GROUND: Topsoil		
T	1.40 - 1.50 1.90 - 2.30	ES		0.10 0.40 1.80 2.20			TPS         MADE GROUND: Loose brown very gravelly S, medium cobble and medium boulder content. (fine to coarse subangular to angular of slag. Cc and boulders of slag, Rare brick fragments. (refr         MADE GROUND: Loose brown very sandy fine coarse, angular to subangular GRAVEL of slag medium cobble and medium boulder content, b slag. Occasional brick fragments (red, refractor MGR         Animal bone         MADE GROUND: Medium dense brownish grees andy fine to coarse, angular to subangular GR slag with high cobble and medium boulder content of slag.         MADE GROUND: Medium dense brownish grees andy fine to coarse, angular to subangular GR slag with high cobble and medium boulder content of slag.         MGR         MADE GROUND: Medium dense brownish grees and prine to coarse, angular to subangular GR slag with high cobble and medium boulder content of slag.         MGR         End of pit at 2.20 m	AND with Gravel is bibles actory) to with oth of y 50/50).	1 2 
Stabili	ity:							AG	S

								Trialpit No	C
	<b>h2m</b> :					Tri	ial Pit Log	S2-TP52	
							6	Sheet 1 of	1
Projec	ct Redcar	DVA Initi	al Ground Investigatior	Projec	ct No.		Co-ords: 457327.00 - 525661.00	Date	-
Name				67807	<i>'</i> 9		Level:	15/05/201 Scale	/
Locati	ion: SSI Red	car						1:25	
Client	:: Homes a	and Com	nmunities Agency				Depth	Logged LK	
er (e	Sample	es and l	n Situ Testing	Depth	Level	Lagand			-
Wat Strik	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
Rema	0.50 1.70 - 1.80	D		0.10			MADE GROUND: Loose greyish brown very sa to coarse, angular to subangular GRAVEL of si medium to high cobble, medium boulder and lo boulder content, all of slag. MGR MADE GROUND: Soft brown mottled orange s sandy gravelly CLAY. Gravel is fine to coarse subrounded to angular of various lithologies in slag, sandstone, grey rock (igneous) Occasion fragments (red) MGR MADE GROUND: Medium dense dark grey slig clayey slightly sandy fine to coarse, angular to subangular GRAVEL of slag with rare fabric. MGR End of pit at 2.40 m	andy fine lag with ow large	1 - 2 - 3 - 5 -
Stabili	ity:							AGS	S

							Trialpit I	No	
ch	<b>2</b> <i>M</i> :					Tr	ial Pit Log	S2-TP	<b>'</b> 53
								Sheet 1	of 1
Projec	t Redcar I	DVA Initi	al Ground Investigation	Projec	ct No.		Co-ords: 457379.00 - 525637.00	Date	
Name.				67807	'9		Level:	15/05/20 Soala	<u>J17</u>
Locatio	on: SSI Red	car					(m):	1:25	;
Client:	Homes a	and Com	munities Agency				2.30	Logge JNB	d
ater rike	Sample	es and li	n Situ Testing	Depth	Level	Legend	d Stratum Description		
S Ω	Depth	Туре	Results	0.05	(11)				<u> </u>
				2.30			TPS         MADE GROUND: Loose to medium dense slig very gravelly SAND with low cobble and boulde (<2%) both of slag.	the	1 - 2 - 3 - 4 - 5 -
Remar Stabili	rks: ty:		I					AG	□ àS

								Trialpit I	No
C	<b>12</b> <i>M</i> :					Tri	al Pit Log	S2-TP	'54
							<b>.</b>	Sheet 1 of	of 1
Projec Name	t Redcar I	DVA Initia	al Ground Investigatior	Projec 67807	ct No. ′9		Co-ords: 456928.00 - 525748.00 Level:	Date 12/05/20	)17
Locati	on: SSI Red	car					Dimensions 3.4	Scale	
							Depth	1:25	d
Client	Homes a	and Com	munities Agency		1		2.10	LK	u
ater ike	Sample	es and Ir	n Situ Testing	Depth	Level	Legend	Stratum Description		
Str Str	Depth	Туре	Results	(m)	(m)				
	0.20 - 0.30	ES		2.10			TPS MADE GROUND: Dense to very dense brownisi slightly sandy to sandy gravelly to very gravelly COBBLES AND BOULDERS of slag. Gravel is f coarse, angular to subangular of slag. Rare red fragments. MGR End of pit at 2.10 m	h grey ine to brick	
Rema	rks: Hydro	ocarbon	odour in area of pit					AG	_ 5 — ₽
Stabili	ty:								

								Trialpit N	No
C/	12M:					Tri	ial Pit Log	S2-TP	'55
							0	Sheet 1 of	of 1
Projec	ct Redcar	DVA Init	ial Ground Investigatior	Projec	ct No. 'a		Co-ords: 456995.00 - 525723.00	Date	117
Looot		door		01001	5		Dimensions	Scale	) )
Local	1011. 331 Red	JCal					(m):	1:25	
Client	: Homes	and Con	nmunities Agency				4.60	JNB	a
ike ike	Sampl	es and I	n Situ Testing	Depth	Level	Legend	d Stratum Description		
str Str	Depth	Туре	Results	(m)	(m)		MADE GROUND: Medium dense light grev san	dy fine to	
	0.50	LB		1.80			MADE GROUND: Medium dense light grey sam coarse, angular to subangular GRAVEL AND CO MGR MADE GROUND: Medium dense light grey sam coarse, angular to subangular GRAVEL AND CO with low boulder content of aerated slag. Sulfur noted. MGR MADE GROUND: Loose yellowish brown slightl gravelly, fine to coarse sand. (Possible Natural). MGR	dy fine to DBBLES our noted. dy fine to DBBLES odour	
Rema	ity:							AG	5 -

								Trialpit N	٩N
Ch	<b>12</b> <i>M</i> :					Tri	al Pit Log	S2-TP	56
							-	Sheet 1 c	of 1
Projec	t . Redcar	DVA Initi	al Ground Investigatior	Projec	ct No.		Co-ords: 457022.00 - 525716.00	Date	17
				07007	9		Dimensions 5	Scale	
Locati	on: SSI Red	icar					(m): ©	1:25	
Client	Homes a	and Corr	munities Agency				4.00	Loggeo AC	d
e e	Sample	es and li	n Situ Testing	Depth	Level				
Wat Strik	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
	2.60	LB		2.80			MADE GROUND: Dark grey very sandy very gr Gravel is fine to coarse, angular to subangular of slag. MGR MADE GROUND: Dark grey very sandy very gr COBBLES with medium boulder content both of Gravel is fine to coarse, angular to subangular of MGR	avelly slag. f grey	2
Rema Stabili	rks: ty:							AG	5 - I I I I I

								Trialpit I	No
	1 <b>2</b> /M:					Tri	al Pit Log	S2-TP	י57
								Sheet 1	of 1
Projec	ct Redcar I	DVA Initi	al Ground Investigation	Projec	ct No.		Co-ords: 457083.00 - 525694.00	Date	047
Iname				0/80/	9		Level: Dimensions 4.5	Scale	7 11
Locat	ion: SSI Red	car					(m):	1:25	•
Client	:: Homes a	and Com	munities Agency		-		Depth ~i 4.30	Logge JNB	d
later irike	Sample	es and li	n Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
≥ ≌	Depth	туре	Results	()	()		MADE GROUND: Loose brown very sandy fine	e to	-
	0.30	LB		0.40			MADE GROUND: Loose brown very sandy fine coarse, angular to subangular GRAVEL of slag MGR MADE GROUND: Loose to medium dense blue sandy fine to coarse angular to subangular GR AND COBBLES of slag with slight Sulfur odour MGR	e to eish grey AVEL	2 -
									5 -
Rema Stabil	arks: ity:	<u> </u>			<u> </u>	1	1	AC	

								Trialpit No
C/	12M:					Tri	al Pit Log	S2-TP58
							9	Sheet 1 of 1
Projec	ct Redcar	DVA Initia	al Ground Investigation	Projec	t No.		Co-ords: 457126.00 - 525675.00	Date
Name				67807	'9		Level:	17/05/2017 Scale
Locati	ion: SSI Red	lcar					(m):	1:25
Client	:: Homes a	and Com	munities Agency				Depth 4 30	Logged
50	Sample	es and In	Situ Testing	Denth			1.00	
Wate	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description	
				0.10			MADE GROUND: Topsoil TPS MADE GROUND: Medium dense greyish brow	n very
							gravelly SAND with medium cobble and low bo content both of slag. Gravel is fine to coarse, s to angular of slag. Rare brick fragments (refrac MGR	ulder ubangular ctory).
				0.60			Layer of grey slag. MADE GROUND: Loose dark grey slightly silty SAND with low cobble content of slag. Gravel i	gravelly s fine to
							fragments (refractory/red 80/20%). MGR Occasional pockets of soft dark grey silty clay (hydrocarb	on odour). 1 -
	1.20 3.60 - 3.70	ES		3.80			From 2.5: Turning reddish brown with more frequent red I fragments MADE GROUND: Medium dense yellow SAND pockets of grey silty sand (Possible Natural). MGR	2 - brick 3 -
				4.30			End of pit at 4.30 m	5 -
Rema Stabil	arks: ity:	<u> </u>			<u> </u>	1	1	AGS

								Trialpit No
	1 <b>2</b> /M:					Tri	al Pit Log	S2-TP59
							-	Sheet 1 of 1
Projec	ct Redcar	DVA Initia	al Ground Investigatior	Projec	ct No.		Co-ords: 457197.00 - 525630.00	Date
Name				07807	9		Dimensions 3.6	Scale
Locati	ion: SSI Red	car						1:25
Client	: Homes a	and Com	munities Agency				Depth Ni 3.10	Logged JNB
er (e	Sample	es and In	Situ Testing	Depth	Level	Lagana		
Wat Strij	Depth	Туре	Results	(m)	(m)	Legenc		
	2.50 - 3.00 3.00	B		0.20 0.70 1.80 3.10			MADE GROUND: Loose brown gravelly SAND. C fine to coarse, angular to subangular of slag. MADE GROUND: Medium dense to dense very of SAND with low cobble content of slag and rare fragments of refractory brick. Gravel is fine to coar angular to subangular. MGR MADE GROUND: Loose orangish brown gravelly Gravel is fine to coarse, angular to rounded of sla (?) and aerated slag. MGR Becoming very gravelly with low cobble content of slag. MADE GROUND: Loose black and grey and orar brown, medium to coarse gravelly SAND. Gravel to coarse of slag with rare cobbles. Strong hydrou odour and black layer of coal dust/coal tar fragme MGR	Fravel is         jravelly         irse         SAND.         ag, flint         1         rgish         is fine         carbon         Points.         2         3
								5
Rema Stabili	irks:	<u> </u>						AGS

								Trialpit N	No
<b>c</b>	<b>12</b> <i>M</i> :				Tri	al Pit Log	S2-TP	<b>'60</b>	
							0	Sheet 1 o	of 1
Projec	t Redcar	DVA Init	al Ground Investigatior	Projec	ct No.		Co-ords: 457232.00 - 525623.00	Date	247
Name	·			67807	9		Level: Dimensions	10/05/20 Scale	<u>, 11</u>
Locati	on: SSI Red	car					(m):	1:25	•
Client	: Homes	and Con	nmunities Agency				Depth 2.20	Logge	d
л e	Sample	es and I	n Situ Testing	Depth	Level				
Vate Strik	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
	2.00	B		0.20			<ul> <li>MADE GROUND: Slag and building rubble (gracobbles, boulders, bricks, scrap metal, plastic fover dark brown gravelly sand. Gravel is fine to subrounded to angular of slag. Rare small brick fragments (red).</li> <li>MGR</li> <li>MADE GROUND: Loose to medium dense grebrown very gravelly SAND with medium cobble boulder content, both of slag. Gravel is fine to osubangular to angular of slag.</li> <li>MADE GROUND: Medium dense brownish gressandy fine to coarse, angular to subangular GF slag with low cobble content of slag.</li> <li>MADE GROUND: Dense grey slightly sandy fir coarse, angular to subangular GRAVEL of slag medium cobble and medium boulder content, b slag.</li> <li>MGR</li> <li>MADE GROUND: Dense grey slightly sandy fir coarse, angular to subangular GRAVEL of slag medium cobble and medium boulder content, b slag.</li> <li>MGR</li> <li>End of pit at 2.20 m</li> </ul>	avel, fragments) o coarse, ck yish e and low coarse ey very RAVEL of	
									5 -
Rema Stabili	rks: ity:							AG	I IS

								Trialpit No
	1 <b>2</b> M:					Tri	al Pit Log	S2-TP61
							<b>.</b>	Sheet 1 of 1
Proje	ct Redcar I	DVA Init	al Ground Investigation	Projec	ct No.		Co-ords: 457294.00 - 525588.00	Date
				0/80/	9		Dimensions 2.4	Scale
Locat	ion: 551 Red	car					(m):	1:25
Client	t: Homes a	and Con	nmunities Agency		1		2.20	Logged JNB
ater ike	Sample	es and I	n Situ Testing	Depth	Level	Legend	Stratum Description	
ŝţ	Depth	Туре	Results	(m)	(m)		MADE CROLIND: Loose dark brown slightly silt	y gravelly
Wa Stri	Depth 0.20 2.10	ES	Results	(m) 1.20 2.10 2.20	(m)		MADE GROUND: Loose dark brown slightly silt SAND. Gravel is fine to coarse angular to subar slag, iron and rare small lumps of coal tar(?). MGR Becoming greyish brown and very gravelly with medium of content. MADE GROUND: Medium dense, greyish brown sandy fine to coarse, angular to subangular GR with medium to high cobble content of aerated s slag. MGR MADE GROUND: Loose dark blackish grey gras SAND with low boulder content and rare wood. fine to coarse, angular to subangular of slag. SI hydrocarbon sheen on samples. MGR End of pit at 2.20 m	y gravelly igular of obble 1 n very AVEL slag and 2 velly Gravel is ight 3 4 4
								5 -
Rema Stabil	arks:	<u> </u>			<u> </u>	<u> </u>		AGS

								Trialpit No	0
Ch	<b>12</b> <i>M</i> :					Tri	ial Pit Log	S2-TP6	52
							0	Sheet 1 of	i 1
Projec Name	t Redcar	DVA Initi	al Ground Investigation	Projec	ct No. 'o		Co-ords: 457349.00 - 525563.00	Date	17
				01001	5		Dimensions	Scale	
Locau	on: SSI Red	icar					(m):	1:25	
Client	Homes a	and Con	nmunities Agency				2.50	Logged LK	
/ater trike	Sample	es and I	n Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
≤ v	Deptil	туре	Results	0.05			MADE GROUND: Topsoil		
	0.50	ES		0.90			MADE GROUND: Medium dense light brownisi sandy fine to coarse, angular to subangular GF slag with high cobble and high boulder content, slag and occasional red brick fragments. MGR MADE GROUND: Dense brownish grey slightly very gravelly COBBLES AND BOULDERS of sl occasional large boulders. Gravel is fine to coa	/ sandy lag with rse	1 —
T	2.00 - 2.50	LB					subangular to angular of slag. MGR Slight oil sheen at water level. Cannot sample due to soil	too coarse.	2
				2.50			End of pit at 2.50 m		3
Rema	rks: ty:	<u> </u>			1	<u> </u>	1	AGS	S

								Trialpit N	٩N
	12M:					Tri	al Pit Log	S2-TP	63
							<b>.</b>	Sheet 1 o	of 1
Projeo Name	ct Redcar	DVA Init	ial Ground Investigatior	Projec 67807	rt No. '9		Co-ords: 456968.00 - 525704.00 Level:	Date 10/05/20	)17
Locat	ion: SSI Re	dcar					Dimensions 5	Scale	
							Depth	1:25 Logge	d
Client	:: Homes	and Con	nmunities Agency				3.50	LK	
Water Strike	Depth	Type	Results	Depth (m)	Level (m)	Legend	I Stratum Description		
Rema	1.90 arks:	ES		0.10			MADE GROUND: Topsoil TPS MADE GROUND: Medium dense greyish brown sandy gravel to very gravelly SAND with medium and boulder content, both of slag with small red fragments. Gravel is fine to coarse subangular to of slag. Cobbles and boulders of slag. MGR MADE GROUND: Dense to very dense grey slig sandy fine to coarse, angular to subangular GR/ slag with high cobble, medium boulder and low f medium large boulder content all of slag with rar metal fragments. MGR Occasional red brick fragments. MGR	very n cobble brick o angular htty AVEL of to re scrap	
Stabil	ity:							AG	S

								Trialpit I	No
ch	<b>12</b> /M:					Tri	ial Pit Log	S2-TP	64
							-	Sheet 1	of 1
Projec Name	t Redcar l	DVA Initia	al Ground Investigation	Projec 67807	ct No. '9		Co-ords: 456998.00 - 525666.00 Level:	Date 17/05/20	)17
Locati	on: SSI Red	car					Dimensions 4.8	Scale	
							(m): Depth	1:25	d
Client	: Homes a	and Com	munities Agency		-	1	4.00	Logge	u
/ater trike	Sample	es and Ir	n Situ Testing	Depth (m)	Level (m)	Legend	d Stratum Description		
<u>&gt; 0</u>	Deptin	турс	results				MADE GROUND: TOPSOIL with rubble includin scrap metal and plastics.	ng timber,	-
	0.30	LB		0.20			Scrap metal and plastics. MGR MADE GROUND: Medium dense to very dense grey slightly silty fine to coarse angular to subal SAND AND GRAVEL with medium cobble conter low boulder content of slag. MGR MADE GROUND: Dense to very dense greyish sandy fine to coarse, angular to subangular GR with high cobble content and low to medium bo content of slag. MGR	a light ngular ent and brown AVEL ulder	2
									5 -
Rema Stabili	rks: ity:	I			·		·	AC	I S

								Trialpit No	
Ch	21	1:				Tri	al Pit Log	S2-TP65	5
		3.54						Sheet 1 of 1	
Projec	t Rec	dcar DVA I	nitial Ground Investigatio	n Projec	ct No.		Co-ords: 457056.00 - 525650.00	Date	
iname	•			67807	79		Level: Dimensions	17/05/2017 Scale	
Locatio	on: SSI	Redcar					(m):	1:25	
Client:	Hor	mes and C	ommunities Agency				Depth 3.20	Logged LK	
re e	Sa	mples an	d In Situ Testing	Depth	Level				
Wate Strik	Dept	n Typ	e Results	(m)	(m)	Legend	Stratum Description		
	2.00	ES		0.50			MADE GROUND: Slag rubble over medium deb brownish grey sandy fine to coarse, angular to subrounded GRAVEL of slag with medium cobb low boulder content, both of slag. MGR MADE GROUND: Dense slightly browning grey sandy fine to coarse, angular to subangular GR slag with high cobble and low boulder content, slag. MGR Very dense with medium boulder content MADE GROUND: Medium dense orangish yello (Possible Natural). MGR	nse ple and r slightly AVEL of both of 1 2 pw SAND 3 3 4	
Remai Stabili	rks: ty:							AGS	

								Trialpit N	10
Ch	h2m:					Tri	al Pit Log	S2-TP66	
							5	Sheet 1 o	of 1
Projec	t Redcar	DVA Initial	Ground Investigation	Projec	ct No.		Co-ords: 457116.00 - 525598.00	Date	
Name				67807	'9		Level:	18/05/20 <sup>-</sup>	17
Location	on: SSI Red	dcar					(m):	1:25	
Client:	Homes	and Comn	nunities Agency				Depth	Logged	ł
5 0	Sampl	es and In	Situ Testing	Donth	Loval		2.90	LK	
Wate Strike	Depth	Туре	Results	(m)	(m)	Legend	I Stratum Description		
				2.90			TPS MADE GROUND: Medium dense to very dense brownish grey sandy fine to coarse, angular to subangular GRAVEL of slag with high cobble an boulder content, both of slag and rare refractory fragments. Sulfur odour. MGR	e nd low y brick	1 2 3
									  5
Remai Stabili	rks: ty:				<u> </u>	<u> </u>	1	AG	J S

								Trialpit	No
C/	1 <b>2</b> M:					Tri	ial Pit Log	S2-TP	°67
							<b>U</b>	Sheet 1	of 1
Projec Name	ct Redcar I	DVA Initi	al Ground Investigatior	Projec	ct No. 70		Co-ords: 457168.00 - 525594.00	Date	017
Locati		oor		07007	5		Dimensions 4	Scale	3
		cai					(m):	1:25	d
Client	:: Homes a	and Corr	nmunities Agency		1		1.90	LUgge	u
/ater trike	Sample	s and l	n Situ Testing	Depth (m)	Level (m)	Legend	d Stratum Description		
Wa Stri	Depth 1.50	ES	Results	(m) 0.30 1.90	(m)		MADE GROUND: Loose dark brown slightly sil fine to coarse SAND. Gravel is fine to coarse, a subangular of slag. MAR MADE GROUND: Loose dark brown slightly sil fine to coarse SAND with low cobble content, ti occasional plastics and dead pieces of cable. C fine to coarse, angular to subangular of slag, ra MGR End of pit at 1.90 m	ty gravelly mber, Gravel is ire brick.	1 - 1 - 2 - 3 - 4 -
									5 -
Rema Stabil	arks:							AC	I iS

Chinamic         Trial Pit Log         S2-TP68           Sheet 1 of 1         Sheet 1									Trialpit No	D
Project         Occurds:         Stret 1 of 1           Name:         Redcar DVA Initial Ground Investigation         Project No.         Co-ords:         457220.00 - 525580.00         1805/2017           Location:         SSI Redcar         Dimensions         Scale         Scale         Scale         1805/2017           Client:         Homes and Communities Agency         Dimensions         Scale         Scale         Scale         1205/2017           38 groups         Samples and In Situ Testing         Depth         Level         Stratum Description         Kontesting of the scale         NADE GROUND: Content of stag. Scale         NADE GROUND: Instent of stag. Scale         NADE GROUND: Instent of stag. Scale         NADE GROUND: Modure firet to scale	Ch	<b>2</b> <i>M</i> :					Tri	ial Pit Log 🔰 🛛	32-TP6	38
Project IV         Reduct DVA Initial Ground Investigation (770 P)         Co-ords: 457220.00 - 625580.00         Date 180552017           Location:         Staledcarr         Immediate International In								<b>U</b>	Sheet 1 of	<sup>-</sup> 1
Name:         Description         130/05/2017         Level:         130/05/2017           Location:         SSI Redcar         Dimensions (m)::         Scale         Scale           Client:         Homes and Communities Agency         Depth         Logged         Scale           38         Depth         Type         Results         Provide Scale         Scale           1         0.00         (m)         Level         Scale         Scale           1         0.01         Type         Results         Provide Scale         Scale           0.70 - 1.00         B         0.50         MADE CROUND Losse pluton brown growthy GNU         MADE CROUND Losse pluton brown growthy GNU           1         0.70 - 1.00         B         0.50         MADE CROUND Closes bound and scale and provider growthy growthy find the constant and pluton of sing. Growt is submunded to angular of sing. MGR         1           1         1.20         MADE CROUND Perse to very dense grow very sensitive to actual angular of subgrowthe find the constant a	Projec	t Redcar	DVA Initial	I Ground Investigatior	Projec	ct No.		Co-ords: 457220.00 - 525580.00	Date	
Location:     SSI Redcar     State     State     State       Client:     Homes and Communities Agency.     Depth     I.25     Logged       3 g g s samples and in Situ Teeting     Depth     Level     Legend     Stratum Description       Where Sort Count is the Stratum Description     MADE GROUND. Locate velocifies toom some subangular to angular of slag and some iron picots.     Made: GROUND. Coose velocifies toom some subangular to angular of slag and some iron picots.       0.70 - 1.00     B     0.50     MADE GROUND. Dense to very dense grey very and y time to coase, angular to angular of slag and some iron picots.     1       1.50     ES     1.20     MADE GROUND. Dense to very dense grey very and y time to coase, angular to angular of slag.     1       1.50     ES     1.80     1.80     I.80     I.80     I.80       Remarks:     Remarks:     Final or picots     1     I.80     I.80	Name	:			67807	79		Level:	18/05/201	7
Client:     Homes and Communities Agency     Depth     Logged       B g / B     Samples and In Situ Testing     Depth     Level Logged       0 / Depth     Type     Results     (m)     Legend     Stratum Description       MADE GROUND: Losse velowesh traven gravely SAND with hew cobles content of sig. Gravel is fine to coarse with the cobles and toom topics.     MADE GROUND: Losse velowesh traven gravely SAND with hew cobles and toom topics.       0.70 - 1.00     B     0.50     Manual Samples and a subnunded to angular of sig. Gravel is fig. Gravel is fig. Gravel is subnunded to angular of sig. Gravel is subnunded to angular of sig. Gravel is fig. Gravel is subnunded to angular of sig. Gravel is fig. Gravel	Locati	on: SSI Red	lcar					(m):	Scale 1:25	
Bartine Samples and in Situ Testing         Depth         Level         Legend         Statum Description           Bartine Samples and in Situ Testing         Depth         Type         Results         Im         Im         Im         Legend         MADE GROUND Lose splication brown growthy GMD           0.70 - 1.00         B         0.50         MADE GROUND Medium dense to dense grey very growthy GMD with medium cobbe and issue Context of slag, MGR         1           0.70 - 1.00         B         0.50         MADE GROUND Medium dense to dense grey very growthy GMD with medium cobbe and issue Context of slag, MGR         1           1.50         ES         1.20         MADE GROUND Dense to very dense grey very sandy the to coarse, angular to subsounded to angular of slag. MGR         1           1.50         ES         1.80         1.80         Eth of site of site of site of median dense to dense grey very sandy the to coarse, angular to subsounded to angular of slag. Hydrocorten odour.         4           MGR         1.80         1.80         Eth of site of site of median dense to dense grey very sandy the to coarse, angular to subsounder context of slag. Hydrocorten odour.         4           MGR         1.80         1.80         Eth of site of site of site of median dense to dense grey very sandy the to coarse, angular to subsounder context of slag. Hydrocorten odour.         4           Remarks:         Im         Im	Client	Homes a	and Comn	munities Agency				Depth	Logged	
B age in the solution of the so		Somula		Situ Tooting					LK	
S 0       Jophin       Hypo       Freedom       MADE CROUND: Loade relative is fine to canapacity CAND         0.70 - 1.00       B       0.50       MADE CROUND: Medium dense to dense grey very samdy fine to canapacity CAND with medium coble and low builder coments. Building GRAVEL of stag very dense grey very samdy fine to canapacity CAND with endium coble and low builder coments. Building GRAVEL of stag very were mediated to angular of stag. Cravel is subrounded to angular of stag. Were subrounded to angular of subrounded to angular of stag. Were subrounded to angular of subrounded to angular of subrounded to angular of subrounded to angular of stag. Were subrounded to angular of stag. Were subrounded to angular of subroun	/ater trike	Denth		Results	Depth (m)	Level (m)	Legend	Stratum Description		
Remarks:	Wate	Depth 0.70 - 1.00 1.50	Type	Results	0.50 1.20 1.80			I         Stratum Description           MADE GROUND: Loose yellowish brown gravelly 5 with low cobble content of slag. Gravel is fine to co subangular to angular of slag and some iron pieces MGR           MADE GROUND: Medium dense to dense grey very gravelly SAND with medium cobble and low boulde content, both of slag. Gravel is subrounded to angu- slag. MGR           MADE GROUND: Dense to very dense grey very s fine to coarse, angular to subangular GRAVEL of sl with medium cobble and low boulder content of sla Hydrocarbon odour. MGR           End of pit at 1.80 m	SAND arse s. ry rr ilar of	1 - 2 - 3 - 4 -
	Rema	rks:								5 -

								Trialpit N	10
C	12M:					Tri	al Pit Log	S2-TP	69
							0	Sheet 1 o	of 1
Proje	ct Redcar	DVA Initia	al Ground Investigation	Projec	ct No.		Co-ords: 457253.00 - 525528.00	Date	17
Lesst	,. 			0/00/	9		Dimensions 4.1	Scale	17
Locat	Ion: SSI Rec	icar					(m): vi	1:25	
Client	:: Homes	and Com	munities Agency				3.00	JNB	1
ter ke	Sampl	es and In	Situ Testing	Depth	Level	Legend	Stratum Description		
Wa. Stri	Depth	Туре	Results	(m)	(m)	xxxxxxx			
Rema	2.00	ES		1.80 2.10 3.00			silty gravelly SAND with low cobble content and refractory brick fragments. Gravel is fine to coa angular to subrounded of slag, dark blue dense MGR Becoming medium dense to dense, blueish grey/brown w SAND with medium cobble content of slag. Becoming dense to very dense. MADE GROUND: Medium dense to dense blad sandy GRAVEL with low cobble content of slag odour and appearance. MGR MADE GROUND: Loose black and grey gravel with low cobble content. Gravel of slag. Slight hydrocarbon odour. MGR End of pit at 3.00 m	t rare rse, ⊧ slag. ∍ <i>ry gravelly</i> k very . Tar ly SAND	1 2 3 
Stabil	ity:							AG	S

								Trialpit N	٩٥
	<b>12</b> <i>M</i> :					Tri	ial Pit Log	S2-TP	70
							-	Sheet 1 o	of 1
Projec	Redcar I	DVA Initia	al Ground Investigatior	Projec	ct No. vo		Co-ords: 457406.00 - 525545.00	Date	17
Loooti	Ion: CCI Dod			107007	5		Dimensions 4	Scale	17
Locali	011. 331 Reu	cai					(m):	1:25	
Client	: Homes a	and Com	munities Agency				2.70	JNB	נ
ke r	Sample	es and Ir	n Situ Testing	Depth	Level	Legend	Stratum Description		
Š	Depth	Туре	Results	(11)			MADE GROUND/TOPSOIL: Loose brown slight very gravelly SAND with low cobble content. Gr fine to coarse, angular to subangular of slag and bride	tly silty avel is d rare	
	0.60	ES		0.40			MADE GROUND: Loose red slightly silty gravel coarse SAND with medium cobble and low boul content. Gravel is fine to coarse, angular to sub of slag and brick. MGR	ly fine to Ider angular	2
	2.60 2.60 - 2.70	ES B		2.60			MADE GROUND: Loose yellowish dark brown s gravelly medium to coarse SAND with pockets of black fibrous highly organic silty sand. Gravel is coarse of shell fragments (POSSIBLE NATURA MGR End of pit at 2.70 m	slightly of loose fine to L).	3
Rema	rks: ity:							AG	J S

								Trialpit No	
	12M:					Tri	al Pit Log	S2-TP71	
							•	Sheet 1 of 1	
Projec	ct Redcar	DVA Initia	I Ground Investigatior	Projec	ct No.		Co-ords: 456935.00 - 525618.00	Date	
i varne				0/80/	9		Level: Dimensions 4	Scale	
Locati	ion: SSI Rec	car					(m): 4	1:25	
Client	:: Homes a	and Comr	nunities Agency				Depth vi 4.20	Logged JNB	
e er	Sample	es and In	Situ Testing	Depth	Level				
Wate Strik	Depth	Туре	Results	(m)	(m)	Legend			
	0.30 4.00 4.00 - 4.20	ES		3.40			MADE GROUND: Loose dark brown silty very g SAND with low cobble content. Gravel is fine to of slag and brick fragments. MGR MADE GROUND: Loose greyish brown very sa to coarse, angular to subangular GRAVEL with cobble content and rare boulders of slag. MGR	Indy fine high 4	
Rema Stabili	irks: ity:					1		AGS	

								Trialpit No
ch	<b>12</b> <i>M</i> :					Tr	ial Pit Log	S2-TP72
							<b>.</b>	Sheet 1 of 1
Projec	t . Redcar I	DVA Initia	al Ground Investigation	Projec	ct No.		Co-ords: 456973.00 - 525599.00	Date
Name				0/80/	9		Level: Dimensions 4.5	Scale
Locati	on: SSI Red	car					(m):	1:25
Client	: Homes a	ind Com	munities Agency				Depth ▼ 2.80	Logged
rer Ke	Sample	s and In	n Situ Testing	Depth	Level	Legen	Stratum Description	
Wat Stril	Depth	Туре	Results	(m)	(m)	K K K K K K K K K K K K K K K K K K K		
	2.30	ES		0.40 0.60 2.00 2.20 2.80			MADE GROUND: Loose grey sandy angular to subangular fine to coarse GRAVEL of slag with ro and grass on top. MGR Concrete slab with rebar and pipes. MGR MADE GROUND: Loose to medium dense sandy gravelly COBBLES AND BOULDERS of steel, bri wires. Large >2m sheets, pipes and beams. MGR MADE GROUND: Relict refractory brick floor. MGR MADE GROUND: Loose grey sandy medium to c GRAVEL of slag with high cobble content of brick MGR End of pit at 2.80 m	potlets       -         ck and       1 -         ck and       2 -         coarse       -         .       3 -         .       .
								5 -
Rema Stabili	rks:							AGS

								Trialpit N	lo
<b>c</b>	12M:					Tri	al Pit Log	S2-TP7	73
							U	Sheet 1 of	of 1
Projec	ct Redcar	DVA Initia	I Ground Investigatior	Projec	ct No.		Co-ords: 457107.00 - 525539.00	Date	17
				07007	9		Dimensions 4.5	Scale	17
Locati	ion: SSI Red	Icar					(m): با	1:25	
Client	: Homes a	and Comr	munities Agency					Logged LK	1
ater ike	Sample	es and In	Situ Testing	Depth	Level	Legend	Stratum Description		
Str Va	Depth	Туре	Results	(m)	(m)		TOPSOIL: Brown silty gravelly SAND with freque	ent	
	0.30	LB		0.10			TOPSOIL: Brown silty gravelly SAND with freque rootlets. Gravel is fine to coarse subrounded to a of slag. TPS MADE GROUND: Medium dense brown very sai to coarse, angular to subangular GRAVEL of sla high cobble and medium boulder content, both o and occasional brick fragments (red/refractory 90%/10%). MGR MADE GROUND: Very dense grey slightly sandy angular to subangular GRAVEL of with high cobb boulder and low to medium large boulder conten slag. MGR	ant ingular hdy fine g with f slag / ble, high t, all of	1
Rema Stabili	irks:		I		<u> </u>	<u> </u>	1	AG	I S

								Trialpit N	٩٥
Ch	<b>12</b> /M:					Tri	ial Pit Log	S2-TP	74
							-	Sheet 1 c	of 1
Projec	t . Redcar I	DVA Init	ial Ground Investigation	Projec	ct No. 70		Co-ords: 457176.00 - 525546.00	Date	17
Lesst				07007	9		Dimensions 3.6	Scale	17
Locati	on: 551 Red	car					(m):	1:25	
Client:	Homes a	and Cor	nmunities Agency				4.10	Logged JNB	נ
er Ke	Sample	es and I	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wat Stril	Depth	Туре	Results	(m)	(m)	xxxxxxxx			
	1.00 1.00 - 1.50 2.50 - 3.00	B		0.40			MADE GROUND: Loose dark brown slity grave coarse SAND with low cobble content. Gravel is to subangular, fine to coarse of slag, iron rich sl aerated slag. MADE GROUND: Interbeds dark and light grave dipping at 30° to the north. Loose black and gre silty very sandy fine to coarse, angular to subro GRAVEL of highly aerated slag, clinker, coke ar fragments (darker layers). MGR MADE GROUND: Loose to very loose, yellowisi slightly gravelly fine to coarse SAND. Gravel is to coarse of slag. MGR	Ily fine to a angular ag and els y slightly unded id coal h brown fine to	2 - 3 - 5 -
Rema Stabili	rks: ty:							AG	I S

								Trialpit N	10
	<b>12</b> <i>M</i> :					Tri	ial Pit Log	S2-TP	75
							•	Sheet 1 o	of 1
Projec	r Redcar	DVA Initi	al Ground Investigatior		ct No.		Co-ords: 457226.00 - 525483.00	Date	17
, and				0/00/	9		Dimensions	Scale	17
Locati	on: SSI Red	car					(m):	1:25	
Client	: Homes a	and Con	nmunities Agency				3.70	Logged LK	ł
ter ke	Sample	es and I	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wat Stri	Depth	Туре	Results	(m)	(m)	Legene		T	
	0.50	ES		0.10			TOPSOIL TPS MADE GROUND: Dense to very dense brownis very gravelly SAND with medium cobble and m boulder content, both of slag. Gravel is fine to coarse , subrounded to angular of slag. MGR MADE GROUND: Dense brownish grey sandy with high cobble and medium boulder content. MGR MADE GROUND: Dense brownish grey very s GRAVEL with high cobble and medium boulder MGR	ih grey edium GRAVEL andy content.	2
									4
Rema Stabili	rks: ity:					<u> </u>		AG	。 5 S
								Trialpit No	
--------------	---------------	----------	--------------------------	--------	-------	----------	--	------------------------	---
<b>c</b>	1 <b>2</b> M:					Tri	ial Pit Log	S2-TP76	;
								Sheet 1 of 1	
Projec	ct Redcar [	DVA Init	ial Ground Investigatior	Projec	t No.		Co-ords: 457272.00 - 525477.00	Date	
Name	):		Ŭ	67807	'9		Level:	19/05/2017	
Locati	ion: SSI Red	car					(m):	1:25	
Client	:: Homes a	ind Con	nmunities Agency				Depth 3.00	Logged JNB	
er (e	Sample	s and I	n Situ Testing	Depth	Level	Lagand			
Wat Strij	Depth	Туре	Results	(m)	(m)	xxxxxxxx			
Rema	2.80	ES		0.50			MADE GROUND: Cravel is fine to coarse, an subangular of slag. MGR MADE GROUND: Dense greyish brown very sa GRAVEL with medium cobble content and very boulder content of slag and lightweight metallife slag. MGR	Indy low irous 1	
Stabil	irks: ity:							AGS	

								Trialpit N	No
Ch	<b>12</b> <i>M</i> :					Tri	al Pit Log	S2-TP	77
								Sheet 1 of	of 1
Projec	rt Redcar	DVA Initi	al Ground Investigation	Projec	ct No.		Co-ords: 457322.00 - 525458.00	Date	
Name	•			0/80/	9		Level: Dimensions 4		<u>, , , , , , , , , , , , , , , , , , , </u>
Locati	on: SSI Red	lcar					(m):	1:25	
Client	: Homes a	and Con	nmunities Agency				Depth $\vec{\alpha}$	Logge	d
5 0	Sample	es and I	n Situ Testing	Donth					
Vate Strik∈	Depth		Results	(m)	(m)	Legend	I Stratum Description		
> 0)		71					MADE GROUND: Dense to very dense brownis	h grey	-
							GRAVEL of slag with cobbles and boulders of sl	r lag and	
							rare brick fragments. MGR		-
									-
	0.60 - 0.80	ES							-
							From 0.7: becoming sandy gravel, high cobble and low lar	ge boulder	-
							content.		-
	1.00 - 1.50	LB							1 -
									-
									-
									-
									-
									-
									-
				2 10					2 -
				2.10			MADE GROUND: Grey solid SLAG		-
									-
									-
									-
				2.70			End of pit at 2.70 m		-
									-
									3 -
									-
									-
									-
									-
									-
									4
									-
									-
									-
									-
									5 -
Rema Stabili	rks: itv:							AC	I IS

								Trialpit N	10
	1 <b>2</b> /M:					Tri	ial Pit Log	S2-TP	78
							-	Sheet 1 o	of 1
Projec	ct Redcar I	DVA Initi	al Ground Investigation	Projec	ct No.		Co-ords: 456855.00 - 525583.00	Date	17
				07807	9		Dimensions 4	Scale	17
Locati	ion: SSI Red	car					(m):	1:25	
Client	: Homes a	and Com	munities Agency				1.40	Logged LK	1
ater rike	Sample	es and li	n Situ Testing	Depth	Level	Legend	d Stratum Description		
Water	Depth 1.20	ES	Results	Depth (m) 0.30 0.40	Level (m)		Image: stratum Description         TOPSOIL: Loose brownish grey silty very grave Gravel is fine to coarse subrounded to subanguislag. Asphalt at base. TPS         MADE GROUND: Grey medium to coarse, subaringular GRAVEL of railway ballast. MGR         MADE GROUND: Loose dark brown very grave with medium cobble, low boulder and low large content, all of slag. Gravel is fine to coarse, subto angular of slag. Occasional bricks/brick fragm (red). Occasional scrap metal fragments. Rare with the straight fragments. MGR         End of pit at 1.40 m	Ily sand. lar of Ily SAND boulder rounded tents wood,	1 2 
									5 -
Rema	ırks: itv:				1	1	1	AG	I S

								Trialpit No	
ch2	<b>2</b> <i>M</i> :					Tri	al Pit Log	S2-TP79	)
							<b>.</b>	Sheet 1 of 1	
Project Name:	Redcar	DVA Init	al Ground Investigation	Projec 67807	ct No. '9		Co-ords: 456909.00 - 525560.00	Date 09/05/2017	
Location		oor			-		Dimensions 3.5	Scale	
Location.	551 Reu	Car					(m):	1:25	
Client:	Homes a	and Con	nmunities Agency		1		1.05	Logged JNB	
ater Tike	Sample	es and I	n Situ Testing	Depth	Level	Legend	Stratum Description		
<u>&gt; 0</u>	0.02	ES		0.05 0.15			MADE GROUND: Loose to medium dense light slightly silty very gravelly SAND with rare nails. ( fin to coarse, angular to subrounded white slag,	grey Gravel is aerated	
T							slag. MGR MADE GROUND: Medium dense to dense, sand coarse well cemented GRAVEL. Recovered as la slabs of asphalt gravel. MGR MADE GROUND: Loose to medium dense, dark slightly silty very gravelly SAND with medium co low houlder content of slag. ocke iron iron slag.	ly fine to arge brown bble and	-
	1.00	ES		1.05			Occasional rebar. MGR Three sides of excavation surrounded by concrete walls. C floor slab at base.	oncrete	
							End of pit at 1.05 m	2 3 4	
Remarks Stability:	:	<u> </u>			<u> </u>	1	1	AGS	

								Trialpit N	lo
C/	12M:					Tri	ial Pit Log	S2-TP	80
								Sheet 1 o	of 1
Projec	ct Redcar	DVA Initi	al Ground Investigation	Projec	ct No.		Co-ords: 456976.00 - 525535.00	Date	47
i vanie				67807	9		Level: Dimensions	09/05/20 Scale	17
Locat	ion: SSI Rec	icar					(m):	1:25	
Client	:: Homes	and Com	munities Agency				3.80	Logged LK	1
ter ke	Sample	es and li	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wa Stri	Depth	Туре	Results	(m)	(m)			un aith i	
Rema	2.50 arks:	ES		0.10			End of pit at 3.80 m.	yish and low requent ). ilway	1 2 
Stabil	ity:							AG	S

								Trialpit I	No
Ch	<b>2</b> / <b>1</b> /:					Tri	al Pit Log	S2-TP	'81
								Sheet 1 of	of 1
Projec Name	t Redcar [	DVA Init	ial Ground Investigation	Projec 67807	t No. '9		Co-ords: 457026.00 - 525516.00 Level:	Date 09/05/20	)17
Locati	on: SSI Red	car					Dimensions 3.9	Scale	;
Client:	Homes a	ind Cor	nmunities Agency				Depth N	Logge	d
5 0	Sample	s and l	n Situ Testing	Denth				JINB	
Wate Strik	Depth	Туре	Results	(m)	(m)	Legend	I Stratum Description		
	0.50	ES		0.10			TOPSOIL: Grass over loose dark brown silty gr SAND with abundant rootlets. TPS MADE GROUND: Medium dense brownish red yellow very gravelly SAND with high cobble, low content, rare metal plates (1900x900mm) and b pockets of coal and coke and black sand. Grav consists of red and refractory bricks and slag. MGR End of pit at 1.60 m	avelly and v boulder ars with al	
Rema	rks: ty:							AG	I IS

								Trialpit No
C	<b>12</b> <i>m</i> :					Tri	ial Pit Log	S2-TP82
								Sheet 1 of 1
Projec	t Redcar I	DVA Initi	al Ground Investigatior	Projec	ct No.		Co-ords: 457084.00 - 525504.00	Date
Name	:		5	67807	'9		Level:	10/05/2017
Locati	on: SSI Red	car					(m):	1:25
Client	: Homes a	and Corr	nmunities Agency				Depth         5!           3.00	Logged JNB
ter ke	Sample	es and li	n Situ Testing	Depth	Level	Legend	Stratum Description	
Wa: Stri	Depth	Туре	Results	(m)	(m)			
	0.30	B		0.05			TOPSOIL TPS Concrete wall running perpendicular to railway (?) MADE GROUND: Loose black silty gravelly SA Gravel is fine to coarse, angular to subrounded cemented coal dust and various lithologies. MGR MADE GROUND: Loose to medium dense, gre brown sandy gravelly COBBLES AND BOULDE limestone. MGR	ND. of yish :RS of 2 - 3 - 4 -
Rema Stabili	rks:	<u> </u>			<u> </u>	<u> </u>		AGS

								Trialpit N	10
Ch	<b>2</b> <i>M</i> :					Tri	al Pit Log	S2-TP	83
							<b>.</b>	Sheet 1 c	of 1
Projec Name	t Redcar	DVA Initia	al Ground Investigation	Projec	ct No.		Co-ords: 457301.00 - 525406.00	Date	17
Less				07807	9		Dimensions 4.9	Scale	17
Locatio	on: SSI Red	icar					(m):	1:25	
Client:	Homes	and Com	imunities Agency				3.40	Loggeo JNB	t
ke r	Sample	es and Ir	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wa Stri	Depth	Туре	Results	(m)	(m)				
	0.20 3.00	ES		0.30			TOPSOIL: Loose brown slightly silty very gravell with medium cobble and low boulder content. TPS MADE GROUND: Loose dark brown slightly silty sandy fine to coarse, angular to subangular GR4 with medium cobble and low boulder content of r refractory brick, timber, slag rare glassy black crystallised tar, rare steel wire and iron sheet wit odour. Rare cobbles of lime. MGR	y SAND / Very AVEL red and h tar	2
Rema	rks:								5 -
Stabili	ty:							AG	S

								Trialpit No	
<b>c</b>	<b>12</b> <i>m</i> :					Tri	ial Pit Log	S2-TP84	4
								Sheet 1 of 1	1
Projec	t Redcar	DVA Init	ial Ground Investigatior	Projec	ct No.		Co-ords: 456894.00 - 525494.00	Date	
Name	:			67807	/9		Level:	08/05/2017	
Locati	on: SSI Red	car					(m):	1:25	
Client	: Homes a	and Con	nmunities Agency				Depth 3 90	Logged	
ت م	Sample	es and I	n Situ Testing	Denth	Level			0110	
Wate Strik	Depth	Туре	Results	(m)	(m)	Legend	d Stratum Description		
	0.50	B		0.20 0.40			MADE GROUND: Loose blackish brown, slighti gravelly SAND. Gravel is fine to coarse, angula subangular. MGR MADE GROUND: Very dense, light grey contin layer of slag. Recovered as fine to coarse angu GRAVEL. MGR MADE GROUND: Loose to medium dense dari black slightly silty very gravelly fine to coarse S medium cobble and low boulder content. Grave and boulders are of brick, slag, iron rich slag ar concrete. Steel RSJ. MGR	y silty r to Jous lar : brown to AND with I, cobbles Id rare 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1
Rema Stabili	ırks: ity:							AGS	]

								Trialpit No	0
ch	<b>2</b> <i>M</i> :					Tri	al Pit Log	S2-TP8	35
				- ·				Sheet 1 of	f 1
Project Name:	t Redcar	DVA Initia	al Ground Investigatior	Projec 1 67807	21 NO. 19		C0-0fdS: 456953.00 - 525475.00	Date 08/05/201	17
Locatio		loor		01001	0		Dimensions 3.8	Scale	
Localic		lcai					(m):	1:25	
Client:	Homes	and Com	munities Agency				4.10	Logged LK	
ater	Sampl	es and Ir	n Situ Testing	Depth	Level	Legend	I Stratum Description		
St X	Depth	Туре	Results	(11)	(11)		MADE GROUND: Brownish grey silty sandy fin	e to	
	0.10	ES		0.20			coarse, rounded to angular GRÁVEL of slag an pellets with low cobble content. Rare small brid fragments (red/refractory 50%/50%). MGR MADE GROUND: Medium dense greyish brown gravelly SAND with medium cobble and low lar boulder content, both of slag. Gravel is fine to o subrounded to angular of slag. Frequent bricks; fragments (red/refractory 70%/30%). Rare plass fragments. MGR	d iron sk	1 - 2 - 3 - 4 -
Remar Stabilit	ks: y:				<u> </u>	<u> </u>	1	AG	S

_								Trialpit No
Ch	<b>2</b> <i>M</i> :					Tri	al Pit Log	S2-TP86
							-	Sheet 1 of 1
Projec Name	t Redcar	DVA Initia	al Ground Investigatior	Projec 67807	ct No. 79		Co-ords: 457009.00 - 525456.00 Level:	Date 08/05/2017
Locati	on: SSI Red	lcar					Dimensions 3.9	Scale
							Depth	1:25
Client	Homes	and Com	munities Agency		1	1	3.10	LCggood
Vater trike	Sample Depth	es and Ir	n Situ Testing	Depth (m)	Level (m)	Legend	I Stratum Description	
	0.40 2.50 - 2.80 2.50 - 3.00	ES B		0.10 0.60 3.10			TOPSOIL: Grass over brown slightly silty slightly SAND with abundant rootlets. Gravel is fine to m subangular of slag. TPS MADE GROUND: Medium dense dark brown slif gravelly SAND with low cobble and medium bou content of slag. Gravel is fine to coarse, rounded subangular of slag, iron pellets. Occasional red a refractory brick fragments (red/refractory 70%/30 MGR MADE GROUND: Dense dark brownish grey, slif clayey slightly sandy fine to coarse, angular to subangular of GRAVEL of slag with high cobble, boulder and medium large boulder content, all of Abundant bricks/brick fragments (red/refractory 25%/75%). Pockets/layers of grey cobbles and b and pockets/layers of firm brown slightly sandy g clay. MGR	r gravelly redium ty Ider I to and 0%). ghtly medium f slag. 1 soulders gravelly 2 3 3
Stabili	ty:							AGS

								Trialpit	No
c	12M:					Tri	ial Pit Log	S2-TP	'87
							0	Sheet 1	of 1
Projec	ct Redcar	DVA Initia	al Ground Investigation	Projec	ct No.		Co-ords: 457123.00 - 525414.00	Date	1
Name	:		<u> </u>	67807	79			08/05/20	)17
Locati	ion: SSI Red	lcar					(m):	Scale 1:25	3
Client	: Homes a	and Com	munities Agency				Depth	Logge	d
	Somula		Situ Teating				2.60	JNB	
/ater trike	Dopth		Results	Depth (m)	Level	Legend	d Stratum Description		
≤ õ	Deptil	туре	Results	0.05			TOPSOIL		1
	0.30 - 0.80	LB		2.60			TPS         MADE GROUND: Loose to medium dense, sar coarse GRAVEL of slag with high cobble and lo content of aerated slag and two iron railway sle MGR         Becoming grey and more iron rich slag	idy fine to w boulder epers.	1 - 1 - 2 - 3 - 4 -
Rema Stabili	irks:							AC	I is

								Trialpit No	
	1 <b>2</b> M:				S2-TP88	3			
							e	Sheet 1 of 1	
Projec Name	ct Redcar I	DVA Init	ial Ground Investigatior	Project 67807	ct No. ′9		Co-ords: 457224.00 - 525358.00 Level:	Date 09/05/2017	
Locati	ion: SSI Red	car					Dimensions	Scale	
							(m): Depth	1:25	
Client	: Homes a	and Con	nmunities Agency		1		2.60	Logged	
Vater Strike	Sample Depth	es and I	n Situ Testing Results	Depth (m)	Level (m)	Legend	d Stratum Description		
▼.	1.00 2.00 2.00 - 2.50	ES		0.20			TOPSOIL: Grass over brown silty slightly grave with abundant rootlets. Gravel is fine to coarse to subangular of slag and iron pellets. TPS MADE GROUND: Medium dense brown very s to coarse, angular to subrounded GRAVEL of s high cobble, medium boulder and low large bou content, all of slag with abundant bricks/brick fr (red/refractory 10%/90%). MGR MADE GROUND: Very dense grey slightly san coarse, angular to subrounded GRAVEL of slag cobble and low boulder content, both of slag at occasional refractory brick fragments. MGR End of pit at 2.60 m	Ally sand rounded index in a second secon	
Stabili	ity:							AGS	

								Trialpit N	No
	1 <b>2</b> /M:					Tri	al Pit Log	S2-TP	'89
								Sheet 1 c	of 1
Projec Name	ct Redcar l	DVA Initi	al Ground Investigation	Projec	ct No. 79		Co-ords: 457063.00 - 525380.00	Date 04/05/20	)17
Locati		car		10.001	•		Dimensions	Scale	
Locat							(m):	1:25	
Client	:: Homes a	and Com	munities Agency		1	1	1.60		u
ater rike	Sample	es and li	n Situ Testing	Depth	Level	Legend	Stratum Description		
St K	Depth	Туре	Results	(11)	(11)		MADE GROUND: Grass and rootlets over: Loo	se arev	
	0.30 - 0.80 1.20 1.20 - 1.60	LB ES B		0.80			MADE GROUND: Grass and rootlets over: Loo sandy fine to coarse, angular to subrounded GF slag, possibly railway ballast at base of unit with medium cobble and boulder content. MGR MADE GROUND: Loose to medium dense red very sandy fine to coarse, angular to subangula GRAVEL of slag, red brick and rare yellow brick pockets of loose black sand and gravel of coal of MGR Dead service cable. Underneath reinforced concrete tiles 'ELECTRICITY' markings. NW/SE trend.	and grey in low to	
Pome	arke:								5 -
Stabil	ity:							AG	I S

								Trialpit	No
	1 <b>2</b> M:				S2-TP	<b>'90</b>			
								Sheet 1	of 1
Projec Name	ct Redcar l	DVA Initi	al Ground Investigation	Projec	ct No. '9		Co-ords: 457097.00 - 525355.00	Date	: 017
Loooti		loor		01001	0		Dimensions	Scale	317
LUCau	1011. 331 Reu	ICAI					(m):	1:25	
Client	: Homes a	and Con	nmunities Agency		1	1	2.60		iu
ater rike	Sample	es and I	n Situ Testing	Depth	Level	Legend	Stratum Description		
≥ ಭ	Depth	Туре	Results	0.05	(11)		TOPSOIL		
	0.50 - 1.00	BES		2.50 2.60			MADE GROUND: Loose brown slightly silty ve fine to coarse SAND with low to medium cobbl boulder content. Gravel is fine to coarse, angui subrounded of various lithologies including cok and brick. Multiple 20mm diameter copper and diameter steel pipes observed. Concrete block rebar thought to be relict foundations. MGR	/ ry gravelly e and ar to e, slag 100mm s and	1
Rema Stabili	ırks: ity:							AC	I GS

								Trialpit N	No
	<b>12</b> <i>m</i> :					Tri	al Pit Log	S2-TP	'91
							•	Sheet 1 of	of 1
Projec Name	t Redcar I	DVA Init	al Ground Investigation	Projec	ct No. ′9		Co-ords: 457152.00 - 525334.00 Level:	Date 05/05/20	017
Locati	ion: SSI Red	car		1			Dimensions	Scale	;
							(m):	1:25	d
Client	: Homes a	and Con	nmunities Agency		1	1	2.80	JNB	u
'ater irike	Sample	es and I	n Situ Testing	Depth (m)	Level (m)	Legend	Stratum Description		
≤ Ω	0.05	ES	Results	0.05	(,		TOPSOIL		- 1
	0.50 - 1.00	В		2.80			TPS MADE GROUND: Loose to medium dense brow grey, very sandy fine to coarse, angular to suba GRAVEL of slag, aerated slag and possibly raily ballast with medium cobble and low boulder cor the same. MGR 	vnish ngular vay itent of	
Rema Stabili	rks: ity:							AC	I IS

								Trialpit N	0
C	12M:					Tri	ial Pit Log	S2-TPS	<b>92</b>
								Sheet 1 of	f 1
Projec	Redcar I	DVA Init	ial Ground Investigation	Projec	ct No.		Co-ords: 457194.00 - 525320.00	Date	
Name				67807	'9		Level:	08/05/201	17
Locati	on: SSI Red	car					(m):	1:25	
Client	: Homes a	and Cor	nmunities Agency				Depth Ni 3.80	Logged LK	
e e	Sample	s and I	n Situ Testing	Depth	Level				
Wato Strik	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
	0.40 0.50 - 0.80 3.00 - 3.50	ES B		0.10			TOPSOIL: Grass over brown slightly silty sandy with frequent rootlets. Gravel is fine to coarse subangular of slag. MADE GROUND: Medium dense brown very si to coarse, angular to subangular GRAVEL of sli medium cobble and medium boulder content, b slag and rare scrap metal fragments. MGR MADE GROUND: Dense grey slightly sandy fin coarse, angular to subangular GRAVEL of slag cobble, high boulder and low large boulder con slag. Fine to coarse subangular to angular of sl Sulfur odour at base. MGR	r gravel andy fine ag with oth of e to with high tent, all of ag. Slight	2
Rema Stabili	rks: ity:	<u> </u>						AG	5 — S

								Trialpit N	No
Ch	<b>12</b> <i>M</i> :					Tri	al Pit Log	S2-TP	94
								Sheet 1 o	of 1
Projec	t . Redcar I	DVA Initi	al Ground Investigation	Projec	ct No.		Co-ords: 457079.00 - 525305.00	Date	
Name	•			67807	'9		Level:	04/05/20 Scale	017
Locati	on: SSI Red	car					(m):	1:25	
Client:	: Homes a	and Com	nmunities Agency				Depth C	Logge JNB	d
er (e	Sample	es and l	n Situ Testing	Depth	Level	Lagand		•	
Wat Strij	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
	0.05	B		4.40			TOPSOIL: Loose dark brown silty very gravelly coarse SAND. Gravel is fine to coarse, angular subangular predominantly of slag. TPS MADE GROUND: Medium dense to dense, gre fine to coarse, angular to subangular GRAVEL. COBBLES with low to medium boulder content to boulders are of slag and rare brick, rare slab steel (500x400x60mm), rare iron pipe. MGR Becoming sandy fine to coarse, angular to subangular Gl medium to high cobble content.	fine to to y sandy AND . Gravel s of iron/ RAVEL with	2
Rema Stabili	rks: ity:							AC	5 — IS

								Trialpit I	No
	12M:			Trial Pit Log				S2-TP96	
							0	Sheet 1	of 1
Projec	ct Redcar	DVA Initi	al Ground Investigation	Projec	t No.		Co-ords: 457012.00 - 525263.00	Date	
i vanie				67807	9		Level: Dimensions	U3/U5/20 Scale	)   / e
Locat	ion: SSI Red	car					(m):	1:25	
Client	:: Homes a	and Corr	nmunities Agency				4.10	Logge JNB	d
er Ke	Sample	es and l	n Situ Testing	Depth	Level	Legend	Stratum Description		
Wat Stri	Depth	Туре	Results	(m)	(m)				1
	3.00 - 4.00	LB		4.10			End of pit at 4.10 m	ey sandy of slag 'sheets of	
Rema Stabil	arks: ity:							AG	I IS

-								Trialpit No
ch	<b>12/M:</b>					Tri	ial Pit Log	S2-TP97
				<u> </u>				Sheet 1 of 1
Projec Name	ct Redcar	DVA Initia	al Ground Investigation	Projec	CT NO. 79		Co-ords: 457049.00 - 525248.00	Date 03/05/2017
Locati	ion: SSI Rec	lcar		10.001	-		Dimensions 4.3	Scale
							(m): Depth	1:25
Client	: Homes	and Com	munities Agency				4.10	JNB
ke f	Sample	es and In	Situ Testing	Depth	Level	Legend	Stratum Description	
Wa Stri	Depth	Туре	Results	(m)	(m)			
	0.50	ES		0.05 1.00 1.50 2.00 2.50 3.10 3.80 4.10			TOPSOIL         TPS         MADE GROUND: Loose light brownish grey fin         coarse SAND AND GRAVEL with medium cobb         boulder content. Gravel is fine to coarse, angula         subangular of slag, aerated slag, coke, refracto         polished iron rich slag.         MGR         MADE GROUND: Loose to medium dense, red         sandy fine to coarse, angular to subangular GR         red brick and slag.         MGR         MADE GROUND: Loose to medium dense whit         sandy GRAVEL AND COBBLES with low bould         content. Gravel to boulders are of white slag.         MGR         MADE GROUND: Loose to medium dense red         sandy GRAVEL AND COBBLES with low bould         content. Gravel to boulders are of white slag.         MGR         MADE GROUND: Loose to medium dense whit         sandy GRAVEL AND COBBLES with low bould         content. Gravel to boulders are of white slag.         MGR         MADE GROUND: Loose to medium dense red         sandy GRAVEL AND COBBLES with low bould         content. Gravel to boulders are of white slag.         MGR         MADE GROUND: Loose to medium dense red         sandy GRAVEL AND COBBLES with low bould         content. Gravel to boulders are of white slag. <td>e to le to low ar to ry brick, very AVEL of e slightly er slightly er 2 slightly er 3 slightly er 3 4</td>	e to le to low ar to ry brick, very AVEL of e slightly er slightly er 2 slightly er 3 slightly er 3 4
Rema	rks:							5 -
Stabili	ity:							AGS

-								Trialpit No	
Ch	<b>12</b> <i>M</i> :					Tri	ial Pit Log	S2-TP10	)0
							-	Sheet 1 of 1	1
Projec	t . Redcar I	DVA Initia	al Ground Investigation	Projec	ct No.		Co-ords: 457219.00 - 525178.00	Date	
				01001	J		Dimensions	Scale	
Locati	on: SSI Red	car					(m):	1:25	
Client	: Homes a	and Com	munities Agency		1	1	4.10	Logged JNB	
ater rrike	Sample	es and Ir	n Situ Testing	Depth (m)	Level	Legend	Stratum Description		
≥ ಭ	Depth	Туре	Results	(11)	(11)		TOPSOIL: Grass over loose black slightly silty o	gravelly	
	0.20 - 0.50 0.20 - 0.50 3.10 - 4.00 4.00 - 4.10	B B ES		0.20 3.10 4.00 4.10			MADE GROUND: Loose black slightly silty very SAND with low cobble and boulder content. Gra angular to subrounded, fine to coarse of clinker refractory brick, aerated slag, slag and lumps of MGR         MADE GROUND: Loose black slightly silty very SAND with low cobble and boulder content. Gra angular to subrounded, fine to coarse of clinker refractory brick, aerated slag, slag and lumps of MGR         MADE GROUND: Loose vellowish brown grave medium to coarse SAND. Gravel is fine to coarse cemented coal dust.         MGR         MADE GROUND: Loose blackish brown sandy coarse GRAVEL of clinker with low to medium to coarse shown or content.         MGR         MADE GROUND: Loose blackish brown sandy coarse GRAVEL of clinker with low to medium to coarse shown or content.         MGR         MADE GROUND: Loose blackish brown sandy coarse GRAVEL of clinker with low to medium to coarse shown or content.         MGR	gravelly otlets. r gravelly avel is r ed and f steel. 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	2
								5	5 —
Rema Stabili	rks: ity:							AGS	<b>!</b>

#### 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 leachte 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 elevetion monitoring and analysis is presented Appendix F.







A			IED ad Office: gional Offi	Unit 25 Ce: Unit 20,	PLO Stella Gill Indu Business Dev	UStrial Estate, velopment Cer	Pelton Fell, Chester-le htre, Eanam Wharf, Bl	GEOT	EC	<b>HNICS</b> Tel: 0191 387 4700 Fr Tel: 01772 735 300 Fr	LIMITE ax: 0191 387 4710 ax: 01772 735 999	ED			
E			-			т	RIAL PIT	RECORD	)			Status:-	PRELIM3		
Project: The	Former	r SSI Ste	elwork	s, Redo	ar - Pric	ority Are	as Within SS	I Landholding	s Co	ntract 2 (Area	A)	Expl	oratory Hole No.		
Client:	South	Tees Sit	te Con	npany L	td		Location:	S	62-TPA37						
Method (Equipme	ent): N	lachine I	Excava	ated (JC	B 3CX)		Ground Level (m(AOD)): Start Date: 04/10/2017 1 of 3								
SAMPLE	ES & TE	STS					STRATA								
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)		DESCRIPTION							
0.50 1.00 1.20 1.20 1.50 2.00 2.20 2.20 2.40	J1 ES2 PID B3 J4 ES5 PID B6 J7	0.8ppm 2.4ppm		4.786		(2.40)	MADE GF and bould fine to coa Cobbles a (Engineer Trial pit te	ROUND (Dark er content with arse angular to ind boulders a notes thick lay rminated at 2.	40m	n grey slightly o ne fragments of angular and inclu gular and inclu of slag througho BGL - due to ot	layey sandy ( metal. Sand ludes slag, cl de clinker an out approx. c.	gravel v include linker a d slag) .20cm t	with high cobble es ash. Gravel is nd concrete. hick).		
		PL	AN						No	GROUNDW	ATER				
↓ ↑		5. /	00 A		<b>→</b>	†									
00 00 00		Orien 03	tation		B	3.00		Pit sides	mode	STABILI erately unstable	FY throughout ex	cavatio	٦.		
$ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} $						Ļ				GENERAL RE	MARKS				
ADDITIONAL INFORMATION															
Sketch Diagram: No Sketch Taken				Depth	Orientati	on	Туре	Diameter (n	nm)	Condition					
Photographs: Yes See additional sheets.															
All dimensions in metres For explanation Scale 1:50 abbreviations					n of symbols see Key She	and ets		Checked by:	Logged b S. Dunca	oy: an	Contract No. 4154				



G	TI	Status:- PRELIM3		
Project:	The Former SSI Steelworks, Redcar - Priority Area	s Within SSI Landholdings Contract 2 (Area	IA)	Exploratory Hole No.
Client:	South Tees Site Company Ltd	Location: Redcar Steel Works E:457076.658 N:525606.108		S2-TPA37
Method (E	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.





G	Т	Status:- PRELIM3		
Project:	The Former SSI Steelworks, Redcar - Priority Area	Exploratory Hole No.		
Client:	South Tees Site Company Ltd	Location: Redcar Steel Works E:457076.658 N:525606.108		S2-TPA37
Method (I	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.

A			IEC ad Office: gional Offi	<b>DEX</b> Unit 25 Ice: Unit 20	Stella Gill Indu , Business Dev	RAT ustrial Estate, velopment Cer	Pelton Fell, Che ntre, Eanam Wh	& C	ECT et, Co. Durham, E m, BB1 5BL	EC	Tel: 0191 387 4700 F Tel: 01772 735 300 F	LIMITI ax: 0191 387 4710 ax: 01772 735 999	ED	
Ē						т	RIAL F	PIT R	ECORI	כ			Status:-	PRELIM3
Project: The	Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 2 (Area A)									Exp	loratory Hole No.			
Client:	South	Tees Sit	e Con	npany L	td		Location:	E	Redcar :457183.8	Stee 31 N:	l Works 525470.907		5	52-TPA38
Method (Equipme	ent): N	Machine E	Excav	ated (JC	CB 3CX)			Gro	und Level (m	(AOD)): 7.2	: 220	Start Date: 04/10/2017	Sheet:	1 of 3
SAMPLE	S & TE	STS					1			STR	ATA	ļ		
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)					DESCRIPT	ΓΙΟΝ		
0.50 1.00 1.20 1.20 1.50	J1 ES2 PID B3 ES4	0.3ppm		5.420		(1.80)	MADE GROUND (Dark brown grey slightly clayey sandy gravelly co boulders with fragments of metal. Sand includes ash. Gravel is fine angular to subangular and includes slag, clinker and concrete. Cobl angular and include clinker and slag). (Engineer notes sulphurous odour throughout and possible ammoni 30)							y cobbles and fine to coarse Cobbles are nonia odour).
1.80 1.80	PID B5	10.0ppm		5.420	$\sim$	1.8	Trial p	it termi	nated at 1.	.80m	BGL - due to ol	ostruction.		
											GROUNDW			
<b>▲</b>		PL 5.	50		<b>`</b>					No	groundwater inflo	ow observed.		
A Orientation Ω Ω Ω Ω Ω Ω Ω Δ Δ Δ Δ Δ Δ Δ Δ Δ Δ Δ Δ Δ						STABILITY Pit sides unstable throughout excavation.								
										GENERAL RE	MARKS			
						41-	<u> </u>	UN		SERVICES				
Sketch Diag	am:		No	Sketch Ta	iken		Dep	ທ	Orientat	ion	Туре	ומשונט Jiameter (r	(1111)	Condition
Photograph	ns:	Ye	es		See additi sheets	onal								
All dimensions in metres For explanation Scale 1:50 abbreviations					n of symb see Key	ols and Sheets			Checked by:	Logged S. Dunc	by: an	Contract No. 4154		



G	т	PRELIM3		
Project:	The Former SSI Steelworks, Redcar - Priority Area	as Within SSI Landholdings Contract 2 (Area	a A)	Exploratory Hole No.
Client:	South Tees Site Company Ltd	S2-TPA38		
Method (E	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.



G	Т	Status:- PRELIM3		
Project:	The Former SSI Steelworks, Redcar - Priority Area	Exploratory Hole No.		
Client:	South Tees Site Company Ltd	S2-TPA38		
Method (I	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).



A			IED ad Office: gional Offi	Unit 25 Ce: Unit 20	Stella Gill Ind Business De	USTRIAL STATE, velopment Ce	Pelton Fell, Cher ntre, Eanam What	Ster-le-Stree	EEOTE et, Co. Durham, DH JIM, BB1 5BL	<b>EC</b> 12 2RG	HNICS Tel: 0191 387 4700 Tel: 01772 735 300	<b>LIMITI</b> Fax: 0191 387 4710 Fax: 01772 735 999	ED	
Ē						т	RIAL P	יIT R	ECORD	)			Status:-	PRELIM3
Project: The	Forme	r SSI Ste	elwork	s, Red	car - Prio	ority Are	as Within	SSI La	andholdings	s Cor	ntract 2 (Area	A)	Exp	loratory Hole No.
Client:	South	Tees Sit	e Con	npany L	td		Location:	E	Redcar \$	Steel 4 N:{	Works 525423.823		5	62-TPA39
Method (Equipm	ent): N	Machine E	Excava	ated (JC	CB 3CX)	1		Gro	ound Level (m(A	OD)): 7.73	31	Start Date: 04/10/2017	Sheet:	1 of 4
SAMPLE	ES & TE	STS	-			Ι	1		S	STRA	ATA			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)					DESCRIP	TION		
0.50 1.00 1.20 1.20 1.50 2.00 2.20 2.20 2.50 3.00 3.20 3.20 3.50 4.00 4.20 4.20	J1 ES2 PID B3 J4 ES5 PID B6 J7 ES8 PID B9 J10 ES11 PID B12	7.0ppm 9.0ppm 8.5ppm 10.0ppm		3.531		<u>(0.10)</u>	MADE MADE boulde include include at 0.70 betwee from c. at c.2.0 odour.	GROL GROL Irs. Sar Is slag I clinke I to 1.8 I co 1.8 I c	JND (Comp JND (Dark b nd includes , clinker and er and slag. 0 m BGL 80-2.00m B n BGL hig GL engine	acter prown ash. d con high GL yh bo eer n	d gravel). n grey slightly Gravel is fine hcrete. Cobble h boulder content . locally red. hulder content hotes sulphuro	clayey sandy to coarse ang s and boulder ent (up to 2.00 (up to 2.00m) us odour and	gravel gular to rs are a Dm). ). possib	and cobbles and subangular and ingular and le ammonia ach of bucket.
•		PL/ 4.5	AN 50							No g	GROUNDW groundwater inf	ATER low observed.		
A A Orientation 255° ₪∑						STABILITY Pit sides unstable throughout excavation.								
		4.8	50		<b>,</b>	Ļ					GENERAL RI	EMARKS		
ADDITIONAL INFORMATION								I	UNI	DERGROUND	SERVICES	1		
Sketch Diag	ram:		No S	Sketch Ta	iken		Dept	:h	Orientatio	on	Туре	Diameter (ı	mm)	Condition
Photograp	hs:	Ye	es		See addit sheets	ional S.								
All dimer S	nsions ir cale 1:5	n metres 0			For ex abbre	planatio viations	n of symb	ols and Sheets	t l		Unecked by:	Logged S. Dunc	by: an	Contract No. 4154



G	Т	Status:- PRELIM3		
Project:	The Former SSI Steelworks, Redcar - Priority Area	as Within SSI Landholdings Contract 2 (Area	IA)	Exploratory Hole No.
Client:	South Tees Site Company Ltd	S2-TPA39		
Method (E	Equipment): Machine Excavated (JCB 3CX)	Ground Level (m(AOD)): 7.731	Start Date: 04/10/2017	Sheet: 2 of 4



Figure S2-TPA39.1 TPA39 Before investigation works. S3





G	Т	PRELIM3			
Project:	The Former SSI Steelworks, Redcar - Priority Area	Exploratory Hole No.			
Client:	South Tees Site Company Ltd	S2-TPA39			
Method (I	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).



# ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 SBL Tel: 0191 387 4700 Fax: 0191 387 4710 Tel: 01972 735 300 Fax: 01972 735 999

Ğ	Т		PRELIM3	
Project:	The Former SSI Steelworks, Redcar - Priority Area	as Within SSI Landholdings Contract 2 (Area	a A)	Exploratory Hole No.
Client:	South Tees Site Company Ltd	S2-TPA39		
Method (I	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.
A			IED ad Office: gional Offi	Unit 25	PLC Stella Gill Inc Business De		Pelton Fell, Chester	R G	Co. Durham, DH	<b>EC</b> 12 2RG	HNICS Tel: 0191 387 4700 Tel: 01772 735 300	<b>LIMIT</b> Fax: 0191 387 4710 Fax: 01772 735 999	ED	
E			-			т	RIAL PI	t re	ECORD	)			Status:-	PRELIM3
Project: The	Forme	r SSI Ste	elwork	s, Redo	ar - Pri	ority Are	as Within S	SI La	ndholdings	s Cor	ntract 2 (Area	IA)	Exp	loratory Hole No.
Client:	South	Tees Sit	e Con	npany L	td		Location:	E:	Redcar \$ 457265.34	Steel	Works 525163.315			62-TPA40
Method (Equipme	ent): N	Aachine E	Excava	ated (JC	B 3CX	)	1	Grou	und Level (m(A	OD)): 8.0	59	Start Date: 03/10/2017	Sheet:	1 of 3
SAMPLE	ES & TE	STS	-					_	S	STRA	ATA		•	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)					DESCRIF	NOIT		
0.20 0.30 0.50-0.70 0.80 0.80 1.00 1.20	J1 ES2 PID B3 PID B4 J5 ES6 PID B7	3.0ppm 8.0ppm 12.0ppm		7.959		(0.10) 0.4 (0.75)	MADE G (Engined MADE G with med coarse a to subar (Engined MADE G boulders includes (Engined	BROU BROU dium c angular gular er note BROU S. San clinke er note	ND (Grass es sulphurc ND (Light c cobble cont and includ es sulphurc ND (Grey a d includes er and slag es sulphurc	over ous c grey tent a gular e clir ous c and b ash. . Col ous c	r soft brown to odour). with some ligh and boulders. and includes hker). odour). orown slightly Gravel is fine bbles and bou odour).	psoil). Sand include clinker and s clayey sandy to coarse ar	ntly claye es ash. ( slag. Col gravelly ngular to gular and	ey gravelly sand Gravel is fine to bbles are angular / cobbles and subangular and d include clinker).
2.20	 J8													
2.50	ES9					(3.35)								
2.99 3.00 3.30 3.70	PID B10 ES11 J12	85.0ppm	3 859			20								
4.20 4.25 4.30 4.30	3.70 J12 4.20 J13 4.25 ES14 4.30 PID 4.30 B15 95.0ppm						in MADE G fine to co (Enginea Trial pit	GROU oarse er note compl	ND (Grey a angular to es sulphurc ete at 4.30	and b suba ous c m B0	prown gravelly angular and in odour). GL.	sand. Sand cludes clinke	includes er and sl	s ash. Gravel is ag).
		PL	AN							No c	GROUNDV	VATER		
D H		4. A Orien	50 A tation		i 	2.4			Pit	sides	STABIL unstable throu	ITY Ighout excava	ation.	
$\downarrow \underbrace{\begin{array}{c} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$											GENERAL RI	EMARKS		
	ADDI	TIONAL I	NFOR	MATION	1		Donth		Orientatio	UNI		) SERVICES	(mm)	Condition
Sketch Diag	ram:		No S	Sketch Ta	ken		Depth		Uneritatio	//1	туре		(((((((((((((((((((((((((((((((((((((((	
Photograp	ns:	Ye	es		See addi sheet	tional s.								
All dimer So	sions ir	n metres 0			For ex abbre	kplanatio eviations	lanation of symbols and Checked by: Logged by: Contra viations see Key Sheets S. Duncan 41					Contract No. 4154		

Print Date and Time: 05/06/2018 15:49:33



## ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tet: 0191 387 4700 Fax: 0191 387 4710 Tet: 0191 387 4700 Fax: 0191 387 4700 Tet: 0191 387 4700 Te

G	т	RIAL PIT	RECORD		PRELIM3
Project:	The Former SSI Steelworks, Redcar - Priority Area	a A)	Exploratory Hole No.		
Client:	South Tees Site Company Ltd		S2-TPA40		
Method (I	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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G	TI	RIAL PIT RECORD		Status:- PRELIM3
Project:	The Former SSI Steelworks, Redcar - Priority Area	as Within SSI Landholdings Contract 2 (Area	a A)	Exploratory Hole No.
Client:	South Tees Site Company Ltd		S2-TPA40	
Method (E	Equipment): Machine Excavated (JCB 3CX)	Ground Level (m(AOD)): 8.059	Start Date: 03/10/2017	Sheet: 3 of 3





Figure S2-TPA40.4 S3-TPA40 Reinstatement.

						BO	REHOLE	E RECC	RD			Status:-	FINAL	
Project:	The Fc	ormer SSI	Steel	works, I	Redcar	- Priority A	Areas Withir	n SSI Lanc	holdings (	Contract 1		Expl	oratory Ho	le No.
Client:	South	Tees Sit	e Com	ipany Li	td	L	ocation:	Redo	ar Steel V	Vorks			S1-BH0	4
Method (Equi	pment): C	able Pero	cussio	n (Danc	do 2000	)		Ground Level	(m(AOD)): 5.682	2	Start Date: 16/10/2017	Sheet:	1 of 2	
SAMF	PLES & TE	STS						STRAT	Ą					
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIP	ΓΙΟΝ			Instrume Backfil
0.90 0.90	PID B1	2.8ppm					MADE GR to coarse. slag, conc	OUND (So Gravel is f rete and bi	ft to firm t ine to coar ick).	orown red s rse subang	andy gravelly ular and includ	clay. Sa des sanc	nd is fine Istone,	
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	I BGL ve	ry loose to	o loose.				
3.00 3.00-3.45 3.20	PID CB5 ES6	1.0ppm N6				- - - - - - - - -	at c.3.00m	BGL lo	ose.					
3.90 3.90	PID B7	1.0ppm		0.882		- 3.90 	MADE GR Gravel is f Hydrocarb	OUND (Br ine to coar on odour r	own black se subang oted).	very clayey ular and in	/ sand. Sand i cludes slag, c	s fine to oncrete	coarse. and brick.	
5.00-5.45	SJ8	N4			× · · ·	-	Soft browr	n black san	dy CLAY/S	SILT. Sand	is fine to med	ium.		
5.50 5.50	PID B9	1.0ppm			 		at c.5.50m	BGL cla	ay of low p	lasticity.				
5.90 6.00 6.00-6.45	ES10 PID SB11	0.6ppm N9			<u> </u>		at c.6.00m	ı BGL sa	ndy clay (l	Recovered	as slurry).			
7.00-7.45	SJ12 B13	N9		- 1.118		- <u>6.80</u> 	Loose bec SAND with fine to coa	coming me n occasiona Irse. Grave	dium dens al interbed I is fine to	e brown sliq s of gravel medium ro	ghtly clayey sli and fragments unded and inc	ightly gra s of shel cludes sa	avelly I. Sand is andstone.	
Daria					<u>, , , , , , , , , , , , , , , , , , , </u>	-	Chinalling		) A/ a ta a	Added				
Date	Depth	Casing	Casing (mr	g Dia m) S	NS Water Standing	From	To	Hours (hh:mm)	From	To		Gene Rema	eral arks	
16/10/2017 16/10/2017	0.00 5.00	0.00 5.00	25	;0		3.90 4.40	4.20 4.80	00:45 00:30	5.50	10.00	(1) Description d (2) Borehole adv conducted by CF (3) 50mm diamel 5.00m BGL.	erived from anced throu 12M. ter slotted s	drillers daily re ugh trial pit prev tandpipe install	port. riously led to
All dim	nensions ir Scale 1:5	n metres 0			For ex	planation	of symbols a	and ets	Cł	necked by:	Logged D. Portsn	by: nouth	Contra 41	ct No. 53

ALLIED EXPLORATION & GEOTECHNICS LIMIT Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2R Regional Office: Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL	ED	
BOREHOLE RECORD	Status:-	FINAL
The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1	Explo	ratory Hole No.

Obset:         South Tees Site Company Ltd         Deside:         Deckor Stel Works ExPERIOR 25 Microson 021         St -BH04           Method (Flagshower) Cable Percussion (Dando 2000)         Company Ltd         Bior Date: 362	Project:	The Fo	rmer SSI	Steel	works,	Redcar	- Priority A	Areas Withir	n SSI Land	lholdings (	Contract 1		Expl	oratory Hole N	lo.	
Member (Equipment)         Cable Percussion (Dando 200)         General Length (MADD): 5.682         But Tase: 19702017	Client:	South	Tees Site	e Corr	npany L	.td	L	Location:	Redo E:456660	car Steel V ).726 N:52	Vorks 25230.021			S1-BH04		
SAMPLES & TESTS         The construction         The construction         STRATA           0xmb         Top         Top<	Method (Equip	oment): C	able Perc	cussio	n (Dan	do 2000	)		Ground Level	(m(AOD)): 5.682	2	Start Date: 16/10/2017	Sheet:	2 of 2		
Death         Type         Test         By         News         Description         Bit State         Description         Description <thdescription< th=""> <thdescription< th=""> <thdescript< td=""><td>SAMF</td><td>LES &amp; TE</td><td>STS</td><td></td><td></td><td></td><td></td><td></td><td>STRAT</td><td>4</td><td></td><td>•</td><td>1</td><td>ł</td><td></td></thdescript<></thdescription<></thdescription<>	SAMF	LES & TE	STS						STRAT	4		•	1	ł		
6.00.8.45         SI-14         N13         2.7-2         (Continued) or	Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIP	TION			Instrume Backfill	
8.50         B15         Intel Coasts. Gravel is fine to medium rounded and includes standstone	8.00-8.45	SJ14	N13		- 2.818			<i>(Continued</i> Loose bec SAND with	<i>f)</i> coming mean n occasiona	dium dens al interbed	e brown sli s of gravel	ghtly clayey sli and fragments	ghtly gra s of she	avelly		
9.00-9.45         SJ16         N12         Image: standard st	8.50	B15						Arrive to coa Medium de is fine to c	rse. Grave ense browr oarse.	l is fine to n slightly c	medium ro layey SANI	unded and inc D with fragmer	its of sh	ell. Sand		
9.50         B17         B18         B19         B17         B18         B19         B17         B18         B19         B17         B18         B18 <td>9.00-9.45</td> <td>SJ16</td> <td>N12</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	9.00-9.45	SJ16	N12				-									
10.50-10.95       S.118       N19       Image: Single of the second se	9.50	B17					- - - - - - -	at c.9.50m	BGL cla	ayey sand.						
10.80         B19         Amount of the standard sta	10.50-10.9	5 SJ18	N19				-									
11.40       B20       B20 <td< td=""><td>10.80</td><td>B19</td><td></td><td></td><td></td><td></td><td>-</td><td>Stiff brown Gravel is fi</td><td>n slightly sa ine to med</td><td>indy slightl ium angula</td><td>ly gravelly ( ar to round</td><td>CLAY. Sand is ed and include</td><td>fine to e s sands</td><td>coarse.</td><td></td></td<>	10.80	B19					-	Stiff brown Gravel is fi	n slightly sa ine to med	indy slightl ium angula	ly gravelly ( ar to round	CLAY. Sand is ed and include	fine to e s sands	coarse.		
12.00-12.45       SJ21       N31       Image: constraint of the strength of the stre	11.40	B20						at c.11.40	m BGL c	lay is of in	termediate	plasticity.				
12:50       B22       B22 <td< td=""><td>12.00-12.4</td><td>5 SJ21</td><td>N31</td><td></td><td></td><td colspan="11"></td></td<>	12.00-12.4	5 SJ21	N31													
13.50-13.95       U23       (96)       Image: Constraint of the symbols and image: Symbo	12.50	B22					- - - - - - - - - - - - -	at c.13.50r	m BGL h	iigh streng	th. Clay is	of intermedate	to high	plasticity.		
14.00       J24       J24 <td< td=""><td>13.50-13.9</td><td>5 U23</td><td>(96)</td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	13.50-13.9	5 U23	(96)				-									
15.00       B26       9.318       9.318       15.00       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 Standing       Water (mm)       From       To       Hours (th:mm)       From       To         10/10/2017       10.00       9.50       200       1.69       2.46       10.00       15.00       11.00       15.00       11.00       15.00       11.00       15.00       11.00       15.00       11.00       15.00       11.00       15.00       13.00       10.00       15.00       11.00 <t< td=""><td>14.00 14.50-14.9</td><td>J24 5 SJ25</td><td>N29</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	14.00 14.50-14.9	J24 5 SJ25	N29													
Boring Progress and Water Observations       Chiselling       Water Added         Date       Depth       Casing       Casing       Water Standing       From       To       Hours (hh.mm)       From       To       III Depth       Casing       Casing       Casing       Casing       General Remarks         16/10/2017       10.00       9.50       200       1.69       III Depth       III Depth       III Depth       Casing       Casing       Casing       III Depth       III Depth       Casing       III Depth       Casing       III Depth       III Depth       Casing       Casing       Casing       Casing       III Depth       II	15.00	B26			<u>- 9.318</u>		- - 15.00	∖at c.15.00r Borehole c	m BGL c complete a	lay is of in t 15.00m E	termediate 3GL.	plasticity.		/		
Date       Depth       Casing Dia (Muturo Suscitations)       Water Standing (Muturo Standing)       Water Standing (Muturo Standing)       From       To       Hours (Muturo Standing)       General Remarks         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) Somm diameter slotted standpipe installed to 5.00 m BGL.         17/10/2017       15.00       14.00       200       7.26       Image: Standing	Rorin		and Wat		servatio	) ns		Chiselling		Water	heppy					
16/10/2017         10.00         9.50         200         1.69           17/10/2017         10.00         9.50         200         2.46           17/10/2017         15.00         14.00         200         7.26           All dimensions in metres         For explanation of symbols and         Checked by:         Logged by:         Contract No	Date	Depth	Casing	Casin (m	ig Dia m)	Water Standing	From	From         To         Hours (hh:mm)         From         To         General Remarks						eral arks		
All dimensions in metres For explanation of symbols and Checked by: Logged by: Contract No	16/10/2017 17/10/2017 17/10/2017	10.00 10.00 15.00	9.50 9.50 14.00	20		1.69 2.46 7.26				10.00	15.00	(1) Description de (2) Borehole adviced by CH (3) 50mm diamet 5.00m BGL.	erived from anced thro I2M. er slotted s	drillers daily report. ugh trial pit previous! standpipe installed to	l <b>y</b>	
Scale 1:50 abbreviations see Key Sheets //// D. Portsmouth 4153	All dim	ensions ir Scale 1:5	i metres		I	For ex	planation	of symbols a	and ets	Cł	necked by:	Logged D. Portsm	by: nouth	Contract N 4153	lo.	



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ALLIED	EXPLORATION & GEOTEC	HNICS LIMIT	ED
Head Office: Regional Office:	Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG 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	
			Status:-

Ē						BOF	REHOLE	EREC	ORD			Status:- FINAL					
Project:	The Fo	ormer SSI	Steelw	vorks,	Redcar	- Priority A	reas Withir	n SSI Lan	dholdings	Contract 1		Exploratory Hol	e No.				
Client:	South	Tees Site	e Comp	pany l	_td	L	ocation:	Red E:45687	lcar Steel V '4.149 N:52	Vorks 25158.205		S1-BH0	5				
Method (Equi	ipment): C	able Perc	ussion	ı (Dan	ido 2000	)		Ground Leve	el (m(AOD)): 5.715	5	Start Date: 12/10/2017	Sheet: 2 of 3					
SAMF	PLES & TE	STS						STRAT	Ā				4				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIP	TION		Instrume Backfill				
8.00	B9					-	(Continued	d) ense arev	brown clay	vev SAND.	Sand is fine to	o medium.					
8.50-8.95	SJ10	N12				-		0,	,	,							
9.00	B11																
9.50-9.95	SJ12	N12				-	at c.10.00m BGL clayey slightly gravelly sand.										
10.00	B13					-	at c.10.00m BGL clayey slightly gravelly sand.										
11.00-11.4	5 SJ14	N23		5 5 9 5		- - - 11 30											
11.30 11.50	J15 B16		-5.585									Ily CLAY. Sand is cludes					
12.50	U*B17	(106)		7.085		- 12.80											
13.00	U18	(116)				-	Firm to stit is fine to n sandstone at c.13.00	ff faintly la nedium. G e, mudstor m BGL	minated/fis ravel is fine ne and coal high streng	sured sand to mediur	dy slightly grav n subangular a	elly CLAY. Sand and includes					
13.50	J19						at c.13.50	m BGL	clay is of in	Itermediate	plasticity.						
14.00-14.4	5 SB20	N42				<u>(</u> 2.30) - - - -											
				9.385		- - - 15.10											
15.50	U*B21	(119)	-	10.085			Stiff to har to medium mudstone	d red brow a. Gravel is and coal.	wn slightly s s fine to me	sandy sligh edium suba	tly gravelly CL ngular and inc	AY. Sand is fine cludes sandstone,					
						-											
Borin	ng Progres	s and Wat	er Obs	ervatio	ons Water		Chiselling	Hours	Water	Added		General Remarks					
Date	Depth	Casing	(mm	) )	Standing	15.60	15.80	(hh:mm) 00:45	From	10	(1) Description d (2) Borehole adv conducted by CH (3) 50mm diame 5.00m BGL.	lerived from drillers daily rep ranced through trial pit previ 12M. ter slotted standpipe installe	port. iously ed to				

Contract No. 4153

Checked by:

Logged by: D. Portsmouth

All dimensions in metres Scale 1:50

<b>A</b>		ALL	d Office:	Unit 25 Stell Unit 20, Bus	LO la Gill Indu siness Dev	PRATI	ON &	GEO Street, Co. Durha ickburn, BB1 5BL	TECH	HNICS	<b>5 LIMIT</b> 0 <b>Fax:</b> 0191 387 4710 0 <b>Fax:</b> 01772 735 999	ED	
EE C5						BOF	REHOLE	E RECC	ORD			Status:- FINAL	
Project:	The Fo	rmer SSI	Steelwo	orks, Re	edcar -	- Priority A	reas Withir	n SSI Land	Iholdings (	Contract 1		Exploratory Hol	e No.
Client:	South	Tees Site	e Compa	any Ltd		L	ocation:	Red E:456874	car Steel W 1.149 N:52	Vorks 5158.205		S1-BH0	5
Method (Equipme	ent): C	able Perc	cussion (	(Dando	2000)	)		Ground Level	(m(AOD)): 5.715	;	Start Date: 12/10/2017	Sheet: 3 of 3	
SAMPLE	ES & TE	STS						STRAT	٩			ł	ent/
Depth	Type No	Test Result	Nater I	educed Level	egend	Depth (Thickness)				DESCRIP	TION		Instrum Backf
16.00-16.45	SJ22	N53				(1.00)	Extremely (Recovere	weak grey d as grave	MUDSTO I. Gravel is	NE highly v s fine to coa	weathered. arse subangul	ar).	
16.80	5J24	1/0.94	- 1										
Boring F	Progress	s and Wat	er Obse	rvations			Chiselling		Water	Added		General	
Date 13/10/2017	Depth 16.80	Casing 16.00	Casing E (mm) 200	Dia Wa Star 6.	ater nding .17	From	То	Hours (hh:mm)	From	То	(1) Description d (2) Borehole adv conducted by CF (3) 50mm diame 5.00m BGL.	Remarks erived from drillers daily reg anced through trial pit prev 2M. ter slotted standpipe installe	port. iously ed to

A			Ad Office:	Unit 2: ce: Unit 2	Stella Gill Ind D, Business De	URAT	Pelton Fell, Chester-le htre, Eanam Wharf, Bl	-Street, Co. Durha ackburn, BB1 5BL	TECH	Tel: 0191 387 4700 Tel: 01772 735 300	<b>5 LIMIT</b> <b>1 Fax:</b> 0191 387 4710 <b>1 Fax:</b> 01772 735 999	ED		
						BC	REHOLI	E RECC	ORD			Status:-	FINAL	
Project:	The Fo	ormer SSI	Steel	works,	Redcar	- Priority	Areas Within	n SSI Lanc	Iholdings (	Contract 1		Expl	oratory Hol	e No.
Client:	South	Tees Site	e Con	npany I	_td		Location:	Rede	car Steel V	Vorks			S1-BH0	6
Method (Equ Pei	ipment): cussion/C	oring (Da	ndo 2	000/Bc	art Long	year DB	520)	Ground Level	(m(AOD)): 7.090	)	Start Date: 05/10/2017	Sheet:	1 of 3	
SAM	PLES & TE	STS						STRAT	٩					عد_
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness				DESCRIPT	ΓΙΟΝ			Instrume Backfil
0.30 0.50-1.00	J1 B2	1/5 20		6.090		- - - - - - - - - - - - - - - -	MADE GF Gravel is f MADE GF fine to coa slag. Cobl slag).	ROUND (Br fine to coar ROUND (Ve arse angula bles are an	own claye se angular ery dense l rr to suban gular to ro	y sandy gra r and includ brown red g gular and in unded and	vel. Sand is fi es concrete, t gravel and cob ncludes brick, include concr	ne to co prick and bbles. Gr concret ete, bric	arse. d slag). ravel is e and k and	
1.50 1.50 2.50 2.50	SJ3 ES4 SJ5 ES6	1/5.30					(Engineer	notes chis	elling throu	ugh old foui	ndation).			
3.50 3.50	SJ7 ES8	1/2.30				- - - - - - - - - - - - - - - - -								
4.50 4.50	SJ9 ES10	1/2.94												
5.50 5.70	S J11	1/3.60		0.000		-								
6.10-6.50 7.00 7.00-7.50	SB12 SJ13 B15	N18 N12		0.990			Medium d fine to me	ense brown dium.	n clayey sl	ightly sandy	/ slightly grave	elly SILT	. Sand is	
7.30 7.70	ES14 J16			- 0.610	× , U × o , × o × o , × o , × o , × o , × o	7.7	0							
Borir	g Progres	s and Wat	ter Ob	servati	<u>l · ·À·</u> ons		Chiselling		Water	Added		Gen	eral	********
Date	Depth	Casing	Casir (rr	ng Dia nm)	Water Standing	From	То	Hours (hh:mm)	From	То		Rema	arks	
05/10/2017 05/10/2017 06/10/2017 06/10/2017	0.00 1.00 1.00 6.10	0.00 1.00 1.00 6.10	2:	50 50 00	Dry Dry 4.03	0.40	1.00 6.00	01:00 02:00	2.70 8.00	4.00 10.00	(1) Description d (2) Borehole adv conducted by CF (3) 50mm diamel 6.00m BGL.	erived from anced thro 12M. ter slotted s	ı drillers daily rep ugh trial pit previ standpipe installe	ort. ously ed to
All dir	nensions in Scale 1:5	n metres			For ex	planation viations	n of symbols see Key She	and ets	CI	hecked by:	Logged D. Portsn	by: nouth	Contrac 415	ct No. 3

Name         Support         Support         Support         Support         Redicat Site Works E-46710 0.00 H 0.001 0.011 0.01         Support         Support <thsupport< th=""> <thsupport< t<="" th=""><th>Ğ</th><th></th><th></th><th></th><th></th><th></th><th>BC</th><th>REHOLI</th><th>E RECO</th><th>RD</th><th></th><th></th><th>Status:-</th><th>FINAL</th><th></th></thsupport<></thsupport<>	Ğ						BC	REHOLI	E RECO	RD			Status:-	FINAL	
District         South Tees Site Company Ltd         Deside         Reduced Start Works (Exclosed Start 1986)         St1-BH06           Meter Support         SAMPLES & TESTS (Percussion)         Start Best (String)         Start Best (Start Best (String)         Start Best (String)	Project:	The Fo	ormer SSI	Steelw	orks, I	Redcar -	Priority	Areas Within	n SSI Land	holdings	Contract 1		Expl	loratory Hole	e No.
Mathematic purports: Percusable control (Control (Control Council Control Contecont Contented Control Control Control Control Control Control C	Client:	South	n Tees Sit	e Comp	any L	td		Location:	Redc E:457019	ar Steel	Works 25119.691			S1-BH06	6
STRATA           Upper         Tige         Tige <thtige< th="">         Tige         <thtige< th=""></thtige<></thtige<>	Method (Equip Perc	ment): ussion/C	oring (Da	indo 200	00/Boa	art Long	year DB	520)	Ground Level	(m(AOD)): 7.09	0	Start Date: 05/10/2017	Sheet:	2 of 3	
Upper         Two         Two         We         Description         Upper	SAMPI	ES & TE	STS					1	STRATA	١			I		, Ju _
8.00-8.50         SB17         N18         All dimensions in metres         Medium dense brown gray very sity slightly gravely SAD with the to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fine to medium rounded and includes fint and sand site to medium. Cravel Is fi	Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIP	ΓΙΟΝ			Instrume Backfi
10.00       10.00 <th< td=""><td>8.00-8.50 9.00 9.00-9.50</td><td>SB17 SJ18 B19</td><td>N18 N25</td><td></td><td></td><td>× · · × · · × · · × · · ×</td><td>· · · · · · · · · · · · · · · · · · ·</td><td>Medium d occasiona medium. ( sandstone</td><td>ense brown I interbeds Gravel is fin 9.</td><td>grey ver of clay a e to med</td><td>ry silty slight nd fragment ium rounded</td><td>ly gravelly SAI s of shell. San d and includes</td><td>ND with d is fine flint and</td><td>d</td><td></td></th<>	8.00-8.50 9.00 9.00-9.50	SB17 SJ18 B19	N18 N25			× · · × · · × · · × · · ×	· · · · · · · · · · · · · · · · · · ·	Medium d occasiona medium. ( sandstone	ense brown I interbeds Gravel is fin 9.	grey ver of clay a e to med	ry silty slight nd fragment ium rounded	ly gravelly SAI s of shell. San d and includes	ND with d is fine flint and	d	
11.00       JZ2       JZ2       NZ4       JZ       JZ2       NZ4       JZ       JZ2       NZ4       JZ2       JZ2       NZ4       JZ2       J	10.00 10.00-10.50	00-9.50     B19       0.00     SJ20       0.00     B21       N20       0.00													
11.80 11.50-12.00       Su23 B24       N24       I <thi< th="">       I       <thi< th="">       I<!--</td--><td>11.00</td><td>J22</td><td></td><td colspan="8"></td><td></td><td></td><td></td><td></td></thi<></thi<>	11.00	J22													
12.50       J25       J25       J23       J23       J25       J23       J25       J23       J25       J23       J25       J23       J25       J23       J25       J25 <td< td=""><td>11.50 11.50-12.00</td><td>SJ23 B24</td><td>N24</td><td></td><td></td><td>× · · · × · · · · × · · · × · · · · × ·</td><td>(9.10)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	11.50 11.50-12.00	SJ23 B24	N24			× · · · × · · · · × · · · × · · · · × ·	(9.10)								
13.00       SJ26       N23       N23       Image: Constraint of the stand of the	12.50	J25				, 0, 0, 1 , 0, 0, 0 , 0, X, 0 , 0, X, 0	•								
14.00       J28       J28       N26       I <td< td=""><td>13.00 13.00-13.50</td><td>SJ26 B27</td><td>N23</td><td></td><td></td><td>x . 0</td><td>· · · · · · · · · · · · · · · · · · ·</td><td>at c.13.00</td><td>m BGL c</td><td>ayey/silt</td><td>y sand with s</td><td>shell fragment</td><td>S.</td><td></td><td></td></td<>	13.00 13.00-13.50	SJ26 B27	N23			x . 0	· · · · · · · · · · · · · · · · · · ·	at c.13.00	m BGL c	ayey/silt	y sand with s	shell fragment	S.		
14.50 14.50-15.00       SJ29 B30       N26       Image: Constraint of the state of the sta	14.00	J28				× · × · · · · · · · · · · · · · · · · ·	- 								
15.50       J31       J31 <th< td=""><td>14.50 14.50-15.00</td><td>SJ29 B30</td><td>N26</td><td></td><td></td><td></td><td>- - - - - -</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	14.50 14.50-15.00	SJ29 B30	N26				- - - - - -								
Boring Progress and Water Observations       Water Added       General         Date       Depth       Casing       Casing Dia (mm)       Water Standing       From       To       Hours (hh:mm)       From       To       General Remarks         06/10/2017       10.00       10.00       200       4.67       200       4.67       10.00       10.00       200       4.76       Image: Chick of the standard of the st	15.50	J31				, 0, 0, , , , , , , , , , , , , , , , ,	- - - - -								
Date       Depth       Casing       (mm)       Standing       Prom       10       Prom       10       Prom       10         06/10/2017       10.00       10.00       10.00       200       4.67       (hh:mm)	Boring	Progres	s and Wa	ter Obse	ervatio <sub>Dia</sub>	ons Water		Chiselling	Hours	Wate	r Added		Gen	eral arks	
All dimensions in metres       For explanation of symbols and       Checked by:       Logged by:       Contract No.	Date 06/10/2017 09/10/2017	10.00 10.00	Casing 10.00 10.00	200 200		4.67 4.76	From	10	(hh:mm)	From	10	(1) Description d (2) Borehole adv conducted by CF (3) 50mm diamel 6.00m BGL.	erived from anced thro I2M. ter slotted s	drillers daily rep ugh trial pit previo standpipe installe	ort. ously d to
	All dime	ensions i	n metres			For ex	planatior	n of symbols	and	C	Checked by:	Logged	by:	Contrac	t No.

						вс	REHOLI	E RECO	ORD			Status:-	FINAL			
Project:	The Fo	rmer SS	I Steel	works,	Redcar	- Priority	Areas Within	n SSI Land	dholdings	Contract 1		Expl	oratory Hole N	<b>1</b> 0.		
Client:	South	Tees Sit	te Corr	npany L	td		Location:	Red E:45701	car Steel V 9.086 N:52	Vorks 25119.691		:	S1-BH06			
Method (Equipm Percu	ent): ssion/C	oring (Da	ando 2	000/Boa	art Long	year DB	520)	Ground Leve	el (m(AOD)): 7.090	)	Start Date: 05/10/2017	Sheet:	3 of 3			
SAMPLE	ES & TE	STS						STRAT	A					<u>م</u>		
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness	)			DESCRIP	TION			Instrumei Backfill		
16.00 16.00-16.50	SJ32 B33	N30		- 9.710	× · · · · · · · · · · · · · · · · · · ·	- - - - - - 16.8	(Continued Medium d occasiona medium. ( sandstone	d) ense brow Il interbeds Gravel is fil e. m BGL	n grey very of clay an ne to medii verv clavey	y silty slight d fragment um rounde y sand.	tly gravelly SAI ts of shell. San d and includes	ND with d is fine flint and	to			
17.00     SJ35     N13       17.00-17.50     B36       18.00     J37   Soft laminated grey brown slightly sandy CLAY. at c.17.00m BGL clay is of intermediate plasticity.																
18.00       J37         18.50       SJ38         18.50       B39         N13       Image: state of the stat																
19.50	J40															
20.00 20.00-20.50	SJ41 B42	N12					at 20.00m	BGL cla	ay is of inte	ermediate p	plasticity.					
21.00	J43			- 13.910		21.0	Extremely	weak grey		NE distinc	tly weathered.	um angi				
21.30	SJ44	1/4.60				<u>(</u> 0.70)	at c.21.30	m BGL (	clay fines a	are of interr	nediate plastic	ity.				
21.70	S45	1/0.20		- 14.010		2 1./ - - - - - - - - - - - - - - - - - - -	Boring col	mplete at 2	21.70m BG	L - continu	ed by rotary dr	illing.		2000		
Boring I	Progress	and Wa	ter Ob	servatio	ons		Chiselling		Water	Added		Gen	eral			
Date	Depth	Casing	Casin (m	ig Dia m) S	Water Standing	From	То	Hours (hh:mm)	From	То		Rema	arks			
09/10/2017	21.70	21.50	20	00	5.73	21.30	21.70	01:00	17.00	20.00	(1) Description d (2) Borehole adv conducted by CF (3) 50mm diamet 6.00m BGL.	erived from anced thro I2M. ter slotted s	drillers daily report. ugh trial pit previous tandpipe installed to	ly >		
All dimer	nsions ir	n metres			For ex		n of symbols	and	CI	hecked by:	Logged	by: houth	Contract N 4153	<u>ا</u> م.		



 Head Office:
 Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG
 Tel: 0191 387 4700
 Fax: 0191 387 4700

 Regional Office:
 Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL
 Tel: 01972 735 300
 Fax: 01972 735 300

G						R		RY C	ONTI	UATI	ON			Status:-	FINAL	
Project:	The	Forme	r SSI Ste	elwork	s, Redca	r - Pric	ority Ar	reas Wi	ithin SSI	Landhol	dings C	Contract 1		Expl	oratory Ho	le No.
Client:	Sc	outh Tee	s Site Co	mpan	y Ltd		Lo	cation:	F·4	Redcar	Steel W	orks			S1-BH0	6
Method (Eq P€	uipment): ercussio	n/Coring	g (Dando	2000/I	Boart Lon	gyear	DB52	0)	Groun	d Level (m()	AOD)): 7.090		Start Date: 05/10/2017	Sheet:	1 of 8	
RL	JN DETA	AILS							ST	RATA			I			
Depth	TCR (SCR)	Fracture	Reduced	Leger	Depth (Thick-					DE	SCRIPT	ΓΙΟΝ				trumer
21.70	RQD <sup>′</sup>		Level	- 3 -	ness)	21 70	22.10m	Discontin	uities Detail				Main		a a va ti a v a al	
(92mm) (92mm)	(29) 0	40 	-		(0.90)	by rotary drilling. Extremely weak groweathered. 22.10-22.20m horizontal to subhorizontal (0-15 degrees) very closely spaced planar smooth open clean discontinuities. 22.20-22.25m non-intact. 22.25-22.60m subhorizontal (20 degrees) closely spaced planar smooth open clean discontinuities.								STONE	distinctly	
22.60	94 (77) 50	NR 15 21 NI 7	- 15.510			closel discor 22.60 22.76 closel discor 23.10 23.15 closel discor 23.30 23.37 closel discor	y spaced trinuities. -22.76m -23.10m y spaced ntinuities. -23.15m -23.30m y spaced ntinuities. -23.37m -25.10m y spaced ntinuities.	d planar sn no reco subhori d planar sn subhori d planar sn non-inta subhori d planar sn	nooth open i very. zontal (15 d nooth open i act. zontal (18 d nooth open i act. zontal (15 d nooth open i	clean egrees) clean egrees) clean egrees) clean	eak grey fo	ossiliferous MI hered.	JDSTO	NE		
25.10	100	22				discontinuities.										
	(94) 37					degre discor										
	Drilling Pro	gress and	Water Obser	vations		Standard	d Penetra	ation Test		Fl	ush			Gen	eral	
Date	Depth	Casing	Water W Strike Sta	ater nding	Water Remarks	Depth	Туре	Result	From	То	Туре	Returns (%)		Rema	arks	
18/10/2017	21.70	21.50				21.70       22.60       A/M       100       (1) Description derived from drillers dated in the second s								ı drillers daily re ugh trial pit prev standpipe install	port. viously ed to	
All d	imensior Scale	ns in mei 1:25	tres		For e	explana	ation o ons se	of symbo e Key S	bls and Sheets		Ch	ecked by:	Logged D. Portsm	by: nouth	Contra	ct No. 53



# ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 0191 387 4700 Fax: 0191 387 4710 Tel: 0191 387 4700 Fax: 0191 387 4700 Tel: 0191 387 4700 T

Status:-

G						ROTA	RY C	ONTI	IUATI	ON				FINAL	
Project:	The	e Former	r SSI Ste	elworks,	Redca	r - Priority A	reas Wi	thin SSI	Landhol	dings C	ontract 1		Exp	loratory Hol	e No.
Client:	Sc	outh Tee	s Site Co	ompany l	_td	Lo	ocation:	E:4	Redcar \$	Steel Wo 6 N:525	orks 5119.691			S1-BH0	6
Method (Eq Pe	uipment): Prcussio	n/Coring	) (Dando	2000/Bc	art Lon	gyear DB52	0)	Groun	d Level (m(A	<b>(OD)):</b> 7.090		Start Date: 05/10/2017	Sheet:	2 of 8	
RL	IN DETA	AILS						ST	RATA						
Depth	TCR (SCR)	Fracture	Reduced	Legend	Depth (Thick-				DE	SCRIPT	ION				trumei 3ackfill
	`RQD'	Index	Level		ness)		Discontin	uities Detail			a vativa v a al	Main			
(0 Dia (92mm) (92mm) 28.10	100 (93) 57	NI 8 3 8 8 20 <u>NI 9</u>				<ul> <li>28.10-28.30m horizontal to subhorizontal (0-17 degrees) closely spaced planar smooth open clean discontinuities.</li> <li>26.40-28.10m horizontal to subhorizontal (0-15 degrees) closely spaced planar smooth open clean discontinuities.</li> <li>26.40-28.10m horizontal to subhorizontal (0-15 degrees) closely spaced planar smooth open clean discontinuities.</li> <li>28.10-28.30m subhorizontal (18 degrees) very closely spaced planar smooth open clean discontinuities.</li> <li>28.10-28.30m subhorizontal (16 degrees) very closely spaced planar smooth open clean discontinuities.</li> <li>28.30-28.35m non-intact.</li> <li>28.30-28.35m non-intact.</li> <li>28.30-28.35m subhorizontal (15 degrees) closely spaced planar smooth open clean discontinuities.</li> </ul>									
(G Dia (32mm) Date	Drilling Pro	ogress and V Casing	Water Obser Water M Strike Sta	vations //ater W nnding Re	- - - /ater marks	Standard Penetri Depth Type	ation Test Result	From 28.10	(1) Description dd (2) Borehole adw conducted by CH (3) 50mm diamet 6.00m BGL.	Gen. Rem erived from anced thro 12M. er slotted s	eral arks drillers daily rep ugh trial pit previ standpipe installe	ort. iously			
All di	mensior Scale	ns in met 1:25	tres		For e	explanation c reviations se	of symbo e Key S	ols and sheets		Che	ecked by:	Logged D. Portsm	by: nouth	Contrac 415	ct No. 3



# ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 0191 387 4700 Fax: 0191 387 4710 Tel: 0191 387 4700 Fax: 0191 387 4700 Tel: 0191 387 4700 T

Status:-

G						otatus	FINAL									
Project:	The	e Former	SSI Ste	elworks,	Redca	r - Priority	Areas Wi	ithin SSI	Landhol	dings Co	ontract 1		Expl	oratory Hole	No.	
Client:	Sc	outh Tee	s Site Co	ompany l	_td		Location:	E:4	Redcar \$ 57019.08	Steel Wo 6 N:525	orks 119.691		:	S1-BH06	;	
Method (Eq Pe	uipment): ercussio	n/Coring	(Dando	2000/Bo	oart Lon	gyear DB5	520)	Groun	d Level (m(#	<b>OD)):</b> 7.090		Start Date: 9 05/10/2017	Sheet:	3 of 8		
RL	JN DET	AILS						ST	RATA			-			Ju _	
Depth	TCR (SCR) ROD	Fracture Index	Reduced Level	Legend	Depth (Thick-		Discontin	uition Dotail	DE	SCRIPT	ION	Main			strume Backfil	
C Dia (92mm) (92mm)	100 (95) 67	NI 12 NI 7			- - - - - - - - - - - - - - - - - - -	30.55-30.55 30.59-30.92 closely space discontinuiti 30.92-31.00 31.00-34.15 degrees) cla discontinuiti	9m non-inta 2m subhori ced planar sn ies. 9m non-inta 5m horizon osely spaced ies.	act. zontal (17 d nooth open act. tal to subho planar smo	egrees) clean rizontal (0-1 oth open cle	5 an	ontinued, eak grey fo tially weat	) ossiliferous MU thered.	IDSTO	NE 000000000000000000000000000000000000		
Date	Drilling Pro	ogress and V	Vater Obser Water W	vations /ater V	Vater	Standard Pen	etration Test	From	Flu	Ish Type	Returns		Gene Rema	eral arks		
	Sopur		Strike Sta	nding Re	marks	Depth         Type         Result         From         To         Type         Returns         Returns         Returns           1										
All d	imensio Scale	ns in met 1:25	res		For e	explanation reviations	of symbo see Key S	ols and Sheets	· · · · · ·	Che	ecked by:	Logged t D. Portsmo	oy: outh	Contract 4153	t No. 3	



 Head Office:
 Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co, Durham, DH2 2RG
 Tel: 0191 387 4700 Fax: 0191 387 4700

 Regional Office:
 Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL
 Tel: 0197 273 300 Fax: 01772 735 999

Status:-**FINAL ROTARY CONTINUATION** Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1 Exploratory Hole No. Location: Client: S1-BH06 South Tees Site Company Ltd **Redcar Steel Works** E:457019.086 N:525119.691 Method (Equipment): Ground Level (m(AOD)) Start Date: Sheet: 7.090 05/10/2017 Percussion/Coring (Dando 2000/Boart Longyear DB520) 4 of 8 **RUN DETAILS** STRATA Instrument/ Backfill DESCRIPTION Depth (Thick-ness) TCR Fracture Reduced Level (SCR) RQD Depth Legend Index **Discontinuities Detail** Main (Continued...) 33.80 100 (90) 63 Weak grey fossiliferous MUDSTONE partially weathered. 24 34.15-34.75m ... subhorizontal (10 degrees) very closely spaced planar smooth open to moderately wide infilled (clayey gravel) discontinuities. 10 34.75-34.95m ... subhorizontal (15 degrees) closely spaced planar smooth open discontinuities. NI 34.95-35.00m ... non-intact. 6 35.00-37.85m ... horizontal to subhorizontal (0-15 degrees) closely to medium spaced planar smooth open discontinuities. C Dia (92mm) 36.80 100 (93) 65 Drilling Progress and Water Observations Standard Penetration Test Flush General Water Strike Water Water Returns (%) Remarks Date Depth Casing Depth Туре Result From То Туре Remarks Standing Description derived from drillers daily report.
 Borehole advanced through trial pit previously 33.80 36.80 A/M 100 36.80 39.80 A/M 100 (3) 50mm diameter slotted standpipe installed to 6.00m BGL. Contract No. For explanation of symbols and abbreviations see Key Sheets Checked by: Logged by: All dimensions in metres

D. Portsmouth

4153

KW

Scale 1:25



# ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Wint 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 0191 387 4700 Fax: 0191 387 4710 Tel: 0191 387 4700 Fax: 0191 387 4700 Tel: 0191 387 4700 T

Status:-

G		ROTARY CONTINUATION													FINAL	
Project:	The	e Former	SSI Stee	elworks	Redca	- Priorit	ty Are	eas Wi	thin SSI	Landho	oldings	Contract 1		Exp	loratory Hol	e No.
Client:	Sc	outh Tee	s Site Co	mpany	Ltd		Loc	ation:	E:4	Redcar 57019.0	Steel 86 N:5	Works 25119.691			S1-BH0	6
Method (Eq Po	uipment): ercussio	n/Coring	(Dando	2000/B	oart Lon	gyear Dl	B520	))	Groun	d Level (m	( <b>AOD</b> )): 7.09	90	Start Date: 05/10/2017	Sheet:	5 of 8	
RI	JN DETA	AILS							ST	RATA			•			nt/
Depth	TCR (SCR)	Fracture	Reduced	Legend	Depth (Thick-					DE	SCRI	PTION				trumer ackfill
	RQD	Index	Level	Logona	ness)		[	Discontin	uities Detail			(Os at land 1	Main			
C Dia (92mm)		NI 6	- 32.710		39.80	37.85-37 37.95-39 degrees) tight disc	2.95m 9.80m 9 closel xontinui	non-inta subhori y to medi ties.	act. zontal to su um spaced	bvertical (5 planar smo	-60 poth	Weak grey fo partially weat	nplete at 39.8	JDSTO	NE 	
	Drilling Pro	ogress and \	Nater Obser	vations		Standard P	enetrat	tion Test		F	Flush			Gen	eral	
Date	Depth	Casing	Water W Strike Sta	ater \ nding Re	Water emarks	Depth T	уре	Result	From	То	Туре	e Returns (%)		Rem	arks	
18/10/2017	7 39.80	21.70	22	2.80									<ol> <li>Description de (2) Borehole advic conducted by CH (3) 50mm diamet 6.00m BGL.</li> </ol>	erived fron anced thro I2M. er slotted s	n drillers daily rep ough trial pit previ standpipe installe	port. iously ed to
All d	imension Scale	ns in met 1:25	res		For e	explanation	on of	symbo Kev S	ls and sheets	<u> </u>		Checked by:	Logged D. Portsm	by: houth	Contrac 415	ct No. i3



 Head Office:
 Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG
 Tel: 0191 387 4700
 Fax: 0191 387 4700

 Regional Office:
 Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL
 Tel: 01972 735 300
 Fax: 01972 735 300

G	ROT	ARY CO	NTINUATION		Status:- FINAL
Project:	The Former SSI Steelworks, Redcar - Priority	Areas Withi	n SSI Landholdings Contract 1		Exploratory Hole No.
Client:	South Tees Site Company Ltd		S1-BH06		
Method (Equ Pe	uipment): ercussion/Coring (Dando 2000/Boart Longyear DB	520)	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





 Head Office:
 Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG
 Tel: 0191 387 4700 Fax: 0191 387 4700

 Regional Office:
 Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL
 Tel: 01972 735 300 Fax: 01772 735 999

G	R		Status:-	FINAL		
Project:	The Former SSI Steelworks, Redcar - Price	ority Areas With	in SSI Landholdings Contract 1		Explo	pratory Hole No.
Client:	South Tees Site Company Ltd		S	61-BH06		
Method (Equip Perc	<sup>pment):</sup> cussion/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



 Head Office:
 Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG
 Tel: 0191 387 4700 Fax: 0191 387 4700

 Regional Office:
 Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL
 Tel: 01972 735 300 Fax: 01772 735 999

G	ROTA	ARY CO	NTINUATION		Status:-	FINAL
Project:	The Former SSI Steelworks, Redcar - Priority A	Areas Withi	in SSI Landholdings Contract 1		Exp	loratory Hole No.
Client:	South Tees Site Company Ltd			S1-BH06		
Method (	Equipment): Percussion/Coring (Dando 2000/Boart Longyear DB5	20)	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



		Reg	ional Offi	ce: Unit 20	, Business De	velopment Centre	e, Eanam Wharf, Bl	ackburn, BB1 5BL		Tel: 01772 735 30	0 Fax: 01772 735 999	Ir	
6						BOI	REHOLI	E RECO	ORD			Status:- FINAL	
Project:	The Fo	ormer SSI	Steel	works,	Redcar	- Priority A	Areas Within	n SSI Land	dholdings	Contract 1		Exploratory Ho	le No.
Client:	South	Tees Site	e Con	npany L	td	L	ocation:	Red E:45713	car Steel V 1.810 N:52	Vorks 25063.675		S1-BH0	7
Method (Equi	pment): C	able Perc	ussio	n (Dan	do 2000	)		Ground Leve	I (m(AOD)): 8.926	6	Start Date: 03/10/2017	Sheet: 1 of 1	
SAMF	PLES & TE	STS						STRAT	A		I		
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIP	TION		Instrume Backfil
				7.926		((1.00)	(1) MADE	GROUND	(Slag cob	ble surface	below fused s	slag mass).	
Borin	Ig Progres	s and Wat	er Ob	servatio	ons		Chiselling		Water	Added		General	<u> </u>
Date 03/10/2017 03/10/2017	Depth 0.00 1.00	Casing 0.00 0.90	Casin (m 25	ng Dia m) 50	Water Standing Dry	From 0.30	To 1.00	Hours (hh:mm) 02:00	From	То	(1) Description d (2) Borehole adv conducted by Ch (3) Relocated to	erived from drillers daily re- ranced through trial pit prev 22M. S1-BH07A.	port. viously

All dimensions in Scale 1:5	n metres i0	For ex abbre	planation o	of symbols ee Key She	and ets	Checked by:	Logged by: N/A	Contract No. 4153

A

A		ALL	d Office:	<b>DEX</b> Unit 25 Ice: Unit 20	Stella Gill Ind	URAT ustrial Estate, Pervelopment Centr	ION &	Street, Co. Durha	TECI m, DH2 2RG	HNICS Tel: 0191 387 4700 Tel: 01772 735 300	<b>Fax:</b> 0191 387 4710 <b>Fax:</b> 01772 735 999	ED				
						BO	Reholi	E RECO	RD			Status:-	FINAL			
Project:	The Fo	ormer SSI	Steel	lworks,	Redcar	- Priority A	Areas Withi	n SSI Lanc	lholdings	Contract 1		Expl	oratory Hole No	<b>D</b> .		
Client:	South	Tees Site	e Con	npany L	td	L	-ocation:	Rede E:457130	ar Steel \ ).768 N:52	Works 25063.929		s	1-BH07A			
Method (Equi	pment): C	able Perc	cussio	on (Dan	do 2000	)		Ground Level	(m(AOD)): 8.94	6	Start Date: 04/10/2017	Sheet:	1 of 2			
SAMF	PLES & TE	STS						STRAT	4		1	1	Ę			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIPT	ΓΙΟΝ		Instrume	Backfill		
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				- - - - - - - - - - - - - - - - - - -	from c.1.5	0m BGL	very dens	se.						
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		<u>3.70</u>	at c.3.30n ∖content. Brown gra sandstone	medium and incl	cobble							
4.40	J9			4.546	7 0 7 0 7	4.40 	(Driller no Medium d fragments	tes slag - p ense beco Sand is fi	robably fr ming dens ne to med	om above si se brown slig lium.	trata). ghtly gravelly	SAND w	ith shell			
5.00 5.00 5.00-5.50 5.30	PID SJ10 B11 ES12	0.7ppm N24				-	at c.5.00n	n BGL sli	ghtly clay	ey very grav	elly sand.			<u> </u>		
6.00 6.00-6.50	SJ13 B14	N30				- - - - - - - - - - - - - - - - - - -										
7.00 7.00-7.50         SJ15 B16         N31         N31         A to a construction of the construction of										ravelly sand.						
Borin	g Progress	s and Wat	er Ob	servatio	ons		Chiselling		Water	Added		Gen	eral	<u>um</u>		
Date	Depth	Casing	Casir (m	ng Dia nm)	Water Standing	From	То	Hours (hh:mm)	From	То		Rem	arks			
04/10/2017 04/10/2017	0.00 5.17	0.00 5.17	29	50		0.40	3.50	02:00	4.00 5.00	4.50 11.00	<ol> <li>Description c</li> <li>Borehole adv conducted by CI</li> <li>50mm diame</li> <li>7.05m BGL.</li> <li>Relocated from</li> </ol>	lerived from vanced thro H2M. ter slotted s om S1-BH0	drillers daily report. ugh trial pit previously tandpipe installed to 7.	r		
All din	nensions ir Scale 1:5	n metres 0			For example	planation	of symbols see Key She	and ets	C	hecked by:	Logged D. Portsr	l by: nouth	Contract No 4153	0.		



						BO	Reholi	E RECC	RD			Status:-	FINAL				
Project:	The Fo	ormer SSI	Stee	lworks,	Redcar	- Priority A	Areas Withi	n SSI Lanc	lholdings (	Contract 1		Exp	loratory Hole No.				
Client:	South	n Tees Sit	e Con	npany L	.td	L	_ocation:	Redo E:457130	car Steel V ).768 N:52	Vorks 25063.929		S	51-BH07A				
Method (Equi	pment): C	Cable Pero	cussic	on (Dan	do 2000	)		Ground Level	(m(AOD)): 8.946	3	Start Date: 04/10/2017	Sheet:	2 of 2				
SAMF	PLES & TE	STS						STRAT	4			1	Ę				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIPT	ΓΙΟΝ		Instrume				
8.00 8.00-8.50 8.70	S17 B17 J18	N34		0.246			(Continue Medium d fragments Medium d	d) ense beco Sand is fi ense grey (	ming dens ne to medi clayey grav	e brown slig ium. velly SAND	ghtly gravelly	SAND w kets. Sa	vith shell				
9.00 9.00-9.50	SJ19 B20	N24				- - - - - - - - - -	to medium with fragments of shell. Gravel is fine to medium and includes sandstone and flint.										
10.00 10.00-10.5	SJ21 0 B22	N19				(3.30) at c.11.00m BGL clayey sand.											
11.00 11.00-11.5	S23 0 B23	N28		- 3.054													
12.00 12.50 12.50-13.0	J24 SJ25 B26	N20				(1.80)	Medium d of gravel. and flint. at c.12.50	ense grey l Sand is fin m BGL ç	orown silty e to mediu gravelly sa	gravelly SA m subround nd with occ	AND with occa ded and inclu asional clay p	asional i des sand ockets.	nterbeds dstone				
13.50 13.80 14.00 14.00-14.5	J27 J28 SJ29 0 B30	N25		- 4.854 - 5.054		13.80 (0.20) 14.00 (1.00)	Grey SILT Firm brow to coarse and chert. at c.14.00	n sandy gra angular to m BGL c	avelly CLA rounded a clay is of in	Y. Sand is nd includes termediate	fine to mediur sandstone, n plasticity.	m. Grave nudston	el is fine e, coal				
				0.004		13.00	Borehole	complete a	t 15.00m E	3GL.							
Borin	g Progres	s and Wa	ter Ob Casir	servationg Dia	ons Water	Est at	Chiselling	Hours	Water	Added		Gen Rem	eral arks				
Date 04/10/2017 05/10/2017 05/10/2017	Depth 11.50 11.50 15.00	Casing 11.50 11.50 14.90	(m 2 2 2	00 00 00 00	6.84 4.35 6.07	From     10     (hh:mm)     From     10       (hh:mm)     (hh:mm)     From     10     (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.											
All din	nensions ii Scale 1:5	n metres			For ex	planation	of symbols ee Key She	and ets	Cł	necked by:	Logged D. Portsn	by: nouth	Contract No. 4153				

Ğ					BC	REHOLI	E RECC	ORD			Status:-	FINAL	
Project:	The Fo	ormer SSI	Steelwork	s, Redcar	- Priority	Areas Within	n SSI Land	dholdings (	Contract 1		Expl	oratory Hol	e No.
Client:	South	Tees Site	e Company	y Ltd		Location:	Red E:45682	car Steel V 5.968 N:52	Vorks 5036.197			S1-BH1:	2
Method (Equip	ment): C	able Perc	cussion (Da	ando 2000	)		Ground Leve	l (m(AOD)): 5.732	2	Start Date: 09/10/2017	Sheet:	1 of 3	
SAMPL	ES & TE	STS		1	1	1	STRAT	A		•	•		- ut/
Depth	Type No	Test Result	Reduce S Leve	el Legend	Depth (Thickness)				DESCRIP	TION			Instrume Backfi
1.00 1.00	PID B1	5.6ppm				MADE GF Gravel is f and brick.	ROUND (Br fine to coar Slight hydi	rown claye rse angular rocarbon o	y sandy gra and incluo dour notec	avel. Sand is fi des slag, conci I).	ne to co rete, ma	arse. cadam	
1.80 1.80	PID B2	4.8ppm	0.932			0	- black bro				cond is f		
5.00 5.00	PID CB3	11.8ppm N3				(Driller no	tes slag, pi	robably from	m above st	trata).			
5.50	ES4			× × × × ×	 _(1.70) 								
6.00 6.00	PID CB5	9.6ppm N3	- 0.768		- - - - - - -	at c.6.00m Very loose (Driller no	e to loose g tes slag, pi	grey black s robably fro	y gravelly o silty SAND m above si	. Sand is fine t trata).	o mediu	m.	
7.00 7.00	PID CB6	3.8ppm N4		×	<u>(</u> 1.10) - -								
7.50	ES7		- 1.868	3 × · · · · · · · · · · · · · · · · · ·	7.6	o Medium d	ense grey	brown silty	SAND. Sa	and is fine to co	oarse.		
Boring	Progress	s and Wat	er Observa	tions	<u>[</u>	Chiselling		Water	Added		Con		
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	То	Hours (hh:mm)	From	То		Rema	arks	
09/10/2017 09/10/2017 10/10/2017 10/10/2017 10/10/2017 11/10/2017	0.00 3.00 3.00 5.00 6.50 6.50	0.00 3.00 3.00 5.00 6.30 6.30	250 250 250 200 200	2.41 1.96 5.11 3.76	0.10 0.40 0.80 3.00 3.90 4.40	0.40 0.80 1.10 3.40 4.30 4.60	01:00 01:00 00:30 01:00 01:00 00:30	6.50	18.45	(1) Description di (2) Borehole adv conducted by CH (3) 50mm diamet 5.00m BGL.	erived from anced throu I2M. ter slotted s	drillers daily rep ugh trial pit prev tandpipe installe	oort. iously ed to
All dime	ensions ir Scale 1:5	n metres 0		For ex	planation	n of symbols see Key She	and ets	Cr	necked by:	Logged D. Portsm	by: nouth	Contrac 415	ct No. 53

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E		
G	3	

Project:

#### BOREHOLE RECORD

Exploratory	Hole	No.

**FINAL** 

Status:-

The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1											Exp	loratory Hole No.			
Client:	South	Tees Site	e Corr	npany	Ltd	L	ocation:	Red E:45682	ar Steel V 5.968 N:52	Vorks 5036.197			S1-BH12		
Method (Equi	pment): C	able Perc	ussio	n (Dar	ndo 2000	)		Ground Level	(m(AOD)): 5.732	2	Start Date: 09/10/2017	Sheet:	2 of 3		
SAMF	PLES & TE	STS			_			STRAT	4				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Depth	Type No	Test Result	Water	Reduce Level	d Legend	Depth (Thickness)				DESCRIPT	ΓΙΟΝ		Instrume Backfil		
8.00	SJ8	N16			× · . · . · . · .× . ·	-	<i>(Continued</i> Medium d	d) ense grev	prown silty	SAND. Sa	nd is fine to co	oarse.			
8.50 8.50	PID B9	3.0ppm			×	-			-						
9.00	SJ10	N17			× × . 										
9.50 9.50	PID B11	1.2ppm			× · · · · · · · · · · · · · · · · · · ·	-									
10.50	SJ12	N13			· · · · · · · · · · · · · · · · · · ·	-									
11.00 11.00 11.20	PID B13 B14	1.2ppm		- 5.268		11.00 	11.00       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.         11.90       Firm to stiff because slightly sandy CLAY. Sand is fine to medium.								
12.00	SJ15 B16	N24		- 6.168	<ul> <li>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.</li> </ul>										
13.50	U*B17	(116)				- - - - - - (3.20)	at c.13.50	m BGL c	lay is of in	termediate	to high plastic	city.			
14.00	U18	(131)				- - - - -	at c.14.00	m BGL ł	igh streng	th.					
14.50	J19					- - - - -									
15.50	SJ20	N53		- 9.368		15.10 	<ul> <li>15.10</li> <li>Firm to stiff brown red sandy gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subrounded and includes sandstone and mudstone.</li> </ul>								
Borin	g Progress	s and Wat	er Ob	servati	ons		Chiselling		Water	Added		Gen	eral		
Date	Depth	Casing	Casin (m	ng Dia	Water Standing	From	To	Hours (hh:mm)	From	To	(1) Description d (2) Borehole adv conducted by CF (3) 50mm diamet 5.00m BGL.	Rem erived from anced thro 12M. ter slotted s	arks n drillers daily report. ough trial pit previously standpipe installed to		
All din	nensions ir Scale 1:5	n metres 0	<u> </u>		For ex abbre	planation	of symbols see Key She	and ets	Cł	necked by:	Logged D. Portsn	by: nouth	Contract No. 4153		

						BC	REHOLE	E RECC	ORD			Status:-	FINAL	
Project:	The Fo	rmer SS	l Steel	works,	Redcar	- Priority	Areas Withir	n SSI Land	holdings (	Contract 1		Expl	oratory Hole I	No.
Client:	South	Tees Sit	e Con	npany L	td		Location:	Red E:45682	car Steel V 5.968 N:52	Vorks 25036.197			S1-BH12	
Method (Equip	ment): Ca	able Per	cussio	n (Dano	do 2000	)		Ground Leve	(m(AOD)): 5.732	2	Start Date: 09/10/2017	Sheet:	3 of 3	
SAMPL	ES & TE	STS						STRAT	Ą		1			£
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	)			DESCRIP	TION			Instrume Backfill
16.00 17.00 17.50 17.90 18.00	B21 U*B22 U23 J24 SJ25	(114) (119) N52		- 11.868		(2.50) 	(Continued Firm to stif Gravel is fi mudstone. at c.16.00r Extremely (Recovere 5 Borehole c	f) f brown re ine to med m BGL ( weak MUI d as claye	d sandy gr ium subro clay is of in DSTONE d y gravel. G	avelly CLA unded and itermediate	Y. Sand is fine includes sand plasticity. eathered. le to medium).	e to med stone al	ium. nd	
Boring	Progress	and Wa	ter Ob	servatio	ns		Chiselling		Water	Added		Gen	eral	
Date	Depth	Casing	Casir (m	ng Dia im) S	Water Standing	From	То	Hours (hh:mm)	From	То		Rem	arks	
11/10/2017	18.45	18.00	20	00	2.41	17.10	17.30 17.50	00:30 00:45			(1) Description de (2) Borehole adv. conducted by CH (3) 50mm diamet 5.00m BGL.	erived from anced thro 2M. er slotted s	drillers daily report. ugh trial pit previous standpipe installed to	sly o
All dime	ensions in Scale 1:50	metres			For ex	planatior	n of symbols a see Key Shee	and ets	CI	hecked by:	Logged D. Portsm	by: nouth	Contract I 4153	No.

- -



Project:

Client:

Method (Equipment):

#### **ALLIED EXPLORATION & GEOTECHNICS LIMITED**

Read Office: Unit 20. 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: 01772 735 300 Fax: 01772 735 999

Status:-**FINAL BOREHOLE RECORD** Exploratory Hole No. The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1 Location: S1-BH13 South Tees Site Company Ltd **Redcar Steel Works** E:457017.312 N:524904.681 Ground Level (m(AOD)): Start Date: 03/10/2017 Sheet: 8.293 Cable Percussion (Dando 2000) 1 of 1

SAMP	PLES & TE	STS		STRATA									
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIPT	ΓΙΟΝ		Instrume Backfill
				7.793		- [0.50) - 0.50	(1) MADE	GROUND	(Glass ov	er slag met	al steel). o refusal.		
Borine	g Progress	s and Wat	er Ob	bservations Chiselling Water Added General									
Date	Depth	Casing	Casin (m	ig Dia m)	Water Standing	From	To	Hours (hh:mm)	From	То	Rem	arks	
03/10/2017 03/10/2017	0.00 0.50	0.00 0.50	25	50	Dry	0.40	0.50	01:00			<ol> <li>Description derived from</li> <li>Borehole advanced thro conducted by CH2M.</li> <li>Relocated to S1-BH13.</li> </ol>	n drillers daily rep ugh trial pit previ	ort. ously
All dimensions in metres     For explanation of symbols and     Checked by:     Logged by:     Contraction       Scale 1:50     abbreviations see Key Sheets     M     N/A     415								ct No. 3					

Ë						BO	Reholi	E RECC	RD			Status:-	FINAL	
Project:	The Fo	ormer SSI	Steel	works,	Redcar	- Priority A	Areas Within	n SSI Land	holdings	Contract 1		Expl	oratory Ho	le No.
Client:	South	Tees Sit	e Con	npany l	_td	L	ocation:	Redo F-457019	ar Steel V	Vorks 24904 940		s	1-BH13	BA
Method (Equip	oment): C	able Pero	cussio	n (Dan	do 2000	)		Ground Level	(m(AOD)): 8.22	7	Start Date: 04/10/2017	Sheet:	1 of 2	
SAMP	LES & TE	STS			1			STRATA	٨		1			ant/
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIPT	ΓΙΟΝ			Instrume Backfi
0.80 0.80	PID B1	7.3ppm				-	MADE GF Sand is fir coarse su Cobbles a	ROUND (Br he to coarse brounded to hre subroun	own black and inclu angular ded to an	c clayey very udes pulveri and include gular and in	v sandy gravel ised fuel ash. s brick, clinke clude slag an	l and cot Gravel is r and sla d brick).	obles. s fine to ag.	
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		at c.3.00m BGL very dense/possible cobble obstructio								on.		
4.00 4.10	CB8 ES9	1/1.26	1 1			- - - - - - - -	at c.4.00n	ו BGL ve	ry dense/	possible cot	oble obstructio	on.		
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	Ţ			-	from c.5.0	0m BGL	medium o	dense.				
6.00 6.00	PID CB14	2.0ppm N28				-	at c.6.00n	n BGL sli	ghtly claye	ey sandy gra	avel with high	cobble o	content.	
6.80	ES15			1.327		<u>6.90</u> 	6.90 (1) Black SAND. (Driller notes pushing steel obstruction). (1.10)							
				0.227		- - - 8.00								
Boring	g Progress	s and Wat	ter Ob Casir	servationg Dia	O <b>NS</b> Water	From	Chiselling	Hours	Water	Added		Gene Rema	eral arks	
04/10/2017 04/10/2017 05/10/2017 05/10/2017	0.00 7.00 7.00 8.00	0.00 7.00 7.00 8.00	(m 2! 2! 2!	50 50 50 50	6.41 5.12	0.90 2.30 3.00 4.10 6.10	0.90         1.20         00:30         (1) Description derived from drillers daily regression derived by CH2M.           3.00         3.30         01:00         (3) Water strike at 5.00m BGL - rose to 4.73 (20mins).           6.10         6.30         00:30         (4) 50mm diameter slotted standpipe install 8.00m BGL.           (5) Relocated from S1-BH13.         (5) Relocated from S1-BH13.						port. viously 3m BGL led to	
All dimensions in metres Scale 1:50 For explana abbreviatio					planation	ation of symbols and Checked by: Logged by: Contract No ons see Key Sheets KW D. Portsmouth 4153					ict No. 53			



## ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Megional Office: Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 0191 387 4700 Fax: 0191 387 4710 Tel: 0191 387 4700 Fax: 0191 387 4700 Tel: 
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Ğ							BC	REHOL	E RECORD		Status:-	FINAL	
Project:	The	For	mer SS	l Steel	works,	Redcar	- Priority	Areas With	in SSI Landholdings Contra	ct 1	Explo	oratory Hol	e No.
Client:	Sou	uth 1	Tees Sit	e Con	npany L	td		Location:	Redcar Steel Works E:457019.996 N:524904.9	940	S	1-BH13	Α
Method (Eq	uipment):	The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1         South Tees Site Company Ltd       Location: Redcar Steel Works E:457019.996 N:524904.940         pment): Cable Percussion (Dando 2000)       Ground Level (m(AOD)): 8.227       Start Da 04/10         PLES & TESTS       STRATA		Start Date: 04/10/2017	Sheet:	2 of 2							
SAM	IPLES & T	TES	TS				-		STRATA				_f_
Depth	Depth Type Test by Result a Reduced Legend Depth (Thickness) DESCRIPTION										strume Backfil		

Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	h DESCRIPTION						Instrumer Backfill
							Borehole	terminated	at 8.00m	BGL - due to	pushing obstruction	•	
Boring	g Progress	s and Wat	er Ob	servatio	NS Water		Chiselling	Hours	Water	Added	Gen Rem	eral arks	
Date	Depth	Casing	(m	im)	Standing	From	То	(hh:mm)	From	То	Remarks		
											<ol> <li>Description derived from drillers daily report.</li> <li>Borehole advanced through trial pit previously conducted by CH2M.</li> <li>Water strike at 5.00m BGL - rose to 4.73m BGL (20mins).</li> <li>50mm diameter slotted standpipe installed to 8.00m BGL.</li> <li>Relocated from S1-BH13.</li> </ol>		
All dim	ensions ir Scale 1:5	n metres 0			For ex	planation of eviations set	of symbols ee Key She	and ets	Checked by: Logged by: Contract No <i>KW</i> D. Portsmouth 4153				

A				IEC ad Office: gional Offi	DEX Unit 25 ce: Unit 20	Stella Gill In , Business D	DRAT dustrial Estate, evelopment Cer	FION 8 Pelton Fell, Chester- Itre, Eanam Wharf, E	e-Street, Co. Durham, DH2 2RG lackburn, BB1 5BL	NICS 10 1191 387 4700 F 14: 01772 735 300 F	LIMIT ax: 0191 387 4710 ax: 01772 735 999	ED	
E							BC	REHOL	E RECORD			Status:- FINAL	
Project:	:	The For	rmer SS	I Stee	works,	Redcar	- Priority	Areas With	in SSI Landholdings C	ontract 1		Exploratory Ho	ole No.
Client:		South	Tees Sit	te Con	npany L	td		Location:	Redcar Steel Wo E:457170.550 N:524	orks 862.282		S1-BH1	4
Method	(Equipme	ent): Ca	able Per	cussic	on (Dan	do 2000	))		Ground Level (m(AOD)): 8.312		Start Date: 06/10/2017	Sheet: 1 of 2	
S	AMPLE	S & TES	STS						STRATA				Ęf.
De	epth	Туре	Test	ater	Reduced	Legend	Depth		Г	DESCRIPTI	ON		trumer ackfill

U U U		010						SIIVAI	7			5	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIP	TION	Instrume	Backfill
1.00	PID B1	2.8ppm				(1.60)	MADE GF coarse. G and brick)	ROUND (So ravel is fine ).	oft to firm I	brown sand e subangula	y gravelly clay. Sand i ar and includes slag, c	s fine to oncrete	20000000000000000000000000000000000000
1.60 1.60 1.90 2.00 2.00	PID B2 ES3 PID CB4	0.2ppm 7.0ppm N13		6.712		1.60 	MADE GF cobble co subangula are subro	ROUND (M ntent. Sand ar and inclu unded and	edium der d is fine to des slag, include co	nse brown b coarse. Gra concrete, b oncrete and	lack sandy gravel with avel is fine to coarse rick and sandstone. C slag).	obbles	
2.60 2.60-2.90 3.00	PID B5 ES6	2.8ppm				(2.40)						86 - 20 - 20 - 20 - 20 - 20 - 20 - 20 - 2	
3.40 3.40	PID CB7	4.0ppm N24											
4.00 4.00	PID SB8	7.1ppm N5		4.312		4.00 	MADE GF clayey/silt coarse. G concrete). (Engineer	ROUND (Lo y gravelly s ravel is fine notes rewe	oose beco and with s to coarse orked grav	ming mediu slight hydroo e subrounde vel has cont	m dense brown black carbon odour. Sand is ed and includes sands aminated black sand)	fine to	
5.00 5.00 5.50	PID SB9 ES10	2.8ppm N5					at c.5.00n	n BGL cl	ayey/silty (	gravelly san	ıd.	ده می و می و می و دو می و مرح و مرح 111111111111111111111111111111111111	
6.00	SJ11	N14											
6.50 6.50	PID B12	0.1ppm				(4.90) 							
7.00	SJ13 B14	N14					at c.7.00n	n BGL sli	ightly clay	ey/silty sanc	1.	2005 2005 2005 20 2005 2005 2005 20 111111111111111111111111111111111111	
Borin	g Progress	s and Wa	ter Ob	servatio	ons		Chiselling		Water	Added	Gen	eral	<u> </u>
Date	Depth	Casing	Casir (m	ng Dia Im)	Water Standing	From	То	Hours (hh:mm)	From	То	Rem	arks	
06/10/2017 06/10/2017	0.00 4.00	0.00 4.00	2	50		2.60 3.10	2.90 3.40	01:00 00:30	5.40	15.00	(1) Description derived from (2) Borehole advanced thro conducted by CH2M. (3) Damp at 5.40m BGL. (4) 50mm diameter slotted s 8.00m BGL.	I drillers daily report. ugh trial pit previously standpipe installed to	
All din	nensions ir Scale 1:5	n metres			For ex	planation	of symbols	and	С	hecked by:	Logged by: D. Portsmouth	Contract No. 4153	

Ğ						BO	REHOLI	E RECORD		Status:- FINAL					
Project:	The Fo	rmer SS	I Steel	lworks, I	Redcar	- Priority A	Areas Withi	n SSI Landholdings Contrac	t 1	Exploratory Ho	le No.				
Client:	South	Tees Sit	te Con	npany L	td	L	ocation:	Redcar Steel Works E:457170.550 N:524862.28	32	S1-BH1	4				
Method (Equipn	nent): Ca	able Per	cussio	on (Dano	do 2000	)		Ground Level (m(AOD)): 8.312	Start Date: 06/10/2017	Sheet: 2 of 2					
SAMPL	ES & TE	STS						STRATA							
Depth	Depth Type Test Result S Reduced Legend Depth (Thickness) DESCRIPTION										Instrume Backfill				
8.00 8.50 9.00	SJ15 B16 SB17	N13		- 0.588		- <u>8.90</u> - (1.20)	<ul> <li>(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).</li> <li>8.90 (Engineer notes reworked gravel has contaminated black sand).</li> <li>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.</li> </ul>								
10.20	SB18	N11		- 1.788		- 10.10	Medium d fine to coa	ense brown grey red clayey/s arse. Gravel is rounded and ir	ilty slightly grave	elly SAND. Sand is ne.					
12.00	SB19	N15				- - - - - - - - - - - - - - - - - - -									
13.00	J20														
13.50	SJ21	N16				-									
14.00	B22					-   -   -	at c.14.00	m BGL slightly clayey/silty	sand.						

						Borenoie	complete a	10.5011	BGL.		
Borin	g Progres	s and Wat	er Observ	vations		Chiselling	9	Wate	Added	Gene	eral
Date	Depth	Casing	Casing Dia (mm)	a Water Standing	From	То	Hours (hh:mm)	From	То	Rema	arks
06/10/2017	15.50	15.00	200	1.96			(1) Description deri (2) Borehole advan conducted by CH2I (3) Damp at 5.40m (4) 50mm diameter 8.00m BGL.		<ol> <li>(1) Description derived from</li> <li>(2) Borehole advanced throit conducted by CH2M.</li> <li>(3) Damp at 5.40m BGL.</li> <li>(4) 50mm diameter slotted s</li> <li>8.00m BGL.</li> </ol>	drillers daily report. ugh trial pit previously tandpipe installed to	
All din	All dimensions in metres For ex Scale 1:50 abbre				explanation of symbols and previations see Key Sheets				hecked by:	Logged by: D. Portsmouth	Contract No. 4153

Firm brown sandy gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subrounded and includes sandstone, mudstone, coal, chert and flint.

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15.20

(0.30) 15.50

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- 6.888

7.188

N15

SB23

15.00





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Project:	The Fo	rmer SSI	Steel	works,	Redcar	- Priority A	Areas Within	n SSI Lanc	lholdings	Contract 1		Expl	oratory Hole	e No.
Client:	South	Tees Site	e Com	ipany L	td	L	Location: Redcar Steel Works E:456640.341 N:524872.127					;	S1-BH18	3
Method (Equip	ment): C	able Perc	cussio	n (Dan	do 2000	)	Ground Level (m(AOD)): Start Date: 7.360 11/10/2017					Sheet: 2 of 3		
SAMPI	ES & TE	STS					STRATA							ut/
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)		DESCRIPTION						Instrume Backfill
8.00 8.00	PID B23	0.2ppm				-	<i>(Continued</i> Medium d	d) ense grey	brown clay	yey slightly g	gravelly SAND	. Sand i	s fine to	
8.50-8.95	SJ24	N15				-	coarse. at c.8.00m	n BGL cli	ayey sand					
9.00	B25					- - - - -	at c.9.00m	ı BGL sli	ghtly clay	ey sand with	ı shell fragmer	nts.		
9.50-9.95	SJ26	N17				- - 								
10.00	B27					- - - - - -	at c.10.00	m BGL s	lightly cla	yey sand.				
11.00-11.45	SJ28	N17				- - 								
11.50	B29					- - - - - -	at c.11.50	m BGL s	lightly cla	yey slightly (	gravelly sand.			
12.50-12.95	SJ30	N22		- 5.240		12.60	Firm lamir medium. (	nated brow Gravel is fir	n sandy sl ne to medi	ightly gravel um subangu	lly CLAY. San	d is fine d and in	to cludes	
13.00	B31					-	sandstone at c.13.00	e, mudston m BGL o	e and coa clay is of ir	l. ntermediate	plasticity.			
13.50	B32					-								
14.00	U33	(116)					at c.14.00	m BGL \	very high s	strength.				
14.50	J34					 (4.50)								
15.50	U*B35	(119)				-								
Boring	Progress	s and Wat	er Ob	servatio	ons		Chiselling	Llaura	Water	Added		Gen	eral	
Date	Depth	Casing	(m	у Dia m)	vvater Standing	From 13.40	To           13.60	Hours (hh:mm) 00:45	From	То	<ol> <li>Description de</li> <li>Borehole adva conducted by CH</li> <li>Borehole mak</li> <li>Sorehole mak</li> <li>500m BGL.</li> </ol>	Rema erived from anced throu 2M. ing water b er slotted s	at KS drillers daily rep ugh trial pit previo between 3.00-3.1 standpipe installe	ort. ously 0m BGL. d to
All dime	ensions ir Scale 1:5	n metres			For ex	planation	of symbols ee Key She	and ets	C	hecked by:	Logged D. Portsm	by: Nouth	Contrac 415	ct No. 3

						во	REHOL	E RECC	ORD			Status:- FINAL	-		
Project:	The Fo	rmer SSI	Steel	works,	Redcar	- Priority	Areas Withi	n SSI Land	holdings (	Contract 1		Exploratory He	Exploratory Hole No. S1-BH18		
Client:	South	Tees Site	e Corr	npany L	td		Location:	Red E:45664	car Steel V 0.341 N:52	Vorks 4872.127		S1-BH1			
Method (Equipn	nent): C	able Perc	cussio	n (Dan	do 2000	)		Ground Leve	l (m(AOD)): 7.360	)	Start Date: 11/10/2017	Sheet: 3 of 3			
SAMPL	ES & TE	STS						STRAT	A				f		
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIP	TION		Instrume Backfil		
16.00-16.45 17.50-17.95 17.80	SB36 SJ37 B38	N23 N25		- 9.740		 	(Continue Firm lami medium. sandstone Stiff red b Gravel is and coal.	<i>d)</i> nated brow Gravel is fir e, mudston rown sand fine to med	n sandy sli ne to mediu e and coal y slightly gr ium suban	ghtly grave um subang avelly CLA gular and i	elly CLAY. Sar ular to rounde Y. Sand is fin ncludes sand	nd is fine to ed and includes e to medium. stone, mudstone			
19.00	SB39	1/0.00		<u>- 11.740</u>		(2.00) 	at c.19.10 Borehole	0m BGL ( terminated	driller notes at 19.10m	s boulder. BGL - due	to obstruction	n.			
Boring	Progress	and Wat	er Ob	servatio	ons Water		Chiselling	Hours	Water	Added		General			
Date 20/10/2017	Depth 19.10	Casing 14.00	20 20	)0	3.69	From 19.00	19.00	01:00	From	То	(1) Description (2) Borehole ad conducted by Cl (3) Borehole ma (4) 50mm diame 5.00m BGL.	derived from drillers daily r vanced through trial pit pre H2M. king water between 3.00- ter slotted standpipe insta	eport. eviously 3.10m BGL. illed to		

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All dimensions in metres	For explanation of symbols and	Checked by:	Logged by:	Contract No.
Scale 1:50	abbreviations see Key Sheets		D. Portsmouth	4153

						во	REHOLE	E RECC	ORD			Status:-	FINAL		
Project:	The Fo	ormer SS	l Steel	works,	Redcar	- Priority /	Areas Withir	n SSI Land	holdings	Contract 1		Expl	oratory Ho	ole No.	
Client:	South	Tees Sit	te Con	npany L	td	l	Location: Redcar Steel Works E:456892.934 N:524780.480					S1-BH19			
Method (Equip Per	oment): cussion/C	Coring (D	ando 2	2000/Co	omacchi	o GEO 30	05)	Ground Level	(m(AOD)): 6.975	5	Start Date: 10/10/2017	Sheet:	1 of 3		
SAMP	LES & TE	STS			İ			STRAT	٩					ant/	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION								
0.50 1.00 1.30 1.50	J1 J2 CJ3 ES4	1/2.10					MADE GROUND (Brown grey sandy gravel and cobbles coarse. Gravel is fine to coarse angular to subangular ar brick, concrete and clinker. Cobbles are rounded and inc concrete). (Engineer notes cobbles are broken down due to chiselli from c.1.30m BGL very dense.						s fine to des slag, ag and		
2.30 2.50	CJ5 ES6	1/3.20				-									
3.00	SJ7	1/4.00	1			-									
3.50	ES8		Ť			- - -									
4.00 4.00 4.00-4.50	PID SJ9 B9	3.2ppm 1/0.40	Ţ			-									
4.50	ES10					-									
5.00	CJ11	1/3.20				-									
5.50	ES12					-									
6.00 6.00-6.50	PID CB13	1.8ppm N49				-									
6.50	ES14			0.275		6.70	Dense be	comina me	edium den	se brown s	ightly clavey o	ravelly	SAND		
7.00 7.00 7.00-7.50	PID SJ15 B16	1.0ppm N37				- 	with fragm rounded a	ients of she nd include	ell. Sand is s sandstor	s fine to coa ne.	arse. Gravel is	fine to r	nedium		
Boring	g Progress	s and Wa	ter Ob	servatio	bns		Chiselling		Water	Added		Gene	eral		
Date	Depth	Casing	Casin (m	ig Dia m)	Water Standing	From	То	Hours (hh:mm)	From	То		Rema	arks		
10/10/2017 10/10/2017 11/10/2017 11/10/2017 11/10/2017	0.00 2.00 2.00 7.19	0.00 2.00 2.00 7.19	2! 2! 2!	50 50 50	Dry	0.30 2.00	2.00 5.30	03:00 02:00	8.00	12.00	<ul> <li>(1) Description di</li> <li>(2) Borehole adv</li> <li>conducted by CF</li> <li>(3) Water strike a</li> <li>(20mins).</li> <li>(4) 50mm diamet</li> <li>7.00m BGL.</li> </ul>	erived from anced throu 12M. at 4.30m BC ter slotted s	drillers daily re ugh trial pit pre GL - rose to 3.3 tandpipe instal	eport. viously 87m BGL lled to	
All dim	ensions ir Scale 1:5	n metres			For ex	planation eviations s	of symbols a	and ets	C	hecked by:	Logged D. Portsn	by: nouth	Contra 41	act No. 53	

						BC	REHOLI	E RECC	ORD			Status:-	FINAL		
Project:	The Fo	ormer SSI	Steel	works,	Redcar	- Priority	Areas Within	ithin SSI Landholdings Contract 1					Exploratory Hole No.		
Client:	South	Tees Site	e Com	npany L	td		Location: Redcar Steel Works F:456892 934 N:524780 480					S1-BH19			
Nethod (Equipm Perc	nent): cussion/C	Coring (Da	ando 2	2000/Co	omacchi	o GEO 3	605)	Ground Leve	(m(AOD)): 6.97	5	Start Date: 10/10/2017	Sheet:	2 of 3		
SAMPL	AMPLES & TESTS STRATA										1				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness	)	DESCRIPTION						Instrume Backfill	
8.00 8.00 8.00-8.50 8.30	PID SJ17 B18 ES19	0.5ppm N25				-	(Continued Dense be with fragm rounded a from c.8.0	d) coming me nents of she nd include 0m BGL	edium den ell. Sand is s sandstor medium c	se brown sl s fine to coa ne. dense. Clay	ightly clayey <u>c</u> rse. Gravel is ey gravelly sa	fine to r nd.	SAND 8 nedium 8		
9.00 9.00-9.50	SJ20 B21	N29				    (6.10)	at c.9.00m	ı BGL sl	ghtly claye	ey sand.					
10.00-10.50 10.00	SB22 K(F)	N23													
11.00	J23					-							222222		
11.50 11.50-12.00	SJ24 B25	N23					at c.11.50	m BGL (	clayey san	d.					
12.50	J26			- 5.825	· <u>· · ·</u> · ·	12.8	0								
12.80 13.00-13.45	J27 U*B28	(100)				-	Firm brow fine to me at c.13.00	n grey san dium angu m BGL o	dy gravelly lar and inc clay is of h	/ CLAY. Sar cludes sand igh plasticit	nd is fine to m stone and mu y.	edium. ( dstone.	Gravel is		
13.50-13.95	U29	(130)				(1.20)	at c.13.50	m BGL ł	nigh streng	jth.					
				- 7.025		14.0	o Stiff red bi	rown sandv	/ gravelly (	CLAY, Sand	l is fine to me	dium. Gr	avel is		
14.50	J30					-	fine to me	dium angu	lar and inc	ludes sand	stone and mu	dstone.			
15.00 15.00-15.50	SJ31 B32	N38				- - - - - - - -	at c.15.00	m BGL (	lay is of ir	itermediate	plasticity.				
Boring	Progress	s and Wat	ter Obs	servatio	ons		Chiselling		Water	Added		Gene	eral		
Date	Depth 13.50 13.50	Casing 13.40 13.40	Casin (m 20 20	g Dia m) : )0 )0	Water Standing 5.33	From	То	Hours (hh:mm)	From	То	(1) Description d (2) Borehole adv conducted by CF (3) Water strike a (20mins). (4) 50mm diame 7.00m BGL.	Rema erived from anced throu 12M. at 4.30m BC ter slotted s	drillers daily repo ugh trial pit previo GL - rose to 3.37m tandpipe installed	rt. usly 1 BGL I to	
All dime	ensions ir	n metres			For ex	planation	n of symbols	and	C	hecked by:	Logged D. Portsn	by: nouth	Contract 4153	t No.	

						BC	REHOL	E RECC	ORD			Status:-	FINAL	
Project:	The Fo	rmer SS	l Steel	works, I	Redcar	- Priority	Areas Withi	n SSI Land	Iholdings	Contract 1		Expl	oratory Hole	e No.
Client:	South	Tees Sit	e Con	ipany L	td		Location:	Red E:456892	car Steel V 2.934 N:52	Vorks 24780.480			S1-BH19	•
Method (Equipm Percu	ent): JSSION/C	oring (D	ando 2	2000/Cc	macchi	o GEO 3	05)	Ground Leve	(m(AOD)): 6.97	5	Start Date: 10/10/2017	Sheet:	3 of 3	
SAMPLE	ES & TE	STS						STRAT	Α					
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)					Instrument Backfill			
16.00 16.50-16.95	J33 U34	(150)					(Continue Stiff red b fine to me at c.16.50	<i>d)</i> rown sand <u>y</u> dium angu m BGL h	/ gravelly ( lar and inc high streng	CLAY. Sand cludes sands oth.	is fine to meo stone and mu	dium. Gr dstone.	avel is	
17.30 17.50	J35 CB36	1/2.10		- 10.325		<u>17.3</u> (0.50)	Weak gre (Recovere	y MUDSTC	)NE weath el. Gravel i	ered. s fine to coa	rse angular).			
17.80	CB37	1/2.08		- 10.825		- 17.8	Boring co	mplete at 1	7.80m BG	L - continue	d by rotary fo	llow on.	\$	******
Boring I	Progress	and Wa	ter Ob	servatio	ns		Chiselling		Water	Added		Gene	eral	
Date 12/10/2017	Depth 17.80	Casing 13.66	Casir (m	ng Dia m) S	Water Standing 4.17	From 17.70	To 18.00	Hours (hh:mm) 01:00	From	To	<ol> <li>Description de (2) Borehole adviconducted by CH (3) Water strike (20mins).</li> <li>(4) 50mm diamet 7.00m BGL.</li> </ol>	Rema erived from anced throu 12M. at 4.30m BC er slotted s	drillers daily repo ugh trial pit previc GL - rose to 3.37r tandpipe installed	ort. busly m BGL d to
All dimer	nsions in	metres			For ex		n of symbols	and	C	hecked by:	Logged D. Portsm	by: houth	Contrac 415	t No. 3


# ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Wint 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 0191 387 4700 Fax: 0191 387 4710 Tel: 0191 387 4700 Fax: 0191 387 4700 Tel: 0191 387 4700 T

Status:-

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Project:	The	e Forme	r SSI Ste	elworks	Redca	r - Priority /	Areas Wi	ithin SSI	Landhol	dings C	Contract 1		Expl	oratory Ho	le No.
Client:	So	outh Tee	es Site Co	ompany	Ltd	L	ocation:	E:4	Redcar 56892.93	Steel W 4 N:52	/orks 4780.480			S1-BH1	9
Method (Equ P	uipment): ercussio	on/Corin	g (Dando	o 2000/C	Comaccl	nio GEO 30	)5)	Groun	d Level (m()	AOD)): 6.975		Start Date: 10/10/2017	Sheet:	1 of 10	
RU	IN DET	AILS		Ĩ	1	Ī		ST	RATA				•		= ut/
Depth	TCR (SCR) ROD	Fracture Index	Reduced Level	Legend	Depth (Thick-		Discontin	uitios Dotail	DE	SCRIP	TION	Main			Backfi
17.80	100 (50) 0	16	- 10.825		17.8	0 17.80-18.35 closely spac discontinuitie	m subhori ed planar sn	izontal (10 d nooth open	legrees) clean	Bo by Ve	oring comp rotary follo ery weak gr	lete at 17.80m ow on. rey MUDSTON	n BGL - NE weat	continued hered.	
C Dia (96mm)	-	NI	_			18.35-18.80m non-intact. 18.80-26.80m horizontal (0-5 degrees) to									
(96mm) (96mm) (98.81	100 (98) 35	7	_			18.80-26.80 subhorizonta smooth oper	m horizon al (10 degree n clean disco	tal (0-5 deg es) closely s ontinuities.							
19.80	100 (100) 25														
20.80			- 13.825			20.45-20.50	m non-inta	act.							
	100 (100) 57					Weak grey MUDSTONI weathered.									
	Drilling Pro	ogress and	Water Obser	vations	Water	Standard Pene	tration Test		Flu	ush	Returns		Gen	eral	
Date	Depth 17.80	Casing 13.66	Strike Sta	4.30	emarks	Depth         Type         Result         From         To         Type         Results (%)         (%)           17.80         C         1/2.08         17.80         18.80         A/M         100         (1) Descrip (2) Boreho 19.80         20.80         A/M         100         (2) Boreho (3) Water (2) Omms).           20.80         23.80         A/M         100         (3) Water (2) Omms).         (4) 50mm							rerived from anced thro I2M. at 4.30m B0	ar KS drillers daily re ugh trial pit prev GL - rose to 3.3° standpipe install	port. riously 7m BGL ed to
All di	mension Scale	ns in me 1:25	tres		For e	explanation reviations s	of symbolic see Key S	ols and Sheets		Ch	lecked by:	Logged D. Portsm	by: houth	Contra 41	ct No. 53



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Project:	The	e Former	r SSI Stee	elworks	Redca	ır - Priorit	ty Are	eas Wi	thin SSI	Landho	ldings C	ontract 1		Ехр	loratory Hole	e No.
Client:	So	outh Tee	s Site Co	mpany	Ltd		Loc	cation:	E:4	Redcar	Steel W 34 N:524	orks 1780.480		-	S1-BH19	•
Method (Ed	quipment): Percussio	on/Coring	g (Dando	2000/C	omacc	hio GEO	305)	)	Ground	d Level (m(	AOD)): 6.975		Start Date: 10/10/2017	Sheet:	2 of 10	
RI	UN DET	AILS							ST	RATA			•			Ę
Denth	TCR	Fracture	Reduced	Laward	Depth					DE	SCRIPT	ION				rumer ackfill
Deptin	RQD	Index	Level	Legenu	ness)		l	Discontinu	uities Detail				Main			B III
(Cu Dia C Dia (6) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	100 (100) 55										(C Wi we	ontinued) eak grey M athered.	UDSTONE p	artially	ה היה היה היה היה היה היה היה היה היה ה	
C Dia (980mm) Date	Drilling Pro	ogress and <sup>1</sup> Casing	Water Obser Water Obser Water W Strike Sta	vations	Vater	Standard Pr Depth T	enetra ÿype	tion Test Result	From 23.80	FI To 26.80	ush Type A/M	Returns (%) 100	(1) Description d	Gen Rem	eral arks	
											, , , , , ,		<ol> <li>(2) Borehole adv conducted by CF</li> <li>(3) Water strike a (20mins).</li> <li>(4) 50mm diame 7.00m BGL.</li> </ol>	ranced thro 12M. at 4.30m B ter slotted	GL - rose to 3.37r	n BGL
All c	limension Scale	ns in met	tres		For	explanation	on of	f symbo	ols and theets		Ch	ecked by:	Logged D. Portsn	by: nouth	Contrac 415	t No. 3



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 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

Status:-

**FINAL ROTARY CONTINUATION** Project: The Former SSI Steelworks, Redcar - Priority Areas Within SSI Landholdings Contract 1 Exploratory Hole No. Location: Client: S1-BH19 South Tees Site Company Ltd **Redcar Steel Works** E:456892.934 N:524780.480 Method (Equipment): Ground Level (m(AOD)): Start Date: Sheet: Percussion/Coring (Dando 2000/Comacchio GEO 305) 6.975 10/10/2017 3 of 10 **RUN DETAILS** STRATA Instrument/ Backfill DESCRIPTION Depth (Thick-ness) TCR Fracture Reduced (SCR) RQD Depth Legend Index Level **Discontinuities Detail** Main (Continued...) Weak grey MUDSTONE partially weathered. 26.80 14 90 (75) 23 26.80-27.87m ... subhorizontal (10 degrees) closely spaced planar smooth open clean discontinuities. (13.00) NR 27.87-28.17m ... no recovery. NI 28.17-28.33m ... non-intact. C Dia 96mm) 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. 29.47-29.56m ... non-intact 29.80 Drilling Progress and Water Observations Standard Penetration Test Flush General Water Strike Water Water Returns (%) Remarks Date Depth Casing Depth Туре Result From То Туре Remarks Standing Description derived from drillers daily report.
 Borehole advanced through trial pit previously 26.80 29.80 A/M 100 29.80 32.80 A/M 100 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. Contract No. For explanation of symbols and abbreviations see Key Sheets Checked by: Logged by: All dimensions in metres D. Portsmouth KW 4153 Scale 1:25



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Status:-

G						R	OTA	RY C	ONTI	NUATI	ON				FINAL	
Project:	The	e Forme	r SSI Ste	elwork	ks, Redca	r - Pric	ority Ai	reas Wi	thin SSI	Landhol	dings Co	ontract 1		Exp	loratory Hol	e No.
Client:	So	outh Tee	s Site C	ompan	iy Ltd		Lo	ocation:	E:4	Redcar 56892.93	Steel Wo 4 N:524	orks 780.480			S1-BH19	•
Method (Eq P	uipment): ercussio	on/Corin	g (Dand	o 2000	)/Comaccl	nio GE	O 305	5)	Ground	d Level (m()	AOD)): 6.975		Start Date: 10/10/2017	Sheet:	4 of 10	
RL	JN DETA	AILS							ST	RATA						4 4
Depth	TCR (SCR)	Fracture	Reduced	Lege	Depth					DE	SCRIPTI	ON				trumer
	RQD	Index	Level		ness)	20.00	20 EEm	Discontin	uities Detail		(0-		Main			۳ <u>ء</u> میںمیں
(00 Dia (90 mm) 32.80	(88) 48 100 (95) 58	NR 16 NI 6				32.55-32.80m no recovery. 32.80-33.15m subhorizontal (10-15 degrees) closely spaced planar smooth open and infilled (black sand) discontinuities. 33.15-33.25m non-intact. 33.25-35.75m subhorizontal (15 degrees) medium spaced planar smooth open clean discontinuities.										
	Drilling Pro	ogress and	- 26.825 Water Obse	rvations	33.8	0 Standar	d Penetra	ation Test		Fl	Jsh			Con	oral	
Date	Depth	Casing	Water V Strike St	Vater anding	Water Remarks	Depth	Туре	Result	From	То	Туре	Returns (%)		Rem	arks	
						32.80       35.80       A/M       100       (1) Description derived from drillers dai (2) Borehole advanced through trial pit conducted by CH2M.         (3) Water strike at 4.30m BGL - rose to (20mins).       (4) 50mm diameter slotted standpipe in 7.00m BGL.										ort. ously m BGL d to
All d	imensior Scale	ns in me 1:25	tres		For e	explan reviati	ation cons se	of symbo e Key S	bls and Sheets		Che	cked by:	Logged D. Portsm	by: iouth	Contrac 415	t No. 3



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Status:-

G						R	ОТА	RY C	ONTIN	NUATI	ON				FINAL	
Project:	The	e Forme	er SSI Ste	eelwo	rks, Redca	r - Pric	ority A	reas Wi	thin SSI	Landhol	dings C	Contract 1		Exp	loratory Ho	le No.
Client:	Sc	outh Tee	es Site C	ompa	iny Ltd		Lo	cation:	E:45	Redcar 56892.93	Steel W 84 N:524	/orks 4780.480			S1-BH1	9
Method (Eq P	uipment): ercussio	on/Corir	ng (Dand	o 200	0/Comacc	hio GE	O 305	5)	Ground	d Level (m()	AOD)): 6.975		Start Date: 10/10/2017	Sheet:	5 of 10	
RL	JN DETA	AILS		T	1	T			ST	RATA						= ut/
Depth	TCR (SCR) ROD	Fracture Index	Reduce Level	Leg	gend (Thick-			Discontinu	uitios Dotail	DE	SCRIPT	TION	Main			Backfi
C Dia (96mm) 08°55	97 (97) 52	NI NR 6	- 28.825 35.80 (2.00) (										lium strong gro TONE/clayey hered.	ey fossi SANDS	Iliferous STONE	
	Drilling Pro	aress and	Water Obs			Standar	d Penetr	ation Test		Fl	ush					
Date	Depth	Casing	Water Strike S	Water tanding	Water Remarks	Joepth         Type         Result         From         To         Type         Returns (%)								Gen Rem	erai arks	
18/10/2017 19/10/2017	35.80 35.80	17.80 17.80		27.80 20.30		35.80         38.80         A/M         100         (1) Description (2) Boreho conducted (3) Water (2) Mater					<ol> <li>Description de (2) Borehole adva conducted by CH.</li> <li>Water strike al (20mins).</li> <li>50mm diamete 7.00m BGL.</li> </ol>	erived from anced thro 2M. t 4.30m B er slotted s	n drillers daily rej ough trial pit prev GL - rose to 3.3; standpipe install	port. viously 7m BGL ed to		
All d	imensior Scale	ns in me 1:25	tres		For abb	explan previati	ation cons se	of symbo e Key S	ols and heets		Ch	ecked by:	Logged D. Portsm	by: iouth	Contra 41	ct No. 53



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 Tel: 0191 387 4700
 Fax: 0191 387 4700

 Regional Office:
 Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL
 Tel: 01972 735 300
 Fax: 01972 735 300

G						RC	ΤΑ	RY C	ONTI	NUAT	ION			Status:-	FINAL
Project:	The	e Former	SSI Ste	elworks	Redca	r - Prio	ity Ar	eas Wi	thin SSI	Landho	ldings C	Contract 1		Ехр	loratory Hole No.
Client:	Sc	outh Tee	s Site C	ompany	Ltd		Lo	cation:	E:4	Redcar 56892.93	Steel W 34 N:524	/orks 4780.480			S1-BH19
Method (Eq P	uipment): ercussio	on/Corin	g (Dand	o 2000/C	Comacch	nio GE(	C 305	5)	Groun	d Level (m(	( <b>AOD</b> )): 6.975		Start Date: 10/10/2017	Sheet:	6 of 10
RL	JN DETA	AILS							ST	RATA					Ę
Depth	TCR (SCR)	Fracture	Reduced	Legend	Depth (Thick-					DE	SCRIPT	ΓΙΟΝ			trumer
	RQD	Index	Levei		ness)			Discontinu	uities Detail				Main		
08.86 (96mm)	8.80     1000       1000     1000 <t< th=""><th></th></t<>														
	Drilling Pro	ogress and \	Water Obse	rvations		Standard	Penetra	ation Test		F	lush			Gen	eral
Date	Depth	Casing	Water V Strike St	Vater N anding Re	Vater emarks	Depth	Туре	Result	From	То	Туре	Returns (%)		Rem	arks
19/10/2017	40.80	17.80	5	36.60					38.80	40.80	A/M	100	<ol> <li>Description de (2) Borehole adva conducted by CH (3) Water strike a (20mins).</li> <li>(4) 50mm diamet 7.00m BGL.</li> </ol>	erived from anced thro I2M. at 4.30m Br er slotted s	n drillers daily report. Jugh trial pit previously GL - rose to 3.37m BGL standpipe installed to
All d	imension Scale	ns in met 1:25	res		For e	explana	tion o ns se	f symbo e Key S	ls and heets	1	Ch	ecked by:	Logged D. Portsm	by: nouth	Contract No. 4153



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Met       The Former SSI Steelworks, Redar - Priority Areas Within SSI Landholdings Contract 1       Exploratory         #       South Tees Site Company Lid       Redar Site Works Ex465827.934 N:524780.490       Star Date (16/04/10/10/10/10/10/10/10/10/10/10/10/10/10/		ROTARY CO	NTINUATION	Status	FINAL
South Tees Site Company Lid     Letter: Becars Steel Works     Steel Works       corr Highproveriti Percussion/Corring (Dando 2000/Comacchio GEO 305)     Grown Luw (mAZO) 6.975     Ster Dae: 19/19/2017     Tort	The Former SSI Steelworks, Re	edcar - Priority Areas Withir	n SSI Landholdings Contract 1	Ex	ploratory Hole No
	South Tees Site Company Ltd	Location:	Redcar Steel Works E:456892.934 N:524780.480		S1-BH19
CONTRACT NAME       SSI STEELWORKS         CIENT       ST S C L TD         DCATION       BHB         BEPTH       I7.80 - 20.90         Bepth       I7.80 - 20.90	uipment): Percussion/Coring (Dando 2000/Corr	acchio GEO 305)	Ground Level (m(AOD)): 6.975	Start Date: Sheet: 10/10/2017	7 of 10
LOCATION BH19 BOX 2 OF 8 DEPTH 20.80 - 23.80 Scale cu 10 20 30 40 50		CONTRACT NAME SSI STE CONTRACT NO 4153 CLIENT S T S C LOCATION BH19 DEPTH 17.80 - SCALE 10 20 30 SCALE 10 20 30 Figure S1 BH19 17.80- CONTRACT NAME SSI ST CONTRACT NO 4153 CLIENT STOC	ELWORKS		
13-80-3		CLIENT STSC LOCATION BH19 DEPTH 20.80 - Scat 10 20	LTD BOX 2 OF 8 23.80 L		13-80 %



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 Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG
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 Fax: 0191 387 4700

 Regional Office:
 Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL
 Tel: 01972 735 300
 Fax: 01972 735 300

G	ROTA	ARY CO	NTINUATION		Status:- FINAL
Project:	The Former SSI Steelworks, Redcar - Priority	Areas Withi	n SSI Landholdings Contract 1		Exploratory Hole No.
Client:	South Tees Site Company Ltd		S1-BH19		
Method	(Equipment): Percussion/Coring (Dando 2000/Comacchio GEO 3)	05)	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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 Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG
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 Tel: 01972 735 300 Fax: 01772 735 999

Ġ	ROTA	RY CONTINUATION		FINAL
Project:	The Former SSI Steelworks, Redcar - Priority Ar	reas Within SSI Landholdings Contract 1		Exploratory Hole No.
Client:	South Tees Site Company Ltd	Redcar Steel Works E:456892.934 N:524780.480		S1-BH19
Method (Equ Po	uipment): ercussion/Coring (Dando 2000/Comacchio GEO 305	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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 Regional Office:
 Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL
 Tel: 01972 735 300 Fax: 01772 735 999

Ğ	ROTA	ARY CO	NTINUATION		Status:-	FINAL
Project:	The Former SSI Steelworks, Redcar - Priority A		Exp	loratory Hole No.		
Client:	South Tees Site Company Ltd			S1-BH19		
Method (I	Equipment): Percussion/Coring (Dando 2000/Comacchio GEO 30	95)	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

Ğ						во	REHOLI	E RECO	RD			Status:-	FINAL	
Project:	The Fo	rmer SSI	Steel	works,	Redcar	- Priority	Areas Within	n SSI Landh	oldings	Contract 1		Expl	oratory Ho	le No.
Client:	South	Tees Site	e Con	npany L	td		Location:	Redca E:457058.2	r Steel V 290 N:52	Vorks 24663.143		:	S1-BH2	0
Method (Equip	nent): C	able Perc	cussio	n (Dano	do 2000	)		Ground Level (r	m(AOD)): 6.997	7	Start Date: 26/10/2017	Sheet:	1 of 1	
SAMPL	ES & TE	STS					1	STRATA						ant.
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIPT	TION			Instrume Backfi
0.10 0.50 0.50-0.80	J1       J1         PID B2       4.2ppm         J1       File B2         J1       J1         B2       5.497         J1       J1         B0       5.497         J1       J1         B0       Borehole terminated at 1.50m BGL - due to obstruction.												agments Jar and include	
Boring	Progress	and Wat	ter Ob	servatio	NS Water	From	Chiselling	Hours	Water	Added		Gene Rema	eral arks	
26/10/2017 26/10/2017 27/10/2017 27/10/2017	0.00 1.20 1.20 1.50	0.00 1.20 1.20 1.50	(m	<u>im) </u>	Standing Dry Dry Dry	0.30	1.20	(hh:mm) 03:00 02:00	0.00	1.20	(1) Description d (2) Borehole adv conducted by Ct (3) Relocated to	lerived from vanced throi H2M. S1-BH20A.	drillers daily re ugh trial pit prev	port. viously
All dime	ensions in Scale 1.50	n metres			For ex	planation	of symbols	and	CI	necked by:	Logged D. Portsr	by: nouth	Contra 41	ct No. 53

G						во	REHOLI	E RECC	ORD			Status:-	FINAL	
Project:	The Fo	rmer SSI	Steel	works,	Redcar	- Priority /	Areas Within	n SSI Land	lholdings	Contract 1		Expl	oratory Hol	le No.
Client:	South	Tees Site	e Corr	npany L	td	L	Location:	Redo F:457056	car Steel V	Vorks 24662 697		s	51-BH20	Α
Method (Equipr	ment): C	able Perc	cussio	n (Dano	do 2000	)		Ground Level	(m(AOD)): 6.97	1	Start Date: 30/10/2017	Sheet:	1 of 1	
SAMPL	LES & TE	STS						STRAT	٩					
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIP	TION			Instrume Backfil
0.40 0.80 1.00 1.20	J1 J2 ES3 CJ4	1/3.20					MADE GF of metal. S include sa and includ	COUND (BI Sand is fine ndstone, s le concrete 0m BGL	ack brown to coarse lag, concre and slag) very dens	sandy gravel is ete and brid se.	vel and cobble fine to coarse ck. Cobbles an	s with fr subrour e subrou	agments Ided and Inded	
2.00 2.20	ES5 CJ6	1/3.00				- - - (5.00) - -								
3.00 3.20	ES7 CJ8	1/3.40												
4.00 4.20	ES9 CJ10	1/4.70		1 971										
							∖at c.5.00m Borehole	n BGL dr terminated	iller notes at 5.00m	obstruction BGL - due f	1. to obstruction.			
Boring	Progress	and Wat	ter Ob Casin	servatio	NS Water	Erom	Chiselling	Hours	Water	Added		Gene Rema	eral arks	
30/10/2017 30/10/2017 31/10/2017 31/10/2017	Date         Deptil         Casing         (mm)         Standing         P           0/10/2017         0.00         0.00         (mm)         Standing         0         0           0/10/2017         4.50         4.40         250         3.87         4           1/10/2017         4.50         4.40         250         3.96         4           1/10/2017         5.00         5.00         250         4.17         4							(hh:mm) 04:00 01:00	3.00	4.50	(1) Description d (2) Borehole adv conducted by CH (3) Relocated fro (4) Relocated to	erived from anced throi 12M. m S1-BH20 S1-BH20B.	drillers daily rep ugh trial pit prev ).	oort. iously
All dime	ensions in Scale 1:50	n metres			For ex	planation eviations s	of symbols see Key She	and ets	C	hecked by:	Logged D. Portsn	by: nouth	Contrac 415	ct No. 53

		ALL Hea Reg	ad Office: gional Offi	Unit 2 ice: Unit 2	5 Stella Gill Ind 0, Business De	ustrial Estate, F velopment Cen	Pelton Fell, Chester-le htre, Eanam Wharf, Bl	-Street, Co. Durha ackburn, BB1 5BL	am, DH2 2RG	Tel: 0191 387 4700 Tel: 01772 735 300	<b>Fax:</b> 0191 387 4710 <b>Fax:</b> 01772 735 999					
G						BC	REHOLI	E RECC	ORD			Status:-	FINAL			
Project: T	he Forme	r SSI Stee	elwork	ks, Red	car - Pric	ority Area	as Within SS	I Landhold	lings Cont	ract 2 (Area	a A)	Expl	oratory Hole N	 lo.		
Client:	South	Tees Site	e Con	npany l	_td		Location:	Redo E:457120	car Steel V 0.701 N:52	Vorks 25744.554			S2-BHA4			
Method (Equi Percuss	ipment): ion/Coring	g (Pilcon V	Vayfa	irer 200	0/Boart	_ongyea	r DB520)	Ground Level	(m(AOD)): 7.527	7	Start Date: 26/10/2017	Sheet:	1 of 4			
SAMF	PLES & TE	STS			1		Ĩ	STRAT	٩		ł	1		2		
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIPT	ΓΙΟΝ			Backfil		
0.40     J1       0.80     J2       0.80     PID       1.20     Fib       1.20     Fib       2.00     ES5       2.20     ES5       2.20     Fib       2.20     PID												tal. Sand				
2.00       ES5         2.20-2.65       CJ6         2.20       PID         2.50       ES7         3.00-3.45       SJ8             X20       SJ8             All       All             All       All             All       All             All       N29             All       N29             All       Close             All       Close             All       Close             All       Close             All       Close             All       Close             N29       All             All       Close             All       Close             All       Close             All       Close             All       Close             All       Close																
3.00-3.45 3.00 3.50	SJ8 PID ES9	N29 1.0ppm					at c.3.00m BGL medium dense.									
4.00 4.10 4.50	S J10 ES11	1/1.00				- - - - - - -	at c.4.00n	n BGL ve	ery dense/	obstruction						
5.00-5.45	CJ12	N36				- - - - - -	at c.5.00n	n BGL d	ense.							
5.50 5.50 5.80 6.00 6.00-6.50	J13 PID ES14 SJ15 B16	1.0ppm N20		2.027		<u>5.5</u>	d Medium d occasiona medium s	ense becon al interbeds ubrounded	ming dens of gravel. to rounde	e brown slig Sand is find d and includ	ghtly clayey gi e to coarse. G des sandston	ravelly S Gravel is e.	AND with fine to			
7.00-7.50     SB17     N25       7.00     PID     0.5ppm																
Borin	Ig Progres	s and Wat	ter Ob	servati	ons		Chiselling		Water	Added		Gen	eral	<u></u>		
Date 26/10/2017	Depth 0.00	Casing 0.00	Casir (n	ng Dia nm)	Water Standing	6.70	To 5.00	Hours (hh:mm) 02:00	From 3.00 5.80	To 5.50 10.00	(1) Description d (2) Borehole adv conducted by Ch	Rema lerived from vanced throu H2M.	drillers daily report. Jgh trial pit previously	у		
All din	nensions ir Scale 1:5	n metres			For ex	planation viations	n of symbols see Key She	and ets	CI	necked by:	Logged D. Portsr	l by: nouth	Contract N 4154	lo.		

A		ALL	IEDE	Init 25 Stella Gill Init 20, Business	ORAT Industrial Estate, I Development Cer	Pelton Fell, Chester-le tre, Eanam Wharf, B	-Street, Co. Durha ackburn, BB1 5BL	TECH	HNICS Tel: 0191 387 4700 Tel: 01772 735 300	<b>EXAMPLE</b> <b>Fax:</b> 0191 387 4710 <b>Fax:</b> 01772 735 999	ED		
Ē					вс	REHOL	E RECC	RD			Status:-	FINAL	
Project: Th	e Forme	r SSI Stee	elworks, F	Redcar - P	riority Area	as Within SS	I Landhold	ings Cont	ract 2 (Area	a A)	Expl	oratory Ho	le No.
Client:	South	Tees Site	e Compai	ny Ltd		Location:	Redo	ar Steel V	Vorks			S2-BHA	4
Method (Equip Percussio	ment): on/Coring	g (Pilcon V	Vayfarer	2000/Boa	t Longyea	r DB520)	Ground Level	(m(AOD)): 7.527	7	Start Date: 26/10/2017	Sheet:	2 of 4	
SAMP	LES & TE	STS				1	STRAT	4					, ti
Depth	Type No	Test Result	Red Agree	uced vel Legen	Depth (Thickness	)			DESCRIPT	ΓΙΟΝ			Instrume Backfil
8.00 8.00-8.50	SJ18 B19	N33				(Continue Medium d occasiona medium s at c.8.00n	d) ense becor il interbeds ubrounded n BGL sa	ning dens of gravel. to rounde nd.	e brown slig Sand is find d and includ	ghtly clayey g e to coarse. G des sandston	ravelly S Gravel is e.	AND with fine to	
9.00 9.00-9.50	SJ20 B21	N33					501						
10.00 10.00-10.50	SJ22 B23	N30			0 	at c.10.00	m BGL v	ery gravel	ly sand.				
11.00	J24												
11.50 11.50-12.00	S25 B25	N40											
12.50	J26			· <u>· ·</u> · · · · · · · · · · · · · · · ·	- 6 -								
13.00 13.00-13.50	SJ27 B28	N45			- , <u>9</u> , - , , , , , , , , , , , , , , , , , ,	at c.13.00	m BGL g	ravelly sa	nd.				
14.00	J29				· 								
14.50-15.00	CB30	N45			· · · · · · · · · · · · · · · · · · ·								
15.50 15.70	J31 J32		<u>- 8.1</u>	73	15.7 2 2	o Soft to firr	n brown bla	ick slightly	organic sli	ghtly sandy sl	lightly gra	avelly	
Borinc	Progres	s and Wat	ter Observ	vations	<u>-t</u> ]	CLAY.		Water	Added		Gon	oral	
Date	Depth	Casing	Casing Dia (mm)	Water Standing	From	То	Hours (hh:mm)	From	То		Rema	arks	
26/10/2017 27/10/2017 27/10/2017 01/11/2017 01/11/2017	10.00 10.00 13.50 13.50	10.00 10.00 13.00 13.00	200 200 200 200	2.09 4.77 3.32 4.80				10.50 14.00	13.00 15.00	(1) Description c (2) Borehole adv conducted by Cl	Jerived from vanced thron H2M.	drillers daily re ugh trial pit prev	port. viously
All dim	ensions i Scale 1:5	n metres	<u>.                                    </u>	For	explanation previations	n of symbols see Key She	and ets	C	hecked by:	Logged D. Portsr	l by: nouth	Contra 41	ct No. 54

G						BO	REHOLE	ERECC	RD			Status:-	FINAL	
Project: The	Former	SSI Stee	elwork	s, Red	car - Pric	ority Areas	s Within SS	I Landhold	ings Con	tract 2 (Area	a A)	Expl	oratory Hol	e No.
Client:	South	Tees Site	e Con	npany L	td	L	ocation:	Redo E:457120	car Steel \ ).701 N:52	Works 25744.554			S2-BHA	4
Method (Equipmo Percussion	ent): h/Coring	(Pilcon V	Vayfa	rer 200	0/Boart I	ongyear	DB520)	Ground Level	(m(AOD)): 7.52	7	Start Date: 26/10/2017	Sheet:	3 of 4	
SAMPLE	ES & TE	STS						STRAT	Ą					ent/ ill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIPT	ΓΙΟΝ			Instrum Back
16.00 16.00-16.50	SJ33 B34	N22				- - - - - - -	<i>(Continued</i> Soft to firm CLAY.	<i>1)</i> 1 brown bla	ack slightly	y organic sli	ghtly sandy sli	ightly gra	avelly	
17.00	J35			- 9.473		17.00	Soft to firn	n brown sa	ndy CLAY	//SILT.				
17.50-17.95	U*B36	(90)				- -(1.00) 	at c.17.50	m BGL c	lay is of h	igh plasticity	y.			
18.00-18.45	U*B37	(150)		- 10.473		18.00	Stiff red br medium. (	rown slight Gravel is fir	y sandy s le to medi	lightly grave um subangu	Ily CLAY. Sar ular to rounde	nd is fine d and in	e to cludes	
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.21.50	m BGL c	lay is of ir	ntermediate	plasticity.			
22.00-22.45	U45	(150)					at c.22.00	m BGL e	extremely	high strengt	h.			
23.00	J46													
Borina F	Progress	and Wat	er Ob	servatio	ins	-	Chisellina		Water	Added		Gon	eral	
Date	Depth	Casing	Casir (m	ng Dia im)	Water Standing	From	То	Hours (hh:mm)	From	То		Rema	arks	
01/11/2017 02/11/2017	20.00	17.30 17.30	2	00 00	5.27 4.77	18.30 23.40	18.50 24.00	00:30 01:00			(1) Description d (2) Borehole adv conducted by CH	erived from anced thro 12M.	ı drillers daily rep ugh trial pit previ	ort. ously
All dimer	nsions in	metres	<u> </u>		For ex		ination of symbols and Checked by: Logged by: Contractive and Checked by: 115							ct No.

		ALLI	d Office:	Unit 25 Ce: Unit 20,	PLO Stella Gill Inde Business Der	RAT ustrial Estate, F velopment Cent	Pelton Fell, Chester-le tre, Eanam Wharf, Bla	Street, Co. Durha	TECH	HNICS Tel: 0191 387 4700 Tel: 01772 735 300	Fax: 0191 387 4710 Fax: 01772 735 999	ED		
Ē						BO	REHOLE	E RECC	RD			Status:-	FINAL	
Project: The	e Formei	r SSI Stee	elwork	s, Redo	ar - Pric	ority Area	as Within SS	I Landhold	ings Cont	ract 2 (Area	a A)	Expl	loratory Hole	No.
Client:	South	Tees Site	e Corr	npany L	td		Location:	Redo E:457120	ar Steel V ).701 N:52	Vorks 25744.554		:	S2-BHA4	
Method (Equipn Percussio	nent): n/Coring	(Pilcon V	Vayfa	rer 2000	)/Boart I	Longyea	r DB520)	Ground Level	(m(AOD)): 7.527	7	Start Date: 26/10/2017	Sheet:	4 of 4	
SAMPL	ES & TE	STS						STRAT	Ą					nt/
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIPT	ION			Instrume Backfil
24.00 24.00-24.50 25.00 25.00-25.50	SJ47 B48 SJ49 B50	N44 N51				-	(Continued Stiff red bi medium. ( sandstone	d) Fown slightl Gravel is fin a, mudstone	y sandy sl e to medii e and coal	ightly grave um subangu	lly CLAY. Sar Ilar to rounde	nd is fine ad and in	e to cludes	
26.00	J51					-	at c.26.00	m BGL c	lay is of in	termediate	plasticity.			
27.00	SJ52	1/0.80		- 19.473			Extremely (Recovered	weak grey	MUDSTO	NE distinctl	y weathered. Gravel is fine	e to medi	ium 🗱	
27.40	S53	1/0.40					Boring cor	nplete at 2	7.40m BG	L - continue	d by rotary fo	illow on.		
Boring	Progress	s and Wat	casin	servatio	ns Water	From	Chiselling	Hours	Water	Added		Gen Rem	eral arks	
02/11/2017 03/11/2017 03/11/2017	25.00 25.00 27.40	17.30 17.30 17.30	(m 20 20	<u>m) s</u> 20 20 20	Standing 5.68 4.83 5.11	24.70 27.00	25.00 27.40	(hh:mm) 01:00 01:00	rıom	10	(1) Description c (2) Borehole adv conducted by Cl	lerived from vanced thro H2M.	a drillers daily report ugh trial pit previou	t. Isly
All dime	nsions ir Scale 1:5	n metres 0	1		For ex abbre	planation viations	n of symbols see Key She	and ets	CI	hecked by:	Logged D. Portsr	l by: nouth	Contract 4154	No.



# ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 0191 387 4700 Fax: 0191 387 4710 Tel: 0191 387 4700 Fax: 0191 387 4700 Tel: 0191 387 4700 T

Ğ						R	ΟΤΑ	RY C	ΟΝΤΙΙ	NUAT	ION			Status:-	FINAL	
Project:	The For	mer SSI	Steelwo	orks, Re	dcar - P	riority A	Areas	Within	SSI Lan	dholding	s Contra	act 2 (Area	a A)	Exp	loratory Hole	No.
Client:	So	outh Tee	s Site C	ompany	Ltd		Lo	ocation:	E:4	Redcar	Steel W	orks			S2-BHA4	L
Method (Eq Percus	uipment): sion/Co	oring (Pile	con Way	farer 20	)00/Boar	t Long	year [	DB520)	Groun	d Level (m(	AOD)): 7.527		Start Date: 26/10/2017	Sheet:	1 of 6	
RL	IN DET	AILS							ST	RATA			I			et.
Denth	TCR (SCR)	Fracture	Reduced		Depth					DE	SCRIPT	ΓΙΟΝ				ackfill
Doput	RQD	Index	Level	Legene	ness)			Discontinu	uities Detail				Main		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
27.40 EIG C C 29.90	72	NR NI 16 NI 16 NR NR	- 19.873			28.10- 28.40- degrec clean 28.90- 29.10- degrec clean 29.70-	-28.40m -28.90m es) closi disconti -29.10m -29.70m es) closi disconti -30.00m	I no reco I subhoriz ely spaced nuities. I subhoriz ely spaced nuities.	very. ict. zontal to sul open irregu ict. zontal to sul open tight in very.	overtical (5- lar rough overtical (5- regular rou	85 85 85	ring compl rotary follo eak interbe UDSTONE eathered.	lete at 27.40n ow on. edded grey gr /SILTSTONE	n BGL - een partially	continued	
(0 O Dia (30 mm) (30 mm) (30 0 Dia (30 0 Dia (30 0 Dia (30 0 Dia) (30 0 Dia (30 0 Dia) (30 0 Dia) (	(64) 9 100 (96) 37	8				30.00-33.20m subvertical (60-85 degrees) subhorizontal (5-30 degrees) closely to medium spaced open tight irregular rough clean discontinuities.										
	Drilling Pro	ogress and	Water Obse	vations	Water	Standard	l Penetr	ation Test		FI	ush	Returne		Gen	eral	
Date	Depth	Casing	Strike St	anding F	Remarks	Depth	Туре	Result	From	To	Туре	(%)	(1) Deservit i i i			
uor 1 1/2017	27.40	21.40				29.90     31.00     A/M     100     (2) Borehole advanced through trial pit previous conducted by CH2M.       31.00     33.30     A/M     100						usly				
All di	All dimensions in metres Scale 1:25       For explanation of symbols and abbreviations see Key Sheets       Checked by: KW       Logged by: D. Portsmouth       Contraction								Contract 4154	No.						

A		AL	Head Office Regional O	DEX e: Unit 2	S Stella Gill Ini 0, Business Do		Pelton Fell, Chester- Itre, Eanam Wharf, E	e-Street, Co. Durham, DH2 2F Blackburn, BB1 5BL	CHNICS RG Tel: 0191 387 4700 Tel: 01772 735 300	Fax: 0191 387 4710 Fax: 01772 735 999	ED	
						ROT	ARY CO	NTINUATIO	N		Status:- FINAL	-
Project:	The Fo	rmer SSI	Steelwo	rks, Rec	lcar - Pri	ority Area	as Within SS	SI Landholdings C	Contract 2 (Area	a A)	Exploratory He	ole No.
onent.	S	outh Tees	s Site Co	ompany	Ltd			Redcar Ste E:457120.701 N	el Works \:525744.554		S2-BHA	44
Method (E Percu	quipment): ssion/Co	oring (Pilc	on Wayf	arer 200	00/Boart	Longyea	r DB520)	Ground Level (m(AOD 7	)): .527	Start Date: 26/10/2017	Sheet: 2 of 6	
R	UN DET	AILS						STRATA				
Depth	TCR (SCR)	Fracture Index	Reduced Level	Legend	Depth (Thick-			DESC	RIPTION			Istrume Backfil
C Dia (92mm)							Discontinuit		(Continued) Weak interbe MUDSTONE/ weathered.	dded grey gr	een partially	

× × × × × × × × ×

× × × × × × × × ×

33.30

(3.00)

33.20-33.30m ... non-intact.

33.60-33.95m ... non-intact.

clean discontinuities.

discontinuities.

33.30-33.60m ... subhorizontal (5-30 degrees) medium to closely spaced open irregular rough

33.95-35.10m ... subhorizontal (5-30 degrees) to closely spaced open irregular rough clean

Extremely weak interbedded laminated red grey MUDSTONE/MARL partially

weathered.

NI

8

NI

10

- 25.773

33.30

C Dia (92mm)

100 (48) 13

		NI				35.10	-36.30m	non-inta	ict.					
	Drilling Pr	ogress and	Water Ot	oservations	s	Standar	d Penetra	ation Test		FI	ush		Gen	eral
Date	Depth	Casing	Water Strike	Water Standing	Water Remarks	Depth	Туре	Result	From	То	Туре	Returns (%)	Rema	arks
									33.30	36.30	A/M	100	(1) Description derived from (2) Borehole advanced thro conducted by CH2M.	ı drillers daily report. ugh trial pit previously
All d	All dimensions in metres For Scale 1:25 a				For abb	explan previation	ation c ons se	of symbo e Key S	ols and heets		Che	cked by: <i>KW</i>	Logged by: D. Portsmouth	Contract No. 4154
	Print Date and Time: 05/06/2018 15:54:11													

ALLIED	<b>EXPLORATION &amp; GEOTEC</b>	HNICS LIMITED
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

A

Ē						RC	)TAI	RY C	ONTI	NUATI	ON			Status:-	FINAL	
Project:	The For	mer SSI	Steelwor	ks, Red	car - Pi	riority A	reas	Within	SSI Lan	dholding	s Contra	ct 2 (Area	a A)	Exp	loratory Ho	le No.
Client:	Sc	outh Tee	s Site Co	mpany l	_td		Lo	cation:	E:4	Redcar 57120.70	Steel Wo 1 N:525	orks 744.554			S2-BHA	4
Method (Equ Percus	uipment): sion/Co	ring (Pil	con Wayf	arer 200	)0/Boar	t Longy	ear D	)B520)	Groun	d Level (m(/	AOD)): 7.527		Start Date: 26/10/2017	Sheet:	3 of 6	
RU	N DETA	AILS							ST	RATA			•	•		2
Depth	TCR (SCR)	Fracture	Reduced	Legend	Depth (Thick-					DE	SCRIPTI	ON				trumen
Bopul	RQD	Index	Level	Logona	ness)			Discontin	uities Detail				Main			
					-						(Co Exti gre wea	ntinued, remely we y MUDST athered.	) eak interbedde ONE/MARL p	ed lamir partially	ated red	
36.30	53	NR	- 28.773		36.3	36 30-3	37 00m	no reco	verv		Evt	romoly	ak rod brown	candy		
C Dia (92mm)	(6) 0	NI	-		- - - - - - - - - - -	distinctly weathered. 37.00-37.80m non-intact.										
37.80	0 (0) 0	NR	- 30.273		- - - 37.8 - - -	37.80-40.00m no recovery. (1) Brown Mudstone.										
C Dia (92mm)					- - - - - -(2.20)  - -	0)										
	Drilling Pro	gress and	Water Observ	ations		Standard	Penetra	ation Test		Fl	ush			Gen	eral	
Date	Depth	Casing	Water Wi Strike Star	ater W nding Re	Vater marks	Depth	Туре	Result	From 36.30 37.80	To 37.80 40.00	Type A/M A/M	Returns (%) 100 100	(1) Description d (2) Borehole adv conducted by CH	Rem erived from anced thro 12M.	arks I drillers daily re ugh trial pit pre	port. viously
All di	mensior Scale	ns in me 1:25	tres		For e	explana reviatio	tion o ns se	f symbo e Key S	bls and Sheets	·I	Che	cked by:	Logged D. Portsm	by: nouth	Contra 41	act No. 54

Ğ						ROT	ARY CO	NTINUATIO	N		Status:-	FINAL	
Project:	The For	mer SSI	Steelwor	rks, Red	car - Pr	iority Area	s Within S	SI Landholdings (	Contract 2 (Area	a A)	Explor	ratory Ho	le No.
Client:	So	outh Tees	s Site Co	mpany l	₋td		Location:	Redcar Ste E:457120.701	eel Works N:525744.554		S	2-BHA	4
Method (Ed Percus	quipment): ssion/Cc	oring (Pilc	on Wayf	arer 200	0/Boart	Longyear	DB520)	Ground Level (m(AOI	<b>D</b> )): 7.527	Start Date: 26/10/2017	Sheet:	4 of 6	
R	RUN DETAILS STRATA												Ę
Depth	TCR	Fracture	Reduced	Logond	Depth (Thick			DESC	RIPTION				rumei ackfill
Deptil	RQD	Index	Level	Legenu	ness)		Discontinuitie	es Detail		Main			BB
			- 32.473		- - - - 40.00				(Continued) (1) Brown Mu	idstone.			
									Borehole con	nplete at 40.0	00m BGL.		

Percus	sion/Co	oring (Pilo	con Way	farer 20	00/Boar	t Long	year D	)B520)			7.527		26/10/2017		4 of 6	
RL	IN DET	AILS							ST	RATA						Ę
Darith	TCR	Fracture	Reduced		Depth					DE	SCRIPT	ION				rumen ackfill
Depth	(SCR) RQD	Index	Level	Legend	(Thick- ness)			Discontin	uities Detail				Main			Insti Bå
					-						(Co	ntinued	) udstono			
					-							BIOWITIVI	uusione.			
					-											
					1											
			- 32.473		40.0	0					De					
											BO	renole col	npiete at 40.00	IIII BGL		
	Drilling Dr	Dates and y	Nater Obco	nyations		Standar	d Ponotr	ation Toot			lush	]				
Date	Denth	Casing	Water V	Vater	Water	Denth		Result	From	То	Type	Returns		Gen Rem	eral arks	
06/11/2017	40.00	27 40	Strike St	anding R	emarks	Lopur	. , po				1,90	(%)	(1) Description de	rived from	drillers daily ren	ort
50/11/2017													(2) Borehole adva conducted by CH2	nced thro 2M.	ugh trial pit previ	iously
עווע	mensio				Eor		ation	feymb			Che	ecked hv	Logged	bv:	Contrac	ct No.
All U	Scale	1:25	100		abb	reviati	ons se	e Key S	sheets			KŴ	D. Portsm	outh	415	4
	Print Do	to and Time	. 05/06/201	P 15.54.12												



 Head Office:
 Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co, Durham, DH2 2RG
 Tel: 0191 387 4700 Fax: 0191 387 4700

 Regional Office:
 Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL
 Tel: 01772 735 300 Fax: 01772 735 999

G	ROTA	ARY CO	NTINUATION		Status:- FINAL
Project:	The Former SSI Steelworks, Redcar - Priority Area	s Within SS	I Landholdings Contract 2 (Area	a A)	Exploratory Hole No.
Client:	South Tees Site Company Ltd	Location:	Redcar Steel Works E:457120.701 N:525744.554		S2-BHA4
Method ( Perci	Equipment): ussion/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



 Head Office:
 Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co, Durham, DH2 2RG
 Tel: 0191 387 4700 Fax: 0191 387 4700

 Regional Office:
 Unit 20, Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL
 Tel: 01772 735 300 Fax: 01772 735 999

G	ROTA	ARY CO	NTINUATION		Status:- FINAL
Project:	The Former SSI Steelworks, Redcar - Priority Area	s Within SS	I Landholdings Contract 2 (Are	a A)	Exploratory Hole No.
Client:	South Tees Site Company Ltd	Location:	Redcar Steel Works E:457120.701 N:525744.554		S2-BHA4
Method ( Perci	Equipment): ussion/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.

Ā		ALLI Hea Reg	d Office: ional Offi	Unit 25 Ice: Unit 20	Stella Gill Ind Business De	URA I ustrial Estate, Pe velopment Centr	ION & elton Fell, Chester-le e, Eanam Wharf, Bla	-Street, Co. Durha ackburn, BB1 5BL	m, DH2 2RG	Tel: 0191 387 4700 Tel: 01772 735 300	Fax: 0191 387 4710 Fax: 01772 735 999	ED		
G						во	REHOLI	E RECC	RD			Status:-	FINAL	
Project: TI	ne Former	SSI Stee	elwork	ks, Red	car - Prio	ority Areas	s Within SS	I Landhold	ings Cont	ract 2 (Area	a A)	Expl	oratory Ho	le No.
Client:	South	Tees Site	e Con	npany L	.td	L	ocation:	Redo E:457310	car Steel V	Vorks 25621.803		S2-BHA5		5
Method (Equip	oment): Cable	Percussi	on (Pi	ilcon W	ayfarer 2	2000)	Ground Level (m(AOD)): Start Date: 4.530 23/10/2017						Sheet: 1 of 2	
SAMP	LES & TE	STS						STRAT	4					₽
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION						Instrume Backfil	
0.40	J1					-	MADE GR Sand is fir sandstone	OUND (Black to coarse , slag, con	ack brown e. Gravel i crete, bric	sandy grav s fine to coa k and clinke	el with fragme arse subangul r).	ents of w ar and ir	/ood. ncludes	
1.20 1.50	CJ3 ES4	1/3.20				   [(3.30)	from 1.20r	n BGL v	ery dense					
2.20 2.50	CJ5 ES6	1/0.40				- - - - - - - - - - -								
3.30 3.50 3.50-4.00 3.50 3.70	J7 SJ8 B9 PID ES10	N30 1.8ppm		1.230		- <u>3.30</u> 	Dense brown slightly clayey SAND. at c.3.50m BGL slightly clayey slighty gravelly.							
4.50 4.50-5.00 4.50	SJ11 B12 PID	N31 0.5ppm				-	between c	.4.50-6.50	m BGL :	sand.				
5.50 5.50-6.00	SJ13 B14	N41				-								
6.50 6.50-7.00	SJ15 B16	N41				- - - - - - - -								
7.50 7.50-8.00	SJ17 B18	N34				(7.70) - - - - - - -	at c.7.50m	ı BGL sli	ghtly grav	elly sand.				
Boring	g Progress	s and Wat	er Ob	servatio	NS Water	<b>F</b>	Chiselling	Hours	Water	Added		Gene	eral arks	
Date 23/10/2017 23/10/2017 24/10/2017 24/10/2017 24/10/2017	Depth 0.00 3.00 3.00 3.27 8.00	Casing 0.00 3.00 3.00 3.27 8.00	2: 2: 2: 2: 2:	50 50 50 50 50 00	Dry 3.00 2.37	0.50	iiii     iiiiii     iiiiiii       iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii							port. viously ed to
All dimensions in metres Scale 1:50 For explanation abbreviations							ition of symbols and Checked by: Logged by: Contra See Key Sheets <i>KW</i> D. Portsmouth <b>41</b>						ct No. 54	

G					вс	DREHOL	E RECO	ORD			Status:-	FINAL	
Project: Ti	he Forme	r SSI Ste	elworks, R	edcar - Pri	ority Area	as Within SS	I Landhold	lings Conti	ract 2 (Are	a A)	Exp	loratory Hol	e No.
Client:	South	Tees Sit	e Compan	y Ltd		Location:	Rede E:45731(	car Steel V	Vorks			S2-BHA	5
Method (Equip	<sup>pment):</sup> Cable	Percussi	ion (Pilcon	Wayfarer	2000)		Ground Level	(m(AOD)): 4.530	)	Start Date: 23/10/2017	Sheet:	2 of 2	
SAMF	PLES & TE	STS					STRAT	A				-	
Depth	Type No	Test Result	Redu Nel E	iced iel Legend	Depth (Thickness	)			DESCRIP	TION			Instrumen Backfill
8.50 8.50-9.00	SJ19 B20	N39			- - - - - - - - - - - - - - - - - - -	(Continue Dense bro between o	<i>d)</i> own slightly c.8.50-9.50	r clayey SA m BGL ร	ND. sand.				
9.50 9.50-10.00	SJ21 B22	N35											
10.50	J23												
11.00	J24		- 6.47			at c.11.00 Borehole	m BGL <u>c</u> terminated	grey brown at 11.00m	sandy slig BGL due t	htly organic sil	It. O anom	aly.	
Date	g Progres: Depth	s and Wa Casing	Casing Dia	ations Water Standing	From	Chiselling To	Hours	Water From	Added To		Gen Rem	eral arks	
25/10/2017 25/10/2017	8.00 11.00	8.00 11.00	200 200	2.12 3.46				8.70	10.50	(1) Description di (2) Borehole adv conducted by CH (3) 50mm diamet 5.10m BGL.	erived from anced thro I2M. ter slotted s	n drillers daily rep ugh trial pit previ standpipe installe	ort. ously d to
All dim	nensions ir Scale 1:5	n metres		For ex	 kplanatio	n of symbols see Key She	and	Cr	necked by:	Logged D. Portsm	by: nouth	Contrac 415	et No. <b>4</b>

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A		ALLI Hea Reg	d Office:	Unit 2 Ce: Unit 2	S Stella Gill Ind 0, Business De	URAT Ustrial Estate, F Velopment Cen	Pelton Fell, Chester-le tre, Eanam Wharf, Bl	-Street, Co. Durha ackburn, BB1 5BL	TECH	HNICS Tel: 0191 387 4700 Tel: 01772 735 300	Fax: 0191 387 4710 Fax: 01772 735 999	ED		
E C5						BC	REHOLI	E RECC	ORD			Status:-	FINAL	
Project: T	he Forme	r SSI Stee	elwork	s, Red	lcar - Prio	ority Area	as Within SS	I Landhold	ings Cont	ract 2 (Area	A)	Expl	oratory Hol	e No.
Client:	South	Tees Site	e Corr	npany l	Ltd		Location:	Redo E:45722	car Steel V 1.427 N:52	Vorks 5185.492			S2-BHA	6
Method (Equi	ipment): C	able Perc	cussio	n (Dar	ido 2000	)		Ground Level	(m(AOD)): 7.162	2	Start Date: 07/11/2017	Sheet:	1 of 3	
SAM	PLES & TE	STS					1	STRAT	٩		ł			ent/
Depth	Type No	Test Result	Water	Reduce Level	d Legend	Depth (Thickness)					Instrume Backfi			
0.40 0.40 0.50	J1 PID ES2	1.8ppm				- - - - - - - -	MADE GF Gravel is f concrete,	ROUND (BI ine to coar slag, maca	ack brown se subang dam and b	sandy grave jular and inc prick).	el. Sand is fir ludes sandst	ne to coa cone, clin	arse. Iker,	
1.20-1.65 1.20 1.50	CJ3 PID ES4	N38 0.5ppm				-	from 1.20	m BGL d	ense to ve	ery 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 4.50 4.60-5.05 4.60-5.10	CJ9 J10 PID ES11 SJ12 B13	N30 0.2ppm N22		2.762		- <u>4.4</u> 	o Medium d	ense brown	n slightly c	layey SAND				
5.60-6.05 5.70	SJ14 J15	N20		1.462	. · . · . · . · . · . · . · . · . · . ·	- 5.7	o Soft brown	n slightly sa	andy silty C	CLAY interla	minated with	clayey S	SILT.	
6.00-6.45 6.00-6.50	SJ16 B17	N15				- - - - - - - - - - - -	at c.6.00m	n BGL cli	ay is of inte	ermediate pl	asticity.			
7.00-7.45	U*B18 SJ19	(50) N22		- 0.138			0 Medium d interbeds/ fine to me	ense brow lenses and	n very clay fragments	ey/silty SAN s of shell. Sand	D with occas and is fine to	sional gre coarse.	ey Gravel is	
7.50-6.00	В20					-								
Borin <sub>Date</sub>	Depth	s and Wat	er Ob	servati Ig Dia	ONS Water	From	Chiselling	Hours	Water From	Added To		Gene Rema	eral arks	
07/11/2017 07/11/2017	0.00 4.40	0.00 4.40	(m	<u>m)</u> 50	Standing	1.80	3.20	(hh:mm) 02:00	4.80	8.00	(1) Description d (2) Borehole adv conducted by Ct (3) 50mm diame 7.10m BGL.	lerived from ranced throi 12M. ter slotted s	i drillers daily rep ugh trial pit prev standpipe installe	port. iously ed to
All dimensions in metres Scale 1:50       For explanation of symbols and abbreviations see Key Sheets       Checked by: KW       Logged by: D. Portsmouth									Contrac 415	ct No. 54				

Ğ						BC	REHOLI	E RECC	ORD			Status:-	FINAL		
Project: The	e Former	SSI Stee	elwork	s, Redo	car - Pric	ority Area	as Within SS	I Landhold	ings Cont	ract 2 (Are	a A)	Expl	oratory Hole	e No.	
Client:	South	Tees Site	e Com	ipany L	td		Location:	Red E:45722	car Steel V 1.427 N:52	Vorks 25185.492			S2-BHA	6	
Method (Equipn	nent): C	able Perc	cussio	n (Dano	do 2000)		I	Ground Leve	(m(AOD)): 7.162	2	Start Date: 07/11/2017	Sheet:	2 of 3		
SAMPL	.ES & TE	STS					1	STRAT	٩			•			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	)				Instrume Backfil				
8.50-8.95	SB21	N15					(Continued Medium d interbeds/ fine to me	d) ense brow lenses and dium round	ional gre coarse.	ey Gravel is					
9.50-9.95	SB22	N15				- - - - - - -	at c.9.50m	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.12.00	m BGL s	lightly cla	yey very gra	avelly sand.				
13.00	J28					· • • •									
13.50-13.95 13.50-14.00	SJ29 B30	N27					at c.13.50	m BGL s	lightly clay	yey slightly	gravelly sand.				
14.50	J31				· · · · · · · · · · · · · · · · · ·										
15.00-15.45	B33	N35					at c.15.00	т BGL (	iense.						
15.70	J34			- 8.538		15.7	o Firm lamir content or	ated CLA	//SILT with	n occasiona	I silt dustings	and orga	anic		
Boring	Progress	and Wat	ter Obs	servatio	ons		Chiselling		Water	Added		Gene	eral		
Date 07/11/2017 08/11/2017	Depth 10.00 10.00	Casing 10.00 10.00	Casin (mi 20 20	g Dia m) § 00 00	Water Standing 4.75 4.67	From	То	Hours (hh:mm)	From 10.50	To 15.00	(1) Description di (2) Borehole adv. conducted by CH (3) 50mm diamet 7.10m BGL.	Rema erived from anced throu 12M. ter slotted s	drillers daily repu ugh trial pit previo tandpipe installe	ort. ously :d to	
All dime	ensions ir	metres			For ex	planatior	n of symbols	and	C	hecked by:	Logged	by:	Contrac	t No.	

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Print Date and Time: 05/06/2018 15:54:33

						BC	REHOLI	E RECC	ORD			Status:-	FINAL	
Project: The	e Former	SSI Stee	elwork	s, Redo	car - Prie	ority Area	as Within SS	I Landhold	lings Cont	ract 2 (Are	ea A)	Expl	oratory Hole	No.
Client:	South	Tees Sit	e Com	ipany L	td		Location:	Red E:45722	car Steel V 1.427 N:52	Vorks 25185.492			S2-BHA6	
Method (Equipm	ient): C	able Perc	cussio	n (Dano	do 2000	)		Ground Leve	(m(AOD)): 7.162	2	Start Date: 07/11/2017	Sheet:	3 of 3	
SAMPL	ES & TE	STS			1	1	1	STRAT	٩		1			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				DESCRIP	PTION			Instrume Backfil
16.00-16.45 16.00-16.50 17.00	SJ35 B36 J37	N22				- - - - - - - - - - - - - - - - - - -	(Continued Firm lamin content or at c.16.00	nued) minated CLAY/SILT with occasional silt dustings and organic it on the laminae and fragments of wood. 0.00m BGL clay is of intermediate plasticity (recovered as slur						
17.50-17.95	SJ38	N20				-								
18.20	J39			- 11.038		<u>18.2</u>	0 Stiff red b	rown slight	ly sandy sl	ightly grav	elly CLAY. San	id is fine	e to	
18.50-18.95	U40	(130)				- - -	includes s	andstone,	mudstone	and coal.		nueu an		
18.85	J41						at c.18.85	m BGL o	clay is of in	termediate	e plasticity.			
19.50	J42					(2.50)								
20.00-20.45 20.00-20.50	SJ43 B44	N41												
20.70	J45			- 13.538	,, <u>_</u>	20.7	Extremely	weak grey	green ML		distinctly weath	nered.		
21.00	S46	1/0.40		- 13.838		21.0	Borehole	complete a	t 21.00m E	iyey gravei 3GL.	).		œ	
Boring	Progress	s and Wa	ter Obs	servatio	NS Water		Chiselling	Hours	Water	Added		Gen	eral	
Date 08/11/2017 10/11/2017 10/11/2017	Depth 19.00 19.00 21.00	Casing 18.30 18.30 18.30	20 20 20	9 2 /a 90 90 90 90	5.08 3.78 4.45	20.80	To 21.00	(hh:mm) 01:00	From	То	(1) Description da (2) Borehole adv. conducted by CH (3) 50mm diamet 7.10m BGL.	erived from anced thro I2M. er slotted s	d rillers daily report ugh trial pit previou standpipe installed	t. Jsly to
All dime	nsions in	n metres			For ex		n of symbols	and	CI	necked by:	Logged	by:	Contract	No.

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Print Date and Time: 05/06/2018 15:54:33

Head Office: Unit 25, Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, County Durham, DH2 2RG.

	VARIABLE HEAD PERMEABILITY TEST CALCULATION BS5930: 1999 (Amendment 2): Section 4: Clause 25.4												
Installation T		Davahala	500	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Mathad	Edling Lload	010030 20.4	Test No.		1 - 5 1			
Contract & Do	ype : poition Dot	Borenole			wethod:	Failing Head		Test No:		I OT I			
Sito: Th	De Former G	ans SSI Staalw	orks Redcar-	Priority Area	e Within SSI	Landholdings	Contract 1 an	d Contract 2	(Area A)				
Contract · 11			Evolorat	ory Hole	S WIUIIII 331 91.	RH10	Donth (	mBCI ).	(Alea A) 10.00				
Initial Condition	ons		Слрюга	Intake Facto	or Selection		Deptill	indolj.	Comments				
Top of Section	n.	9.00	mBGI	Ontion	Criteria	<u> </u>			(1) Refer to F	xploratory Hole			
Base of Section	on <sup>.</sup>	10.00	mBGI		Soil flush wi	th bottom at imp	ervious bounda	arv	Record for so	bil conditions.			
Diameter of S	ection:	200.00	mm	Ов	B Soil flush with bottom in uniform soil								
Measurement	Offset:	0.00	mAGI	O c	Well point or	r hole extended	at impervious b	oundary	-				
Standpipe Dia	ameter:	-	mm	O D	Well point or	r hole extended	in uniform soil		-				
Initial Water I	evel:	4.53	mBGL	Ōe	Soil in casin	g with bottom at	impervious bo	undarv	-				
Weather Cond	ditions:	Drv		Оғ	Soil in casin	a with bottom in	uniform soil	j	-				
		,		O G	Standpipe o	r Piezometer			-				
Initial Respon	nse Zone C	alculation	IS	Readings									
Length, L:		1.00	m	Minutes	Seconds	Total	Water Level	Head	H/H <sub>o</sub>	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 Are	ea, A:	0.0314	m <sup>2</sup>	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	7. 7		ocomoion	1	0	60	1 330	3 20	0.714				
2πl /	ፇ ln[(I / D) +	√{1 + (I /	D)2 }]	2	0	120	1 830	2 70	0.603				
Permeability I	Fountions	·(· ( <u>-</u> /	<u> </u>	3	0	180	2 120	2.10	0.538				
General Appro	ach			4	0	240	2.410	2.12	0.473				
$K = A + \ln(H_1/H_2) = Fa.(i)$				5	0	300	2 640	1 89	0.422				
$F^*(T_2 - T_1)$				10	0	600	3 050	1.00	0.330				
Lag Time Anal	lvsis			15	0	900	3,150	1.38	0.308				
K=	A		Ea.(ii)	20	0	1200	3.270	1.26	0.281				
··· —	F.T		- 1.(.)		•		0.2.0						
Ea.(ii) where T	is the Basi	ic Time La	g Factor										
coinciding with	n a H/H₀ of (	0.37	0										
Permeability \	Variable De	eterminati	on										
General Appro	ach												
Factor, $T_1$ :		n/a	Seconds										
Head, H <sub>1</sub> :		n/a	m										
Factor, T <sub>2</sub> :		n/a	Seconds	Permeability	y Graph								
Head, $H_2$ :		n/a	m	10									
Lag Time Anal	lysis Approa	ach		1.0									
Lag Time, T :		470.05	Seconds	0.9 -									
Permeability (	Calculation	า											
General Appro	bach		Eq.(i)	0.8 -									
			1	0.7 -	,								
K=	N/#	4			$\backslash$								
		-	m/s	0.6 -									
Lag Time Anal	lysis		Eq.(ii)	어버 0.5 -									
			1		•								
K=	2.46E	-05		0.4 -									
			m/s	0.3	200	400	600	800	1000 1	200 1400			
										•			
Approvals				0.2 -									
Operator		P.B.	11/10/2017	0.1 -									
Calculated		L.C.	24/05/2018				Time Fland 1	Soonda					
Checked & Ap	pproved:	N.V.	24/05/2018	0.0 -			rime Elapsea in	Seconds					

Head Office: Unit 25, Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, County Durham, DH2 2RG.

	VARIABLE HEAD PERMEABILITY TEST CALCULATION BS5930: 1999 (Amendment 2): Section 4: Clause 25.4											
	т	D	D3.	730. 1777 (A			Clause 23.4	<b>T</b> N .		4.54		
Installation	Type :	Borehole			Method:	Falling Head		Test No:		1 of 1		
	The Common		arlia Dadaar				Contract 1 or	d Contract 0	(Area A)			
Sile:		SSI Steelw	Orks, Redcar -	Priority Areas	S WITHIN SSI	Landholdings			(Area A)			
	4154	_	Explorat	Ory Hole:	- 52 - Scleation	BHA6	Depth (	MBGL):	10.50		_	
Initial Cond	Itions	0.00	DOI	Intake Facto	or Selection				(1) Defende	S		
TOP OF Sect	ION:	9.80	MBGL		Criteria	(I) Refer to Record for	(1) Refer to Exploratory Hole Record for soil conditions					
Diamatar of	Continne	10.50	mm		Soil fluch wit	h bottom in unife		son contations.				
Diameter of	Section:	200.00	mACI		Wall point or							
Standning [	Diamotor:	0.00	mm		Well point or	hole extended i	in uniform soil	Journally	-			
Juitial Water		-	mPCI	OF.	Soil in casin	nuith bottom at	impervious bo	undary	-			
Woothor Co	Level.	4.11 Dn/	IIIDGL		Soil in casing	g with bottom in	uniform soil	ullualy	-			
weather Co	manuons:	Dry			Soli III Casing	y with bottom in	uniionn soii		-			
Initial Doop	onco Zono (	Coloulation		Deadings	Stanupipe of	Flezonielei						
Initial Respo	onse zone c		15	Readings		Total	Water Level	Head				
		0.70		Minutes	Seconds	Seconds	Depth (m)	(m)	H/H <sub>0</sub>	Notes		
Diameter, D	):	0.20	m Duli	0	5	5	0.030	4.08	1.000			
L/D:		3.50	Ratio	0	10	10	0.040	4.07	0.998			
Response A	Area, A:	0.0314	m <sup>2</sup>	0	15	15	0.050	4.06	0.995			
Intake Facto	or, F:	2.2375	Coefficient	0	30	30	0.085	4.03	0.987			
USI	ing	100 10 1	<b>D</b> \0.17	1	0	60	0.130	3.98	0.975			
2πL	_ / ln[(L / D) +	· √{1 + (L /	D) <sup>2</sup> }]	2	0	120	0.190	3.92	0.961			
Permeability	y Equations			3	0	180	0.260	3.85	0.944			
General App	broach		<b>F</b> (1)	4	0	240	0.350	3.76	0.922			
K=		$Ln(H_1/H_2)$	Eq.(I)	5	0	300	0.440	3.67	0.900			
	r (1 <sub>2</sub> -1 <sub>1</sub> )			10	0	600	0.530	3.58	0.877	_		
Lag Time An	nalysis			15	0	900	0.670	3.44	0.843			
K=	<u>A</u>		Eq.(II)	20	0	1200	0.910	3.20	0.784			
		· <del>.</del> .	<u>-</u> ,			-						
Eq.(II) where	e I is the Bas	SIC TIME La	g Factor									
coinciding w	$\frac{100 \text{ a H}}{100 \text{ m}}$	0.37										
Permeability	y variable D	eterminati	on									
General App	broach	F	Casarda									
Factor, I <sub>1</sub> :		5 4.00	Seconds									
Heau, H <sub>1</sub> :		4.08	[]] Cocondo	Dormoohilita	Craph							
raciur, 12:		2.67	Seconds	Permeability	y Graph							
Heau, H <sub>2</sub> :	alveis Appro	3.07		1.0								
Lag Time An		n/o	Seconda	0.0	-							
Lay Tille, T	v Calculatio	n II/d	Seconds	0.9			•					
General App			Ea (i)	0.8 -								
	JUach		= Eq.(I)	0.7								
17	F 0.45	- 0/		0.7 -								
K=	5.04t	2-06	m/s	0.6 -								
L og Timo An			 	오								
Lag Time An	laiysis		⊑q.(II) -	<u></u>								
17	N1/	^		0.4 -								
K=	N/	A	m/s	0	200	400	600	800	1000	1200 140	00	
			J	0.3 -								
				0.2 -								
Approvals												
Operator		P.B.	08/11/2017	0.1 -								
Calculated		L.C.	24/05/2018	0.0			Time Elapsed in	Seconds				
Checked &	Approved:	N.V.	24/05/2018									

S2 - BHA4



### **TIDAL GROUNDWATER MONITORING**

S2 - BHA5



S2 - BHA6





G					TR	IAL PIT RECORD							Status:- PRELIM2		
Project:				Т	eardrop	Site						Exp	loratory Hole No.		
Client: So	outh Tee	es Development	Corpo	ration		Location	Forn	ner Redo :457279	car Steelwor 0.082 N:5253	ks, Red 310.152	car	тs	2_AUK_TP152		
Method (Equipme	ent): Ma	achine Excavate	ed (Vol	vo 4801	-)			Ground Le	evel (m): 8.911	S	Start Date: 17/09/2020	Sheet:	1 of 3		
SAM	PLES &	TESTS				STRATA									
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)									
0.60 0.80 1.00 1.60 1.80 2.00 2.00 2.60 2.80 3.00 3.60 3.80 4.00	J1 B2 PID J3 B4 ES5 PID J6 B7 PID J8 B9 PID	<0.1ppm <0.1ppm <0.1ppm		8.81       0.10         8.51       0.40         Sand is fine to coarse and includes predomit to coarse subangular and includes slag and 75-100%. Slag is vesicular).         MADE GROUND (Black sandy gravel with ld is fine to coarse subangular and includes slag content is 75 vesicular).         MADE GROUND (Grey white green sandy gis fine to coarse and includes crushed slag. subangular and includes slag. Cobbles are Slag content is 75-100%. Slag is vesicular. It throughout).						ravel wi inantly i d ash. S low cobl lag and '5-100% gravel a . Gravel a angula Densely	th many rootlets. ash. Gravel is fine lag content is ble content. Gravel ash. Cobbles are . Slag is ind cobbles. Sand is fine to coarse r and include slag. y compacted/fused				
Sketch Diage Photograph	ADDIT 'am: '15:	PLAN 4.00 Face A Orientation 090° Face C TONAL INFORM No Sł Yes	IATIOI ketch Ta	Tacce add shee	titional ts.	GROU No grou Pit side	NDW undwa	ATER ter inflov	v observed.	ut excav	ration.				







### 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



Derwentside Environmental Testing Services Limited Unit 2, Park Road Industrial Estate South, Consett, Co Durham, DH8 5PY Tel: 01207 582333 • email: info@dets.co.uk • www.dets.co.uk
## Summary of Chemical Analysis Matrix Descriptions

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

		Lab No	1730010	1730011	1730012	1730013
			TS2_AUK_TP1	TS2_AUK_TP1	TS2_AUK_TP1	TS2_AUK_TP1
	Sa	mple ID	01	56	52	13A
		Depth	3.00	1.00	2.00	0.90
	(	Other ID	7	3	1	3
	Sam	ple Type	ES	ES	ES	ES
	Sampli	ing Date	17/09/2020	17/09/2020	17/09/2020	17/09/2020
	Sampli	ng Time	n/s	n/s	n/s	n/s
Method	LOD	Units				
_						
DETSC 2301*	1	mg/kg	70000	37000	73000	14000
DETSC 2301*	1	mg/kg	< 1.0	4.4	< 1.0	4.5
DETSC 2301#	0.2	mg/kg	6.0	27	7.2	65
DETSC 2301#	1.5	mg/kg	360	540	650	210
DETSC 2301#	0.2	mg/kg	6.2	4.5	6.3	1.8
DETSC 2311#	0.2	mg/kg	0.5	1.9	8.0	1.1
DETSC 2301#	0.1	mg/kg	< 0.1	3.2	< 0.1	0.8
DETSC 2301#	0.15	mg/kg	12	170	30	42
DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
DETSC 2301#	0.2	mg/kg	11	120	14	340
DETSC 2301	25	mg/kg	1800	44000	3400	80000
DETSC 2301#	0.3	mg/kg	1.6	280	17	210
DETSC 2301*	1	mg/kg	35000	19000	38000	5000
DETSC 2301#	20	mg/kg	3300	4600	4400	870
DETSC 2325#	0.05	mg/kg	< 0.05	0.11	< 0.05	0.38
DETSC 2301#	0.4	mg/kg	< 0.4	3.4	< 0.4	3.2
DETSC 2301#	1	mg/kg	< 1.0	30	1.4	54
DETSC 2301*	10	mg/kg	54000	78000	49000	54000
DETSC 2301#	0.8	mg/kg	61	290	82	140
DETSC 2301#	1	mg/kg	13	660	44	470
DETSC 2003#	0.01	%	4.1		6.8	
DETSC 2008#		pН	11.2	10.4	10.4	8.3
DETSC 5008	1	MJ/kg	< 1.0		< 1.0	
DETSC 2130#	0.1	mg/kg	1.5	1.6	< 0.1	12
DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
DETSC 2130#	0.6	mg/kg	0.9	< 0.6	< 0.6	0.7
DETSC 2002#	0.1	%	0.3	1.1	0.6	8.0
DETSC 2076#	10	mg/l	220	340	44	170
DETSC 3049#	0.75	mg/kg	17	22	99	19
	DETSC 2301*           DETSC 2301#           DETSC 2003#           DETSC 2003#           DETSC 2003#           DETSC 2130#           DETSC 2130#           DETSC 2130#           DETSC 2002#           DETSC 2002#           DETSC 2076#           DETSC 3049#	Sample           Sample           Sample           Sample           Sample           Sample           DETSC 2301*         1           DETSC 2301#         0.2           DETSC 2301#         0.1           DETSC 2301#         0.1           DETSC 2301#         0.2           DETSC 2301#         0.1           DETSC 2301#         0.2           DETSC 2301#         0.3           DETSC 2301#         1           DETSC 2003#         0.01           DETSC 2003#         0.1           DETSC 2130#         0.1           DETSC 2130#         0.1	Lab No           Sample ID Depth Other ID Sample Type Sampling Date Sampling Time LOD Units           Method         LOD Units           DETSC 2301*         1         mg/kg           DETSC 2301#         0.2         mg/kg           DETSC 2301#         0.1         mg/kg           DETSC 2301#         0.1         mg/kg           DETSC 2301#         0.2         mg/kg           DETSC 2301#         0.3         mg/kg           DETSC 2301#         0.3         mg/kg           DETSC 2301#         1         mg/kg           DETSC 2301#         0.3         mg/kg           DETSC 2301#         1         mg/kg           DETSC 2301#         1         mg/kg           DETSC 2301#         1         mg/kg           DETSC 2301#         0.8	Lab No         1730010           TS2_AUK_TP1         TS2_AUK_TP1           Sample ID         01           Depth         3.00           Other ID         7           Sampling Date         17/09/2020           Sampling Time         n/s           Method         LOD         Units           DETSC 2301*         1         mg/kg         70000           DETSC 2301#         0.2         mg/kg         6.0           DETSC 2301#         0.2         mg/kg         6.0           DETSC 2301#         0.2         mg/kg         6.0           DETSC 2301#         0.2         mg/kg         6.2           DETSC 2301#         0.1         mg/kg         0.1           DETSC 2301#         0.1         mg/kg         0.1           DETSC 2301#         0.1         mg/kg         1.0           DETSC 2301#         0.1         mg/kg         1.0           DETSC 2301#         0.1         mg/kg         1.0           DETSC 2301#         0.3         mg/kg         1.0           DETSC 2301#         0.4         mg/kg         3.00           DETSC 2301#         0.4         mg/kg         1.0	Lab No         1730010         1730011           TS2_AUK_TP1         TS2_AUK_TP1         TS2_AUK_TP1           Depth         3.00         1.00           Other ID         7         3           Sample Type         ES         ES           Sampling Date         17/09/2020         17/09/2020           Sampling Time         n/s         n/s           Method         LOD         Units         1           DETSC 2301*         1         mg/kg         6.0         27           DETSC 2301#         0.2         mg/kg         6.0         27           DETSC 2301#         0.2         mg/kg         6.2         4.5           DETSC 2301#         0.2         mg/kg         0.5         1.9           DETSC 2301#         0.1         mg/kg         1         3.2           DETSC 2301#         0.15         mg/kg         1.0         <1.0	Lab No         1730010         1730011         1730011         1730011           Sample ID         01         56         52           Depth         3.00         1.00         2.00           Other ID         7         3         1           Sample Type         ES         ES         ES           Sampling Date         17/09/2020         17/09/2020         17/09/2020           Sampling Time         17/09/2020         17/09/2020         17/09/2020           DETSC 2301*         1         mg/kg         70000         37000         73000           DETSC 2301*         1         mg/kg         6.0         27         7.2           DETSC 2301#         0.2         mg/kg         6.2         4.5         6.3           DETSC 2301#         0.2         mg/kg         6.2         4.5         6.3           DETSC 2301#         0.2         mg/kg         1.0         4.0         4.0           DETSC 2301#         0.1         mg/kg         1.0         4.0         4.0           DETSC 2301#         0.1         mg/kg         1.0         <1.0

## Summary of Chemical Analysis Soil Samples

TSZ_AUK_TP1 TSZ_AUK		Lab No		1730010	1730011	1730012	1730013	
Sample Type         0         1         56         22         13A           Sample Type         0 <td></td> <td></td> <td colspan="2"></td> <td>TS2_AUK_TP1</td> <td>TS2_AUK_TP1</td> <td>TS2_AUK_TP1</td> <td>TS2_AUK_TP1</td>					TS2_AUK_TP1	TS2_AUK_TP1	TS2_AUK_TP1	TS2_AUK_TP1
Depth         3.00         1.00         2.00         0.89           Sample Type         5         5         55         55         55           Sampling Date         3.709/2020         17/09/20			Sa	mple ID	01	56	52	13A
Other ID         7         3         1         3           Sample Type         5         ES         ES         5           Sampling Date         17/09/2020         17/09/2020         17/09/2020         17/09/2020         17/09/2020           Test         Method         LOD         Units           Petroleum Hydrocarbons           Aliphatic CS-C6         DETSC 3321*         0.01         mg/kg         <0.01				Depth	3.00	1.00	2.00	0.90
Sample Type         Es			Other ID		7	3	1	3
Samping Time Samping Time Petroleum Hydrocarbons         N//69/200         17//69/200         17//69/200         17//69/200           Petroleum Hydrocarbons         Aliphatic C5-C6         DETSC 3321*         0.01         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         < 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         < 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         < 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			Samp	ble Type	ES	ES	ES	ES
Sampling lime         n/s         <			Sampli	ng Date	17/09/2020	17/09/2020	17/09/2020	17/09/2020
Petroleum Hydrocarbons           Aliphatic C5-C6         DETSC 3321*         0.01         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         < 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         < 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         < 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         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01 <td><b>T</b> = -4</td> <td></td> <td>Sampli</td> <td>ng Time</td> <td>n/s</td> <td>n/s</td> <td>n/s</td> <td>n/s</td>	<b>T</b> = -4		Sampli	ng Time	n/s	n/s	n/s	n/s
Performing and carbons         Detroc 3321*         0.01         mg/kg         < 0.01         < 0.01         < 0.01         < 0.01           Aliphatic CS-C6         DETSC 3321*         0.01         mg/kg         < 0.01	Test	wiethod	LOD	Units				
Aliphatic C5-C8         DETSC 3321*         0.01         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         < 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         < 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         < 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         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01	Aliphotic CE CE		0.01	ma/ka	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic Ce-Cs         DETSC 3321*         O.01         Imp/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         < 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         < 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         < 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         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01	Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic Co-L10         DETSC 3072#         1.5         mg/kg         < 1.0         < 0.01         < 0.01         < 0.01           Aliphatic C10-C12         DETSC 3072#         1.5         mg/kg         < 1.5	Aliphatic CB-C8	DETSC 3321*	0.01	iiig/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic CL2-C16         DETSC 3072#         1.2         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         < 1.5         < 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         < 1.5         < 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         < 1.5         < 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         < 1.5         < 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         < 1.5         < 1.5         < 1.5         < 1.5         < 1.5         < 1.5         < 1.5         < 1.5         < 1.5<	Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C12-C16       DETSC 3072#       1.2       mg/kg       < 1.2		DETSC 3072#	1.5	тg/кg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C16-C21         DETSC 3072#         1.5         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         < 1.5         < 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         < 1.5         < 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         < 1.5         < 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         < 1.5         < 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         < 1.5         < 1.5         < 1.5         < 1.5         < 1.5         < 1.5         < 1.5         <1.5         <1.5 <td></td> <td>DETSC 3072#</td> <td>1.2</td> <td>mg/кg</td> <td>&lt; 1.2</td> <td>&lt; 1.2</td> <td>&lt; 1.2</td> <td>&lt; 1.2</td>		DETSC 3072#	1.2	mg/кg	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C21-C35       DETSC 3072#       3.4       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       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.0       < < 3.0       < < 3.0       < < 3.0       < < 3.0       < < 3.0       < < 3.0       < < 3.0       < < 3.0       < < 3.0       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.4       < < 3.0       < < 3.0       < < 3.0<	Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C5-C35       DETSC 3072*       10       mg/kg       < 10	Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4
Aromatic C5-C7       DETSC 3321*       0.01       mg/kg       <0.01	Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
Aromatic C7-C8         DETSC 3321*         0.01         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         < 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         < 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         < 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         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         <	Aromatic C5-C7	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	Aromatic C7-C8	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	Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
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	Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C16-C21         DETSC 3072#         0.6         mg/kg         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6         < 0.6 </td <td>Aromatic C12-C16</td> <td>DETSC 3072#</td> <td>0.5</td> <td>mg/kg</td> <td>&lt; 0.5</td> <td>&lt; 0.5</td> <td>&lt; 0.5</td> <td>&lt; 0.5</td>	Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C21-C35       DETSC 3072#       1.4       mg/kg       < 1.4       < 1.4       < 1.4       < 1.4       < 1.4       < 1.4       < 1.4       < 1.4       < 1.4       < 1.4       < 1.4       < 1.4       < 1.4       < 1.4       < 1.4       < 1.4       < 1.4       < 1.4       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0       < 1.0	Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C5-C35         DETSC 3072*         10         mg/kg         < 10         < 10         < 10         < 10         < 10           PTH Ali/Aro Total         DETSC 3072*         10         mg/kg         < 10         < 10         < 10         < 10         < 10           PAHs         Naphthalene         DETSC 3303#         0.03         mg/kg         < 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         < 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         < 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         < 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         < 0.03         < 0.03         < 0.03         < 0.03         < 0.03         < 0.03         < 0.03         < 0.03	Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4
TPH Ali/Aro Total         DETSC 3072*         10         mg/kg         < 10         < 10         < 10         < 10         < 10           PAHs           Naphthalene         DETSC 3303#         0.03         mg/kg         < 0.03	Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
PAHs           Naphthalene         DETSC 3303#         0.03         mg/kg         < 0.03	TPH Ali/Aro Total	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
Naphthalene         DETSC 3303#         0.03         mg/kg         < 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         < 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         < 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         < 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         < 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         < 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         < 0.03         < 0.03	PAHs							
Acenaphthylene         DETSC 3303#         0.03         mg/kg         < 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         < 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         < 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         < 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         < 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         < 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         < 0.03         < 0.03         <	Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.07
Acenaphthene         DETSC 3303#         0.03         mg/kg         < 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         < 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         < 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         < 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         < 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         < 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         < 0.03         < 0.03 <th< td=""><td>Acenaphthylene</td><td>DETSC 3303#</td><td>0.03</td><td>mg/kg</td><td>&lt; 0.03</td><td>&lt; 0.03</td><td>&lt; 0.03</td><td>0.06</td></th<>	Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.06
Fluorene         DETSC 3303         0.03         mg/kg         < 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         < 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         < 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         < 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         < 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         < 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         < 0.03         < 0.03         < 0.	Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.10
Phenanthrene         DETSC 3303#         0.03         mg/kg         < 0.03         0.16         0.08         1.5           Anthracene         DETSC 3303         0.03         mg/kg         < 0.03	Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.13
Anthracene         DETSC 3303         0.03         mg/kg         < 0.03         < 0.03         < 0.03         0.03         0.03         mg/kg         < 0.03         < 0.03         0.03         0.03         mg/kg         < 0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.029         0.11         3.2           Pyrene         DETSC 3303#         0.03         mg/kg         < 0.03	Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.16	0.08	1.5
Fluoranthene       DETSC 3303#       0.03       mg/kg       < 0.03       0.29       0.11       3.2         Pyrene       DETSC 3303#       0.03       mg/kg       < 0.03	Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.38
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	Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.29	0.11	3.2
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	Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.23	0.09	2.8
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	Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.10	0.04	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	Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	0.13	0.05	1.3
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	Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.14	0.05	1.4
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	Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.06	< 0.03	0.63
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	Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.09	0.03	1.2
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	Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.08	0.03	0.44
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	Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.12
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         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 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	Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	0.10	< 0.03	0.51
Phenols         DETSC 2130#         0.3         mg/kg         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3         < 0.3	PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	1.4	0.49	15
Phenol - Monohydric DETSC 2130# 0.3 mg/kg < 0.3 < 0.3 < 0.3 < 0.3 < 0.3	Phenols		<u> </u>	5, 3				
	Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3



## Summary of Chemical Analysis Soil VOC/SVOC Samples

	Lab No			1730010	1730012
		Sa	mnle ID	132_AUK_1 P101	132_AUK_1 P152
		50	Denth	3 00	2 00
			Other ID	5.00	2.00
		Sam	nle Type	, FS	FS
		Sampl	ing Date	17/09/2020	17/09/2020
		Sampli	ing Time	n/s	n/s
Test	Method	LOD	Units	175	173
VOCs					
Vinvl 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-dichloropropage	DETSC 2421	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 2421	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 2421	0.01	mg/kg	< 0.01	< 0.01
cis-1 3-dichloronronene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 2421	0.01	mg/kg	< 0.01	< 0.01
trans 1.2 disbloropropopo	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1 1 2-trichloroethane	DETSC 2421	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 2421	0.01	mg/kg	< 0.01	< 0.01
1 3-dichloropropage	DETSC 2421	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromothano	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 2421	0.01	mg/kg	< 0.01	< 0.01
1 1 1 2-tetrachloroethane	DETSC 2421	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 2421	0.01	mg/kg	< 0.01	< 0.01
	DETSC 2421	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 2421	0.01	mg/kg	< 0.01	< 0.01
Bromohenzene	DETSC 2421	0.01	mg/kg	< 0.01	< 0.01
1 2 3-trichloropropage	DETSC 2421	0.01	ma/ka	< 0.01	< 0.01
n-propylhenzene	DETSC 2421	0.01	ma/ka	< 0.01	< 0.01
2-chlorotoluene	DETSC 2421	0.01	ma/ka	< 0.01	< 0.01
1 3 5-trimethylbenzene	DETSC 2421	0.01	ma/ka	< 0.01	< 0.01



## Summary of Chemical Analysis Soil VOC/SVOC Samples

		Lab No			1730012
		-		TS2_AUK_T	TS2_AUK_T
		Sa	Imple ID	P101	P152
			Depth	3.00	2.00
		Com.	Utner ID	7	1
		Sam	pie Type	ES	ES
		Sampi	ing Date	1//09/2020	1//09/2020
Test	Method		I Inits	175	11/5
4-chlorotoluene	DETSC 3/131		mg/kg	< 0.01	< 0.01
Tert-hutylbenzene	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
МТВЕ	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
SVOCs		1			
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

		1730010	1730012		
				TS2_AUK_T	TS2_AUK_T
		Sa	ample ID	P101	P152
			Depth	3.00	2.00
			Other ID	7	1
		Sam	ple Type	ES	ES
		Sampl	ing Date	17/09/2020	17/09/2020
		Sampl	ing 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

		Lab No	1730014	1730015	
		~		TS2_AUK_T	TS2_AUK_T
		Sa	ampie ID	P101	P152
			Depth	3.00	2.00
		<b>6</b>	otner ID	7	1
		Sam	pie Type	ES	ES
		Samp	ing Date	1//09/2020	17/09/2020
Tost	Mothod	Sampi		n/s	n/s
Propagation	Methou	LOD	Units		
RS EN 12457 10.1	DETSC 1000*			v	v
Leachate 2:1 250g Non-WAC	DETSC 1009*			Y	Y
Metals	02130 1005				
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					
рН	DETSC 2008		pН	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

			Lab No	1730014	1730015
		-		TS2_AUK_T	TS2_AUK_T
		Sa	ample ID	P101	P152
			Depth	3.00	2.00
		-	Other ID	7	1
		Sam	ple Type	ES	ES
		Sampl	ing Date	17/09/2020	17/09/2020
		Sampl	ing Time	n/s	n/s
Test	Method	LOD	Units	0.4	0.4
Aromatic C8-C10	DETSC 3322	0.1	ug/I	< 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

				4720045
			1/30015 TS2 ALIK T	
		Sa	mple ID	P152_P152
		54	Denth	2 00
		C	)ther ID	2.00
		Same		ES
		Sampli	ng Data	L3
		Sampli	ng Timo	17/09/2020
Tost	Mathad		Unite	11/5
	Wethou	LOD	Units	
Dichlorodifluoromethane	DETSC 3/32	1	σ/I	< 1
Chloromethane	DETSC 3432	1	ισ/I	< 1
Vinyl Chloride	DETSC 3432	1	ισ/I	< 1
Bromomethane	DETSC 3432	1	ισ/I	< 1
Chloroethane	DETSC 3432	1	ισ/I	< 1
Trichlorofluoromethane	DFTSC 3432*	1	رون ارونا	< 1
1 1-dichloroethylene	DFTSC 3432	1	رون ارونا	< 1
Methylene Chloride	DFTSC 3432*	27	روب اروبا	270
Trans-1 2-dichloroethylene	DETSC 3432	1	رونی ارونا	< 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	رونی ارونا	< 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

			Lab No	1730015
				TS2_AUK_T
		Sa	imple ID	P152
			Depth	2.00
		( (	Jther ID	1
		Sam	ple Type	ES
		Sampi	ing Date	17/09/2020
<b>-</b> .	N 4 - the end	Sampi	ing Time	n/s
Test	IViethoa		Units	. 1
1,1,2,2-tetrachloroetnane	DETSC 3432		ug/i	< 1
Bromobenzene	DETSC 3432		ug/i	< 1
1,2,3-trichloropropane	DETSC 3432		ug/i	< T
n-propylbenzene	DETSC 3432		ug/I	<1
2-chlorotoluene	DETSC 3432		ug/I	< 1
1,3,5-trimethylbenzene	DETSC 3432		ug/I	< 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	1			
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	DFTSC 3434*	1	ug/l	< 1.0
Ris(2-chloroethoxy)methane	DFTSC 3434*		ug/	< 1.0
2 4-Dimethylphenol	DETSC 3434*		بون ارون	< 1.0
2 4-Dichloronhenol	DETSC 3434*		ر روبی ار وبر	< 1.0
1.2 A_Trichlorohanzana	DETSC 3/3/*			< 1.0
4-Chloro-3-methylphenol	DETSC 3434		ισ/I	< 1.0
2 Mathulaanhthalana	DE13C 3434		ug/1	< 1.0
	DE15C 3434		ug/i	< 1.0
Hexachlorocyclopentadiene	DEISC 3434*		ug/i	< 1.0
2,4,6-Irichlorophenol	DETSC 3434*		ug/i	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*		ug/I	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/I	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0



## Summary of Chemical Analysis Leachate VOC/SVOC Samples

			Lab No	1730015
		_		TS2_AUK_T
		Sa	mple ID	P152
			Depth	2.00
		(	Other ID	1
		Sam	ole Type	ES
		Sampli	ing Date	17/09/2020
		Sampli	ng 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**

		Date		Holdi excee	ng time ded for	Inappropriate container for
Lab No	Sample ID	Sampled	Containers Received	tests		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	17/09/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2			
	LEACHATE					
1730015	TS2_AUK_TP152 2.00	17/09/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2			
	LEACHATE					

#### 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**

			Limit of	Sample			
Method	Parameter	Units	Detection	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	Ves	Ves
DETSC 2004	Total Organic Carbon	70 0/	0.5	Air Dried	No	Voc	Voc
DE13C 2084		70 ma/ka	0.5	Air Dried	No	Vec	Yes
DETSC 2119	Creatide free	iiig/kg	0.5	All Dried	No	Vee	Yee
DETSC 2130		mg/kg	0.1	Air Dried	NU	res	res
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	Molyhdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Ves	Ves
DETSC2201	Load	mg/kg	1 0 2	Air Dried	No	Voc	Voc
DE13C2301	Selenium	mg/kg	0.5	Air Dried	No	Voc	Voc
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301		mg/kg	1	Air Dried	NO	Yes	Yes
DETSC 3072		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	Ves	Ves
	Bonzono	mg/kg	0.01	As Received	No	Voc	Voc
DE13 002		mg/kg	0.01	As Received	No	Vec	Vec
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	NO	Yes	Yes
DE15 062	xyiene	mg/kg	0.01	AS RECEIVED	INO	res	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**

			Limit of	Sample			
Method	Parameter	Units	Detection	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.
- 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.
- Soil leachte 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 elevetion monitoring and analysis is presented in Appendix F





			LFVBH01
London, EI 8FA Consultant: AECOM First Floor, One Trinity Gardens, Quayside, Newcastle upon Tyne, NE1 2HF Contract No.: 4339 Scale: 12500 @ A3 Date: 05/08/2021	Every on shore Corporation (STDC)     Wain Stle' and Onshore CO2 Export Pipeline Contdor      Client:     AEGA To Street.	Sonic core hole	Allied Exporation and Geotechnics Limited Unit 25 Stella Gill Industrial Estate Petron Fell Co Durham DH2 28(C (Tel): 0191 387 4700 (Emall): engultes@aeg.uk.net







## ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Regional O







					TR	ial pi	TR	ECOR	D		Status:-	FINAL
Project:		Prelin	ninary	Onshore	e Groun	d Investig	ation	for NZT			Exp	loratory Hole No.
Client:		AECOM				Location	: North	west of F	Redcar, North	Yorkshire		LF\TP02
Method (Equ	ipment): Ma	chine Excavate	d (Kor	natsu 21	10)			Ground Lev	vel (m): 7.892	Start Date: 23/06/2021	Sheet:	1 of 3
S	AMPLES &	TESTS							STRATA	I		
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				Description		
0.30 0.30 0.50 0.50 0.50 0.50 1.00 1.00 1.05 1.50 1.50 1.50 1.50 2.00 2.10 2.60 2.80 3.00 3.00 3.00 3.00 3.80 4.00 4.10 4.50 4.50	ES1 PID ES2 PID J3 B4 ES5 PID J6 J7 PID B8 ES9 PID J7 PID B8 ES9 PID J7 PID J8 B9 ES10 PID J11 PID J12 LB13 ES14 PID J15 LB16 PID	0.1ppm 0.1ppm 0.3ppm 1.1ppm 0.2ppm 2.1ppm 1.0ppm 1.0ppm <0.1ppm		3.39		(4.45) (4.45)	MAI root fine (100 MAI low slag are subi	DE GROU lets. San to mediu (%)). DE GROU boulder c . Gravel subangul rounded a	JND (Red bro d is fine to coa m subangular JND (Grey cla content. Sand s fine to coars ar and include and include sla and include sla	wn grey very sa arse and includes and includes sl yey/silty sandy g is fine to coarse se subangular a e slag. Boulders ag. Slag is vesio	ndy grav s crushe ag. Slag gravel ar and includ are sub- cular (10	rel with occasional ed slag. Gravel is is vesicular nd cobbles with ludes crushed des slag. Cobbles angular to 0%)).
						- - - - - - - - - - -						
t l		PLAN 4.00 Face A Orientation				GROU No gro	INDW undwa	ATER ter inflow	observed. Dan	np between 2.00-	4.50m B	GL.
Face		,				STABILITY Pit sides and base stable throughout excavation.						
	ADDITIONAL INFORMATION						RAL F	REMARK	S			
Sketch [	Diagram:	No S	ketch T	aken								
Photog	jraphs:	Yes		See add shee	litional ts.							
All dir	mensions in Scale 1:50.0	metres 00		For exp abbrev	lanation iations s	of symbo ee Key S	ols and heets	ł	Checked b	y: Logge D. Ports	d by: mouth	Contract No. 4339



## ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Regional O



Implicit in the interview of th		TRIAL PIT RECORD									
AECOM       Licritory       LiftP02         Equipmentity       Machine Excavated (Komatsu 210)       Sround Level (m. 7.892       Bart Date:       3 of 3         Figure LFTP02.3         LTTP02 Spoil       Store Level (m. 7.892		Preliminary Onshore Ground	Investigation for	NZT		Exploratory Hole					
<text><text><caption><image/></caption></text></text>		AECOM	Location: North-we E:45	st of Redcar, North \ 7400.272 N:525733	/orkshire 924	LF\TP02					
<image/>	quipment):	Machine Excavated (Komatsu 210)	Gro	und Level (m): 7.892	Start Date: 23/06/2021	Sheet: 3 of 3					



Ē					TR	ial pi	TR	ECOR	RD		Status:-	FINAL
Project:		Prelin	ninary	Onshor	e Groun	d Investig	ation	for NZT			Exp	loratory Hole No.
Client:		AECOM				Location	North	west of	Redcar, North Yo	orkshire	1	LF\TP03
Method (Equipr	ment): Ma	chine Excavate	d (Kor	natsu 2'	10)			Ground Le	vel (m): 7.703	Start Date: 24/06/2021	Sheet:	1 of 3
SAI	MPLES &	TESTS							STRATA			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				Description		
0.30 0.30 0.45 0.50 0.50 0.95 1.00 1.00 1.10 1.45 1.50 2.00 2.45 2.50 2.80 2.95 3.00 3.45 3.50 3.80 3.95 4.00 4.50 4.50	ES1 PID J2 ES3 PID B4 J5 ES6 PID LB7 J8 PID B9 J10 ES11 PID J12 PID B13 J14 ES15 PID J16 PID B17 J18 ES19 PID B17 J18 ES19 PID LB20 PID	0.4ppm <0.1ppm <0.1ppm 1.5ppm 1.1ppm 1.1ppm 2.0ppm 2.2ppm 2.0ppm		6.50		(1.15) (1.15) (1.30) (3.30)	MAI root fine (100 MAI San coasi inclu slag MAI bou Gra subi (Eng obset Obset Con	DE GRO lets. San to mediu (%))). DE GRO d is fine se suba ide slag. . Slag is DE GRO der cont vel is fine angular a ounded gineer no erved by	UND (Red brown d is fine to coars im subangular an UND (Grey light to coarse and inc mgular and include Boulders are su vesicular and no UND (Grey slight ent. Sand is fine e to coarse subal and includes slag and includes slag stes slag shows r rusty appearanc	n grey very sa ne and includes nd includes sla brown slightly cludes crushe des slag. Cobl bangular to st on vesicular (1 tly sandy grav to coarse and ngular and ind g. Boulders ard g. Slag is vesi elatively high e and individu	ndy grav s crushe ag. Slag sandy g d slag. ( obles are ubround 00%)). el and cc include iudes sl e subanç cular (11 content ial weigh	rel with occasional ed slag. Gravel is is vesicular gravel and cobbles. Gravel is fine to subangular and ed and include obbles with low is crushed slag. ag. Cobbles are gular to 00%)). of metal - nt of cobbles).
		PLAN				GROU	INDW	ATER				
		4.00 Face A				No gro	undwa	ter inflow	observed. Damp	between 3.00-	4.50m B	GL.
Face		Face C		C C	0.30	STABI Pit side	LITY es and	base sta	ble throughout ex	cavation.		
							RAL F	REMARK	(S			
Sketch Dia	Sketch Diagram: No Sketch Taken											
Photogra	Photographs: Yes See additional sheets.											
All dime So	ensions in cale 1:50.0	metres		For exp abbrev	lanation iations s	of symbo ee Key S	ls and heets	ł	Checked by:	Logge D. Ports	d by: mouth	Contract No. 4339



#### **ALLIED EXPLORATION & GEOTECHNICS LIMITED** Head Office: Unit 25 Stella Gill Industrial Estate, Petton 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: 0197 2735 300 Fax: 01772 735 999

EE GG TR	RIAL PIT F	ECORD		Status:- FINAL
Project: Preliminary Onshore Ground	d Investigatior	for NZT		Exploratory Hole No.
Client: AECOM	Location: North	n-west of Redcar, North \ E:457407.062 N:525773.	orkshire 704	LF\TP03
Method (Equipment): Machine Excavated (Komatsu 210)		Ground Level (m): 7.703	Start Date: 24/06/2021	Sheet: 2 of 3
	Figure LF\T LF\TP0	P03.1 3		
			Menterial International Intern	
	Figure LF\T LF\TP0	P03.2 3	t all and the	
	RELIA CI NIZA 433 LI TROS 450 ASI			





E G					TR	IAL PI	TR	ECOF	RD		Status:-	FINAL
Project:		Prelin	ninary	Onshor	e Groun	d Investig	ation	for NZT			Exp	loratory Hole No.
Client:		AECOM				Location	: North	west of	Redcar, North Yo	rkshire	-	MS\TP01
Method (Equipn	nent): Mao	chine Excavate	d (Kor	natsu 2′	10)			Ground L	5.638	Start Date: 16/06/2021	Sheet:	1 of 3
SAN	MPLES &	TESTS							STRATA			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			I	Description		
0.20 0.30 0.30 0.40 0.50 0.50 0.70 1.00 1.00 1.00 1.20 1.40 1.40 1.50 2.00 2.00 2.00 2.00 2.20 2.40 2.70 3.00 3.20 3.40 3.50 3.70 4.00 4.00 4.20 4.40 4.50	J1 ES2 PID B3 ES4 PID J5 ES6 PID J7 B8 PID J7 B8 PID J12 B13 PID J12 B13 PID J12 B13 PID J14 ES15 PID J16 B17 PID J18 ES19 LB20 PID J21 B22 PID	<0.1ppm <0.1ppm <0.1ppm <0.1ppm 0.2ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm	*	6.24 3.24 2.14		(0.40) 0.40 (3.00) (3.00) (1.10) (1.10) 4.50	MAI cobi meta con and vesi at c. MAI conf fabr inclu inclu and at c. leng at c.	DE GRC ble and al. Grav. rete an concret cular (50 0.10m E DE GRC ent and c and ti de cond include 0.50m E th). 1.40m E DE GRC asional f ular to s ocarbor	UND (Black brow boulder content a el is fine to coarse d slag. Cobbles a e. Boulders are su 0-75%)). 3GL metal rope UND (Black gravy occasional bould mber. Gravel is fin iker and slag. Cot crete, brick and slag. Cot crete, brick and slag. Cot crete, brick and slag. So age steel beam 3GL clayey/silty UND (Black yello ragments of shell ubangular and inco n odour).	n grey very g nd fragments a angular to su re angular to su re angular to ubangular and recovered - ' elly sand with er sized fragn te to coarse a bbles are ang ag. Boulders vesicular (50) recovered (a very sandy g w slightly clay (bivalve). Gra cludes clinker	ravelly s of rubbe ubround rounded d include 10m in le low cob nents of ingular t ular to ro are angu 75%)). ravel. ravel.	and with low er, plastic and ed and includes and include slag e concrete. Slag is ength. ble and boulder metal, plastic, o subrounded and ular to rounded hately 3m in elly sand with ne to coarse g. Mild
		PLAN 4.50 Face A			 <b>↑</b> 	GROU Seepau 4.48m	INDW ge at 4 BGL. I	ATER .47m an Engineer	d 4.50m BGL - slov notes water is mu	v inflow. Water ky.	r level or	o completion at
Face D		Orientation 121° Face C			□ <u>3.00</u>	STABI Pit side	LITY es and	base un	stable throughout e	excavation.		
	ADDIT		ΛΑΤΙΟ	N		GENE	RAL F	REMARI	<s< td=""><td></td><td></td><td></td></s<>			
Sketch Dia	gram:	No S	ketch T	aken								
Photogra	phs:	Yes		See add shee	litional ets.							
All dime Sc	ensions in ale 1:50.0	metres 00		For exp abbrev	lanation iations s	of symbo ee Key S	ols and heets	1	Checked by:	Logged M. B	d by: ell	Contract No. <b>4339</b>



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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: 0197 2735 300 Fax: 01772 735 999

Onshore Ground Investigation for NZT

Status:-

FINAL

Project:	Preliminary Onshore Ground Investigation for NZT							
Client:	AECOM	Location: North E	-west of Redcar, North Yor E:457180.039 N:525540.36	kshire 9	MS\TP01			
Method (Equipment):	Machine Excavated (Komatsu 210)		Ground Level (m): 6.638	Start Date: 16/06/2021	Sheet: 2 of 3			



Figure MS\TP01.2 MS\TP01







						-				
e D		PLAN 4.50 Face A Orientation		Fac	• •	GROU Satura	INDWATER ted strata at 2.3	85m BGL - moderate i	nflow.	
Fac		Face C		ά σ		STABI Pit side	LITY es and base mo	oderately stable throug	phout excavation.	
	ADDI	FIONAL INFORM	ΙΟΙΤΑΝ	١		GENERAL REMARKS				
Sketch Diagram: No Sketch Taken										
Photograph	is:	Yes		See add shee	litional ts.					
All dimensions in metres Scale 1:50.00 abbreviations se				of symbo ee Key S	ols and heets	Checked by: <i>K,W,</i>	Logged by: D. Portsmouth	Contract No. <b>4339</b>		



## ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Regional O












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Status:-

Ğ					TR	ial p	IT RECOF	RD		Status:-	FINAL
Project:		Prelin	ninary	Onshor	e Ground	d Investiç	gation for NZT			Explo	pratory Hole No.
Client:		AECOM				Location	: North-west of E:457024	Redcar, North Yorl	kshire 8	-	MS\TP05
Method (Equipr	ment): Mac	chine Excavate	d (Kor	natsu 21	10)		Ground Le	evel (m): 7.165	Start Date: 17/06/2021	Sheet:	1 of 3
SAI	MPLES &	TESTS						STRATA			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)		D	escription		
0.20 0.30 0.30 0.50 0.50 0.70 1.00 1.00 1.00 1.20 1.40 1.50 1.70 2.00 2.20 2.40	J1 ES2 PID B3 ES4 PID J5 ES6 LB7 PID J8 B9 PID J10 ES11 PID J12 B13	0.3ppm 0.4ppm 0.6ppm 0.4ppm 7.2ppm		457		(2.60)	MADE GRO high cobble silty sand (a includes slag Cobbles are brick. Bould concrete).	UND (Grey brown and low boulder co sh). Gravel is fine t g, concrete, clinker angular to subang ers are subangular	orange claye intent with or o coarse and and brick. S ular and incl to subround	ey very sa ccasional gular to ro lag is ve ude slag led and ir	andy gravel with pockets of black ounded and sicular (50-75%). , concrete and nclude slag and
2.50 2.70 3.00 3.00 3.20	PID J14 ES15 PID J16	0.1ppm <0.1ppm		3.87		<u>(</u> 0.70) - - - - - 3.30	MADE GRO cobble conte include slag vesicular (10	UND (Red orange ent. Gravel is fine to . Cobbles are suba 00%)).	brown very s coarse ang ngular and i	sandy gra gular to si nclude sl	avel with low ubangular and ag. Slag is
3.40 3.50 3.70 4.00	B17 PID J18 ES19	0.1ppm	₹			- - -(1.00) 	Gravel is find and slag. Co is vesicular	e to coarse angula bbles are angula (50-75%)).	andy gravel ( r to subangu to subangula	with high lar and ir ar and ind	coddle content. Icludes clinker clude slag. Slag
4.20	J21	о. тррпт					Complete at	4.30m BGL.			
		PLAN				GROL	INDWATER				
		4.50 Face A			<b>→</b>	Seepa	ge at 4.20m an	d 4.30m - moderate	inflow.		
Face [		Orientation 067°			3.40	STAB Pit side	ILITY es and base mo	oderately stable throu	ughout excave	ation.	
		Face C			_]↓						
	ADDIT		ΛΑΤΙΟ	N		GENE	RAL REMARK	٢S			
Sketch Dia	gram:	Ske	etch Tal	ken							
Photogra	phs:	Yes		See add shee	litional ts.						
All dime	ensions in cale 1:50.0	metres		For exp abbrev	lanation iations s	of symbo ee Key S	ols and Sheets	Checked by:	Loggeo M. Be	l by: ell	Contract No. 4339



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	TRIAL PIT RECORD										
Project: Preliminary Onshore Ground	Investigation	for NZT		Exploratory Hole No.							
Client: AECOM	Location: North E	-west of Redcar, North Yorl :457024.962 N:525378.42	kshire 8	MS\TP05							
Method (Equipment): Machine Excavated (Komatsu 210)		Ground Level (m): 7.165	Start Date: 17/06/2021	Sheet: 3 of 3							
<image/>	Figure MS\T										



Ē					TR	IAL P	IT R	ECOF	RD		Status:-	FINAL
Project:		Prelir	ninary	Onshor	e Groun	d Investig	gation	for NZT			Exp	loratory Hole No.
Client:		AECOM				Location	: North F	-west of	Redcar, North	Yorkshire		MS\TP06
Method (Equ	uipment): Ma	achine Excavate	d (Kor	matsu 21	10)			Ground Le	evel (m): 7.271	Start Date: 15/06/2021	Sheet:	1 of 3
s	SAMPLES &	TESTS			1	1	1		STRATA			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				Description		
0.20 0.30 0.40 0.50 0.50 0.70 1.20 1.20 1.50	J1 ES2 PID B3 ES4 PID J5 ES6 PID J7 PID	<0.1ppm <0.1ppm <0.1ppm <0.1ppm		6.47		(0.80) (0.80) (0.80) (2.00) (2.00)	MAI and glas bricl inclu betw furn MAI bou sub Cob	DE GRO low bou s. Grave k, concre ude conc ude conc veen c.0 ace/ladle DE GRO lder size angular a bles are	UND (Black or lder content an el is fine to coar ete and clinker. crete and slag. crete and slag. 50-3.00m BGL 50-3.00m BGL 6. Metal boulde UND (Black ve d fragments of and includes cl angular and in	ange grey sand d frequent fragu rse angular to s Cobbles are ar Boulders are ar Slag is vesicula historic stru- rrs are part of hi rry sandy gravel metal. Gravel is inker and slag. Include brick and	y gravel ments of ubround ngular to ngular to r (50-75 cture poi storic str storic str ly cobble s fine to Slag is v yellow r	with high cobble metal, rubber and ed and includes subangular and subangular and %)). tentially ucture. se with occasional coarse angular to resicular (25-50%). efractory brick).
3.10 3.20 3.20 3.20	EW8 ES9 J10 PID	501.0ppm	Ţ	4.47		2.80 MADE GROUND (Brown black silty sand and gravel. Gravel is fi coarse angular to subangular and includes clinker and steel slag Slag is vesicular (50-75%). Terminated at 3.20m BGL - due to underground structure and wat ingress.					el. Gravel is fine to and steel slag. Incture and water	
+		PLAN 5.00 Face A				GROU Satura BGL. E appear	JNDW ted str Betwee rance	ATER ata at 3.0 n 3.00-3 with mod	00m BGL - heav 20m BGL engin erate hydrocarbo	y inflow. Water le eer notes water on odour.	evel on co has brow	ompletion at 3.10m n iridescent
Eac	-	Face C				STAB Pit side	ILITY es and	base un	stable throughou	ut excavation.		
	ADDI	TIONAL INFORI	MATIC	N			RAL					
Sketch I	Diagram:	No S	iketch T	aken								
Photog	graphs:	Yes		See add shee	litional ts.	al						Contractility
All di	mensions in Scale 1:50.	n metres 00		For exp abbrev	lanation iations s	of symbo see Key S	ols and Sheets	b	Checked b	y: Logge M.E	a by: Bell	Contract No. 4339



## ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Regional Office: Nult 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 0191 387 4700 Fax: 0197 387 4700 Tel: 01772 735 300 Fax: 01772 735 999





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Ē					TR	ial P	IT R	ECOR	D		Status:-	FINAL
Project:		Prelim	inary	Onshor	e Groun	d Investiç	gation	for NZT			Exp	loratory Hole No.
Client:		AECOM				Location	: North	-west of I	Redcar, North	orkshire	1	MS\TP06A
Method (Equipn	nent): Mac	chine Excavated	l (Kor	natsu 2´	10)			Ground Le	vel (m): 7.321	Start Date: 18/06/2021	Sheet:	1 of 4
SAN	/IPLES & 1	TESTS			1	I			STRATA			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	I			Description		
				6.62		MADE GROUND (Black brown grey very g cobble content and frequent fragments of r coarse angular to subrounded and includer clinker. Cobbles are angular to subangular slag. Boulders include cemented refractory (50-75%)). at c. 0.70m BGL metal pipe. Surrounded black rock with iridescent sheen. Possible s insulate pipe. <i>Terminated at 0.70m BGL - due to encounte</i>				ravelly s metal. G is brick, i r and inc y brick. S by cobb solidified ering pip	and with high ravel is fine to concrete and lude concrete and Slag is vesicular des of metallic d tar used to e.	
		PLAN				GROL No gro	JNDW undwa	ATER	observed.			
Face D		$\frac{2.80}{\text{Face A}}$ Orientation $\frac{216^{\circ}}{\text{Face C}}$			← 2.20         ← Ecce B ☐	NO     STABILITY       Pit sides and base unstable throughout excavation.						
Sketch Dia	ADDITI gram:	ONAL INFORM	IATIO	N	I GENERAL REMARKS (1) Excavated to locate base of reinforced concrete block - terminated of encountering pipe.					ninated due to		
Photogra	ohs:	Yes		See add shee	additional neets.							
All dime Sc	nsions in i ale 1:50.0	metres 0		For exp abbrev	lanation	of symbo	ols an Sheets	d	Checked by	: Logge M. E	d by: Bell	Contract No. 4339





### ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Regional Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durtham, DH2 2RG Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL







Ē					TR	ial Pi	TR	ECOF	RD		Status:-	FINAL
Project:		Prelir	ninary	Onshore	e Groun	d Investig	ation	for NZT			Exp	loratory Hole No.
Client:		AECOM				Location	: North F	west of	Redcar, North Yor	kshire		MS\TP07
Method (Equipm	ent): Ma	chine Excavate	d (Kor	natsu 21	0)		_	Ground Le	evel (m): 7.349	Start Date: 17/06/2021	Sheet:	1 of 5
SAM	IPLES &	TESTS							STRATA	I		
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			C	escription		
0.20 0.30 0.30 0.50 0.50 0.70 1.00 1.20 1.40 1.50 1.70 2.00 2.00 2.00 2.20 2.40 2.20 2.40 2.50 2.70 3.00 3.20 3.40 3.50 3.70 4.00 4.00	J1 ES2 PID B3 ES4 PID J5 ES6 PID J7 ES8 PID J7 ES8 PID J12 B13 PID J12 B13 PID J14 ES15 PID J16 B17 PID J18 ES19 LB20 PID	<0.1ppm <0.1ppm <0.1ppm 1.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm		6.15		<ul> <li>MADE GROUND (Brown grey clayey sandy gravel with I and low boulder content. Gravel is fine to coarse angula subangular and includes concrete, brick, clinker, slag an Cobbles are angular to subangular and include brick and Boulders are subrounded and include concrete. Slag is (25-50%)).</li> <li>between c.0.00-1.80m BGL occasional pockets of bla ash at northwest corner of pit. between c.0.60-1.20m BGL black grey.</li> <li>(0.80)</li> <li>(0.80)</li> <li>MADE GROUND (Black brown orange very gravelly san cobble content. Gravel is fine to coarse angular to subrounded and include slag and brick. Cobbles are a subrounded and include slag and brick. Slag is vesicular between c.1.20-1.40m BGL many whole yellow refract east corner. Layer of concrete in Face A. at c.1.40m BGL metal sheet (2.10x0.30m).</li> <li>MADE GROUND (Orange grey white slightly sandy grav cobble and low boulder content. Gravel is fine to coarse subangular and include slag. Boulders are subangular and include slag. Cobbles are subangular to and include slag. Boulders are subangular and include slag. Cobbles are subangular to and include slag. Boulders are subangular and include slag. Cobbles are subangular to and include slag. Boulders are subangular and include slag. Cobbles are subangular to and include slag. Boulders are subangular and include slag. Gobbles are subangular to and include slag. Boulders are subangular and include slag. Boulders are subangular and include slag. Boulders are subangular and include slag. Cobbles are subangular to an include slag. Boulders are subangular and include slag. Cobbles are subangular to and include slag. Cobbles are subangular to an include slag. Boulders are subangular and include slag. Boulders are subangular and include slag. Cobbles are subangular to an include slag. Cobbles are subangular and include slag. Cobbles are subangular and include slag. Cobbles are subangular and include slag. Cobbles are subangular and include slag. Cobbles are subangular and include slag. Cobbles are</li></ul>					with high cobble ngular to ag and sandstone. ck and slag. ag is vesicular of black silty sandy oting from Face C. y sand with high subrounded and are angular to sicular (50-75%)). refractory bricks at / gravel with high parse angular to jular to angular ude slag. Slag is is too hard to structure.	
		PLAN				GROU		ATER	u observed			
		4.50 Face A			<b>→</b>   		unuwe		vobscrved.			
Face					3.50	STABI Pit side	LITY es and	base mo	oderately stable thro	ughout excav	ation.	
		Face C										
ADDITIONAL INFORMATION GENERAL						RAL F	REMAR	<s< td=""><td></td><td></td><th></th></s<>				
Sketch Diag	ıram:	Sk	Sketch Taken									
Photographs: Yes See additional sheets.												
All dime Sca	nsions in ale 1:50.0	metres		For expl abbrev	lanation iations s	of symbo ee Key S	ols and heets	t t	Checked by:	Loggeo M. Be	l by: ell	Contract No. 4339



Project:

Client:

Method (Equipment):

ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Regional Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durtham, DH2 2RG Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Status:-**TRIAL PIT RECORD** FINAL Exploratory Hole No. Preliminary Onshore Ground Investigation for NZT Location: North-west of Redcar, North Yorkshire E:457070.874 N:525239.023 Ground Level (m): 7.349 17/06 MS\TP07 AECOM Start Date: 17/06/2021 Sheet: Machine Excavated (Komatsu 210) 2 of 5 Figure MS\TP07.1 MS\TP07 Reinstatement Figure MS\TP07.2 MS\TP07





#### **ALLIED EXPLORATION & GEOTECHNICS LIMITED**

 Head Office:
 Unit 25 Stella Gill Industrial Estate, Petton 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: 0197 2735 300 Fax: 01772 735 999

E G TR	IAL PIT R	ECORD		Status:- FINAL
Project: Preliminary Onshore Ground	d Investigation	for NZT		Exploratory Hole No.
Client: AECOM	Location: North- E	west of Redcar, North Yo :457070.874 N:525239.0	orkshire 23	MS\TP07
Method (Equipment): Machine Excavated (Komatsu 210)		Ground Level (m): 7.349	Start Date: 17/06/2021	Sheet: 3 of 5
	Figure MS\TI MS\TP0			Comment of the
	Figure MS\TI	<image/>	Elementa, A montadores la contractiva en esta montadores la contractiva en	







EE CS					TR	IAL PI	TR	ECOF	RD		Status:-	FINAL
Project:		Prelin	ninary	Onshor	e Groun	d Investig	ation	for NZT			Exp	loratory Hole No.
Client:		AECOM				Location	: North F	-west of	Redcar, North Y	orkshire	1	MS\TP09
Method (Equipm	ent): Mac	chine Excavate	d (Kon	natsu 2′	10)		F	Ground Le	7.430	Start Date: 16/06/2021	Sheet:	1 of 3
SAN	IPLES &	TESTS			1	1			STRATA			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				Description		
0.20 0.30 0.30 0.40 0.50 0.50	J1 ES2 PID B3 ES4 PID	<0.1ppm		6.53		- 	MAI bou inclu Bou vesi	DE GRO Ider con Ides slag Iders are cular (10	UND (Grey very tent. Gravel is fir g. Cobbles are a e subangular to s 00%)).	sandy gravel ne to coarse ar ngular to suba subrounded ar	with high ngular to ngular a nd includ	a cobble and low subangular and and include slag. le slag. Slag is
0.70 1.00 1.00 1.20 1.40 1.50 1.70 2.00 2.00 2.20 2.40 2.50 2.70	J5 ES6 LB7 PID J8 B9 PID J10 ES11 PID J12 B13 PID J14	10.3ppm <0.1ppm 0.9ppm <0.1ppm				(2.80)	MADE GROUND (Dark grey sandy grave) with high cobble conten Gravel is fine to coarse angular to subangular and includes slag a limestone. Cobbles are angular to subangular and include slag an limestone. Slag is vesicular (50-75%)). between c.0.90-1.30m BGL mild sulphurous odour noted.					includes slag and include slag and our noted.
3.00 3.00 3.20 3.40 3.50 3.70	ES15 PID J16 B17 PID J18	0.3ppm <0.1ppm	Ţ	3.73			MADE GROUND (Grey brown slightly clayey very sandy gravel low to medium cobble content. Gravel is fine to coarse angular				sandy gravel with arse angular to	
4.00 4.00 4.20 4.40 4.40 4.50	ES19 LB20 PID J21 B22 PID	0.5ppm <0.1ppm		2.93		4(0.80) - 4.50 	Con	nplete at	4.50m BGL.	g. Slag is vesi	cular (10	
		PLAN				GROL Seepa	INDW ge at 3	ATER 8.68m an	d 3.70m BGL - slo	ow inflow.		
Face D		$4.50$ Face A Orientation $341^{\circ}$			■ 3.00 =	STABI Pit side	LITY es and	base mo	oderately stable th	roughout excav	ration.	
		Face C			_]↓							
	ADDITI	ONAL INFORM	ΜΑΤΙΟ	N		GENE	RAL F	REMAR	<s< td=""><td></td><td></td><td></td></s<>			
Sketch Diag	gram:	No S	ketch T	aken	ken							
Photograp	ohs:	Yes		See add shee	litional ets.							
All dime Sc	nsions in i ale 1:50.0	metres 0		For exp abbrev	lanation iations s	of symbo ee Key S	ols and heets	ł	Checked by:	Logge M. B	d by: ell	Contract No. 4339



### **ALLIED EXPLORATION & GEOTECHNICS LIMITED**

 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 RE	CORD		Status:- FINAL
Project: Preliminary Onshore Gr	round Investigation fo	r NZT		Exploratory Hole No.
Client: AECOM	Location: North-w E:4	est of Redcar, North Y 57016.816 N:525040.	orkshire 622	MS\TP09
Method (Equipment): Machine Excavated (Komatsu 210)	G	round Level (m): 7.430	Start Date: 16/06/2021	Sheet: 2 of 3
			Marcine     Marcine       Marcine     Marcine       Marcine     Marcine       Marcine     Marcine       Marcine     Marcine       Marcine     Marcine       Marcine     Marcine       Marcine     Marcine       Marcine     Marcine       Marcine     Marcine	
	Figure MS\TPO			



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Ğ					TR	IAL P	T RECO	ORD		Status:- FINAL
Project:		Prelim	inary	Onshore	e Groun	d Investig	ation for N	ZT		Exploratory Hole No.
Client:		AECOM				Location	: North-west	of Redcar, North N	orkshire	MS\TP10
Method (Equipm	ent): Mac	chine Excavated	d (Kon	natsu 21	10)		Groun	d Level (m): 8.134	Start Date: 21/06/2021	Sheet: 1 of 3
SAN	IPLES &	TESTS			1	1	I	STRATA		
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Description	
0.20 0.30 0.40 0.50 0.50 0.50	J1 ES2 PID LB3 ES4 LB5 PID	<0.1ppm		7.98			MADE G many roo MADE G low cobbl to coarse brick and at c.0.20r at c.0.40r cobble w MADE G boulder c includes and inclu at c.0.55- at c.0.60r Terminate	ROUND (Grass ov tlets). ROUND (Soft brow e content and occa angular to rounde concrete. Cobbles n BGL clay is of n BGL slightly sa th iridescent sheer ROUND (Purple sa ontent. Gravel is fi coke and slag. Cot coke and slag. Cot de concrete). 0.60m BGL reco n BGL made gro ad at 0.60m BGL - o	er brown slight n slightly sand asional fragmen d and includes are angular ar high plasticity. andy clay of hig n recovered. und and gravel ne to coarse ar obles are angul Boulders are su overed concrete ound (concrete ound concrete	y sandy clayey topsoil with y slightly gravelly clay with nts of plastic. Gravel is fine sandstone, mudstone, nd include brick). In plasticity. Metallic with high cobble and low ngular to subangular and ubangular to subrounded e is reinforced. base). obstruction.
Face D		PLAN 2.30 Face A Orientation 227° Face C			◆ ↓ 4.30	GROL No gro	LITY s and base	R flow observed.	xcavation.	
Sketch Diag	ADDIT	IONAL INFORM	IATIO	aken		GENE	RAL REMA	ARKS		
Photograp All dime	hs:	Yes metres		See add shee	litional ts. lanation	of symbo	ols and	Checked by	: Logge	d by: Contract No.



# Bead Office: Regional Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2R Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 0191 387 4700 Fax: 0191 387 4710 Tel: 01772 735 3909 Fax: 01772 735 999

Status:-TRIAL PIT RECORD FINIΛΙ

			FINAL
Project: Preliminary Onshore Ground Invest	tigation for NZT		Exploratory Hole No.
Client: AECOM	on: North-west of Redcar, North Yor F:457128 459 N:524892 47	kshire 3	MS\TP10
Method (Equipment): Machine Excavated (Komatsu 210)	Ground Level (m): 8.134	Start Date: 21/06/2021	Sheet: 2 of 3
Figur	re MS\TP10.1 MS\TP10		
		4339 0.00 P.0.6 0.00 MS/TPIO	
Figur	re MS\TP10.2 MS\TP10		Not the second se
			Contract No.: 4339



L5					FINAL
Project:	Preliminary Onshore Ground	Investigation	for NZT		Exploratory Hole No.
Client:	rkshire 73	MS\TP10			
Method (Equipment):	Machine Excavated (Komatsu 210)		Ground Level (m): 8.134	Start Date: 21/06/2021	Sheet: 3 of 3
		Figure MS\T	P10.3		

### MS\TP10 Reinstatement







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Project:			Prelimin	ary Ons	hore G	round Inve	estigation fo	or NZT				Exp	loratory Ho	le No.	=
Client:		AECO	MC			Loc	ation: North-w E:4	/est of R 157474.(	ledc 053	ar, North Yo N:525776.3	rkshire 45		LF\BH01		
Method (Equip Sonic/R	<sup>pment):</sup> otary Corin	ig (Boart L	ongyear	LS250/	Comac	chio GEO	205) <b>G</b>	round Lev	el (m) 7.2	: 77	Start Date: 22/06/2021	Sheet:	1 of 3		
SAM	IPLES & T	ESTS			1			S	TRA	ATA				ient/	=
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				Descri	ption			Instrum	רמלי
0.30 0.30-1.20 0.30-1.20 0.30 0.50 0.50 1.00 1.00 1.20-2.70 1.20 1.20 2.00 2.10-2.70 2.50 2.70 2.70 2.70 2.70 2.70 2.70 2.70 2.70 2.50 2.70-4.20 2.70 3.40 3.40 3.40 3.40 3.40 3.40 3.40 3.40 3.55 3.65-4.70 4.00 4.20 5.00 5.70-7.20 5.70-6.45 5.70 6.00 6.00 6.00 1.20 1.50 2.50 2.70 1.20 1.	$\begin{array}{c} \text{ES1}_{(\mathbb{S},1)}\\ \text{SL1}_{(\mathbb{S},3)}\\ \text{B8}_{(\mathbb{S},1)}\\ \text{PID}\\ \text{ES2}_{(\mathbb{S},1)}\\ \text{PID}\\ \text{ES3}_{(\mathbb{S},1)}\\ \text{J7}_{(\mathbb{S},1)}\\ \text{PID}\\ \text{SL2}_{(\mathbb{S},3)}\\ \text{B10}_{(\mathbb{S},2)}\\ \text{S10}_{(\mathbb{S},2)}\\ \text{S11}_{(\mathbb{S},2)}\\ \text{PID}\\ \text{B12}_{(\mathbb{S},2)}\\ \text{J11}_{(\mathbb{S},2)}\\ \text{PID}\\ \text{SL3}_{(\mathbb{S},3)}\\ \text{PID}\\ \text{B16}_{(\mathbb{S},3)}\\ \text{PID}\\ \text{B16}_{(\mathbb{S},3)}\\ \text{PID}\\ \text{SL4}_{(\mathbb{S},3)}\\ \text{S}\\ \text{J17}_{(\mathbb{S},4)}\\ \text{PID}\\ \text{SL4}_{(\mathbb{S},5)}\\ \text{S11}_{(\mathbb{S},4)}\\ \text{PID}\\ \text{SL5}_{(\mathbb{S},5)}\\ \text{B18}_{(\mathbb{S},5)}\\ \text{S19}_{(\mathbb{S},5)}\\ \text{S10}_{(\mathbb{S},5)}\\ \text{S10}_{(\mathbb{S},5)}$	<0.1ppm <0.1ppm 0.1ppm N20 <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm N31 <0.1ppm N31 <0.1ppm	1	6.08 4.58 3.88 3.63		× (1.20) × (1.20) × (1.20) × (1.50) × (1.5	MADE GF Sand is fir subround Cobbles a vesicular MADE GF cobbles. S subangula stained sl- (Engineer at c.1.20n MADE GF gravel. Sa slag. Grav includes c (25-50%)) MADE GF fragments coarse su slag. Slag Dense yel shell. San (Tidal Flat from c.4.7	ROUND are to coa ed and i are angu (100%)) ROUND Sand is f ar to sub ag. Slag r notes s n BGL ROUND sof white bangula is vesic low brow d is coa t Deposi '0m BGL 	(Greanse and the second	ey clayey/sili . Gravel is f des occasic o subangula ey slightly cl. to coarse. G nded and in resicular (10 ated from d edium dense coarse sub coarse sub	y sandy grav ne to coarse nally orange ar include gra ayey/silty sar iravel is fine cludes occas 0%)). iilling operation industry sand angular to au angular to au angular to au angular to su and is coars and include ccasional fra t fragments	rel and c e subang stained ay slag. S ndy grave to coarse sionally o ons). slightly sa ngular ar brounde ig is vesi vith occas s. Grave s grey da agments of bivalve	obbles. ular to slag. slag is el and andy range andy includes d and cular sional el is fine to ark grey of bivalve e shell		
6.45-7.20 6.50 7.00	B21 <sub>(SL5)</sub> J20 <sub>(SL5)</sub>														0 2 0
7.00 7.20-8.70 7.20-7.95 7.20 7.50	B23 <sub>(SL6)</sub> B23 <sub>(SL6)</sub> J24 <sub>(SL6)</sub>	<0.1ppm 3/325mm		0.08		7.20 - - - - - - - - -	Very loose bivalve sh (Tidal Flat	e yellow iell. San t Deposi	brov d is ts).	wn SAND w coarse.	ith occasion	al fragme	ents of		0 2 0 2 0
Borin	g Progress	and Wate	or Obser	vations	ter	L	iner Sample	e Inform	atio	n		Ger	neral		
Date	Depth 0.00	Casing 0.00	(mm) 178	stand		From - To 0.30 - 1.20 1.20 - 2.70 2.70 - 4.20 4.20 - 5.70 5.70 - 7.20 7.20 - 8.70	(mm) 178 178 178 178 178 178 178 178	(%) 100 100 100 100 100 100	<sup>21</sup> γ	Subsampled Yes Yes Yes Yes Yes Yes	(1) Description (2) Inspection (3) Double inst standpipes ins installed to 8.0 (4) UXO carrie (5) Aquiferrie (5) Aquiferrio BGL prior to co	derived fror oit dug prior allation: 2 N talled betwee 0m BGL) an d out as per tection insta mmencing i	n drillers daily re to drilling. o. 50mm diamet en 5.10-8.10m ( d 35.00-38.00m the Client instru led between 16. rotary drilling.	port. er slotte diver BGL. ctions. 75-15.6	d Om
All dim	nensions in Scale 1:50.	metres		For	explana	ation of sy	mbols and ey Sheets		С	hecked by:	Logge R. C	ed by: arke	Contrac 433	ct No. 9	_



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Project:			Prelim	ninary Ons	shore G	round Inve	estigation	for NZT				Exp	loratory Hole No.
Client:		AECO	ОМ			Loc	ation: North- E	west of F	Redca	ar, North Yo N:525776.3	orkshire 45		LF\BH01
Method (Equip Sonic/Ro	ment): otary Corin	ng (Boart L	ongye	ar LS250/	Comac	chio GEO	205)	Ground Lev	rel (m): 7.27	77	Start Date: 22/06/20	21 Sheet:	2 of 3
SAM	PLES & T	ESTS			1			S	TRA	TA			ient/
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				Descri	ption		Instrum Back
7.95-8.70 8.00 8.00	B25 <sub>(SL6)</sub> J26 <sub>(SL6)</sub> PID	<0.1ppm			· · · · ·	 (2.10) 	Very loo bivalve s (Tidal Fl	se yellow shell. San at Deposi	brow d is c its). (	vn SAND w coarse. continued)	ith occasic	onal fragme	nts of   ° 尸。
8.50 8.70-10.20 8.70-9.30 8.70 9.00 9.00 9.50-10.20 9.50	J27(sL6)       SL7(sS)         SL7(sS)       N6         J29(sL7)       S         PID       <0.1ppm											ntly gravelly shell. Sand coarse angu	SAND I is fine to Jar to
10.00 10.00 10.20-11.70 10.20-11.70 10.20 10.50	J32 (sL7) PID SL8 (sS) B33 (sL8) S       <0.1ppm												ly SAND e and bunded
11.00 11.00	J35 <sub>(SL8)</sub> PID	<0.1ppm		of grey fos jular circul	siliferous li ar (approxi	mestone mately							
11.70-13.20 11.70-12.45 11.70 12.00 12.00 12.45-13.20 12.50	PID       <0.1ppm												
13.00 13.00 13.20-14.70 13.20-13.95 13.20 13.50	$\begin{matrix} J40_{(SL9)} \\ PID \\ SL10_{(SS)} \\ B41_{(SL10)} \\ S \\ J42_{(SL10)} \end{matrix}$	<0.1ppm N24			× · · · · · · · · · · · · · · · · · · ·	  (5.90)     							
13.95-14.70 14.00 14.00	B43 <sub>(SL10)</sub> J44 <sub>(SL10)</sub> PID	<0.1ppm			· · · × · · · · · · · · · · · · · · · ·								
14.50 14.70-16.20 14.70-15.45 14.70 15.00 15.00 15.45-16.20 15.50	$\begin{matrix} J45_{(SL10)}\\ SL11_{(SS)}\\ B46_{(SL11)}\\ S\\ J47_{(SL11)}\\ PID\\ B48_{(SL11)}\\ J49_{(SL11)}\\ J49_{(SL11)}\\ \end{matrix}$	N17 <0.1ppm			0 0 0 0 0 0 0 0 0 0 0 0 0 0								
Boring	Progress	and Wate	or Obs	ervations	tor	L	iner Sam	ole Inform	ation	1		Gen	eral
Date 22/06/2021 23/06/2021	Depth 8.70 8.70	Casing 8.70 8.70	Casing (mm 178 178	Dia Wa n) <u>Stan</u> 3 3 6.3	ter ding 30 1 1 1	From - To 8.70 - 10.20 10.20 - 11.70 11.70 - 13.20 13.20 - 14.70 14.70 - 16.20	Internal Dia (mm) 178 178 178 178 178 178	a Recove (%) 100 100 100 100 100	ery	Subsampled Yes Yes Yes Yes Yes	(1) Descripti (2) Inspectic (3) Double in standpipes in installed to 8 (4) UXO car (5) Aquifer p BGL prior to	Rem ion derived from on pit dug prior nstallation: 2 No installed betwee 3.00m BGL) and ried out as per protection instal o commencing r	arKS b drillers daily report. b drilling. b. 50mm diameter slotter n 5.10-8.10m (diver 135.00-38.00m BGL. the Client instructions. led between 16.75-15.60 otary drilling.
All dim	Jimensions in metres     For explanation of symbols and abbreviations see Key Sheets     Checked by: K.W.     L											ged by: Clarke	Contract No. 4339





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Ğ				S	ONIC	SAN	IPLE HO	LE REC	ORD		Status:-	FINAL	
Project:			Prelimina	ary Ons	hore Gr	round In	vestigation fo	or NZT			Exp	loratory Hol	e No.
Client:		AEC	ОМ			L	ocation: North-w E:4	/est of Redo 157474.053	car, North Yo N:525776.3	orkshire 45	-	LF\BH01	
Method (Equip Sonic/R	<sup>pment):</sup> otary Corin	ıg (Boart L	ongyear	LS250/	Comace	chio GE	O 205)	round Level (m 7.2	n): 277	Start Date: 22/06/2021	Sheet:	3 of 3	
SAN	IPLES & T	ESTS						STR	ATA				l ut/
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thicknes	ss)		Descri	ption			Instrume Backfi
16.00 16.00	J50 <sub>(SL11)</sub> PID	<0.1ppm		-8.82 -8.92	<u>×o</u>	16.1 16.2	10 20 (1) CLAY.						
Borin	g Progress	and Wate	er Observ Casing Dia	vations	ter	Free: T	Liner Sample	e Informatio	on Subarra tat		Ger Ren	neral narks	
23/06/2021	Depth 16.20	Casing	(mm) 178	9.4 9.4	40	rom - To	(mm)	(%)	Subsampled	(1) Description d (2) Inspection pit (3) Double install standpipes instal installed to 8.00n (4) UXO carried (5) Aquifer protect BGL prior to corr	erived froi dug prior lation: 2 N lled betwe n BGL) an out as per ction insta imencing	n drillers daily rep to drilling. o. 50mm diamete en 5.10-8.10m (di d 35.00-38.00m E the Client instruc lled between 16.7 rotary drilling.	port. er slotted iver BGL. tions. '5-15.60m
All dim	nensions in	metres		For	explana	ation of s	symbols and		Checked by:	Logged R. Cla	l by: rke	Contract	t No.



# ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 0191 387 4700 Fax: 0197 387 4710 Tel: 01772 735 390 Fax: 01772 735 999

G							DRIL	LHOLE	RECORD			Status:- FINAL	
Project:				P	relimina	ary Onsho	ore Ground	Investigatior	n for NZT			Exploratory Ho	le No.
Client:				AECO	M			Location: North	n-west of Redcar,	, North Yor	kshire	LF\BH01	
Method ( Soni	Equipme c/Rota	nt): ry Cor	ing (E		ngyear l	LS250/Cc	omacchio G	EO 205)	Ground Level (m): 7.277	, ,	Start Date:         Sheet:           22/06/2021         1 of 18		
RUN	DETA	\ILS		T					STRATA		1		
Depth	TCR	ture lex	tter	Reduced	Logond	Depth			Des	cription			trume 3ackfill
(Core Ø)	RQD	Frac	Ň	Level	Legend	(Thickness)		Discontinuity	Detail		Mai	n	
16.75 (uuu	68	SOIL	-	-9.47		(0.55) 	16.75-28.65m 16.75m J51 16.75m B52	soil.	in a ming.	Soft to t brown s CLAY. is fine t subang mudsto	firm thinly lan sandy slightly Sand is fine t o medium an ular and inclu ne limestone	ninated dark gravelly silty o coarse. Gravel gular to udes sandstone, a and coal	
102 (102 (102 (102 (102 (102 (102 (102 (	93					(2.35)	17.50m J53 17.50m U54	L		(Tidal F 17.60m high pla	lat/Glacial Do	trength. Clay is of	
19.10 (mm201)	100			-11.82		- - - - - - - - - - - - - - - - - - -	19.20m J55 19.20m B56 20.00m J57 20.00m J57	;		Stiff dar slightly coarse, angular sandsto limesto (Glacial	rk red brown gravelly CLA Gravel is fini- to subangula one, mudston ne. I Till).	slightly sandy Y. Sand is fine to e to medium ar and includes e, coal and	

Drilling	g Progress and	Water Observ	ations	Stand	ard Pene	tration Test		Flush		General	
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	narks
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	<ol> <li>Description derived fi</li> <li>Inspection pit dug pri</li> <li>Double installation: 2</li> <li>slotted standpipes install</li> <li>(diver installed to 8.00m BGL.</li> <li>UXO carried out as p</li> <li>Aquifer protection ins</li> <li>16.75-15.60m BGL prior drilling.</li> </ol>	rom drillers daily report. or to drilling. No. 50mm diameter ed between 5.10-8.10m BGL) and 35.00-38.00m er the Client instructions. talled between to commencing rotary
All dimensions in metres Scale 1:25.00			For e abbr	xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Chec <i>K</i>	ked by: W.	Logged by: R. Clarke	Contract No. <b>4339</b>	



Drilling	g Progress and	Water Observ	/ations	Standa	ard Pene	tration Test	est Flush			General	
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
				22.10	S	N21	20.60 - 22.10 22.10 - 23.60 23.60 - 25.10	Water Water Water	100 100 100	<ol> <li>Description derived f</li> <li>Inspection pit dug pri</li> <li>Double installation: 2</li> <li>slotted standpipes instal</li> <li>(diver installed to 8.00m BGL.</li> <li>UXO carried out as p</li> <li>Aquifer protection ins</li> <li>16.75-15.60m BGL prior</li> <li>drilling.</li> </ol>	rom drillers daily report. or to drilling. No. 50mm diameter led between 5.10-8.10m BGL) and 35.00-38.00m er the Client instructions. stalled between to commencing rotary
All dimensions in metres Scale 1:25.00			For e abbr	xplana eviatio	tion of syr ns see Ke	mbols and ay Sheets	Chec	ked by: <i>W.</i>	Logged by: R. Clarke	Contract No. 4339	



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Project:     Preliminary Onshore Ground Investigation for NZT       Exploratory       Client:     Location: North-west of Redcar, North Yorkshire E-457474.053 N:252776.345       Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)     Grout Longyear LS250/Comacchio GEO 205)       TRUN DETAILS       Depth (Core 6)     TCR (ROD)     Reduced Level     Depth (Thickness)     StrRATA       Depth (Core 6)     TCR (ROD)     Reduced Level     Depth (Thickness)     Beet: Depth (Thickness)     Stiff thinly laminated dark brown sandy slightly gravely slity CLAY. Sand is fine to coarse, Gravel is fine to medium angular to subangular ar includes siltstone, mudstone, coal al limestone. (Glacial Deposits).       25.10       93       Stiff dark red brown slightly sandy slightly gravely CLAY. Sand is fine to coarse, Gravel is fine to medium angular to subangular to subangular to subangular to subangular to subangular to subangular to subangular to subangular to subangular to subangular and includes coal, limestone, mudstone and sandstone (Glacial Til).	Hole No. 01 8 
Client:     AECOM     Location: North-west of Redcar, North Yorkshire E-457474.053 N:525770.345     LFBH       Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205)     Ground Level (m): 7.277     Start Date: 22.00/2021     Sheet: 3 of 1       RUN DETALS (Core 0)     8 (Core 0)	01 8 Instrument/
Method (Equipment):       Start Date:       Start	Instrument/ Backfill
STRATA         Deptin (Core 0)       CR       Description         Description         (Core 0)	Instrument/ Backfill
Depth (SCR)       TOR (SCR)       By by by by by by by by by by by by by by	Backfi
Item of the constraint of the c	
93     93     93     25.10     24.30m J69       93     93     93     25.10 B72       25.10 B72       25.10 B72       25.10 B72       25.10 B72       25.00 J71       25.00 J71       25.00 J73       26.00m J73       26.00m J73       26.00m J73       26.00m J73       26.00m J73       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).	d d
70       70       26.60m B76       26.60m high strength. Clay is of intermediate plasticity.         10       100       100       100       28.10m E79       28.10m E79	

Drilling	g Progress and	Water Observ	vations	Standa	ard Pene	tration Test		Flush		General		
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	narks	
24/06/2021 25/06/2021	25.10 25.10	25.10 25.10	0.00 3.11	25.10 28.10	S C	N11 50/41mm	25.10 - 26.60 26.60 - 28.10 28.10 - 29.60	Water Water Water	100 100 100	<ol> <li>(1) Description derived from drillers daily repo (2) Inspection pit dug prior to drilling.</li> <li>(3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 5.10-8.10 (diver installed to 8.00m BGL) and 35.00-38.0 BGL.</li> <li>(4) UXO carried out as per the Client instruction (5) Aquifer protection installed between 16.75-15.60m BGL prior to commencing rotar drilling.</li> </ol>		
All dimensions in metres Scale 1:25.00			For explanation of syn abbreviations see Ke			nbols and y Sheets	Chec K	ked by: W.	Logged by: R. Clarke	Contract No. <b>4339</b>		



(102mm		(3.65)		
31.10	100 (87) 56			
(102mm)				

Drilling	g Progress and	Water Observ	vations	Standard Penetration Test					Flush		General	
Date	Depth	Casing	Wate Standi	er ing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
								29.60 - 31.10 31.10 - 32.60	Water Water	100 100	<ol> <li>Description derived f</li> <li>Inspection pit dug pri</li> <li>Double installation: 2</li> <li>slotted standpipes instal (diver installed to 8.00m BGL.</li> <li>UXO carried out as p</li> <li>Aquifer protection ins 16.75-15.60m BGL prior drilling.</li> </ol>	rom drillers daily report. or to drilling. No. 50mm diameter led between 5.10-8.10m BGL) and 35.00-38.00m wer the Client instructions. stalled between to commencing rotary
All dimensions in metres Scale 1:25.00					For ex abbre	kplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Ch	ecked by: <i>K.W.</i>	Logged by: R. Clarke	Contract No. 4339



Drilling	g Progress and	l Water Obser	vations	Stand	ard Pene	tration Test		Flush		General	
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	narks
25/06/2021 30/06/2021	32.60 32.60	32.60 32.60	0.00				32.60 - 32.80 32.80 - 33.80 33.80 - 35.30 35.30 - 36.80	Water Water Water Water	100 100 100 100	<ol> <li>Description derived f</li> <li>Inspection pit dug pri</li> <li>Double installation: 2</li> <li>slotted standpipes instal</li> <li>(diver installed to 8.00m BGL.</li> <li>UXO carried out as p</li> <li>Aquifer protection ins</li> <li>75-15.60m BGL prior</li> <li>drilling.</li> </ol>	rom drillers daily report. or to drilling. No. 50mm diameter led between 5.10-8.10m BGL) and 35.00-38.00m er the Client instructions. talled between to commencing rotary
All dimensions in metres Scale 1:25.00				For e abbr	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec /	ked by: . <i>W.</i>	Logged by: R. Clarke	Contract No. <b>4339</b>

						DRIL	LHOLE	RECORD			Status:- FINAL	_	
Project:			F	Prelimina	ary Onsho	ore Ground	Investigatio	n for NZT			Exploratory H	ole No.	
Client:			AECO	M			Location: Nort	h-west of Redca	ar, North Y	orkshire	LF\BH0	1	
Method (Equip Sonic/Ro	nent): tary Co	ring (E	Boart Lo	ongyear	LS250/C	omacchio G	EO 205)	Ground Level (m) 7.2	77	Start Date: 22/06/2021	Sheet: 6 of 18		
RUN DE	AILS							STRATA			_	_ if/	
Depth TCR & (SCR	cture dex	ater	Reduced	Legend	Depth			De	scription			strume Backfil	
(Core Ø) RQE	Lac Lac	Š	Level	Legena	(Thickness)		Discontinuity	Detail		Main			
36.80 93 (68) 51 (muz01) 38.30 (muz01) 63	NR 12					36.80-36.87m degrees) close open and tight	no recovery. subhorizonta ely spaced plana infilled (clay) di	l to subvertical (5-85 r to undulating smool scontinuities.	MUD (Red (cont	Weak thinly laminated grey brown MUDSTONE partially weathered. (Redcar Mudstone Formation). (continued)			
					-				Com	olete at 38.00n	1 BGL.		

Drilling Progress and Water Observations					Standa	ard Pene	tration Test	Flush			General	
Date	Depth	Casing	Water Standin	er ng	Depth	Туре	Result	From - To	Туре	Returns (%)	Remarks	
30/06/2021 01/07/2021 01/07/2021	36.80 36.80 38.60	36.80 36.80 38.60	0.00 0.00 0.00	)				36.50 - 38.30 38.30 - 38.60	Water Water	100 100	<ol> <li>Description derived from drillers daily report.</li> <li>Inspection pit dug prior to drilling.</li> <li>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.</li> <li>Occarried out as per the Client instructions.</li> <li>Aquifer protection installed between 16.75-15.60m BGL prior to commencing rotary drilling.</li> </ol>	
All dimensions in metres Scale 1:25.00					For explanation of symbols and abbreviations see Key Sheets				Ch	ecked by: <i>K.W.</i>	Logged by: R. Clarke	Contract No. 4339




























E C				S	ONIC	SAMI	PLE HO	OLE REC	ORD		Status:-	FINAL
Project:		F	Prelimir	ary Ons	hore Gr	ound Inve	estigation	for NZT			Exp	loratory Hole No.
Client:		AECC	M			Loca	ation: North- F	west of Red	car, North Yo	rkshire		LF\BH02
Method (Equi Sonic/R	pment): otary Corin	g (Boart Lo	ongyea	LS250/	Comaco	hio GEO	205)	Ground Level (m 6.3	11:02000000 1): 326	Start Date: 22/06/2021	Sheet:	1 of 3
SAN	IPLES & T	ESTS						STR	ATA		I	ent/ ill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Descri	ption		Instrum Backf
						(0.40)	(1) MAD	E GROUND	(Soil, slag fil	).		
0.30 0.30 0.40-0.85 0.42-1.20 0.50	ES1 PID B5 <sub>(SL1)</sub> SL1 <sub>(SS)</sub> ES2 <sub>(SL1)</sub>	<0.1ppm		5.93		0.40 (0.45) - 0.85	MADE G cobble c subangu Cobbles	ROUND (Gr ontent. Sand lar to subrou are subangu	ey black slig l is fine to co inded grey sl ilar and inclu	ntly sandy grav arse. Gravel is ag and dark g de grey slag. S	vel with fine to rey clin Slag is	high coarse ker. vesicular
0.50 0.50 1.00	PID ES3(SL1)	<0.1ppm		5.13		1.20	(50-75% (Driller n	)). otes boulder	s).	0, 0	0	
1.00 1.00 1.20-2.70 1.20-1.95 1.20 1.50 1.50	JG <sub>(SL1)</sub> <0.1ppm											and. Sand 100%)). nedium).
2.00	70 B9 <sub>(SL2)</sub> J10 <sub>(SL2)</sub> PID <0.1ppm 3.63 2.70											
2.50 2.70-4.20 2.70-4.20 2.70 3.00 3.00 3.50	PID J11 <sub>(s12)</sub> SL3 <sub>(SS)</sub> B12 <sub>(s13)</sub> <0.1ppm S       3.63       2.70         MADE GROUND (Grey dark grey sandy gravel with hig content. Sand is fine to coarse. Gravel is fine to coarse to rounded and includes grey dark grey slag. Cobbles dark grey subrounded to rounded and includes slag. S vesicular (100%)).         PID J13 <sub>(s13)</sub> PID PID       <0.1ppm											h cobble angular are grey ag is
4.00	PID	<0.1ppm		0.42			sulphide	odour noted	l.			
4.20-5.70 4.20-4.95 4.20 4.50 4.50	$\begin{array}{c} SL4_{(SS)}\\B14_{(SL4)}\\S\\J15_{(SL4)}\\PID \end{array}$	N18		2.13	×××××××	4.20 - - - - -	Medium fragment (Tidal Fla	dense to der ts of shell (bi at Deposits).	nse yellow br valve). Sand	own SAND wi is fine to coar	th occa se.	sional
4.95-5.70 5.00 5.50	B17 <sub>(SL4)</sub> J16 <sub>(SL4)</sub> J18 <sub>(SL4)</sub>	<0.1mm										
5.30 5.70-7.20 5.70 6.20	J19 <sub>(SL5)</sub>	N48				- - - - -						
6.20-7.20 6.50	PID	<0.1ppm				(4.50) - - - -						
7.00 7.20-8.70 7.20-7.95 7.20 7.50 7.50	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$											
Borin	g Progress	and Water		vations		L	iner Samp	e Informatio	on		Ger	leral
Date 22/06/2021 22/06/2021 23/06/2021	Depth 0.00 4.20 4.20	Casing 0.00 4.20 4.20	Casing D (mm) 178 178 178	a Wa Stand Dr Dr	ter ding y y	From - To 0.42 - 1.20 1.20 - 2.70 2.70 - 4.20 4.20 - 5.70 5.70 - 7.20 7.20 - 8.70	min-ro         (mm)         (%)         Subsampled         Fremente           2 - 1.20         178         100         Yes         (1) Description derived from drillers daily report.           0 - 2.70         178         100         Yes         (2) Inspection pit dug prior to drilling.           0 - 4.20         178         53         Yes         (3) 4 No. vibrating piezometers installed at 6.50m,           0 - 5.70         178         100         Yes         (4) UXO carried out as per the Client instructions.           0 - 7.20         178         100         Yes         (5) Aquifer protection installed between 16.85-14.50           0 - 8.70         178         100         Yes         BGL prior to commencing rotary drilling.					arks n drillers daily report. to drilling. ters installed at 6.50m, m BGL. the Client instructions. led between 16.85-14.50m otary drilling.
All din	nensions in Scale 1:50.	metres 00		For	explana	tion of sy ns see Ke	mbols and ey Sheets		Checked by:	Logged M.B/R	by: C	Contract No. 4339





E C				S	ONIC	SAM	PLE HO		CORD		Status:-	FINAL	
Project:			Prelimir	nary Ons	hore G	ound Inve	estigation	for NZT			Exp	loratory Hole No.	
Client:		AEC	ОМ			Loc	ation: North-	west of Red	car, North Yo	rkshire		LF\BH02	
Method (Equip Sonic/Ro	ment): otary Corir	ng (Boart L	ongyea	r LS250/	Comac	chio GEO	205)	Ground Level (r 6.	n): 326	Start Date: 22/06/2021	Sheet:	2 of 3	
SAM	PLES & T	ESTS						STR	ATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Descri	ption		Instrume Backfi	
7.95-8.70 8.00 8.50 8.70-10.20 8.70-8.90 8.70 8.70	B24 <sub>(SL6)</sub> J25 <sub>(SL6)</sub> J26 <sub>(SL6)</sub> SL7 <sub>(SS)</sub> ES27 <sub>(SL7)</sub> S	N13		-2.37	· · · · · · · · · · · · · · · · · · ·		Medium fragmen (Tidal Fla Medium SAND w Sand is t	dense to de ts of shell (b at Deposits) dense yellov ith frequent fine to coars	nse yellow br ivalve). Sand . <i>(continued)</i> w brown occa fragments of e and include	own SAND wir is fine to coar sionally multic shell (includin s shell. Grave	th occa rse. colored g bivalv l is fine	gravelly re shell). to coarse	
8.70 9.00 9.00-9.45 9.45-10.20 9.50	PID J28(SL7) B29(SL7) B31(SL7) J30(SL7) J32(SL7)	<0.1ppm		-3.87		:-  .[(1.50)         	angular to rounded and includes mudstone and sandstone). (Tidal Flat Deposits). (Tidal Flat Deposits). Medium dense yellow brown slightly gravelly SAND with rare						
10.00 10.20-11.70 10.20-10.95 10.20 10.50 10.95-11.70	PID SL8 <sub>(SS)</sub> B33 <sub>(SL8)</sub> S J34 <sub>(SL8)</sub> B35 <sub>(SL8)</sub>	<0.1ppm N14	tly gravelly SA coarse. Grave es mudstone a	ND wit el is fine and sar	h rare e to coarse ndstone.								
11.00 11.00 11.50 11.70-13.20 11.70-12.45 11.70 12.00	J36 <sub>(SL8)</sub> PID J37 <sub>(SL8)</sub> SL9 <sub>(SS)</sub> B38 <sub>(SL9)</sub> S J39 <sub>(SL9)</sub>	<0.1ppm N23			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	between	c.11.40-11.	/ellow dark bro	own			
12.00 12.45-13.20 12.50 13.00	PID B40 <sub>(SL9)</sub> J41 <sub>(SL9)</sub> J42 <sub>(SL9)</sub>	<0.1ppm				 (4.50)    	at c.12.4	5m slight	ly silty sand.				
13.00 13.20-14.70 13.20-13.95 13.20 13.50 13.95-14.70	B43 <sub>(SL10)</sub> SL10 <sub>(SS)</sub> B43 <sub>(SL10)</sub> B45 <sub>(SL10)</sub>	N15			· · · · · · · · · · · · · · · · · · ·	· · · ·							
14.00 14.50 14.70-16.20 14.70-15.00 14.70-15.45 14.70 14.70 15.00 15.45 15.45-16.20	J46 <sup>(SL10)</sup> J47 <sup>(SL10)</sup> SL11 <sup>(SS)</sup> ES48 <sup>(S11)</sup> J48A <sup>(SL11</sup> S PID PID J50 <sup>(SL11)</sup> B51 <sup>(S11)</sup>	) N5 <0.1ppm <0.1ppm		-8.37			Very sof (bivalves (Tidal Fl	t dark brown s). at Deposits)	i silty CLAY w	ith occasional	shell fr	agments	
Boring	Depth	s and Wate	er Obsei Casing D	vations	ter	From - To	iner Samp Internal Dia	Recovery	on Subsampled		Gen Rem	eral arks	
23/06/2021 24/06/2021	10.20 10.20	10.20 10.20	(mm) 178 178	3.0 3.0	ding 00 1 00 1 1 1 1	8.70 - 10.20 0.20 - 11.70 1.70 - 13.20 3.20 - 14.70 4.70 - 16.20	10.20         178         100         Yes         (1) Description derived from drillers daily report.           - 11.20         178         100         Yes         (2) Inspection pit dug prior to drilling.           0- 13.20         178         100         Yes         (3) 4 No. vibrating plezometers installed at 6.50m,           0- 13.20         178         100         Yes         (3) 4 No. vibrating plezometers installed at 6.50m,           0- 14.70         178         100         Yes         (4) UXO carried out as per the Client instructions.           0- 16.20         178         100         No         BGL prior to commencing rotary drilling.						
All dim	ensions ir cale 1:50.	n metres 00		For abb	explana	ation of sy ons see Ke	mbols and ay Sheets	1	Checked by:	Logged M.B/R	by: .C	Contract No. 4339	



Ē				S	ONIC	SAMI	PLE H	OLE R	EC	ORD		Status:-	FINAL	
Project:		F	Prelimina	ary Ons	hore Gr	ound Inve	estigation	for NZT				Exp	loratory Ho	le No.
Client:		AECO	М			Loc	ation: North	west of F	Redca	ar, North Yo	rkshire	_	LF\BH02	
Method (Equip Sonic/R	oment): otary Corir	ng (Boart Lo	ngyear	LS250/	Comaco	hio GEO	205)	Ground Lev	olor rel (m): 6.32	<u>1.525655.56</u> 26	Start Date: 22/06/2021	Sheet:	3 of 3	
SAN	IPLES & T	ESTS						S	TRA	TA				lt.
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				Descri	otion			Instrume Backfill
16.00 16.00 16.20-16.65	J52 <sub>(8L11)</sub> PID UT1	<0.1ppm		-10.33			Very sof (bivalve: (Tidal FI at c. 16.0 <i>Boring c</i>	t dark bro s). at Depos <u>00m BGL</u> <i>omplete a</i>	own s its). (i <u>so</u> <i>at</i> 16.0	ilty CLAY w continued) ft. 65m BGL - d	ith occasiona	I shell fr	agments illing.	
Borin		and Water		ations		-	iner Sam							
Date	Depth	Casing	Casing Dia (mm)	a Wa Stan	ter	From - To	Internal Dia (mm)	a Recover (%)	ery	Subsampled		Ger Rem	ieral iarks	
24/06/2021	16.65	16.20	178	5.0	naing       (mm)       (%)       (%)         5.00       16.20 - 16.65       116       78       No         (1) Description derived from drillers daily reg       (2) Inspection pit dug prior to drilling.         (3) 4 No. vibrating piezometers installed at 6         17.00m, 23.00m and 32.50m BGL.         (4) UXO carried out as per the Client instruc         (5) Aquifer protection installed between 16.8         BGL prior to commencing rotary drilling.							port. 6.50m, ctions. 85-14.50m		
All dim	ensions in Scale 1:50.	n metres 00		For abb	explana previatio	tion of sy ns see Ke	mbols and ey Sheets		Ch	necked by:	Loggeo M.B/F	d by: R.C	Contrac 433	t No. 9



45													
Project:				F	Prelimina	ry Onsho	re Ground	Investigation	for NZT			Exploratory He	ole No.
Client:				AECO	M			Location: North	-west of Redo E:457520.508	car, North Yor N:525835.38	kshire 2	LF\BH0	2
Method Son	(Equipme ic/Rota	ent): iry Cor	ing (E	Boart Lo	ongyear l	_S250/Co	omacchio G	EO 205)	Ground Level (m 6.3	n): 326	Start Date: 22/06/2021	Sheet: 1 of 18	
RUN	I DETA	ALS			i				STRATA		•		ent/
Depth &	TCR (SCR)	icture idex	/ater	Reduced	Legend	Depth			D	Description			Backf
(Core Ø)	RQD	E E	3	10.22	× ×	(1110KHESS)	16.65.07.40	Discontinuity	Detail		Mai		-
17.40	95	SOIL		-10.33		- 10.65 - - - - - - - - - - - - - -	17.40m U5	3		Firm this slightly to coars	nly laminated saments (biva lat Deposits) nly laminated sandy silty C Se. lat Deposits)	i siity CLAY with alves). I dark brown LAY. Sand is fine	
(Emergence) 18.40	93					- - - - - -	17.80m B5: 17.90m J54 18.40m ES	5 4 56	clay is of i y.	intermediate			
(IIII) 19.90	93			-12.37		- - - - - - - - - - - - - - - - - - -	19.40m J56 19.40m J56 19.40m B60	9 0		Stiff rec gravelly Gravel subang mudsto (Glacial	I brown slight CLAY. Sanc is fine to meo ular and inclu ne, sandston Till).	ly sandy slightly I is fine to coarse. lium angular to udes coal, e and limestone.	

Drilling	g Progress and	d Water Obser	vations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	narks
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 f (2) Inspection pit dug pri (3) 4 No. vibrating piezo 17.00m, 23.00m and 32 (4) UXO carried out as p (5) Aquifer protection ins 18.85-14.50m BGL prior drilling.	rom drillers daily report. or to drilling. meters installed at 6.50m, .50m BGL. er the Client instructions. talled between to commencing rotary
All dir	All dimensions in metres Scale 1:25.00					tion of syr ns see Ke	nbols and y Sheets	Chec K	ked by: . <i>W.</i>	Logged by: M.B/R.C	Contract No. <b>4339</b>



Drilling	g Progress and	Water Observ	vations	Standa	ard Pene	tration Test		Flush		Ge	neral	
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	narks	
02/07/2021 05/07/2021	24.40 24.40	24.40 24.40	0.00 3.14	22.90	S	N15	21.40 - 22.90 22.90 - 24.40 24.40 - 25.90	Water Water Water	100 100 100	<ol> <li>Description derived from drillers daily repor (2) Inspection pit dug prior to drilling.</li> <li>4 No. vibrating piezometers installed at 6.5 17.00m, 23.00m and 32.50m BGL.</li> <li>UXO carried out as per the Client instructio (5) Aquifer protection installed between 16.85-14.50m BGL prior to commencing rotary drilling.</li> </ol>		
All dir	All dimensions in metres Scale 1:25.00					tion of syr ns see Ke	nbols and y Sheets	Chec <i>K</i>	ked by:	Logged by: M.B/R.C	Contract No. <b>4339</b>	



## ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 0191 387 4700 Fax: 0197 387 4710 Tel: 01772 735 390 Fax: 01772 735 999

Status:-

Ğ							DRILLHOLE	RECORD		Status:- FINAL	
Project:				P	Prelimina	ry Onsho	ore Ground Investigation	n for NZT		Exploratory Ho	le No.
Client:				AECO	М		Location: Nort	h-west of Redcar, I E:457520.508 N:5	North Yorkshire 25835.382	LF\BH02	2
Method (I Soni	Equipme c/Rota	nt): ry Cor	ing (E	Boart Lo	ngyear l	_S250/Co	omacchio GEO 205)	Ground Level (m): 6.326	Start Date: 22/06/2021	Sheet: 3 of 18	
RUN	DETA	ILS	-		1	I	1	STRATA			ent/ fill
Depth	TCR (SCR)	acture ndex	Vater	Reduced Level	Legend	Depth (Thickness)		Descr	iption		Back
(Core Ø) (шш201)	RQD	<u>п</u>	5	-18.67		- 25.00	Discontinuity 24.90m ES71 24.90m ES(M)72 25.00m B70 25.10m J69	Detail	M Stiff thinly laminate slightly sandy silty dustings on the lan to medium. (Glacial Deposits). 25.10m clay is o	ain d dark brown CLAY with silt ninae. Sand is fine f high plasticity.	
25.90 (www.com/	100			-19.57			26.00m J73 26.00m B74 26.50m U75 27.00m J76 27.00m J76		Stiff red brown slig gravelly CLAY. Sar Gravel is fine to co subangular and ino mudstone, sandsto (Glacial Till). 26.50m very hig of low plasticity.	htly sandy slightly nd is fine to coarse. arse angular to cludes coal, ne and limestone. h strength. Clay is	
27.40	83 (40) 19	NR 6		-21.07		- 27.40 (0.34) - 27.74	27.40-27.74m no recovery. 27.74-28.70m subhorizontal	(5-25 degrees) closely	(1) MUDSTONE. (Redcar Mudstone Weak, in places ve	Formation).	
(102mm)							infilled (clay) discontinuities. 27.90m ES79	aung open and light	laminated blue gre partially weathered fossilised remains (Redcar Mudstone	y MUDSTONE with occasional (2-40mm in size). Formation).	

Drilling	g Progress and	Water Observ	ations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
							25.90 - 27.40 27.40 - 28.80	Water Water	100 100	<ol> <li>Description derived fi</li> <li>Inspection pit dug pri</li> <li>A lo. vibrating piezoo</li> <li>T.00m, 23.00m and 32</li> <li>UXO carried out as p</li> <li>Aquifer protection ins</li> <li>18.85-14.50m BGL prior</li> <li>drilling.</li> </ol>	rom drillers daily report. or to drilling. meters installed at 6.50m, 50m BGL. er the Client instructions. talled between to commencing rotary
All dir		For e abbr	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec <i>K</i> ,	ked by: W.	Logged by: M.B/R.C	Contract No. <b>4339</b>		



Drilling	g Progress and	Water Observ	vations		Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Wate Standi	er ing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
								28.80 - 30.30 30.30 - 31.80 31.80 - 33.20	Water Water Water	100 100 100	<ol> <li>Description derived f</li> <li>Inspection pit dug pri</li> <li>A INo. vibrating piezo</li> <li>T.00m, 23.00m and 32</li> <li>UXO carried out as p</li> <li>Aquifer protection ins</li> <li>16.85-14.50m BGL prior</li> <li>drilling.</li> </ol>	rom drillers daily report. or to drilling. meters installed at 6.50m, .50m BGL. er the Client instructions. stalled between to commencing rotary
All dimensions in metres Scale 1:25.00					For ex	kplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec K	ked by:	Logged by: M.B/R.C	Contract No. <b>4339</b>



Drilling	g Progress and	d Water Obser	vations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	narks
05/07/2021 06/07/2021	33.20 33.20	33.20 33.20	0.00 4.17				33.20 - 33.90 33.90 - 34.30 34.30 - 34.70 34.70 - 35.50 35.50 - 36.15 36.15 - 37.00	Water Water Water Water Water Water	100 100 100 100 100 100	(1) Description derived fi (2) Inspection pit dug pri (3) 4 No. vibrating piezo 17.00m, 23.00m and 32 (4) UXO carried out as p (5) Aquifer protection ins 16.85-14.50m BGL prior drilling.	rom drillers daily report. or to drilling. meters installed at 6.50m, 50m BGL. er the Client instructions. talled between to commencing rotary
All dir	All dimensions in metres Scale 1:25.00					tion of syr ns see Ke	nbols and y Sheets	Chec /t	ked by:	Logged by: M.B/R.C	Contract No. 4339

100 (100) 40

02mm)

							DRIL	LHOLE	RECORD			Status:- FINAL	
Project:				P	relimina	ry Onsho	ore Ground	Investigation	n for NZT			Exploratory Hol	e No.
Client:				AECO	М			Location: Nort	n-west of Redca E:457520.508 N	ar, North Yo 1:525835.3	orkshire 82	LF\BH02	
Method ( Son	Equipme ic/Rota	ent): iry Cor	ing (E	Boart Lo	ngyear l	_S250/Co	omacchio (	GEO 205)	Ground Level (m): 6.32	26	Start Date: 22/06/2021	Sheet: 6 of 18	
RUN	I DETA	AILS							STRATA				it/
Depth	TCR (SCR)	acture ndex	Vater	Reduced Level	Legend	Depth (Thickness)			De	scription			Backfill
(Core Ø)	RQD	£=	>			(		Discontinuity	Detail	10/1-1-	Ma	in 	=
37.00 (IIII	100 (100) 16									Weak, lamina partial fossilis (Redc: <i>(contin</i>	in places ver ited blue grey ly weathered v sed remains (2 ar Mudstone f bued)	y weak, thinly MUDSTONE with occasional 2-40mm in size). Formation).	
(10)				-31.37		- - - 37.70							

Drilling	g Progress and	I Water Observ	vations	St	anda	ard Penel	tration Test		Flush		Ge	neral		
Date	Depth	Casing	Water Standin	r ng De	pth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks		
06/07/2021	37.70	37.70	0.00					37.00 - 37.70	Water	100	(1) Description derived from drillers daily repoil     (2) Inspection pit dug prior to drilling.     (3) 4 No. vibrating piezometers installed at 6.5     17.00m, 23.00m and 32.50m BGL.     (4) UXO carried out as per the Client instructic     (5) Aquifer protection installed between     16.85-14.50m BGL prior to commencing rotar     drilling.     Logged by: Contract No			
All dir	All dimensions in metres Scale 1:25.00					kplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Cł	ecked by: <i>K,W,</i>	Logged by: M.B/R.C	Contract No. 4339		















## **ALLIED EXPLORATION & GEOTECHNICS LIMITED**

 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 SBL
 Tel: 0197 2735 300 Fax: 01772 735 399





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G				S	ONIC	SAM	PLE HO	OLE RE	CORD		Status:-	FINAL
Project:			Prelimin	ary Ons	hore G	round Inve	estigation	for NZT			Ехр	loratory Hole No.
Client:		AECO	DM			Loc	ation: North-	west of Rec	dcar, North Yo	orkshire	-	MS\BH02
Method (Equi Sonic/Ope	oment): nhole/Cori	ng (Boart L	ongyea	r LS250	/Boart L	_ongyear	DB520)	457252.25 Ground Level ( 4	<u>9 N.525085.1</u> m): 818	Start Date: 25/06/2021	Sheet:	1 of 2
SAM	IPLES & T	ESTS						STI	RATA		1	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Descri	ption		Instrume Backfi
0.05-1.20 0.05-0.90 0.30 0.30 0.50 0.50 0.50 0.90-1.20 1.00 1.20-1.00 1.20-1.60 1.20-1.60 1.20 1.20-1.60 1.20 2.00 2.00 2.00 2.00 2.00 2.55 2.50 2.70-3.40 2.70-3.40 2.70-3.40 2.70-3.40 3.00 3.00 3.00 3.40-4.20 3.00 3.00 3.40 4.20 4.00 4.20 4.00 4.20 5.50 5.50 5.70-7.20 5.70 6.00 6.35-6.75 6.50 7.20-7.95 7.20 7.50 2.50 2.25 7.50 2.50 2.70-3.40 2.70-3.40 3.00	$\left \begin{array}{c} SL1_{(SS)}\\ B5_{(SL1)}\\ PID\\ ES2_{(SL1)}\\ PID\\ PID\\ ES2_{(SL1)}\\ PID\\ B7_{(SL1)}\\ PID\\ SL2_{(SS)}\\ PID\\ SL2_{(SS)}\\ PID\\ B11_{(SL2)}\\ PID\\ SL3_{(SL2)}\\ PID\\ SL4_{(SS)}\\ PID\\ SL4_{(SS)}\\ PID\\ SL4_{(SS)}\\ PID\\ SL4_{(SS)}\\ SJ20_{(SL4)}\\ SL2_{(SL4)}\\ PID\\ SL4_{(SS)}\\ SJ20_{(SL4)}\\ SL2_{(SL4)}\\ PID\\ SL4_{(SS)}\\ SJ20_{(SL4)}\\ SL5_{(SS)}\\ SJ20_{(SL4)}\\ SL5_{(SS)}\\ SJ25_{(SL5)}\\ PID\\ SL6_{(SS)}\\ SJ25_{(SL5)}\\ PID\\ SL6_{(SS)}\\ SL3_{(SL6)}\\ SS_{(SL6)}\\ $	0.1ppm 0.1ppm <0.1ppm 50/285mm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm N41 <0.1ppm N41 <0.1ppm N41 <0.1ppm N41		3.92 3.62 3.22 2.57 1.42		(0.90) (0.90) (0.40) (0.65) (0.65) (0.65) (1.15)	MADE G to coarse includes MADE G gravel w fine to co are subr MADE G fine to co and inclu MADE G of shell ( odour). at c.2.70 between Dense y Sand is (Tidal FI	ROUND (F e. Gravel is slag. Slag ROUND (Y ROUND (Y ith low cobb parse angul ounded and ROUND (Y ith low cobb parse. angul ounded and ROUND (I bivalves). S m BGL d c.2.70-3.40 ellow brown fine to coars at Deposits c.6.35-6.75 mately 50% m BGL 1	Frown black sl fine to coarse is vesicular (1 fellow brown s fery dense blu ble content. Sa ar to subround d include slag. fellow brown s el is fine to co lag. Slag is ve bark blue silty Sand is fine to lense. Dm BGL dat n SAND with c se. ).	ightly gravelly angular to su 00%)). and. Sand is re light grey cl and is fine to c ded and inclue Slag is vesice sightly gravelly arse subangu sicular (100% coarse. Mild I rk blue brown. cccasional frag h frequent she of shell).	sand. S lbround fine to c ayey sa coarse. I des slag ular (10 y sand. llar to su ))). asional hydroca gments ( gments (	aand is fine ed and coarse). Ind and Gravel is p. Cobbles 0%)). Sand is ubrounded fragments rbon of shell.
Borin	g Progress	and Wate		/ations	ter	L	iner Sam	e Informat	ion		Ger	ieral
Date	0.00	0.00	(mm) 178	Stand	ding	rrom - To 0.05 - 1.20 1.20 - 2.70 2.70 - 4.20 4.20 - 5.70 5.70 - 7.20 7.20 - 8.70	(mm) 178 178 178 178 178 178 178	(%) 100 100 100 100 100 100 100	Subsampled Yes Yes Yes Yes Yes	(1) Description d (2) Inspection pi (3) 4 No. vibratir 13.50m, 18.00m (4) UXO carried (5) Aquifer prote BGL prior to con	lerived fror to dug prior og piezome and 26.50 out as per oction instal nmencing r	n drillers daily report. to drilling. eters installed at 7.50m, im BGL. the Client instructions. led between 12.15-10.50m otary drilling.
All dim S	ensions in Scale 1:50.	metres 00		For abb	explana previatio	ation of sy ons see K	mbols and ey Sheets		Checked by: <i>K,W,</i>	Loggeo M.B/F	d by: R.C	Contract No. 4339



				S	ONIC	SAM	PLE H	OLE REC	CORD		Status:-	FINAL			
Project:			Prelimina	ary Ons	hore Gr	ound Inve	estigation	for NZT			Ехр	loratory Ho	le No.		
lient:		AECO	DM			Loc	ation: North- E	west of Red	car, North Yo N:525685.1	rkshire 59		MS\BH02	2		
lethod (Equip Sonic/Open	<sup>nent):</sup> hole/Corir	ng (Boart L	ongyear	LS250	/Boart L	ongyear	DB520)	Ground Level (m 4.8	n): 818	Start Date: 25/06/2021	Sheet:	2 of 2			
SAM	PLES & TE	ESTS						STR	ATA				If.		
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Descri	ption			Instrumer Backfill		
.95-8.70 .00 .00 .50 .70-10.20 .70-9.45 70	$\begin{array}{c} B32_{(SL6)}\\ J33_{(SL6)}\\ PID\\ J34_{(SL6)}\\ SL7_{(SS)}\\ B35_{(SL7)}\\ S\end{array}$	<0.1ppm					Dense y Sand is (Tidal Fl	ellow brown fine to coars at Deposits).	SAND with o e. (continued)	ccasional fraç	gments (	of shell.			
.00 .00 .45-10.20 .50	J36 <sub>(SL7)</sub> PID B37 <sub>(SL7)</sub> J38 <sub>(SL7)</sub>	<0.1ppm					between c.9.60-11.10m BGL slightly saturated.								
0.20-11.70 0.20-10.40 0.20 0.20 0.40-11.10 0.50 1.00	$\begin{array}{c} SL8_{(SS)}\\ ES39_{(SL8)}\\ S\\ PID\\ B41_{(SL8)}\\ J40_{(SL8)}\\ J42_{(SL8)} \end{array}$	N43 <0.1ppm		-6.28	· · · · · · · · · · · · · · · · · · ·	- - - - - - - - - - - - - - - - - - -	at c.10.40m BGL slightly silty sand.								
1.20-11.40 1.20 1.20 1.40-11.70 1.50 1.70-12.15	$\begin{array}{c} \text{ES43}_{(\text{SL8})} \\ \text{ES44}_{(\text{SL8})} \\ \text{PID} \\ \text{B45}_{(\text{SL8})} \\ \text{J46}_{(\text{SL8})} \\ \text{UT1} \end{array}$	<0.1ppm (27)		-7.33		(1.05) (1.105) 	<ul> <li>Soft dark brown slightly sandy CLAY/SILT. Sand is fine to medium.</li> <li>(Tidal Flat Deposits).</li> <li>at c.11.40m BGL clay/silt is of low plasticity.</li> <li>at c.11.70m BGL medium strength. Clay is of low to intermediate plasticity.</li> </ul>								
Boring	Progress	and Wate	r Observ	ations		L	iner Sam	ole Informatio	on		Ger	neral			
Date 5/06/2021 8/06/2021 8/06/2021	Depth 8.70 8.70 12.15	Casing 8.70 8.70 11.70	Casing Dia (mm) 178 178 178	4.2 3.0	ter ding 20 8 00 1 1	From - To 3.70 - 10.20 0.20 - 11.70 1.70 - 12.15	To     Internet Date     Restore of the processing of the procesing of the procesing of the processing of the processing								
All dime	ensions in	metres		For	explana	tion of sy	mbols and	<u> </u> 1   C	Checked by:		d by:	Contrac	ct No.		



Drilling	g Progress and	I Water Observ	vations	Stand	ard Pene	tration Test		Flush		General	
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
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 fi (2) Inspection pit dug pri (3) 4 No. vibrating piezo 13.50m, 18.00m and 26 (4) UXO carried out as p (5) Aquifer protection ins 12.15-10.50m BGL prior drilling.	rom drillers daily report. or to drilling. meters installed at 7.50m, .50m BGL. ser the Client instructions. talled between to commencing rotary
All dimensions in metres Scale 1:25.00				For explanation of syr abbreviations see Ke			nbols and y Sheets	Chec	ked by: W.	Logged by: M.B/R.C	Contract No. <b>4339</b>

		4	<b>۱</b> L	ead Office:	D EX	PLO Stella Gill Ind Business Dev	ustrial Estate, Pelto	ON & C	BEOTEC	G Tel: 0191 3 Tel: 01772	CS LIM 87 4700 Fax: 0191 38 735 300 Fax: 01772 7	1TED 7 4710 35 999		
				-			DRIL	LHOLE	RECORD			Status:- FINAL	-	
Project:				F	Prelimina	ry Onsho	ore Ground	Investigation	for NZT			Exploratory Ho	ole No.	
Client:				AECO	M			Location: North	-west of Redca	r, North Yo	rkshire	MS\BH0	2	
Method ( Sonic/(	Equipme Openh	ent): ole/Co	ring (	Boart Lo	ongyear	LS250/B	oart Longy	ear DB520)	<u>Ground Level (m):</u> 4.81	8	Start Date: 25/06/2021	Sheet: 2 of 14		
RUN	DETA	AILS							STRATA		1		t	
Depth &	TCR (SCR)	cture dex	ater	Reduced	Legend	Depth			Des	scription		strume		
(Core Ø)								Discontinuity	Detail	Ma	Main <sup>2</sup>			
(шидор) 17.50 (шидор) 19.00 (	93					- - - - - - - - - - - - - - - - - - -	16.10m Jos 16.10m Jos 16.85m B6 17.00m J6 17.60m J6 18.10m J6 18.25m B6 18.25m B6 19.00m J2 19.00m J2	2 2 1 4 3 5 6 6		slightly coarse subang mudsta (Glacia 17.50n plastic	r gravelly CLA . Gravel is ar gular and incl one, sandstor al Till). <i>(contin</i> n clay is of ity.	YY. Sand is fine to igular to udes coal, he and limestone. ued) intermediate		
(102				-15.18		- - 20.00	20.00m B7	0		20.00n plastic	n clay is of ity.	intermediate		

Drilling	g Progress and	Water Observ	ations	Standa	ard Pene	tration Test	Flush			Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
				19.00	S	N17	17.50 - 19.00 19.00 - 20.50	Water Water	100 100	(1) Description derived fi (2) Inspection pit dug pri (3) 4 No. vibrating piezoo 13.50m, 18.00m and 26 (4) UXO carried out as p (5) Aquifer protection ins 12.15-10.50m BGL prior drilling.	rom drillers daily report. or to drilling. meters installed at 7.50m, 50m BGL. er the Client instructions. talled between to commencing rotary
All din	nensions ir Scale 1:25	n metres .00		For e abbr	xplana eviatio	tion of syn ns see Ke	nbols and y Sheets	Chec <i>K</i>	ked by: 	Logged by: M.B/R.C	Contract No. <b>4339</b>

G							DRIL	LHOLE	RECORD		Status:- FINAL		
Project:				P	relimina	ry Onsho	ore Ground	Investigation	for NZT		Exploratory Ho	le No.	
Client:				AECO	М			Location: North	-west of Redcar, -457252 259 N-5	North Yorkshire	MS\BH02	2	
Method ( Sonic/(	Equipme Openh	nt): ole/Co	ring (	Boart Lo	ongyear	LS250/B	oart Longy	ear DB520)	Ground Level (m): 4.818	Start Date: 25/06/2021	Sheet: 3 of 14		
RUN	DETA	ILS							STRATA		1	nt/	
Depth	TCR	ture	ter	Reduced	Lanand	Depth			Desc	ription		trumer	
(Core Ø)	Ø) RQD E S Level Cogcina (Thickness)							Discontinuity	Detail	Ma	Main <sup>e</sup>		
20.50 (mur201)	93					- - - - - - - - - - - - - - - - - - -	20.10m J69 20.50m B7 21.25m U7	9		Firm thinly laminate slightly sandy slight CLAY. Sand is fine is fine to medium ar subangular and incl limestone, mudston (Glacial Deposits). 21.25m clay is of plasticity.	d dark brown ly gravelly silty to coarse. Gravel ngular to udes coal, e and sandstone. <i>(continued)</i>		
22.00 (шш201)	100						21.80m J7 22.00m J3 22.00m ES 22.20m B7 22.50m J7( 23.00m U7	3 574 5 6 7		Firm red brown slig gravelly CLAY. Gra coarse subrounded includes sandstone mudstone. (Glacial Till). 22.20m clay is of plasticity. from 22.50m stiff 23.00m very high of intermediate plas	ntly sandy slightly vel is fine to to subangular and limestone and intermediate strength. Clay is ticity.		
23.50	0 31 (0) 0 NR NR 23.00 							78 n no recovery.		(1) Red brown grav (Glacial Till).	elly CLAY.		

Drilling	g Progress and	Water Observ	vations	Stand	ard Pene	tration Test	t Flush			General	
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
29/06/2021 30/06/2021	23.50 23.50	23.50 23.50	0.00 7.20	22.00	S	N26	20.50 - 22.00 22.00 - 23.50 23.50 - 24.80	Water Water Water	100 100 100	(1) Description derived f (2) Inspection pit dug pri (3) 4 No. vibrating piezo 13.50m, 18.00m and 26 (4) UXO carried out as p (5) Aquifer protection ins 12.15-10.50m BGL prior drilling.	rom drillers daily report. or to drilling. meters installed at 7.50m, .50m BGL. er the Client instructions. talled between to commencing rotary
All dimensions in metres Scale 1:25.00			For explanation of syr abbreviations see Ke			mbols and ey Sheets	Checked by: <i>K.W.</i>		Logged by: M.B/R.C	Contract No. <b>4339</b>	

		ł	۱LL	LIEC	<b>D EX</b>	PLO Stella Gill Ind		ON & C	GEOTEC	HNIC Tel: 0191 3	<b>CS LIM</b> 87 4700 <b>Fax:</b> 0191 38	<b>ITED</b> 7 4710			
Ê			R	egional Offic	e: Unit 20	) Business Dev	DRIL	Eanam Wharf, Blackt	RECORD	<b>Tel</b> : 01772	735 300 Fax: 01772 7	Status:- FINAL			
Project:				F	Prelimina	ry Onsho	ore Ground	Investigation	for NZT			Exploratory Ho	le No.		
Client:				AECO	M			Location: North	-west of Redcar,	North Yo	rkshire	 MS\BH02	2		
Method ( Sonic/	Equipme Openh	ent): ole/Co	Sheet: 4 of 14												
RUN															
Depth	TCR	er x	5	Deduced		Denth			Des	cription			ument		
& (Core Ø)	(SCR) RQD	Fractu Inde	Wate	Level	Legend	(Thickness)	1	Discontinuity	Detail	1	Ma	Main			
(102mm)						-				(1) Gre (Driller hard ba (Redca <i>(contin</i>	(1) Grey MUDSTONE. (Driller describes as 'very weak with hard bands'). (Redcar Mudstone Deposits). (continued)				
25.30	0 (0) 0					- - -(2.00) - -									
(105mm) (105mm)	0 (0) 0					-									
(102mm)	60	10		-21.18		- 26.00	26.00-26.20m spaced planar	ı horizontal (0-5 to undulating rou	i degrees) closely Igh open infilled (clayey	Weak	ed black grey weathered with				
26.30		NI				-	26.20-26.30m	i non-intact.		occasi (2mm-	onal fossilise 40mm in size	d remains ).			
6 (102mm)	100	8				-	26.20-26.30m non-intact. 26.30-26.80m horizontal (0-5 degrees) closely spaced planar to undulating rough and smooth open infilled (clayey gravel) discontinuities.								
20.60 (102mm)	0 100 14 (43) 0 26.80 0 tight in Cose tight in							a horizontal to o d smooth planar t lay) discontinuitie:							
27.40						L									
(102mm)	100 (100) 57	12				-(3.00) - - -	27.40-28.10m spaced smoot infilled (clay) d	subhorizontal th planar to undul liscontinuities.	(5-25 degrees) closely ating open and tight						
28.10	100	10				-									
L	100	10		1						-1			<u> </u>		

Drilling	g Progress and	Water Observ	/ations	Stand	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
30/06/2021 01/07/2021	26.80 26.80	26.80 26.80	0.00 0.00	24.80 25.80 26.30	C C C	N37 50/82mm 50/8mm	24.80 - 25.30 25.30 - 25.80 25.80 - 26.30 26.30 - 26.80 26.80 - 27.40 27.40 - 28.10 28.10 - 29.00	Water Water Water Water Water Water	100 100 100 100 100 100 100	(1) Description derived f (2) Inspection pit dug pri (3) 4 No. vibrating piezo 13.50m, 18.00m and 26 (4) UXO carried out as p (5) Aquifer protection ins 12.15-10.50m BGL prior drilling.	rom drillers daily report. or to drilling. meters installed at 7.50m, .50m BGL. ber the Client instructions. stalled between to commencing rotary
All din	nensions i Scale 1:25	n metres .00		For e abbr	xplana eviatio	tion of syn ns see Ke	nbols and y Sheets	Chec //	ked by: ( <i>W.</i>	Logged by: M.B/R.C	Contract No. <b>4339</b>

A			ALI R	ead Office:	DEX Unit 28 e: Unit 20	Stella Gill Ind Business Dev	ustrial Estate, Peltu relopment Centre,	ON & C on Fell, Chester-le-Str Eanam Wharf, Blackb	GEOTEC	HNICS LIM Tel: 0191 387 4700 Fax: 0191 38 Tel: 01772 735 300 Fax: 01772 7	ITED 87 4710 35 999	
							DRIL	LHOLE	RECORD		Status:- FINAL	
Project:				P	Prelimina	ry Onsho	ore Ground	Investigation	for NZT		Exploratory Ho	le No.
Client:				AECO	M			Location: North	-west of Redcar,	North Yorkshire	MS\BH02	2
Method Sonic/	(Equipme Openh	ent): ole/Co	oring (	Boart Lo	25085.159 Start Date: 25/06/2021	Sheet: 5 of 14						
RUN	I DETA	AILS						STRATA	I			
Depth	TCR (SCR)	cture dex	ater	Reduced	Legend	Depth			Desc	ription		strume
(Core Ø)	RQD	Frac	Ň	Level	Legena	(Thickness)		Discontinuity	Detail	Ma	in	SE H
(102mm)				-24.18		- 29.00	zo lozgodi spaced smoo infilled (clay) o	l subioliziona hi planar to undui discontinuities.	(3/2) degrees (doer) ating open and tight	MUDSTONE partly occasional fossilise (2mm-40mm in size (Redcar Mudstone (continued) 28.70m very wea Complete at 29.00m	led black grey weathered with d remains e). Formation). k. <i>n BGL</i> .	

Drilling	g Progress and	l Water Observ	vations		Standa	ard Pene	tration Test	st Flush			Ge	neral
Date	Depth	Casing	Wate Standi	er D	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
01/07/2021	29.00	29.00	0.00	0							(1) Description derived f (2) Inspection pit dug pri (3) 4 No. vibrating piezo 13.50m, 18.00m and 26 (4) UXO carried out as p (5) Aquifer protection ins 12.15-10.50m BGL prior drilling.	rom drillers daily report. or to drilling. meters installed at 7.50m, .50m BGL. ter the Client instructions. talled between to commencing rotary
All dimensions in metres Scale 1:25.00				F	For ex abbre	xplana eviatio	tion of syn ns see Ke	nbols and y Sheets	Che	cked by: <i>t.W.</i>	Logged by: M.B/R.C	Contract No. 4339






















					S	ONIC	C SAM	PLE HO	DLE F	REC	ORD		Status:-	FINAL	-
Project:			Preli	minar	y Ons	hore G	round Inv	estigation f	for NZT				Exp	loratory He	ole No.
Client:		AEC	ОМ				Loc	ation: North-	west of	Redo	ar, North Yo	rkshire	-	MS\BH0	3
Method (Equip Sonic/Ro	oment): otary Coring	g (Boart Lo	ongye	ear LS	6250/E	Boart Lo	ongyear D	B520)	Ground Le	1.31 vel (m 4.	<u>11.525562.70</u> ): 67	Start Date: 22/06/2021	Sheet:	1 of 2	
SAM	IPLES & T	ESTS					1			STR	4TA	1	1		ent/
Depth	Type No	Test Result		Mater S	educed Level	Legend	Depth (Thickness)				Descri	ption			Instrume Backfi
0.10-1.20 0.10-0.55 0.30 0.30 0.50 0.50 0.55 0.55 1.20 1.00 1.20-2.70 1.20 1.35-1.75 1.50 1.75-2.70 1.75-2.70 1.77-28.50 1.89-2.70 2.00 2.00 2.00 2.00 2.50 2.70-4.20 2.70 2.80-3.45 3.00-3.30 3.00 3.45-4.20 3.50 4.20-5.70 4.20-5.70 4.20-5.70 4.20-5.70 4.50 4.50 4.50 4.50 4.50 4.50 4.50 5.50 5.70-6.45 5.70 6.00 6.45-7.20 6.50 7.20-7.95 7.20 7.50	$\begin{array}{c c} & SL1_{(SS)} \\ B7_{(SL1)} \\ ES1 \\ J6_{(SL1)} \\ PID \\ ES2 \\ PID \\ B9_{(SL1)} \\ ES3 \\ J8_{(SL1)} \\ PID \\ SL2_{(SS)} \\ S \\ B11_{(SL2)} \\ PID \\ B13_{(SL2)} \\ PID \\ B13_{(SL2)} \\ PID \\ B13_{(SL2)} \\ PID \\ ES4 \\ J12_{(SL2)} \\ PID \\ ES5 \\ PID \\ SL3_{(SS)} \\ S \\ B16_{(S3)} \\ ES4 \\ J12_{(SL2)} \\ PID \\ B18_{(SL3)} \\ S \\ S \\ B16_{(SJ)} \\ ES4 \\ J12_{(SL3)} \\ PID \\ B13_{(SL2)} \\ PID \\ SL3_{(SL3)} \\ S \\ S \\ J21_{(SL4)} \\ PID \\ B22_{(SL4)} \\ J23_{(SL4)} \\ PID \\ B22_{(SL5)} \\ S \\ S \\ J26_{(SL5)} \\ S \\ S \\ J26_{(SL5)} \\ PID \\ SL6_{(SS)} \\ PID \\ SL6_{(SS)} \\ S \\ S \\ J29_{(SL5)} \\ S \\ S \\ J31_{(SL6)} \\ PID \\ SL6_{(SS)} \\ S \\ S \\ J26_{(SL5)} \\ PID \\ SL6_{(SS)} \\ PID \\ SL6_{(SS)} \\ S \\ S \\ S \\ J31_{(SL6)} \\ PID \\ SL6_{(SS)} \\ PID \\ SL6_{(SS)} \\ S \\ S \\ S \\ S \\ S \\ S \\ S \\ S \\ S \\ $	<0.1ppm <0.1ppm N30 <0.1ppm 0.3ppm <0.1ppm 56/220mn <0.1ppm N51 <0.1ppm 50/290mn <0.1ppm 50/290mn <0.1ppm	n		4.12		(0.55) (0.65) (0.80) (0.80) (1.35) (1.05)	MADE G is fine to subangu Slag is 5 MADE G Sand is f subround MADE G is fine to subround (Enginee Dark blue Mild hydi (Enginee (Tidal Fla at c.1.20 at c.2.70 Dense to fragment (Enginee between coarse s	ROUNE coarse lar to su 0-75%). ROUNE ine to co ded and ROUNE coarse. ded and rocoarse. ded br>rocoarse. ded rocoarse. ded rocoarse. ded rocoa	) (Bla and i bbrou ) (Gri barse inclu sligh brov nd fr brov nd fr brov local sits) me ense ell. Sa local 3.40r led to	ack slightly si includes ash, nded and inc ey brown slig e. Gravel is fi ides grey sla ey black sligh vel is fine to o ides slag and tly saturated vn silty SANE agments of s our relating to ly saturated) edium dense ry dense. yellow brown and is fine to ly saturated) n BGL gra o rounded an o rounded an	Ity slightly gra Gravel is fin- cludes grey sl htly silty sligh ne to coarse g. Slag is ves ntly silty sand coarse suban d clinker. Slag ). D with occasio shell. Sand is o sand pockel and dense. N SAND with o coarse. velly sand. G d includes m	avelly sa e to coa ag and itly grav angular sicular (5 gular to g is 50-7 onal poc fine to c s.	Ind. Sand rse clinker. elly sand. to 50-75%)). ivel. Sand 5%). kets of coarse.	
Borin	a Progress	and Wate	er Ob	serva	tions		<u>t</u>	iner Samt	le Infor	natio	n			aral	
Date	Depth	Casing	Casir (m	ng Dia nm)	Wat	er ling	From - To	Internal Dia (mm)	Reco (%	very )	Subsampled		Rem	arks	
22/06/2021 22/06/2021 23/06/2021	0.00 2.70 2.70	0.00 2.70 2.70	1 1 1	78 78 78	2.5 1.7	i0 i0	0.10 - 1.20 1.20 - 2.70 2.70 - 4.20 4.20 - 5.70 5.70 - 7.20 7.20 - 8.70	178 178 178 178 178 178 178	10 10 10 10 10 10	0 0 0 0 0	Yes Yes Yes Yes Yes Yes	(1) Description c Inspection pit du Environmental S Double installati standpipes insta 25.50-28.50m B Client instructior between 12.15-6 drilling.	lerived from g prior to d sample with on: 2 No. 5 Illed betwee GL. (5) UX is. (6) Aqui 9.90m BGL	n drillers daily r Irilling. (3) ES(N Methanol pres 0mm diameter an 1.20-2.70m O carried out a fer protection in prior to comm	eport. (2) A) = servative. (4) slotted and s per the stalled encing rotary
All dim	ensions in Scale 1:50.	metres			For abb	explanation	ation of sy ons see K	mbols and ey Sheets		C	Checked by:	Logged M.B/F	d by: R.C	Contra 43	ct No. 39



E G				S	ONIC	SAM	PLE H	OLE RE	CORD		Status:-	FINAL	
Project:			Prelimina	ary Ons	hore G	round Inve	estigation	for NZT			Exp	loratory Hole No	).
Client:		AECO	DM			Loc	ation: North	-west of Rec E:457301.3	dcar, North Yo 1 N:525582.7	orkshire 0	1	MS\BH03	
Method (Equip Sonic/Rot	<sup>ment):</sup> ary Coring	(Boart Lo	ngyear L	_S250/E	Boart Lo	ongyear D	B520)	Ground Level (	(m): 4.67	Start Date: 22/06/2021	Sheet:	2 of 2	
SAM	PLES & TE	ESTS			1			STF	RATA			ent/	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Descri	ption		Instrum	Backf
7.95-8.70 8.00 8.00 8.50 8.70-10.20 8.70-9.35 8.70 9.00 9.50 9.50 9.50 10.00 10.20-11.70 10.20 10.20 10.50 11.00-11.20 1	B32(st.6) J33(st.6) PID SL7(sS) B35(st.7) B35(st.7) J38(st.7) J38(st.7) J38(st.7) PID J40(st.7) SL8(sS) J41(st.8) J41(st.8) J43(st.8) PID ES44(st.8) PID ES44(st.8) PID ES44(st.8) PID ES45(st.8) UT1 PID	<0.1ppm N35 <0.1ppm N4 <0.1ppm <0.1ppm (25) <0.1ppm		-4.68 -5.83 -6.33		- 9.35 - 9.35 - (1.15) - 10.50 - (1.25) - 11.00 - (1.25) - 12.25	Yellow t fragmer (Engine Yellow t soft brov roundec (Tidal F at c.10.2 Very so fragmer (Tidal F at c.11.2 Boring c	orrown black so very densit ts of shell. S er notes loca prown black wn very san- and include at Deposits 20m BGL t dark brown ts of shell. at Deposits 50m BGL ly laminated at Deposits 70m BGL	Ilightly silty sai e yellow brown Sand is fine to ally saturated) clayey gravell dy silty clay. G es mudstone. ). very loose. n slightly sand ). clay is of low d dark brown s ). clay is of low 12.25m BGL -	nd. n SAND with ( coarse. (continued) y SAND with Gravel is coarse y CLAY with ( plasticity. plasticity. continued by (	rare poc se subro occasior AY.	hal	
Boring	Progress	and Wate		ations		L	iner Sam	ple Informat	ion		Gen	leral	_
Date	Depth 12.25	Casing 11.70	Casing Dia (mm) 178	a Wa Stan	ter ding 1 1	From - To 8.70 - 10.20 0.20 - 11.70 11.70 - 12.15	1000 Internal Dia (mm) 178 178 178 116	a Recovery (%) 100 100 67	Subsampled Yes Yes No	(1) Description of Inspection pit du Environmental 5 Double installati standpipes insta 25.50-28.50m B Client instruction between 12.15-4 drilling.	Rem derived fron g prior to d Sample with on: 2 No. 5 ulled betwee GL. (5) UX rs. (6) Aqui 9.90m BGL	n drillers daily report. (2 Irilling. (3) ES(M) = I Methanol preservative Omm diameter slotted an 1.20-2.70m and O carried out as per th fer protection installed prior to commencing n	2) e. (4 ie rotar
All dime	ensions in cale 1:50.0	metres		For abt	explana	ation of sy	mbols ane	t t	Checked by:	Logged M.B/F	d by: R.C	Contract No. <b>4339</b>	-



Project:				F	Prelimina	ry Onsho	re Ground Investigation	for NZT			Exploratory H	ole No.
Client:				AECO	М		Location: North	-west of Redcar, N E:457301.314 N:5/	North Yor 25582.69	kshire 9	MS\BH0	3
Method ( Sonic	Equipme c/Rotar	ent): ry Corii	ng (B	oart Lor	ngyear L	S250/Boa	art Longyear DB520)	Ground Level (m): 4.672		Start Date: 22/06/2021	Sheet: 1 of 14	
RUN	DETA	AILS						STRATA				
Depth	TCR	ture ex	ter	Reduced		Depth		Descr	ription			ackfill
(Core Ø)	(SCR) RQD	Frac	Wa	Level	Legend	(Thickness)	Discontinuity	Detail		Mai	n	B
12.70	02	RO		-7.58		- 12.25 - - -(0.75) -	12.25-12.70m rotary openho	e.	Soft thir silty sar (Tidal F	nly laminated ndy CLAY. lat Deposits)	dark brown very	
(102mm)	. 00	JOIL			× · · · · · · · · · · · · · · · · · · ·	-	12.80m J48		12.80m	clay is of	low plasticity.	
13.00 (EECOL) 13.50	0			-8.33	x x x x x x x x x x x x x x x x x x x	- - - - -(1.00)			(1) Brov (Driller (Tidal F	vn SILT/CLA describes as lat Deposits)	Y. 'very soft').	
(Eugenation (1000)) (1000) 14.00	100			-9.33		- - - 14.00	14.00m J49 14.00m ES50		Firm thi	nly laminated	i dark brown	
(Eugendant)	100				× · · · · · · · · · · · · · · · · · · ·	- - -(1.00)	14.10m ES(M)51		(Driller (Tidal F	notes red sai lat/Glacial Do	nd bands). eposits).	
	100			-10.33		- - - 15.00	14.50m J5 14.50m J53 14.60m J53		14.50m occasio	clay is of nal pockets o	high plasticity with of peat.	
(102mm)						-	15.00m B56 15.10m J55		Firm to sandy s is fine to subang mudsto (Glacial 15.10m plasticit	stiff dark red lightly gravel o coarse ang ular and inclu ne, limestone Till). clay is of y.	brown slightly ly CLAY. Gravel ular to udes sandstone, e and coal. intermediate	
16.00	100					-	15.90m J57 15.90m ES58 16.00m ES(M)52 16.10m J59 16.10m U60		16.10m plasticit	clay is of y.	intermediate	

Drilling	g Progress and	Water Observ	vations		Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Wate Standi	er ing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
24/06/2021	12.25	11.70	3.69	9	14.50	S	N6	12.70 - 13.00 13.00 - 13.50 13.50 - 14.00 14.00 - 14.50 14.50 - 16.00 16.00 - 17.50	Water Water Water Water Water Water	100 100 100 100 100 100	(1) Description derived f Inspection pit dug prior t Environmental Sample v (4) Double installation: 2 slotted standpipes instal and 25.50-28.50m BGL per the Client instruction installed between 12.15 commencing rotary drilli	rom drillers daily report. (2) o drilling. (3) ES(M) = with Methanol preservative. No. 50mm diameter led between 1.20-2.70m (5) UXO carried out as s. (6) Aquifer protection -9.90m BGL prior to ng.
All dir	All dimensions in metres Scale 1:25.00				For ex abbr	xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Cheo /	ked by: 	Logged by: M.B/R.C	Contract No. 4339

		4	<b>۱</b> L۱	ead Office:	DEX Unit 25 Unit 20	PLO Stella Gill Ind Business Dev	Iustrial Estate, Pelto velopment Centre, E	ON & ON Fell, Chester-le-S Eanam Wharf, Black	GEOTEO treet, Co. Durham, DH2 21 burn, BB1 5BL	CHNIC RG Tel: 0191 38 Tel: 01772 3	<b>S LIM</b> 37 4700 Fax: 0191 38 735 300 Fax: 01772 7	<b>ITED</b> 7 4710 35 999	
							DRIL	LHOLE	RECORD			Status:- FINAL	-
Project:				F	Prelimina	ry Onsho	ore Ground	Investigation	n for NZT			Exploratory Ho	ole No.
Client:				AECO	M			Location: Nort	n-west of Redca	ar, North Yo	rkshire	MS\BH0	3
Method ( Sonic	Equipme c/Rotar	nt): y Cori	ng (B	oart Lor	ngyear L	S250/Bo	art Longyea	ar DB520)	Ground Level (m): 4.67	72	Start Date: 22/06/2021	Sheet: 2 of 14	
RUN	DETA	ILS							STRATA		•	1	t/
Depth	TCR	ture lex	iter	Reduced	Logond	Depth			De	escription			trumen 3ackfill
(Core Ø)	RQD	Frac	Wa	Level	Legenu	(Thickness)	)	Discontinuity	Detail		Ma	'n	Ins
(102mm)						- - - - -	16.50m J61 16.50m B62	2		Firm to sandy is fine subang mudsto (Glacia 16.50n plastici	stiff dark red slightly grave to coarse ang gular and incl one, limeston. Il Till). <i>(contin</i> n clay is of ty.	brown slightly lly CLAY. Gravel jular to udes sandstone, e and coal. <i>ued</i> ) intermediate	
17.50	100					- - - - - - -	17.40m J63 17.50m J2 17.60m J64 17.60m B65	3 1 5					
(102mm)						-	18.20m J66 18.20m B67	3 7					
19.00	100					- - - - - <u>(</u> 8.75) -	19.10m J68 19.10m U7( 19.10m ES(	3 0 69		19.10n sandy Clay is	n soft to firr clay with som of intermedia	n fissured slightly e silt dustings. ate plasticity.	
(102mm						- - - -	19.90m J71 19.90m B72 19.90m ES(	l 2 (M)73					

Drilling	g Progress and	Water Observ	/ations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
				17.50	S	N16	17.50 - 19.00 19.00 - 20.50	Water Water	100 100	<ol> <li>Description derived f Inspection pit dug prior t Environmental Sample w (4) Double installation: 2 slotted standpipes instal and 25.50-28.50m BGL. per the Client instruction installed between 12.15- commencing rotary drilling</li> </ol>	rom drillers daily report. (2) o drilling. (3) ES(M) = vith Methanol preservative. No. 50mm diameter led between 1.20-2.70m (5) UXO carried out as s. (6) Aquifer protection -9.90m BGL prior to 19.
All dir	All dimensions in metres Scale 1:25.00			For e abbr	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec K	ked by: <i>W.</i>	Logged by: M.B/R.C	Contract No. <b>4339</b>

G							DRIL	LHOLE	RECORD			Status:- FINAL	-
Project:				P	Prelimina	ry Onsho	ore Ground	Investigatior	n for NZT			Exploratory Ho	ole No.
Client:				AECO	М			Location: North	n-west of Redcar, F·457301 314 N	, North Yoi	rkshire	MS\BH0	3
Method ( Sonic	Equipme :/Rotar	nt): y Cori	ng (B	oart Lor	ngyear L	S250/Boa	art Longyea	ar DB520)	Ground Level (m): 4.672	2	Start Date: 22/06/2021	Sheet: 3 of 14	
RUN	DETA	ILS							STRATA		•	1	If /
Depth	TCR	a re		Reduced		Donth			Des	cription			umen
& (Core Ø)	(SCR) RQD	Fractu Inde	Wate	Level	Legend	(Thickness)		Discontinuity	Detail	T.	Ма	in	Ba Ba
20.50	90					- - - -	20.50m J3 20.50m J7 20.60m J74	5		Firm to sandy s is fine t subang mudsto (Glacia	stiff dark rec slightly grave to coarse ang gular and incl one, limeston al Till). <i>(contin</i>	I brown slightly Ily CLAY. Gravel gular to udes sandstone, e and coal. <i>uued)</i>	
(102mm)								6 7		21.20m	n clay is of	low plasticity.	
22.00	100					-	22.10m J78 22.10m B79	3 9					
(102mm)						-	22.90m J80 22.90m B81	) 1		22.90m	n clay is of	high plasticity.	
23.50	100 (39) 7	12		-19.08		- - - 23.75	23.40m ES 23.50m J4	82	(5.25 dogra)	23.50m	n clay is of	low plasticity.	
		12 NI				- - - -	23.75-24.15m (25-45 degree to undulating s (clay) disconti 24.15-24.50m	<ol> <li> subhorizontal</li> <li>closely to very smooth open and nuities.</li> <li> non-intact.</li> </ol>	(5-25 degrees) oblique closely spaced planar tight clean and infilled	Weak t MUDS weathe remain (Redca	thinly laminat TONE partial ered with num s (2-40mm ir ar Mudstone I	ed dark grey ly to distinctly nerous fossilised n size). Formation).	

Drilling	g Progress and	l Water Obser	vations	Stand	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
24/06/2021 25/06/2021	22.00 22.00	22.00 22.00	0.00 0.00	20.50 23.50	S	N13 N41	20.50 - 22.00 22.00 - 23.50 23.50 - 25.00	Water Water Water	100 100 100	(1) Description derived f Inspection pit dug prior t Environmental Sample v (4) Double installation: 2 slotted standpipes instal and 25.50-28.50m BGL. per the Client instructior installed between 12.15 commencing rotary drilli	rom drillers daily report. (2) o drilling. (3) ES(M) = with Methanol preservative. No. 50mm diameter led between 1.20-2.70m (5) UXO carried out as s. (6) Aquifer protection -9.90m BGL prior to ng.
All dir	nensions i Scale 1:25	n metres .00		For e abbr	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec /	ked by: 	Logged by: M.B/R.C	Contract No. 4339



Drilling	g Progress and	I Water Observ	vations		Standa	ard Penet	tration Test		Flush		Ge	neral
Date	Depth	Casing	Wate Standi	er ling	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
25/06/2021 28/06/2021	26.50 26.50	26.50 26.50	0.00	0				25.00 - 26.50 26.50 - 28.00 28.00 - 29.10	Water Water Water	100 100 100	<ol> <li>Description derived f Inspection pit dug prior t Environmental Sample w (4) Double installation: 2 slotted standpipes instal and 25.50-28.50m BGL. per the Client instruction installed between 12.15- commencing rotary drilling</li> </ol>	rom drillers daily report. (2) o drilling. (3) ES(M) = with Methanol preservative. No. 50mm diameter led between 1.20-2.70m (5) UXO carried out as s. (6) Aquifer protection -9.90m BGL prior to ng.
All din	All dimensions in metres Scale 1:25.00				For ex abbre	kplana eviatio	tion of syn ns see Ke	nbols and y Sheets	Cheo /	ked by: 	Logged by: M.B/R.C	Contract No. 4339

							DRI	LLHOLE	RECOF	RD			Status:- FINAL	
Project:				F	Prelimina	ary Onsho	ore Ground	d Investigatio	on for NZT				Exploratory Ho	ole No.
Client:				AECO	М			Location: Noi	th-west of R	edcar, l	North York	kshire	 MS\BH0	3
Method Soni	Equipme c/Rotar	nt): y Cori	ng (Bo	oart Lor	ngyear L	.S250/Bo	art Longye	ear DB520)	Ground Leve	el (m): 4.672	20002.00	Start Date: 22/06/2021	Sheet: 5 of 14	
RUN	I DETA	ILS							STRATA		•		+	
Depth	TCR (SCR)	cture dex	ater	Reduced	Legend	Depth				Desc	ription			strume Backfill
(Core Ø)	RQD	Frac	Ň	Level	Logona	(Thickness)		Discontinui	ty Detail			Ma	in	<u><u></u></u>
(102mm)				-24.43		29.10					Weak tr MUDST weather remains (Redcar <i>(continu</i>	inny laminat ONE partial red with nun (2-40mm ir Mudstone <i>ed</i> )	ied dark grey Ily to distinctly nerous fossilised n size). Formation).	

Drilling	g Progress and	Water Observ	vations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	narks
28/06/2021	29.10	29.10	0.00					<ol> <li>Description derived fi Inspection pit dug prior to Environmental Sample v (4) Double installation: 2 slotted standpipes instal and 25.50-28.50m BGL. per the Client instruction installed between 12.15- commencing rotary drilling protection of the standard standard standard standard standard standard per the Client instruction installed between 12.15- commencing rotary drilling protection of the standard sta</li></ol>	rom drillers daily report. (2) o drilling. (3) ES(M) = vith Methanol preservative. No. 50mm diameter led between 1.20-2.70m (5) UXO carried out as s. (6) Aquifer protection 9.90m BGL prior to 19.		
All dir	All dimensions in metres Scale 1:25.00				xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec K	ked by: . <i>W.</i>	Logged by: M.B/R.C	Contract No. <b>4339</b>























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Ğ					S	ONIC	C SAM	PLE HO	LE R	EC	ORD		Status:-	FINAL	
Project:			Preli	minary	Ons	hore G	round Inv	estigation fo	or NZT				Exp	loratory Hol	e No.
Client:		AECO	DM				Lo	cation: North-w E:4	vest of F 157410.	Redc 778	ar, North Yo: N:525626.5	rkshire 36		MS\BH04	
Method (Equip Sonic/Ro	oment): otary Corin	ig (Boart L	ongy	ear LS:	250/	Comac	chio GEC	0 205) G	round Lev	vel (m) 5.0	):  06	Start Date: 17/05/2021	Sheet:	1 of 2	
SAM	IPLES & T	ESTS					1		S	STRA	ATA				ent/
Depth	Type No	Test Result		Red A	luced evel	Legend	Depth (Thickness	)			Descri	ption			Instrum Backf
0.30 0.30 0.43-1.20 0.43 0.43-0.90	ES1 PID SL1 <sub>(SS)</sub> J4 <sub>(SL1)</sub> B5 <sub>(SL1)</sub>	<0.1ppm			4.11		× × × × × × × × × × ×	MADE GF with media subangula subroundo subangula	ROUND um bou ar and ii ed and ar and ii	(Da Ider ncluo incluo ncluo	rk grey sligh content. Gra des slag. Co de slag. Bou de slag. Slag	tly sandy grav ivel is fine to o bbles are sub ilders are >40 g is vesicular (	vel and o coarse a pangular 00mm d (100%))	cobbles angular to to iameter	8888805 P N P
0.50 0.50 0.90 1.00 1.00 1.20-2.70	ES2 PID U6 <sub>(SL1)</sub> ES3 PID SL2 <sub>(SS)</sub>	<0.1ppm <0.1ppm				×0		Loose bed silty grave fine to coa sandstone (Tidal Flat	coming elly SAN arse sub e, muds t Depos	med D w bang tone its).	ium dense t ith occasion ular to subro and limesto	o dense yellov al shell fragmo ounded and in one. Sand is fi	w browr ents. Gr ncludes ne to m	n slightly ravel is edium.	
1.20 1.20-1.95 1.20 1.95 1.95-2.70 2.00	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $														
2.70-4.20 2.70 2.70-3.45 2.70 3.00	SL3 <sub>(SS)</sub> J11 <sub>(SL3)</sub> B12 <sub>(SL3)</sub> S PID	N29 <0.1ppm				×0 · · · · · · · · · · · · · · · · · · ·		at c.2.70m	n BGL .	me	edium dense	gravelly sand	J.		
3.45 3.45-4.20	J13 <sub>(SL3)</sub> B14 <sub>(SL3)</sub>					· · · × ·	   								
4.00 4.20-5.70 4.20 4.20-4.95 4.20	PID SL4 <sub>(SS)</sub> J15 <sub>(SL4)</sub> B16 <sub>(SL4)</sub> S	<0.1ppm N44				× · · · · · · · · · · · · · · · · · · ·	 	at c.4.20n	n BGL .	de	nse.				
4.95 4.95-5.70 5.00	J17 <sub>(SL4)</sub> B18 <sub>(SL4)</sub> PID	<0.1ppm				· · · · · · · · · · · · · · · · · · ·		at c.4.95n	n BGL .	sai	nd.				
5.70-7.20 5.70 5.70-6.45 5.70 6.00	SL5 <sub>(SS)</sub> J19 <sub>(SL5)</sub> B20 <sub>(SL5)</sub> S PID	N41 <0.1ppm				× · · · · · · · · · · · · · · · · · · ·		at c.5.70n	n BGL	de	nse.				
6.45 6.45-7.20	J21 <sub>(SL5)</sub> B22 <sub>(SL5)</sub>					· · · × · · · · · · · · · × · · · ·	  .(11.80)								
7.00 7.20-8.70 7.20 7.20-7.95 7.20	PID SL6 <sub>(SS)</sub> J23 <sub>(SL6)</sub> B24 <sub>(SL6)</sub> S	<0.1ppm 50/250mm	1			× · · · · · · · · · · · · · · · · · · ·		at c.7.20n	n BGL	vei	ry dense.				
Boring	g Progress	and Wate	r Ob	servatio	ons			Liner Sample	e Inform	natio	n		Ger	ieral	í Z
Date	Depth	Casing	Casin (m	ng Dia m)	Wat Stand	ter ding	From - To	Internal Dia (mm)	Recov (%)	ery	Subsampled		Rem	arks	
17/06/2021 17/06/2021 18/06/2021	0.00 2.70 2.70	0.00 2.70 2.70	17 17 17	78 78 78	Dŋ Dŋ	y y	0.43 - 1.20 1.20 - 2.70 2.70 - 4.20 4.20 - 5.70 5.70 - 7.20 7.20 - 8.70	178 178 178 178 178 178 178	100 100 100 100 100 100		Yes Yes Yes Yes Yes Yes	<ul> <li>(1) Description d</li> <li>(2) Inspection pii</li> <li>(3) Double instal standpipes instal 15.00-18.00m B</li> <li>(4) UXO carried</li> <li>(5) Aquifer prote BGL prior to com</li> </ul>	lerived fror t dug prior llation: 2 No lled betwee GL. out as per ction instal nmencing r	n drillers daily rep to drilling. 0. 50mm diamete en 2.00-5.00m ai the Client instruct led between 13.7 otary drilling.	oort. er slotted nd ctions. 75-11.70m
All dim	ensions in scale 1:50.	metres			For e	explana	ation of syons see k	ymbols and (ey Sheets		C	hecked by:	Logged G.T/R	d by: R.C	Contrac 433	t No.



E G				S	ONIC	SAM	PLE H	OLE RE	ECORD		Status:-	FINAL		
Project:		l	Prelimina	ary Ons	hore Gr	ound Inve	estigation	for NZT			Expl	oratory Hole No.		
Client:		AECO	DM			Loc	ation: North E	west of Re	edcar, North Yo 78 N:525626.5	rkshire 36	MS\BH04			
Method (Equip Sonic/Ro	ment): otary Corin	g (Boart Lo	ongyear	LS250/	Comace	chio GEO	205)	Ground Leve	l (m): 5.006	Start Date: 17/05/2021	Sheet:	2 of 2		
SAM	PLES & TE	ESTS						ST	RATA		1	ent/		
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Descri	ption		Instrume		
7.95 7.95-8.70 8.00 8 70-10 20	J25 <sub>(SL6)</sub> B26 <sub>(SL6)</sub> 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). (continued)							
8.70 8.70-9.45 8.70 9.00 9.45	J27 <sub>(SL7)</sub> B28 <sub>(SL7)</sub> S PID J29 <sub>(SL7)</sub>	N51 <0.1ppm			· · · · · · · · · · · · · · · · · · ·		at c.8.70	0m BGL	very dense.					
9.45-10.20 10.00 10.20	B30 <sub>(SL7)</sub> PID S	<0.1ppm N25			×	- - - - - - -	at c.10.2	20m BGL	. medium dens	e.				
11.00	PID	<0.1ppm				· · · · · · · · · · · · · · · · · · ·								
11.70-13.20 11.70 11.70-12.70 11.70 12.00	SL8 <sub>(SS)</sub> J35 <sub>(SL8)</sub> B36 <sub>(SL8)</sub> 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 <sub>(SL8)</sub> B38 <sub>(SL8)</sub> PID UT8	<0.1ppm (25)		-7.69		12.70 12.70	Soft to f coarse. (Driller r (Tidal F at c.13.2	rm dark br otes sand at Deposit 20m BGL	own slightly sar y bands). s). . silt of low plas	ndy CLAY/SII	T. Sand	is fine to		
	Boring complete at 13.75m BGL - continued by rotary drilling.													
Boring	Progress	and Wate	r Observ	ations			iner Sam	ole Informa	ation		Gen	eral		
Date	Depth	Casing	Casing Dia (mm)	Wa Stan	ter ding	From - To	Internal Dia (mm)	Recover	y Subsampled		Rem	arks		
18/06/2021 21/06/2021 21/06/2021	10.20 10.20 13.75	10.20 10.20 13.75	178 178 178	4.9 4.7 3.9	90    8 10    1 50    1	8.70 - 10.20 1.70 - 13.20 3.20 - 13.65	0.20     178     100     Yes     (1) Description derived from drillers daily report.       13.20     178     100     Yes     (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 13.75-11.70							
All dim	ensions in	metres		For	explana	ation of sy	mbols and		Checked by:	Logged G.T/F	d by: R.C	Contract No. 4339		



Ē			Status:- FINAL	-												
Project:				P	Prelimina	ry Onsho	re Ground	Investigatior	n for NZT			Exploratory Ho	ole No.			
Client:		MS\BH04	4													
Method ( Son	Equipme ic/Rota	ent): iry Cor	ing (B	oart Lo	ngyear L	_S250/Co	omacchio G	EO 205)	Ground Level (m): 5.006		Start Date: 17/05/2021	Sheet: 1 of 14				
RUN	I DETA	ILS							STRATA				ent/			
Depth	TCR (SCR)	cture dex	ater	Reduced	Legend	Depth		Description								
(Core Ø)	RQD E > Level - (Inickness)							Discontinuity	Detail		Ma	in	<u> </u>			
13.75 (EEC) 14.50		SOIL		-8.75		- 13.75 -  - - - - 14.50	13.75m J1 13.75-25.00m	soil.		(1) Lan gravellı (Tidal F	ninated brown y clay bands. lat Deposits	h CLAY with				
(Em 200)	100			-10.29		- - -(0.80) - - - 15.30	14.50m J39 14.50m B40	1		Firm th slightly Sand is to medi include sandsto (Glacia 14.85m	inly laminate sandy slightl fine to coars ium angular t s limestone, one. I Deposits). 1 clay is of	d red brown y gravelly CLAY. se. Gravel is fine to subangular and mudstone and high plasticity.				
(102mm)	100				-	-	15.30m J42 15.30m B43	2 3 3		Stiff red gravel Gravel subang mudsto (Glacia 15.30m plastici	d brown sligh y CLAY. Sand is fine to medular and incl one and sand I Till). n clay is of ty.	tly sandy slightly d is fine to coarse. dium angular to udes limestone, stone. intermediate				
16.90						-	16.30m U44	4		16.30m of inter	n very high mediate plas	strength. Clay is ticity.				
17.50 (шш 201)	100					- - (3.50) - - - - -	16.75m J45 16.80m B46	5								

Drilling	g Progress and	Water Observ	/ations	Standa	ard Pene	tration Test		Flush		General	
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	narks
21/06/2021	13.75	13.75	2.11	14.50	S	N9	13.75 - 14.50         Water         100         (1) Description derived from dri           14.50 - 15.30         Water         100         (2) Inspection pit dug prior to di           15.30 - 16.80         Water         100         (3) Double installation: 2 No. 50           16.80 - 17.50         Water         100         and 15.00-18.00m BGL.           17.50 - 17.80         Water         100         (4) UX carried out as per the (5) Aquifer protection installed be 13.75-11.70m BGL prior to con drilling.				rom drillers daily report. or to drilling. No. 50mm diameter led between 2.00-5.00m er the Client instructions. talled between to commencing rotary
All dir	All dimensions in metres Scale 1:25.00					tion of syr ns see Ke	mbols and ey Sheets	Chec K	ked by:	Logged by: G.T/R.C	Contract No. <b>4339</b>



Drilling	g Progress and	I Water Observ	vations		Standa	ard Pene	tration Test		Flush		General		
Date	Depth	Casing	Water Standir	er ing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks	
21/06/2021 22/06/2021	20.50 20.50	20.50 20.50	0.00	)	17.80 20.50	S S	N17 N15	17.80 - 18.80 18.80 - 19.80 19.80 - 20.50 20.50 - 21.50 21.50 - 22.30	Water Water Water Water Water	100 100 100 100 100	<ol> <li>Description derived from drillers daily rep.</li> <li>Inspection pit dug prior to drilling.</li> <li>Double installation: 2 No. 50mm diameter slotted standpipes installed between 2.00-5.0 and 15.00-18.00m BGL.</li> <li>UXO carried out as per the Client instruct (5) Aquifer protection installed between 13.75-11.70m BGL prior to commencing rote drilling.</li> </ol>		
All dimensions in metres Scale 1:25.00					For explanation of sym abbreviations see Key			nbols and y Sheets	Chec /t	ked by: . <i>W.</i>	Logged by: G.T/R.C	Contract No. 4339	

Print Date and Time: 29/11/2021 14:48:22



G			Status:- FINAL										
Project:				P	relimina	ry Onsho	ore Ground	Investigation	for NZT			Exploratory Hol	e No.
Client:				AECO	M			Location: North	-west of Redcar, :457410.778 N:5	North Yor 25626.53	kshire 6	MS\BH04	
Method ( Son	Equipme ic/Rota	ent): iry Cor	ing (E	Boart Lo	ngyear l	S250/Co	omacchio G	EO 205)	Ground Level (m): 5.006		Start Date: 17/05/2021	Sheet: 3 of 14	
RUN	I DETA	AILS							STRATA				ent/
Depth &	oth TCR SCR) S S Reduced Legend (Thinkness)												strume Backfi
(Core Ø)	RQD	La	ŝ	Level	Logona	(Thickness)		Discontinuity [	Detail		Mair	n	<u> </u>
(102mm)				-17 29		- - - - - 22 30				Stiff thid slightly coarse. (Glacial	ckly laminated sandy CLAY. I Deposits). <i>(</i> d	d red brown . Sand is fine to continued)	
22.30 (uut201) 23.80	100 100 (11) 0			-17.29		22.30 - - - - - - - - - - - - - - - - - - -	22.30m J57 22.30m B59 22.30m ES5 23.30m J60 23.80m J61 23.80m B62	9 58		Stiff red gravelly Gravel 1 subang mudsto (Glacial 23.80m interme	l brown slight / CLAY. Sanc is fine to coal ular and inclu ne and limes   Till). clay is of l diate plasticit	ly sandy slightly i is fine to coarse. rse angular to udes sandstone, tone.	
(iuuroo)) 25.30	100 (100) 0	NI 8	-	-19.99		- - - - - - - - - -	24.80m ES6 24.80m ES( 25.00-25.30m 25.30-26.80m oblique (55-65 undulating sm discontinulities.	33 M)64 non-intact. subhorizontal ( degrees) closely poth to rough open	5-25 degrees) and spaced planar to n and tight clean	Weak tl MUDST places, occasio (2-40mi (Redca	hinly bedded ONE partiall distinctly wea nal fossilised m in size). r Mudstone F	dark grey y weathered, in athered with I remains Formation).	

Drilling	g Progress and	Water Observ	/ations	Standa	ard Pene	tration Test		Flush		General	
Date	Depth	Casing	Water Standing	Depth         Type         Result         From - To         Type         Returns (%)				Returns (%)	Remarks		
				23.80	S	50/11mm	22.30 - 23.80 23.80 - 25.30 25.30 - 26.80	Water Water Water	100 100 100	<ol> <li>Description derived f</li> <li>Inspection pit dug pri</li> <li>Double installation: 2</li> <li>slotted standpipes instal and 15.00-18.00m BGL.</li> <li>UXO carried out as p</li> <li>Aquifer protection ins</li> <li>T3.75-11.70m BGL prior drilling.</li> </ol>	rom drillers daily report. or to drilling. No. 50mm diameter led between 2.00-5.00m er the Client instructions. talled between to commencing rotary
All dimensions in metres Scale 1:25.00				For e abbr	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec	ked by:	Logged by: G.T/R.C	Contract No. <b>4339</b>



Drilling	Drilling Progress and Water Observations					tration Test		Flush		General Remarks	
Date	Depth	Casing	Water Standing	g Depth	Depth         Type         Result         From - To         Type         Returns (%)						
							26.80 - 28.30 28.30 - 29.80	Water Water	100 100	<ol> <li>Description derived fi</li> <li>Inspection pit dug pri</li> <li>Double installation: 2</li> <li>slotted standpipes instal and 15.00-18.00m BGL.</li> <li>UXO carried out as p</li> <li>Aquifer protection ins 13.75-11.70m BGL prior drilling.</li> </ol>	rom drillers daily report. or to drilling. No. 50mm diameter led between 2.00-5.00m er the Client instructions. talled between to commencing rotary
All dir	For e abbr	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec <i>K</i>	ked by: W.	Logged by: G.T/R.C	Contract No. <b>4339</b>			



Drilling	g Progress and	vations	Stand	ard Pene	tration Test		Flush		General				
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Remarks			
22/06/2021	30.00	30.00	0.00				29.80 - 30.00	Water	100	<ol> <li>Description derived f</li> <li>Inspection pit dug pri</li> <li>Double installation: 2</li> <li>slotted standpipes instal and 15.00-18.00m BGL.</li> <li>UXO carried out as p</li> <li>Aquifer protection ins</li> <li>T3.75-11.70m BGL prior drilling.</li> </ol>	rom drillers daily report. or to drilling. No. 50mm diameter led between 2.00-5.00m er the Client instructions. stalled between to commencing rotary		
All dir	All dimensions in metres Scale 1:25.00				xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec K	ked by: . <i>W.</i>	Logged by: G.T/R.C	Contract No. 4339		




















Project:

Client:

Depth

0.12-0.60 0.12-1.20 0.12

0.60-1.20

1.20-2.70 1.20

2.70-4.20 2.70 2.70-4.20 2.70

4.10 4.10 4.20-5.70

4.20 4.20-4.80 4.20 4.40 4.40

4.80 4.80-5.70

5.70-7.20 5.70 5.70-6.45 5.70

6.45-7.20

7.20-8.70

7.20 7.20-7.95 7.20 7.30

Date

16/06/2021

6 4 5

4.20

0.60

Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL

Status:-SONIC SAMPLE HOLE RECORD FINAL Preliminary Onshore Ground Investigation for NZT Exploratory Hole No. Location MS\BH05 AECOM .. North-west of Redcar, North Yorkshire E:456866.530 N:525583.502 Method (Equipment) Ground Level (m) Start Date: Sheet: Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520) 7,484 16/06/2021 1 of 2 SAMPLES & TESTS STRATA Instrument/ Backfill Water Type No Test Reduced Depth Legend Description Result Level Thickn 0.10 MADE GROUND (Macadam) ES1 MADE GROUND (Strong white grey concrete. Recovered as SL1 gravel, cobbles and boulders). PID 0.1ppm ES2 PID <0.1ppm SL2 S 50/0mm (2.70)4.68 2.80 SL3(SS) at c.2.70m BGL ... very dense/possible obstruction. J5<sub>(SL3)</sub> B6<sub>(SL3)</sub> S MADE GROUND (Black grey gravel and cobbles. Gravel is fine to coarse angular and includes slag, slag, brick and ash. Cobbles 50/0mm are angular and include slag. Slag is vesicular (50-75%)). (1.60) ES3 PID SL4<sub>(SS)</sub> <0.1ppm 3.08 4.40 Medium dense grey silty SAND. Sand is fine to medium. J7<sub>(SL4)</sub> B8<sub>(SL4)</sub> S ES4 × (Tidal Flat Deposits). × N24 at c.4.80m BGL ... brown × PID <0.1ppm × J9<sub>(SL4)</sub> B10<sub>(SL4)</sub> × 0 4 0 4 × × SL5(SS) (2.80)at c.5.70m BGL ... brown grey sand with occasional pockets of × J11<sub>(SL5)</sub> B12<sub>(SL5)</sub> S organic clay. x × b N19 × × J13<sub>(SL5)</sub> B14<sub>(SL5)</sub> þ × 1010101 × × × at c.7.00m BGL ... brown. 0.28 7.20 La construction La construction de la construction de la construction de la construction de la construction de la construction de La construction de la construction de la construction de la construction de la construction de la construction de SL6(SS) xo Dense to very dense yellow brown slightly silty slightly gravelly J15<sub>(SL6)</sub> B16<sub>(SL6)</sub> S .× o SAND with rare fragments of shell. Sand is fine to coarse. Gravel × is fine to coarse subangular to subrounded and includes 50/250mm × °. sandstone, mudstone, limestone and coal. PID <0.1ppm (Tidal Flat Deposits) x o Boring Progress and Water Observations Liner Sample Information General Casing Dia Water Internal Dia Recovery (%) Remarks Depth Casing From - To Subsampled Standing (mm) (mm) Description derived from drillers daily report.
 Inspection pit dug prior to drilling.
 Double installation: 2 No. 50mm diameter slotted standpipes installed between 6.50-12.50m and 0.00 0.12 - 1.20 0.00 178 178 100 No 1.20 - 2.70 178 100 No 2.70 - 4.20 178 60 Yes 4.20 - 5.70 178 100 Yes 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. 5.70 - 7.20 178 100 Yes 178 100 7.20 - 8.70 Yes

Checked by:

K.W.

Logged by:

G.T/R.C

Contract No.

4339

For explanation of symbols and

abbreviations see Kev Sheets

All dimensions in metres

Scale 1:50.00





EE CS				S	ONI	C SAM	PLE HO	OLE REC	ORD		Status:-	FINAL	
Project:			Prelimin	ary Ons	shore G	round Inve	estigation	or NZT			Ехр	loratory Ho	le No.
Client:		AECO	DM			Loc	ation: North-	west of Redo	ar, North Yo	rkshire		MS\BH05	5
Method (Equip Sonic/Rot	ment): tary Coring	g (Boart Lo	ngyear	LS250/E	Boart Lo	ongyear D	B520)	Ground Level (m 7.4	184 184	52 Start Date: 16/06/2021	Sheet:	2 of 2	
SAM	PLES & T	ESTS						STRA	ATA				/jt
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Descri	ption			Instrume Backfi
7.95 7.95-8.70 8.30 8.70-10.20 8.70-8.45 8.70 9.45 9.45-10.20 10.20-11.70 10.20 10.20-10.95 10.20 10.30	$\begin{array}{c} J17_{(SL6)}\\ B18_{(SL6)}\\ PID\\\\ SL7_{(SS)}\\ J19_{(SL7)}\\ B20_{(SL7)}\\ S\\\\ PID\\\\ J21_{(SL7)}\\ B22_{(SL7)}\\\\ SL8_{(SS)}\\ J23_{(SL8)}\\ B24_{(SL8)}\\ B24_{(SL8)}\\ S\\\\ PID\\\\ \end{array}$	<0.1ppm N48 <0.1ppm <0.1ppm			x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	· · · · · · · · · · · · · · · · · · ·	7.95m Dense to SAND w is fine to sandstor (Tidal Fla	slightly silty very dense ith rare fragn coarse suba le, mudstone at Deposits).	sand. yellow brown nents of shel ngular to sul a, limestone a <i>(continued)</i>	n slightly silty s I. Sand is fine brounded and and coal.	slightly to coar include	gravelly se. Gravel ss	
10.95 10.95-11.70 11.30 11.70-13.20 11.70 11.70-12.45 11.70 12.30 12.45 12.45-13.20 13.20-14.70 13.20	J25 <sub>(SL8)</sub> B26 <sub>(SL8)</sub> PID SL9 <sub>(SS)</sub> J27 <sub>(SL9)</sub> B28 <sub>(SL9)</sub> S PID J29 <sub>(SL9)</sub> B30 <sub>(SL9)</sub> SL10 <sub>(SS)</sub> J31 <sub>(SL10)</sub>	<0.1ppm 50/157mm <0.1ppm	1	-4.22	x o x x x x x x x x x x x x x x x x x x	·	Dense to SAND w Gravel is coal. lim (Tidal Fla	very dense ith frequent fi fine to coars estone, sand at Deposits).	dark grey bro ragments of se subangula stone and m	own slightly si shell. Sand is ar to subround udstone.	lty very fine to led and	gravelly coarse. includes	
13.20-13.95 13.20 13.30 13.95 13.95-14.70 14.30	B32(st.10) S PID J33(st.10) B34(st.10) PID	N32 <0.1ppm		-6.47			Firm dar is fine to subround (Tidal Fla 13.95m Boring co	k grey brown coarse. Grav ded and inclu at/Glacial De clay is of h omplete at 14	slightly sand vel is fine to ides sandsto posits). igh plasticity 70m BGL -	dy slightly grav medium subai one, mudstone continued by r	velly CL ngular t and lir	AY. Sand o nestone. illing.	
Boring	Progress	and Wate	r Obser	vations		L	Liner Samp	le Informatio	'n		Ger	neral	1
Date 16/06/2021 17/06/2021 17/06/2021	Depth 11.70 11.70 14.70	Casing 11.70 11.70 14.70	Casing Di (mm) 178 178 178 178	a Wa Stan 8.4	40 20	From - To 8.70 - 10.20 10.20 - 11.70 11.70 - 13.20 13.20 - 14.70	Internal Dia (mm) 178 178 178 178 178	Recovery (%) 100 100 100 100	Subsampled Yes Yes No	(1) Description d (2) Inspection pit (3) Double install standpipes install 23.50-29.90m BC (4) UXO carried of (5) Aquifer prote BGL prior to com	Rem erived fror dug prior lation: 2 N lled betwe GL. out as per ction insta mencing r	narKs drillers daily re to drilling. o. 50mm diamet en 6.50-12.50m the Client instru led between 14. otary drilling.	port. er slotted and ctions. 70-12.50m
All dim S	ensions in cale 1:50.0	metres 00		For	explanation explan	ation of sy ons see K	mbols and ey Sheets	C	thecked by:	Logged G.T/R	l by: I.C	Contrac 433	et No. 9



Ğ							DRIL	LHOLE	RECORD			Status:- FINAL		
Project:				F	Prelimina	ary Onsho	ore Ground	Investigatior	n for NZT			Exploratory Ho	ole No.	=
Client:				AECO	M			Location: North	n-west of Redcar, F 456866 530 N 5	North Yor	kshire 2	MS\BH0	5	
Method ( Sonio	Equipme c/Rotai	ent): 'y Cori	ng (B	oart Lor	ngyear L	.S250/Boa	art Longyea	r DB520)	Ground Level (m): 7.484		Start Date: 16/06/2021	Sheet: 1 of 15		
RUN	I DETA	AILS							STRATA				ent/	
Depth	TCR (SCR)	cture dex	ater	Reduced	Legend	Depth			Desc	ription			strume Backfi	
(Core Ø)	RQD	L Lac	Š	Level	Logona	(Thickness)		Discontinuity	Detail		Mai	n		
		RO		-7.22		14.70 (0.30)	14.70-15.00m	rotary openho	le drilling.	(1) Brov (Driller (Glacia	wn gravelly C describes as   Deposits).	CLAY. 'stiff').		
15.00	38	SOIL	-	-7.52	<u> </u>	15.00	15.00-20.30m	soil.		Stiff ore	y brown sligt	htly sandy slightly	-///	
						-	15.00m J35 15.00m B36	5		gravelly	CLAY. Sand	d is fine to coarse.		
					<u></u>					subang	ular and inclu	udes sandstone,		
02mm					<u> </u>	-				Glacia	ne and limes   Till).	tone.		
5					· <u>···</u> ··	}				15.00m	clay is of	intermediate		
										plastici	y.			
15.80	70				- <u> </u>	-	15.80m 11							
						}	13.0011 31							
12mm						-	16.00-16.40m	U1		16.00m	high strer	ngth. Clay is of		
3					· <u>·</u> ····					interme	diate plastici	ty.		
16.30	0				<u> </u>	4								V
Ê					<u> </u>	-								V
02mm					·									V
5						(3.30)								
16.80	100					-	16.80m J2							V
Ê						-								
102mr					<u> </u>									V
					<u> </u>	4  -  -								
17.30	70				<u> </u>	}	17.30m ES3	37						V
Ê														
102m					-°	-								V
	-					}								V
17.80	80					ŀ	17.80m J38							
Ē					<u> </u>	Ţ								
(102m						4	18.00-18.30m	U2						V
18 20				_10.92	<u></u>	19.20								
10.00	0			- 10.02		10.30	18.30m J3			18.30m	clay is of	high plasticity.		
Ê					<u> </u>	4								
(102n					<u> </u>	-								
	1				<u> </u>	L							V////	$\square$

Drilling	g Progress and	d Water Observ	ations	Stand	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
18/06/2021 18/06/2021 21/06/2021	14.70 15.00 15.00	14.70 15.00 15.00	4.71 4.71 0.00	15.80 16.80 18.30	S S S	N21 N17 N17	14.70 - 15.00 15.00 - 15.80 15.80 - 16.30 16.30 - 16.80 16.80 - 17.30 17.30 - 17.80 17.80 - 18.30	Water Water Water Water Water Water Water	100 50 50 50 60 60 50	(1) Description derived fi (2) Inspection pit dug pri (3) Double installation: 2 slotted standpipes install and 23.50-29.90m BGL (4) UXO carried out as p (5) Aquifer protection ins 14.70-12.50m BGL prior drilling.	rom drillers daily report. or to drilling. No. 50mm diameter led between 6.50-12.50m er the Client instructions. talled between to commencing rotary
							18.30 - 18.80	Water	50		
All din	nensions i Scale 1:25	n metres .00		For e abbr	xplana eviatio	tion of syr ns see Ke	mbols and by Sheets	Chec /	ked by: 	Logged by: G.T/R.C	Contract No. <b>4339</b>



Ğ							DRIL	LHOLE	RECORD			Status:- FINAL	-
Project:				F	Prelimina	ry Onsho	ore Ground I	Investigation	for NZT			Exploratory Ho	ole No.
Client:				AECO	М			Location: North	1-west of Redcar, I	North Yorl	kshire 2	MS\BH0	5
Method ( Sonio	Equipme c/Rotai	ent): ry Cori	ng (B	oart Lor	ngyear L	S250/Boa	art Longyea	r DB520)	Ground Level (m): 7.484	20000.00	Start Date: 16/06/2021	Sheet: 2 of 15	
RUN	I DETA	AILS							STRATA			•	ent/ II
Depth &	TCR (SCR)	icture	/ater	Reduced	Legend	Depth			Desc	ription			l strume Backfi
(Core Ø)	RQD	5 L	\$	Level		(THICKHESS)		Discontinuity	Detail	0.115	Mai	n	
18.80 (Employed (18,00) (10,00) (10,00)	0									Stiff red gravelly Gravel i subangu mudstou (Glacial	brown slight CLAY. Sances s fine to mecoular and incluine and limes Till). <i>(continu</i>	tly sandy slightly d is fine to coarse. dium angular to udes sandstone, tone. ued)	
19.30 (102m) 19.80	100					(2.30)	19.30m J39 19.30m B40			19.30-1 flush to	9.80m dril 50% returns	ler notes loss of	
(mm201) 20.30	83 (0)						19.80m J41 19.80m B42			19.80m on the la interme 19.80-2 flush to	laminated aminae. Clay diate plastici 0.30m dril 70% returns	l with silt dustings / is of ty. ler notes loss of	
(102mm)		NI	-	-13.12		- 20.60 	20.60-23.50m	non-intact.		Extreme MUDST destruct (Redcar	ely weak thin ONE distinc tured. Mudstone F	ly laminated grey tly weathered to Formation).	
21.50 (шш 201) 22.00	100 (0) 0 100 (0) 0					- - - - - - - - -							

Drilling	g Progress and	Water Observ	ations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	narks
				19.30 21.50	S C	N13 50/159mm	18.80 - 19.30 19.30 - 19.80 19.80 - 20.30 20.30 - 21.50 21.50 - 22.00 22.00 - 23.00	Water Water Water Water Water Water	50 50 70 100 100 100	<ol> <li>Description derived f</li> <li>Inspection pit dug pri</li> <li>Double installation: 2</li> <li>slotted standpipes instal and 23.50-29.90m BGL.</li> <li>UXO carried out as p</li> <li>Aquifer protection ins 14.70-12.50m BGL prior drilling.</li> </ol>	rom drillers daily report. or to drilling. No. 50mm diameter led between 6.50-12.50m er the Client instructions. talled between to commencing rotary
All dir	nensions ir Scale 1:25	n metres .00		For e abbr	xplana eviatio	tion of syn ns see Ke	nbols and y Sheets	Chec <i>K</i>	ked by: <i>W.</i>	Logged by: G.T/R.C	Contract No. <b>4339</b>



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Extremely weak to very weak thinly laminated MUDSTONE partially

weathered to distinctly weathered.

(Redcar Mudstone Formation).

Drilling	g Progress and	I Water Obser	vations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
21/06/2021 22/06/2021	26.00 26.00	26.00 26.00	0.00 4.27				23.00 - 23.50 23.50 - 25.00 25.00 - 26.00 26.00 - 26.50 26.50 - 28.00	Water Water Water Water Water	100 100 100 100 100	<ol> <li>Description derived fi</li> <li>Inspection pit dug pri</li> <li>Double installation: 2</li> <li>Slotted standpipes instal and 23.50-29.90m BGL.</li> <li>UXO carried out as p</li> <li>Aquifer protection ins 14.70-12.50m BGL prior drilling.</li> </ol>	rom drillers daily report. or to drilling. No. 50mm diameter led between 6.50-12.50m er the Client instructions. talled between to commencing rotary
All din	nensions i Scale 1:25	n metres .00		For e abbr	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec /t	ked by: . <i>W.</i>	Logged by: G.T/R.C	Contract No. <b>4339</b>

26.60-27.60m ... horizontal to subhorizontal (0-5

-18.52

. (2.50)

26.00

26.00-26.60m ... non-intact

25.00

26.00

26.50

100 (0) 0

100 (0) 0

(0)

NI

15

(102mm)

(102mm)



Drilling	g Progress and	Water Observ	vations		Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Wate Standi	er ling	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
								28.00 - 29.50 29.50 - 31.00	Water Water	100 100	<ol> <li>Description derived f</li> <li>Inspection pit dug pri</li> <li>Double installation: 2</li> <li>slotted standpipes instal and 23.50-29.90m BGL.</li> <li>UXO carried out as p</li> <li>Aquifer protection ins 14.70-12.50m BGL prior drilling.</li> </ol>	rom drillers daily report. or to drilling. No. 50mm diameter led between 6.50-12.50m wer the Client instructions. stalled between to commencing rotary
All dir	nensions ii Scale 1:25	n metres .00			For ex abbre	xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Chec /	ked by: . <i>W.</i>	Logged by: G.T/R.C	Contract No. <b>4339</b>

5							DRIL	LHOLE	RECORD			Status:- FINAL	•
oject:				F	Prelimina	ary Onsho	re Ground	Investigatio	n for NZT			Exploratory Ho	ole No
ient:				AECO	М			Location: Nort	n-west of Redcar E:456866.530 N	r, North Yoı :525583.50	kshire 12	MS\BH05	5
ethod (E Sonic	quipme /Rotar	nt): y Cori	ng (B	oart Lor	ngyear L	S250/Boa	art Longyea	ar DB520)	Ground Level (m): 7.484	4	Start Date: 16/06/2021	Sheet: 5 of 15	
RUN	DETA	ILS			1				STRATA				ent/
Depth &	TCR (SCR)	acture ndex	Vater	Reduced Level	Legend	Depth (Thickness)			Des	scription			nstrum
ore Ø)	RQD	Ë -	>			()		Discontinuity	Detail		Ma	lin	=
			-	-23.42		30.90							00
				-23.52		31.00	30.90-31.00m	1 non-intact.		Extrem laminat partially (Redca Comple	ely weak to v ed light grey / to distinctly r Mudstone ete at 31.00m	Weak thinly MUDSTONE weathered. Formation).	
						-							
						-							
						-							
						-							
						-							
						-							
						-							
						-							

Drilling	g Progress and	Water Observ	vations	Stand	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rei	marks
22/06/2021	31.00	31.00	0.00							<ol> <li>Description derived 1</li> <li>Inspection pit dug pr</li> <li>Double installation: 2</li> <li>slotted standpipes insta and 23.50-29.90m BGL</li> <li>UXO carried out as p</li> <li>Aquifer protection in: 14.70-12.50m BGL prior drilling.</li> </ol>	rom drillers daily report. or to drilling. No. 50mm diameter led between 6.50-12.50m er the Client instructions. stalled between to commencing rotary
All dir	All dimensions in metres Scale 1:25.00			For e abbr	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec K	ked by: . <i>W.</i>	Logged by: G.T/R.C	Contract No. <b>4339</b>

























Ē				S	ONIC	SAMI	PLE HO	OLE R	EC	ORD		Status:-	FINAL
Project:			Prelimina	ary Ons	hore Gr	ound Inve	estigation	for NZT				Exp	loratory Hole No.
Client:		AECO	DM			Loc	ation: North-	west of F		car, North Yoi	kshire	-	MS\BH06
Method (Equi Sonic/Ro	pment): otary Coring	g (Boart Lo	ongyear L	_S250/E	Boart Lo	ngyear Di	B520)	Ground Lev	el (m 7.9	): )76	Start Date: 24/05/2021	Sheet:	1 of 3
SAN	IPLES & T	ESTS						S	TR/	АТА	•	•	ent/
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				Descrip	otion		Instrum Backt
0.18 0.20-1.20 0.20-0.90 0.50 0.50 0.50 1.00 1.00 1.20-2.70 1.20-2.70 1.20-2.70 1.50 1.50 1.50 1.50 2.50 2.50 2.70-4.20 2.70-4.20 2.70-4.20 2.70-4.20 2.70-4.20 3.00 3.00 3.20 3.20 3.20 3.20 4.20-5.70	$\begin{array}{c} J1\\ SL1_{(85)}\\ B30_{(811)}\\ ES1_{(811)}\\ PD\\ B31_{(811)}\\ PD\\ SL2_{(81)}\\ J10_{(811)}\\ PD\\ SL2_{(85)}\\ B32_{(812)}\\ PD\\ SL3_{(812)}\\ PD\\ J12_{(812)}\\ PD\\ SL3_{(812)}\\ PD\\ SL3_{(812)}\\ PD\\ SL3_{(813)}\\ PD\\ SL3_{(813)}\\ PD\\ SL3_{(813)}\\ PD\\ SL3_{(814)}\\ S\\ ES5_{(813)}\\ PD\\ J14_{(813)}\\ S\\ S\\ ES7_{(814)}\\ PD\\ J15_{(814)}\\ S15_{(814)}\\ PD\\ SL3_{(814)}\\ PD\\ SL3_{(814)}\\ S\\ S\\ ES7_{(814)}\\ PD\\ SL3_{(814)}\\ S\\	<0.1ppm <0.1ppm 50/90mm <0.1ppm <0.1ppm <0.1ppm N21 <0.1ppm <0.1ppm <0.1ppm N13 <0.1ppm		7.93 7.80 7.08 5.28 3.58 2.68		0.05/ 0.18/ (0.72) 0.90 (1.80) (1.80) (1.80) (1.80) (1.70) (1.70) (1.70) (1.70) (1.70) (1.70)	MADE G MADE G content. includes includes includes ash. Cot (50-75% MADE G and low Sand is angular concrete includes at c.1.20 MADE C cobble c and inclu include at c.2.70 at c.2.70	ROUND Gravel is vesicular vesicular ROUND cobble congular to obles are )). ROUND boulder of fine to co to subang concrete m BGL ROUND ontent. G des vesicular m BGL ROUND Gravel is vesicular m BGL	(Grafinea (Da slagg(Bla contersub (Pirtoonte gula slagg (Pirtoonte gula slagg (Pirtoonte recurso (Pirtoonte recurso (Bla finea slagg (Bla contersub (Pirtoonte recurso (Bla finea slagg (Bla contersub (Pirtoonte recurso (Bla finea slagg (Bla contersub (Pirtoonte recurso (Bla contersub (Bla (Contersub) (Bla (Contersub)	ass over soft rk grey fused e to coarse ar g. Cobbles a (75-100%)). ack dark grey pangular and tangular and	dark brown of gravel with r ngular to suba re angular to red brown gr ne to coarse. includes vesic include vesic sandy gravel sional fragme s ash. Gravel s vesicular sl re angular to barse angular th. Cobbles a obbles are an slag (75-100)	angular subang ravelly s Gravel icular sla ular slag with hig ents of n is fine 1 is fine 1 is fine 1 ag (50- subang y gravel to suba re angu s. Sand ngular to ).	psoil). cobble and ular and and with is fine to ag and g th cobble netal. to coarse 75%) and ular and with low angular lar and is fine to and and o
5.30 5.30 5.40 5.40-5.70 5.70-7.20 5.70 5.70 6.30 6.45 6.45 6.45 6.45 7.20-8.70 7.20-7.95 7.20 7.30 7.70	ES8 <sub>(SL4)</sub> PID J16 <sub>(SL4)</sub> B36 <sub>(SL4)</sub> SL5 <sub>(SS)</sub> J17 <sub>(SL5)</sub> B35 <sub>(SL5)</sub> PID J18 <sub>(SL5)</sub> B37 <sub>(SL5)</sub> PID SL6 <sub>(SS)</sub> J19 <sub>(SL6)</sub> B38 <sub>(SL6)</sub> S PID PID PID	<0.1ppm N27 0.5ppm <0.1ppm <0.1ppm N24 <0.1ppm <0.1ppm		2.28		(0.40) - 5.70 	Dark gre (Tidal Fla Medium fragmen (Tidal Fla	y black s at Depos dense da ts of shel at Depos	ilty S its). ark b I. Sa I. Sa Its).	SAND. Sand	is fine to coar	nd with	I Fare
Borin	g Progress	and Wate		ations		L	iner Samp		atio	on		Gen	eral
Date 24/05/2021 24/05/2021 25/05/2021	Depth 0.00 5.70 5.70	Casing 0.00 5.70 5.70	(mm) 178 178 178	Dan	np y	From - To 0.20 - 1.20 1.20 - 2.70 2.70 - 4.20 4.20 - 5.70 5.70 - 7.20 7.20 - 8.70	(mm) 178 178 178 178 178 178 178 178	(%) 100 100 100 100 100 100	51 Y	Subsampled Yes Yes Yes Yes Yes Yes	(1) Description d Vacuum excaval drilling. (3) Inspe High Pressure D Appendix III for r installed at 4.50r (6) UXO carried Aquifer protectio BGL prior to com	erived fron tion inspec ction pit ex ilatometer esults. (5) · n, 10.00m, out as per n installed imencing r	n drillers daily report. (2) tion pit attempted prior to cavated prior to drilling. (4) testing carried out. Refer to 4 No. vibrating piezometers 19.20m and 30.00m BGL. the Cilent instructions. (7) between 16.20-13.40m otary drilling.
All din	nensions in Scale 1:50.	n metres 00		For	explana previatio	tion of sy ns see Ke	mbols and ey Sheets	1	С	Linecked by:	Logged G.T/R	l by: I.C	Contract No. 4339



Ē				S	ONIC	SAM	PLE H		CORD		Status:-	FINAL
Project:		F	relimin	ary Ons	hore G	round Inve	estigation	for NZT			Exp	loratory Hole No.
Client:		AECO	М			Loc	ation: North- F	west of Rec	lcar, North Yo 8 N:525517 7	rkshire		MS\BH06
Method (Equipr Sonic/Rota	nent): ary Coring	ı (Boart Lor	ıgyear l	_S250/E	Boart Lo	ongyear D	B520)	Ground Level ( 7	m): .976	Start Date: 24/05/2021	Sheet:	2 of 3
SAMF	PLES & TI	ESTS						STF	RATA	•		ent/
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Descri	ption		Instrum Backt
7.95 7.95-8.70 8.30	J20 <sub>(SL6)</sub> B39 <sub>(SL6)</sub> PID	<0.1ppm			× 	- - - - - - - - -	Medium fragmen (Tidal Fl	dense dark ts of shell. S at Deposits)	brown grey sl Sand is fine to . <i>(continued)</i>	lightly silty SA medium.	ND with	rare
8.70-10.20 8.70 8.70-9.45 8.70 9.30 9.45 9.45-10.20 9.70	$\begin{array}{c} SL7_{(SS)}\\ J21_{(SL7)}\\ B40_{(SL7)}\\ S\\ PID\\ PID\\ J22_{(SL7)}\\ B41_{(SL7)}\\ PID\\ PID \end{array}$	N17 <0.1ppm <0.1ppm <0.1ppm				4(6.00)          -	at c.8.70	)m BGL s	and.			
10.20-11.70 10.20 10.20-10.95 10.20 10.30 10.70 10.95 10.95-11.70 11.30	$\begin{array}{c} SL8_{(SS)} \\ J23_{(SL8)} \\ B42_{(SL8)} \\ S \\ PID \\ PID \\ J24_{(SL8)} \\ B43_{(SL8)} \\ PID \\ \end{array}$	N29 <0.1ppm <0.1ppm				· · · · · · · · · · · · · · · · ·						
11.70-13.20 11.70 11.70-12.45 11.70 12.30 12.45 12.45-13.20 12.70	$\begin{array}{c} SL9_{(SS)} \\ J25_{(SL9)} \\ B44_{(SL9)} \\ S \\ PID \\ PID \\ J26_{(SL9)} \\ B45_{(SL9)} \\ PID \\ PID \end{array}$	N51 2.6ppm <0.1ppm 5.1ppm		-3.72	x, x, a, x, x, ax, x, x, ax, x, x, ax, x,  - 11.70 	Very der with occ is fine to (Tidal FI	nse dark bro asional frag medium an at Deposits)	wn grey sligh ments of shell d includes mu	tly silty slightly I. Sand is fine udstone.	/ gravell to coar	y SAND se. Gravel	
13.20-14.70 13.20 13.70	SL10 <sub>(SS)</sub> S	50/280mm <0.1ppm		-5.22	x 0 X	- 13.20  - (0.70)    	Very der content. to subro granite a	nse grey slig Sand is fine unded. Cob and sandsto	htly silty grave to coarse. G bles are round ne.	elly SAND with ravel is fine to ded to subrou	h mediu coarse nded ar	m cobble rounded include
13.90 14.30	J28 <sub>(SL10)</sub> PID	<0.1ppm					Soft thin occasion (Tidal Fl at c 13 9	ly laminated nal fragment at Deposits) 00m BGI	I grey brown s ts of shell and clav is of low i	andy silty CL/ traces of orga	AY with anic ma	terial.
14.60 14.70-16.20 14.70 14.70	J29 <sub>(SL10)</sub> SL11 S PID	N0 <0.1ppm				× 	at c.14.7 at c.14.7	70m BGL 70m BGL	clay is of inter ATH Tool sun	mediate plast k under own v	ticity. weight.	
15.70	PID	<0.1ppm			× ×							
Boring	Progress	and Water	Obser	vations		L	iner Sam	ple Informat	ion		Gen	ieral
Date 25/05/2021 27/05/2021	Depth 14.70 14.70	Casing 14.70 14.70	Casing Dia (mm) 178 178	a Wa Stand 4.0	ter ding	From - To 8.70 - 10.20 10.20 - 11.70 11.70 - 13.20 13.20 - 14.70 14.70 - 16.20	Internal Dia (mm) 178 178 178 178 178 178	a Recovery (%) 100 100 100 100 100	Subsampled Yes Yes Yes No	(1) Description d Vacuum excaval drilling. (3) Inspe High Pressure D Appendix III for n installed at 4.50r (6) UXO carried Aquifer protectio BGL prior to corr	Rem lerived from tion inspect ction pit ex- lilatometer esults. (5) m, 10.00m, out as per n installed mencing r	n drillers daily report. (2) tion pit attempted prior to cavated prior to drilling. (4) testing carried out. Refer to 4 No. vibrating piezometers 19.20m and 30.00m BGL. the Client instructions. (7) between 16.20-13.40m otary drilling.
All dime	ensions in ale 1:50.0	metres		For	explana	ation of sy	mbols and	t t	Checked by:	Logged G.T/R	l by: R.C	Contract No. 4339



E G				S	ONIC	C SAM	PLE H	OLE R	REC	ORD		Status:-	FINAL	
Project:			Prelimina	ry Onsł	nore G	round Inve	estigation	for NZT				Exp	loratory Hol	e No.
Client:		AEC	ОМ			Loc	ation: North E	-west of I :457033	Redc .748	ar, North Yo N:525517.75	rkshire 58	-	MS\BH06	
Method (Equi Sonic/Ro	pment): otary Corin	g (Boart Lo	ongyear L	S250/B	oart Lo	ongyear D	B520)	Ground Le	vel (m) 7.9	): )76	Start Date: 24/05/2021	Sheet:	3 of 3	
SAN	IPLES & T	ESTS				1		Ś	STRA	<b>\TA</b>	1	1		ent/
Depth	Type No	Test Result	Water A	Reduced Level	Legend	Depth (Thickness)				Descrip	otion			Instrum Backf
				-8.23	<u>× × ×</u>	16.20	Doring	omploto	ot 16	20m BCL	antinued by	ator de	illing	
Borin	g Progres	s and Wate	er Observa	ations	er   -	Emer: T	iner Sam	ple Inform	natio /erv	n		Gen Rem	ieral iarks	
Date	Depth 16.20	Casing 16.20	(mm) 178	4.00	0 0	From - To	(mm)	(%	) )	Subsampled	(1) Description d Vacuum excaval drilling. (3) Inspe High Pressure D Appendix III for r installed at 4.50r (6) UXO carried Aquifer protectio BGL prior to com	erived from tion inspect ction pit ey- ilatometer esults. (5) n, 10.00m, out as per n installed mencing r	n drillers daily rej tion pit attempte ccavated prior to testing carried o 4 No. vibrating p 19.20m and 30. the Client instruc between 16.20- otary drilling.	port. (2) d prior to drilling. (4) ut. Refer to iezometer: 00m BGL. tions. (7) 13.40m
All dim	nensions ir Scale 1:50	n metres .00		For e	explana reviation	ation of sy ons see K	mbols and	d d	С	hecked by:	Logged G.T/R	l by: I.C	Contrac 433	t No. 9



Drilling	Drilling Progress and Water Observations					tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
01/06/2021 01/06/2021 02/06/2021	16.20 16.30 16.30	16.20 16.30 16.30	5.42 0.00 0.00	17.30 19.80	S	N23 N19	16.20 - 16.30 16.30 - 17.30 17.30 - 18.30 18.30 - 19.80 19.80 - 21.30	Water Water Water Water Water	100 100 100 100 100	(1) Description derived f Vacuum excavation insp to drilling. (3) Inspection drilling. (4) High Pressur carried out. Refer to App No. vibrating piezomete 10.00m, 19.20m and 30 out as per the Client inst protection installed betw prior to commencing rot	rom drillers daily report. (2) bection pit attempted prior pit excavated prior to e Dilatometer testing bendix III for results. (5) 4 rs installed at 4.50m, 00m BGL. (6) UXO carried ructions. (7) Aquifer een 16.20-13.40m BGL ary drilling.
All dir	All dimensions in metres Scale 1:25.00				xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Chec /t	ked by: . <i>W.</i>	Logged by: G.T/R.C	Contract No. <b>4339</b>



Drilling	g Progress and	Water Observ	vations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standin	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	narks
				21.30	S	N24	21.30 - 22.00 22.00 - 23.00 23.00 - 24.30	Water Water Water	100 100 100	(1) Description derived fi Vacuum excavation insp to drilling. (3) Inspection drilling. (4) High Pressur carried out. Refer to App No. vibrating piezometer 10.00m, 19.20m and 30 out as per the Client inst protection installed betw prior to commencing rota	rom drillers daily report. (2) vection pit attempted prior pit excavated prior to e Dilatometer testing vendix III for results. (5) 4 s installed at 4.50m, 00m BGL. (6) UXO carried ructions. (7) Aquifer een 16.20-13.40m BGL ary drilling.
All dir	For ea	xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Chec /t	ked by:	Logged by: G.T/R.C	Contract No. <b>4339</b>			

		4	ALI R	EAD Office:	D EX	Stella Gill Ind	USTIAL ESTATE, Pelto	DN & C	GEOTEC	HNICS LIM Tel: 0191 387 4700 Fax: 0191 38 Tel: 01772 735 300 Fax: 01772 7	ITED 17 4710 35 999	
				-			DRIL	LHOLE	RECORD		Status:- FINAL	
Project:				P	Prelimina	ry Onsho	ore Ground	Investigatior	n for NZT		Exploratory Ho	le No.
Client:				AECO	M			Location: North	n-west of Redcar,	North Yorkshire	MS\BH06	6
Method ( Sonie	Equipme c/Rotai	ent): ry Cori	ng (B	oart Lor	ngyear L	S250/Bo	art Longyea	ar DB520)	Ground Level (m): 7.976	Start Date: 24/05/2021	Sheet: 3 of 17	
RUN	I DETA	AILS							STRATA		1	nt/
Depth &	th TCR S T Reduced Legend Depth								Desc	ription		I I Istrume Backfil
(Core Ø)	Ø) RQD' E ≥ Level <sup>25,53,55</sup> (Thickness)							Discontinuity	Detail	Ma Very weak thinly lar	in ninated light grev	
(uuuzor)) 25.40	91 (67) 0 83 (71) 0	NR NI 25		-18.72		(3.70) 	24.30-24.40m 24.40-24.50m 24.50-26.70m degrees) closs smooth open	I no recovery.	ubhorizontal (0-25 h planar to undulating scontinuities.	MUDSTONE disting (Redcar Mudstone (continued)	tly weathered. Formation).	
26.90 (mm201) 27.30	0 (0) 0 51 (37) 7			-19.32		40.60) - - - - - - - -				Weak thinly laminal MUDSTONE distinc (Redcar Mudstone	red light grey ty weathered. Formation).	

Drilling	Drilling Progress and Water Observations			Stand	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
02/06/2021 03/06/2021 03/06/2021 04/06/2021	24.30 24.30 27.30 27.30	24.30 24.30 27.30 27.30	0.00 7.28 0.00 1.46				24.30 - 25.40 25.40 - 26.90 26.90 - 27.30 27.30 - 28.80	Water Water Water Water	100 100 100 100	(1) Description derived f Vacuum excavation insp to drilling. (3) Inspection drilling. (4) High Pressur carried out. Refer to App No. vibrating piezomete 10.00m, 19.20m and 30 out as per the Client inst protection installed betw prior to commencing rot	rom drillers daily report. (2) vection pit attempted prior pit excavated prior to e Dilatometer testing vendix III for results. (5) 4 s installed at 4.50m, 00m BGL. (6) UXO carried ructions. (7) Aquifer een 16.20-13.40m BGL ary drilling.
All dir	All dimensions in metres Scale 1:25.00			For e abbr	xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Chec /t	ked by: . <i>W.</i>	Logged by: G.T/R.C	Contract No. <b>4339</b>



Drilling	g Progress and	I Water Observ	vations	Stand	ard Pene	tration Test		Flush		General		
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks	
04/06/2021 07/06/2021	31.10 31.10	31.10 31.10	0.00 7.31				28.80 - 30.30 30.30 - 31.10 31.10 - 31.80 31.80 - 33.10	Water Water Water Water	100 100 100 100	(1) Description derived from drillers daily report. Vacuum excavation inspection pit attempted pri to drilling. (3) Inspection pit excavated prior to drilling. (4) High Pressure Dilatometer testing carried out. Refer to Appendix III for results. (5) No. vibrating piezometers installed at 4.50m, 10.00m, 19.20m and 30.00m BGL. (6) UXO car out as per the Client instructions. (7) Aquifer protection installed between 16.20-13.40m BGL prior to commencing rotary drilling.		
All din	All dimensions in metres Scale 1:25.00				xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Cheo /	ked by: 	Logged by: G.T/R.C	Contract No. <b>4339</b>	



Drilling	g Progress and	I Water Obser	vations	Stand	ard Pene	tration Test		Flush		General	
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	narks
07/06/2021 08/06/2021	34.10 34.10	34.10 34.10	0.00 0.00				33.10 - 34.10 34.10 - 34.90 34.90 - 36.40	Water Water Water	100 100 100	(1) Description derived f Vacuum excavation insp to drilling. (3) Inspection drilling. (4) High Pressur carried out. Refer to App No. vibrating piezomete 10.00m, 19.20m and 30 out as per the Client inst protection installed betw prior to commencing rot	rom drillers daily report. (2) vection pit attempted prior pit excavated prior to e Dilatometer testing vendix III for results. (5) 4 s installed at 4.50m, 00m BGL. (6) UXO carried ructions. (7) Aquifer een 16.20-13.40m BGL ary drilling.
All dir	All dimensions in metres Scale 1:25.00				xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Chec /	ked by: . <i>W.</i>	Logged by: G.T/R.C	Contract No. <b>4339</b>

A		4		<b>IEC</b> ad Office: egional Offic	D EX Unit 29 e: Unit 20	5 Stella Gill Ind D Business Dev	RATIO	ON & On Fell, Chester-le-S Eanam Wharf, Black	GEOTE treet, Co. Durham, DH2 burn, BB1 5BL		Tel: 0191 387 4700 Fa Tel: 01772 735 300 Fa	LIM x: 0191 387 x: 01772 73	<b>ITED</b> 7 4710 35 999	
							DRIL	LHOLE	RECORE	)			Status:- FINAL	
Project:				P	Prelimina	iry Onsho	ore Ground	Investigatio	n for NZT				Exploratory Ho	le No.
Client:				AECO	М			Location: Nort	h-west of Red	lcar, N	orth Yorkshire	)	MS\BH06	5
Method Soni	(Equipme c/Rotar	nt): y Cori	ng (Bo	oart Lor	ngyear L	S250/Bo	art Longyea	ar DB520)	Ground Level (r 7.	<u>o N.52;</u> m): .976	Start E 24/0	<b>)ate:</b> 5/2021	Sheet: 6 of 17	
RUI	N DETA	ALS							STRATA					
Depth	TCR (SCR)	cture dex	ater	Reduced	Legend	Depth			[	Descrip	otion			strume Backfill
(Core Ø	RQD	Frac	Ň	Level	Logona	(Thickness)	din o nationality	Discontinuity	Detail		<b>10</b> /	Mai	n	<u> </u>
36.40	83 (83) 19			-29.12		37.10					Complete at 3	37.10m	BGL.	

Drilling	Drilling Progress and Water Observations					tration Test		Flush			neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
08/06/2021	37.10	37.10	0.00				36.40 - 37.10	Water	100	(1) Description derived f Vacuum excavation insp to drilling. (3) Inspection drilling. (4) High Pressur carried out. Refer to App No. vibrating piezomete 10.00m, 19.20m and 30 out as per the Client inst protection installed betw prior to commencing rot	rom drillers daily report. (2) vection pit attempted prior pit excavated prior to e Dilatometer testing vendix III for results. (5) 4 rs installed at 4.50m, 00m BGL. (6) UXO carried ructions. (7) Aquifer een 16.20-13.40m BGL ary drilling.
All dimensions in metres Scale 1:25.00				For e abbr	xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Chec /t	ked by: . <i>W.</i>	Logged by: G.T/R.C	Contract No. <b>4339</b>












### **ALLIED EXPLORATION & GEOTECHNICS LIMITED** Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 0191 387 4700 Fax: 0191 387 4710 Tel: 0197 273 500 Fax: 0197 273 599

Head Office: Regional Office:













## **ALLIED EXPLORATION & GEOTECHNICS LIMITED** Head Office: Unit 25 Stella Gill Industrial Estate, Petton 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: 0197 2735 300 Fax: 01772 735 999

Ē		DRILLHOLE I	RECORD		Status:- FINAL
Project:	Preliminary Onshore C	Ground Investigation	for NZT		Exploratory Hole No.
Client:	AECOM	Location: North E	west of Redcar, North Yor :457033.748 N:525517.75	kshire 8	MS\BH06
Method (Equipr Sonic/Rota	<sup>nent):</sup> ary Coring (Boart Longyear LS250/Boart L	ongyear DB520)	Ground Level (m): 7.976	Start Date: 24/05/2021	Sheet: 17 of 17
		Figure MS\BI MS\BH06 36.40-37	106.21 7.10m BGL		
		Alle in the second seco	ROCK CORE DODGRAPHIC BOARD S.I NZT m BGL		



Ğ				S	SONIC	SA	MP	LE HO	OLE F	REC	ORD		Status:-	FINAL	
Project:			Prelimina	ry Ons	shore Gr	ound l	nves	stigation f	for NZT				Exp	loratory Hole	e No.
Client:		AEC	MC			I	Locat	ion: North-	west of	Redo	ar, North Yo	orkshire	-	MS\BH07	
Method (Equi Sonic/Ro	ipment): otary Corinę	g (Boart Lo	ongyear L	S250/I	Boart Lo	ngyea	r DB	520)	Ground Le	ovel (m 7.3	): 330	Start Date: 30/06/2021	Sheet:	1 of 3	
SAN	MPLES & T	ESTS			i	1				STR	ATA		•		ent/ ill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickne	h ess)				Descr	iption			Instrum Backf
				<u>7.28</u> 6.98			).05 ).35	MADE G MADE G	ROUNE	D (Gra D (Lig	ass over daı ıht brown sli	rk brown claye ghtly sandy gr	ey topsoi avel. Gr	l). avel is	
0.35 0.35-1.20 0.35 0.40 0.50	ES1 <sub>(SL1)</sub> SL1 <sub>(SS)</sub> PID J1 ES2 <sub>(SL1)</sub>	ES1 <sub>(8L1)</sub> SL1 <sub>(8S)</sub> PID J1 ES2 <sub>(8L1)</sub> <0.1ppm												Gravel is Slag is	
0.50 0.50 1.00-2.00	PID ES3 <sub>(SI 1/SI</sub>	<0.1ppm						MADE G cobbles.	Gravel	) (Blu is fine	e light grey to coarse a	slightly sandy angular to sub	gravel a angular	and g and g	
1.00 1.20-2.70 1.20	ES3 <sub>(E11512)</sub> PID       <0.1ppm												ingular a	and 5	
2.00-2.70 2.00	B4 <sub>(SL2)</sub> PID <0.1ppm														
2.70-4.20 2.70-4.20 2.70-4.20 2.70 2.70	SL3(SS) ES5(SL3) B6(EL3) C         N7 PID         N7 <0.1ppm														
4.20-5.70 4.20-4.65 4.20 4.65-5.00 4.65 5.00-5.70	$\begin{array}{c} SL4_{(SS)}\\ ES7_{(SL4)}\\ PID\\ ES8_{(SL4)}\\ PID\\ B10_{(SL4)} \end{array}$	N18 1.0ppm <0.1ppm	-	<u>3.13</u> 2.68		(0.45)	I.20	MADE G Gravel is Mild tar o (Enginee Black ye silt. Sano (Tidal Fla	ROUNI offine to odour). er notes llow bro d is fine at Depo	D (Me coars sligh wn S to co sits).	edium dense se angular to tly saturateo AND with oo arse. Mild h	e grey brown s o subangular a l and slag with ccasional pock ydrocarbon oc	and and and inclu tar coa kets of s dour.	l gravel. udes slag. ting).	
5.50 5.50 5.70-7.20 5.70-6.45 5.70 6.00	$\begin{array}{c} J9_{(SL4)}\\ PID\\ SL5_{(SS)}\\ B11_{(SL5)}\\ S\\ J12_{(SL5)}\end{array}$	<0.1ppm N36		1.73	· · · · · · · · · · · · · · · · · · ·	- 5 - 5 	5.60	Dense ye fragment subround limeston (Tidal Fla	ellow br ts. Sanc ded to ro e. at Depo	own s l is fir ounde sits).	slightly grave ne to coarse ed and inclu	elly SAND with . Gravel is fine des mudstone	n occasi e to coar e, sands	onal shell rse tone and	
6.45-7.20 6.50 6.50	B13 <sub>(SL5)</sub> J14 <sub>(SL5)</sub> PID	<0.1ppm				(1.75) - - - - -									
7.00 7.20-8.70 7.20 7.35-7.55 7.35	J15 <sub>(SL5)</sub> SL6 <sub>(SS)</sub> S ES16 <sub>(SL6)</sub> ES(M)17,~	N5		-0.02		- - - - - -	7.35	Soft dark material.	grey bi	rown	silty CLAY v	vith frequent tr	races of	organic	
7.35 7.50	PID (9 J19 <sub>(SL6)</sub>	<sup>°′</sup> <0.1ppm			× × ×	(0.90)		(11dal Fla at c.7.50	m BGL	sits). cla	iy is of high	plasticity.		c	0-0
Borin	ng Progress	and Wate		ations			Lir	ner Samp		matio	n		Gen	eral	
Date 30/06/2021	Depth 0.00	Casing	(mm)	Stan	ding	From - To	20	(mm)	(%	) 0	Subsampled Yes	(1) Description d		n drillers daily repo	ort. (2)
30,00/2021	0.00	0.00	170			1.20 - 2.7 2.70 - 4.2 4.20 - 5.7 5.70 - 7.2 7.20 - 8.7	J - 2.70     178     100     Yes     Vacuum excertation pic duempted phores       J - 4.20     178     100     Yes     Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.60m and 5.5-14.50m For the carried out as per the Client instructions. (6) Aquifer protection installed between 16.55-14.50m BGL due to poor ground conditions. (8) High Pressure Dilatometer testing carried out. Refer to Appendix III for results.								
All din	nensions in Scale 1:50.	metres 00		For abl	explana breviatio	ition of	f sym e Key	bols and Sheets		C	checked by:	Logged G.T/M.E	d by: B/R.C	Contract 4339	No.



Project:

Client:

AECOM

Status:-SONIC SAMPLE HOLE RECORD FINAL Preliminary Onshore Ground Investigation for NZT Exploratory Hole No. Location: North-west of Redcar, North Yorkshire MS\BH07 E:457195.207 N:525424.790 Ground Level (m): 7.330 Start Date: 30/06/2021 Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520) Sheet: 2 of 3 QTD ATA

Desk         Two         Bit         Product         State         Description         Page           255-20         Bit	SAM	PLES & T	ESTS			STRATA								
7.56.6.20         1010	Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Descri	ption	Instrume Backfil		
8.50         PD         cd. tpm         PD         PD <td>7.55-8.25 8.00 8.25-8.70</td> <td>B18<sub>(SL6)</sub> J20<sub>(SL6)</sub> B21<sub>(SL6)</sub></td> <td></td> <td></td> <td>-0.92</td> <td></td> <td>8.25 </td> <td>Yellow bro</td> <td>own SANI</td> <td>D with occasion</td> <td>nal fine to coarse grav</td> <td>vel sized</td>	7.55-8.25 8.00 8.25-8.70	B18 <sub>(SL6)</sub> J20 <sub>(SL6)</sub> B21 <sub>(SL6)</sub>			-0.92		8.25 	Yellow bro	own SANI	D with occasion	nal fine to coarse grav	vel sized		
9.45-10:20       924-8cal P10       -0.1ppm       -2.87       -10.20         10:00       J28-8cal P10       -0.1ppm       -0.1ppm       -0.20         10:00       J28-8cal P10       -0.1ppm       -0.1ppm       -0.20         10:00       J28-8cal P10       -0.1ppm       -0.1ppm       -0.1ppm       -0.1ppm         11:00       J28-8cal P10       -0.1ppm       -0.1ppm       -0.1ppm       -0.1ppm         12:24-51:20       J28-8cal P10       -0.1ppm       -0.1ppm       -0.1ppm       -0.1ppm         12:24-51:20       J28-8cal P10       -0.1ppm       -0.1ppm       -0.1ppm       -0.1ppm       -0.1ppm         12:25:20       J28-8cal P10       -0.1ppm       -0.1ppm<	8.50 8.70-10.20 8.70-9.45 8.70 9.00	PID SL8 <sub>(SS)</sub> B22 <sub>(SL8)</sub> S J23 <sub>(SL8)</sub>	<0.1ppm N28				- - - - - - - - - - - - - - - - - - -	(Tidal Flat	Deposits	s).	and is line to coarse.			
10:00         J26,m0         J26,m0 </td <td>9.45-10.20 9.50 9.50</td> <td>B24<sub>(SL8)</sub> J25<sub>(SL8)</sub> PID</td> <td>&lt;0.1ppm</td> <td></td> <td></td> <td>× × · · · · · · · · · · · · · · · · · ·</td> <td><del>} , , , , , , , , , , , , , , , </del></td> <td></td> <td></td> <td></td> <td></td> <td></td>	9.45-10.20 9.50 9.50	B24 <sub>(SL8)</sub> J25 <sub>(SL8)</sub> PID	<0.1ppm			× × · · · · · · · · · · · · · · · · · ·	<del>} , , , , , , , , , , , , , , , </del>							
1100-1170       223/90       0.1ppm         1150       33 (a,b)       0.1ppm         1170-120       522/8.5       0.1ppm         1170-1245       522/8.5       0.1ppm         1170-1245       532/8.5       0.1ppm         1250       J33(a,b)       0.1ppm         1250       J33(a,b)       0.1ppm         1250       J33(a,b)       0.1ppm         1250       J33(a,b)       0.1ppm         1300       J33(a,b)       0.1ppm         1320-140       Saft dark grey brown slightly sandy slity CLAY with frequent traces of organic material.         1320-140       Saft dark grey brown slightly sandy slity CLAY with frequent traces of organic material.         1450       J43(a,b)       0.1ppm         1450       J43(a,b)       0.1ppm         1450       J43(a,b)       0.1ppm         1425       J33(a,b)       0.1ppm         1426-120       St 12/80       0.1ppm         1430       J43(a,b)       0.1ppm         1430       J43(a,b)       0.1ppm         1430       J43(a,b)       0.1ppm         1430       J32(a,b)       0.1ppm         1430       J32(a,b)       0.1ppm         142	10.00 10.20-11.70 10.20-11.00 10.20 10.50 10.50	$\begin{array}{c} J26_{(SL8)}\\ SL9_{(SS)}\\ B27_{(SL9)}\\ S\\ J28_{(SL9)}\\ PID \end{array}$	N26 <0.1ppm		-2.87	× · · · · · · · · · · · · · · · · · · ·	- 10.20 - 10.20 	Medium d silty SANE coarse. G mudstone (Tidal Flat	ense bec ) with free ravel is fii , sandsto Deposits	coming dense y quent fragment ne to coarse ar ne and limesto s).	rellow brown slightly g ts of shell. Sand is find ngular to rounded and ne.	ravelly e to l includes		
11:50 11:70:1245 12:50 12:50 12:50 12:50 13:20	11.00-11.70 11.00	B29 <sub>(SL9)</sub> J30 <sub>(SL9)</sub>				×0				-				
12.45-13.20       B34, st.rep 12.50       0.1ppm       x	11.50 11.50 11.70-13.20 11.70-12.45 11.70 12.00	J31 <sub>(SL9)</sub> PID SL10 <sub>(SS)</sub> B32 <sub>(SL10)</sub> S J33 <sub>(SL10)</sub>	<0.1ppm N33			· o` .X . · x · · . · Q . · xo` ·	- - - - - - - - -							
13.00       J36 <sub>(12.10)</sub> J36 <sub>(12.10)</sub> J36 <sub>(12.10)</sub> 13.20-14.70       SL11 <sub>(10)</sub> SS7 <sub>(02.11)</sub> H41         13.20       SS7 <sub>(02.11)</sub> N41       SS7 <sub>(02.11)</sub> Data         13.20       J36 <sub>(12.10)</sub> N41       SS7 <sub>(02.11)</sub> Data       SS7 <sub>(02.11)</sub> 13.20       J36 <sub>(12.10)</sub> SS7 <sub>(02.11)</sub> Data       SS7 <sub>(02.11)</sub> Data         13.20       J36 <sub>(12.10)</sub> O.1ppm       SS7 <sub>(02.11)</sub> Contract No.       SS7 <sub>(02.11)</sub> 13.85       SS7 <sub>(02.11)</sub> O.1ppm       SS7 <sub>(02.11)</sub> Contract No.       SS7 <sub>(02.11)</sub> 14.00       H42 <sub>(02.11)</sub> O.1ppm       SS7 <sub>(02.11)</sub> Contract No.       SS7 <sub>(02.11)</sub> 14.55       PID       O.1ppm       SS7 <sub>(02.11)</sub> Contract No.       SS7 <sub>(02.11)</sub> Contract No.         14.70-15.20       UTT       Contract No.       SS7 <sub>(02.11)</sub> SS7 <sub>(02.11)</sub> SS7 <sub>(02.11)</sub> SS7 <sub>(02.11)</sub> SS7 <sub>(02.11)</sub> 14.70-15.90       ES48 <sub>(02.12)</sub> SS7 <sub>(02.11)</sub> SSS7 <sub>(02.11)</sub> <	12.45-13.20 12.50 12.50	B34 <sub>(SL10)</sub> J35 <sub>(SL10)</sub> PID	<0.1ppm			× · · · · · · · · · · · · · · · · · · ·	- - - - -							
14.00       J42(stri) 14.50       J43(stri) J43(stri) 14.55       -7.27	13.00 13.20-14.70 13.20-13.40 13.20 13.50 13.65-13.85 13.65 13.85 13.85	$J36_{(SL10)}\\SL11_{(SS)}\\S37_{(SL11)}\\SPID\\J38_{(SL11)}\\PID\\ES39_{(SL11)}\\PID\\ES(M)40_{(SL1)}\\B41_{(SL11)}$	N41 <0.1ppm <0.1ppm		-6.32		- - - - - - - - - - - - - - - - - - -	between c Soft dark ( traces of c (Tidal Flat 14.00m B	:.13.40-13 grey brow organic m Deposits GL clay	3.65m BGL o vn slightly sand laterial. s). y is of intermed	dark brown. ly silty CLAY with freq liate plasticity.	uent		
(a.17)         (a.17) <th c<="" td=""><td>14.00 14.50 14.65 14.70-15.12 14.70-16.20 14.70 14.80-15.60 15.00</td><td>J42<sub>(SL11)</sub> J43<sub>(SL11)</sub> PID UT1 SL12<sub>(SS)</sub> J44<sub>(SL12)</sub> B45<sub>(SL12)</sub></td><td>&lt;0.1ppm (35)</td><td></td><td>-7.27</td><td></td><td>- 14.60 - 14.80 </td><td>Dark brow (Tidal Flat Soft thinly (Tidal Flat</td><td>n clayey Deposits laminate Deposits</td><td>SAND. Sand is ३). d grey brown s ३).</td><td>s fine to medium. silty CLAY.</td><td></td></th>	<td>14.00 14.50 14.65 14.70-15.12 14.70-16.20 14.70 14.80-15.60 15.00</td> <td>J42<sub>(SL11)</sub> J43<sub>(SL11)</sub> PID UT1 SL12<sub>(SS)</sub> J44<sub>(SL12)</sub> B45<sub>(SL12)</sub></td> <td>&lt;0.1ppm (35)</td> <td></td> <td>-7.27</td> <td></td> <td>- 14.60 - 14.80 </td> <td>Dark brow (Tidal Flat Soft thinly (Tidal Flat</td> <td>n clayey Deposits laminate Deposits</td> <td>SAND. Sand is ३). d grey brown s ३).</td> <td>s fine to medium. silty CLAY.</td> <td></td>	14.00 14.50 14.65 14.70-15.12 14.70-16.20 14.70 14.80-15.60 15.00	J42 <sub>(SL11)</sub> J43 <sub>(SL11)</sub> PID UT1 SL12 <sub>(SS)</sub> J44 <sub>(SL12)</sub> B45 <sub>(SL12)</sub>	<0.1ppm (35)		-7.27		- 14.60 - 14.80 	Dark brow (Tidal Flat Soft thinly (Tidal Flat	n clayey Deposits laminate Deposits	SAND. Sand is ३). d grey brown s ३).	s fine to medium. silty CLAY.		
Difference in the second seco	15.70 15.70-15.90	J47 <sub>(SL12)</sub> ES48 <sub>(SL12)</sub>			-8.27 -8.37		7 15.60 15.70 -	Firm grey (Tidal Flat	black org Deposits	janic CLAY. Mi s).	ld organic odour.			
Date         Depth         Casing         Casing (mm)         Water Standing           30/06/2021         13.20         13.20         178         From - To         Internal Dia (mm)         Recovery (%)         Subsampled         (1) Description derived from drillers daily report. (2)           01/07/2021         13.20         13.20         178         8.70 - 10.20         178         100         Yes           11.70 - 13.20         13.20         178         10.20 - 11.70         178         100         Yes           11.70 - 13.20         178         100         Yes         Vacuum excavation inspection pit dug prior to drilling. (4)           01/07/2021         13.20         178         10.20 - 11.70         178         100         Yes           11.70 - 13.20         178         100         Yes         Yes         Yes         Yes           14.70 - 16.20         178         100         Yes         Yes         Yes         Yes           All dimensions in metres         For explanation of symbols and Scale 1:50.00         Checked by:         Logged by:         Contract No.           All dimensions in metres         Drit bet and Time: 20/14//0001 14/26/48         Wes         K.W.         G.T/M.B/R.C         4339	Boring	g Progress	and Wate	er Obs	ervations		L	iner Sample	e Informa	tion	Gen	eral		
30/06/2021       13.20       13.20       178       10.20       178       100       Yes         01/07/2021       13.20       13.20       178       178       100       Yes       (1) Description derived from drillers daily report. (2) Vacuum excavation inspection pit due prior to drilling. (3) Inspection pit due 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) Aquife protection installed between 1.70-4.60m and 5.80-7.30m BGL. (5) UXO carried out as per the Client instructions. (6) Aquife protection installed between 1.65-14.50mprior to commencing rotary duriting. (7) Unable to carry out High Pressure Dilatometer testing carried out. Refer to Appendix III for results.         All dimensions in metres       For explanation of symbols and abbreviations see Key Sheets       Checked by: N.W.       Logged by: Contract No. 4339	Date	Depth	Casing	Casing (mm	Dia Wa I) Star	ater nding	From - To	Internal Dia (mm)	Recovery (%)	/ Subsampled	Rem	arks		
All dimensions in metres       For explanation of symbols and abbreviations see Key Sheets       Checked by: K.W.       Logged by: G.T/M.B/R.C       Contract No. <b>4339</b>	30/06/2021 01/07/2021	13.20 13.20	13.20 13.20	178		1 1 1 1	3.70 - 10.20 0.20 - 11.70 1.70 - 13.20 3.20 - 14.70 4.70 - 16.20	178 178 178 178 178 178	100 100 100 100 100	Yes Yes Yes Yes Yes	(1) Description derived from Vacuum excavation inspect drilling. (3) Inspection pit du Double installation: 2 No. 5 standpipes installed betwee 5.80-7.30m BGL. (5) UXO o instructions. (6) Aquifer proi 16.55-14.50mprior to comm Unable to carry out High Pr between 22.80-25.20m BG conditions. (8) High Pressu carried out. Refer to Appen	n drillers daily report. (2) tion pit attempted prior to g prior to drilling. (4) Omm diameter slotted en 1.70-4.60m and carried out as per the Clier tection installed between nencing rotary drilling. (7) essure Dilatometer test due to poor ground re Dilatometer testing dix III for results.		
	All dim S	ensions in cale 1:50.	metres 00		For ab	explana breviatio	tion of sy ons see Ke	mbols and ey Sheets		Checked by: <i>K.W.</i>	Logged by: G.T/M.B/R.C	Contract No. <b>4339</b>		



SONIC SAMPLE HOLE RECORD

Status:-

**FINAL** 

Project:

Client:

Depth

15.70

15.70

16.00

Date

01/07/2021

Head Office: Regional Office:

Preliminary Onshore Ground Investigation for NZT **Exploratory Hole No.** Location: North-west of Redcar, North Yorkshire MS\BH07 AECOM E:457195.207 N:525424.790 Ground Level (m): 7.330 Method (Equipment): Start Date: Sheet: Sonic/Rotary Coring (Boart Longyear LS250/Boart Longyear DB520) 30/06/2021 3 of 3 SAMPLES & TESTS STRATA Instrument/ Backfill Water Type No Test Reduced Depth Legend Description Result Level (Thickn ES(M)49<sub>(SL</sub> PID B50<sub>(SL12)</sub> 0 Stiff thinly laminated red brown slightly gravelly CLAY. Gravel is (0.85) <0.1ppm fine to coarse angular to rounded and includes mudstone and 15.90-16.20 limestone. J51<sub>(SL12)</sub> UT2 -9.22 16.55 (Glacial Deposits). (continued) 16.20-16.55 (150) at c.16.20m BGL ... very high strength. Clay is of high plasticity. Boring complete at 16.55m BGL - continued by rotary drilling. Boring Progress and Water Observations Liner Sample Information General Casing Dia Water Internal Dia Recovery (%) Remarks Depth Casing From - To Subsampled Standing (mm) (mm) (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 16.55 16.20 178 3.80 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.

Checked by:

K.W.

Logged by:

G.T/M.B/R.C

Contract No.

4339

For explanation of symbols and

abbreviations see Key Sheets

All dimensions in metres

Scale 1:50.00



	I										
Drilling	g Progress and	d Water Obser	vations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
01/07/2021	16.55	16.55	4.68	18.30	s	N16	16.60 - 16.80	Water	100	(1) Description derived f	rom drillers daily report. (2)
01/07/2021	16.90	16.90	0.00				16.80 - 16.90	Water	100	Vacuum excavation insp	pection pit attempted prior
02/07/2021	16.90	16.90	0.00	16.90 - 17.10 Water 100						Double installation: 2 No	50mm diameter slotted
02/07/2021	19.10	19.10	0.00		17.10 - 17.60 Water 100					standpipes installed betw	ween 1.70-4.60m and
05/07/2021	19.10	19.10	6.71				17.60 - 18.30	Water	100	5.80-7.30m BGL. (5) UX	O carried out as per the
							18.30 - 19.10	Water	100	between 16.55-14.50mp	prior to commencing rotary
							19.10 - 19.80	Water	100	drilling. (7) Unable to car	rry out High Pressure
							19.80 - 21.30	Water	100	bilatometer test betweer to poor ground condition	n 22.80-25.20m BGL due Is. (8) High Pressure
								Choo	kod by:	Dilatometer testing carri	ed out. Refer to Appendix
All din	All dimensions in metres Scale 1:25.00				xplana eviatio	tion of syr ns see Ke	nbols and ey Sheets	chec /t	.W.	G.T/M.B/R.C	4339

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Drilling	g Progress and	Water Obser	vations	Stand	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
05/07/2021 06/07/2021	23.00 23.00	23.00 23.00	0.00 2.46	21.30	S	N21	21.30 - 22.80 22.80 - 23.00 23.00 - 24.30 24.30 - 24.40 24.40 - 24.90	Water 100 Water 100 Water 100 Water 100 Water 100		(1) Description derived fr Vacuum excavation insp to drilling. (3) Inspection Double installation: 2 No standpipes installed betw 5.80-7.30m BGL. (5) UX Client instructions. (6) At between 16.55-14.50mp drilling. (7) Unable to car Dilatometer test between to poor ground condition	rom drillers daily report. (2) tection pit attempted prior pit dug prior to drilling. (4) . 50mm diameter slotted veen 1.70-4.60m and O carried out as per the quifer protection installed rior to commencing rotary ry out High Pressure 122.80-25.20m BGL due s. (8) High Pressure
All dir	All dimensions in metres Scale 1:25.00			For e abbr	xplana eviatio	tion of syn ns see Ke	nbols and y Sheets	Chec /	ked by:	G.T/M.B/R.C	Contract No. 4339

Print Date and Time: 29/11/2021 14:49:00



Drilling	g Progress and	I Water Observ	/ations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
06/07/2021 07/07/2021 07/07/2021 08/07/2021	25.80 25.80 28.40 28.40	25.80 25.80 26.20 26.20	0.00 0.00 0.00 6.10	24.90 25.90	C C	N32 N47	24.90 - 25.40 25.40 - 25.90 25.90 - 26.20 26.20 - 27.70 27.70 - 28.40 28.40 - 28.90	- 25.40         Water         100           - 25.90         Water         100           - 26.20         Water         100           - 27.70         Water         100           - 28.40         Water         100           - 28.90         Water         100		(1) Description derived f Vacuum excavation insp to drilling. (3) Inspection Double installation: 2 Nc standpipes installed bet 5.80-7.30m BGL. (5) UX Client instructions. (6) A between 16.55-14.50mp drilling. (7) Unable to ca Dilatometer test between to poor ground condition	rom drillers daily report. (2) bection pit attempted prior pit dug prior to drilling. (4) . 50mm diameter slotted ween 1.70-4.60m and O carried out as per the quifer protection installed ritor to commencing rotary ry out High Pressure 1.22.80-25.20m BGL due is. (8) High Pressure
All dir	All dimensions in metres Scale 1:25.00				xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Cheo /	ked by: 	G.T/M.B/R.C	Contract No. 4339



Drilling	g Progress and	Water Observ	/ations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
							28.90 - 30.10 30.10 - 31.60 31.60 - 33.10	10         Water         100           60         Water         100           10         Water         100           10         Water         100		(1) Description derived f Vacuum excavation insp to drilling. (3) Inspection Double installation: 2 No standpipes installed bet 5.80-7.30m BGL. (5) UX Client instructions. (6) A between 16.55-14.50mp drilling. (7) Unable to can Dilatometer test between to poor ground condition	rom drillers daily report. (2) tection pit attempted prior pit dug prior to drilling. (4) . 50mm diameter slotted veen 1.70-4.60m and O carried out as per the quifer protection installed rior to commencing rotary ry out High Pressure 122.80-25.20m BGL due s. (8) High Pressure
All dir	All dimensions in metres Scale 1:25.00			For e abbr	xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Chec /t	ked by: . <i>W.</i>	G.T/M.B/R.C	Contract No. 4339



# ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 0191 387 4700 Fax: 0197 387 4710 Tel: 01772 735 390 Fax: 01772 735 999

Status:-

Ğ							DRIL	LHOLE	RECORD			FINAL	
Project:				Р	Prelimina	ry Onsho	re Ground I	Investigation	for NZT			Exploratory Ho	le No.
Client:				AECO	М			Location: North	-west of Redcar, I	North York	shire	MS\BH07	,
Method (I Sonic	Equipme /Rotar	nt): y Corii	ng (Bo	oart Lor	ngyear L	S250/Boa	art Longyea	r DB520)	Ground Level (m): 7.330	20424.10	Start Date: 30/06/2021	Sheet: 5 of 17	
RUN	DETA	ILS							STRATA	•		•	ent/ II
Depth	TCR	ture lex	tter	Reduced	Logond	Depth			Descr	iption			trume 3ackfi
(Core Ø)	RQD	Frac	Ň	Level	Legenu	(Thickness)		Discontinuity I	Detail		Mair	ı	Ins
33.10		6				-	32.80-33.10m spaced planar discontinuities.	horizontal (0-5 smooth tight to p	degrees) closely artly open clean	e medium str siliferous ML weathered. Mudstone F ed)	ong grey dark JDSTONE <sup>c</sup> ormation).		
33.10	100 (82) 57	6				-	33.10-33.60m degrees) close partly open to o	horizontal to su ly spaced planar open clean disco					
		NI				-	33.60-33.75m	non-intact.					
(102mm)		9				-	33.75-34.20m spaced planar discontinuities.	horizontal (0-5 smooth to rough	degrees) closely partly open clean				
		NI 8				-	34.20-34.35m 34.35-34.80m spaced planar discontinuities.	non-intact. horizontal (0-5 smooth partly op	degrees) closely en clean				
34.80	67 (56) 43	NR		-27.47		- - - - -	34.80-35.30m	no recovery.		(1) Grey (Driller of fracture	MUDSTON lescribes as d').	E. 'heavily	
(102mm)		6		-27.97		(0.50) - - - - - -(1.00) -	35.30-36.20m spaced planar clean discontin	horizontal (0-5 to undulating sm uities.	degrees) closely ooth tight to partly open	Weak to grey fos partially (Redcar	o medium str siliferous MU weathered. Mudstone F	ong grey dark JDSTONE formation).	
36.30	60 (29) 14	NI NR		-28.97			36.20-36.30m 36.30-36.70m	non-intact. no recovery.		(1) Grey (Driller of fracture	MUDSTON lescribes as d').	E. 'heavily	

Drilling	g Progress and	Water Observ	vations		Standa	rd Penet	ration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standin	r Ig C	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	narks
08/07/2021 09/07/2021	34.80 34.80	28.50 28.50	0.00					33.10 - 34.60 34.80 - 36.30 36.30 - 37.30	Water Water Water	100 100 100	(1) Description derived fi Vacuum excavation insp to drilling. (3) Inspection Double installation: 2 No standpipes installed bety 5.80-7.30m BGL. (5) UX Client instructions. (6) A between 16.55-14.50mp drilling. (7) Unable to car Dilatometer test between to poor ground condition	om drillers daily report. (2) ection pit attempted prior pit dug prior to drilling. (4) . 50mm diameter slotted ween 1.70-4.60m and O carried out as per the quifer protection installed rior to commencing rotary ry out High Pressure 122.80-25.20m BGL due s. (8) High Pressure
All dimensions in metres Scale 1:25.00			F	For ex abbre	(plana) eviation	tion of syn ns see Ke	nbols and y Sheets	Chec K	ked by: . <i>W.</i>	G.T/M.B/R.C	Contract No. 4339	

							DRIL	LHOLE	RECORD			Status:- FINAL	
Project:				F	Prelimina	ary Onsho	ore Ground	Investigatio	n for NZT			Exploratory Ho	le No.
Client:				AECO	М			Location: Nor	h-west of Redca	r, North Yo	rkshire	MS\BH07	,
Method ( Sonio	Equipme c/Rotar	nt): y Corii	ng (B	oart Lor	ngyear L	.S250/Bo	art Longyea	ar DB520)	Ground Level (m): 7.33	0	Start Date: 30/06/2021	Sheet: 6 of 17	
RUN	I DETA	ILS							STRATA		•		ent/
Depth &	TCR (SCR)	acture Index	Nater	Reduced Level	Legend	Depth (Thickness)		Discontinuit	De		nstrume Backfi		
	RQD	μ <u></u>						Discontinuit	/ Detail		Ma	IN	
(102mm)		8		-29.37		36.70 (0.60) - - - - - - - - - - - - - - - - - - -	36.70-37.30n degrees) clos open infilled (	n horizontal to	subvertical (0-75 ar smooth tight to partly gravel) discontinuities.	Weak t grey fo partiall (Redca	to medium st ssiliferous M y weathered. Ir Mudstone I ete at 37.30m	rong grey dark UDSTONE Formation).	

Drilling	g Progress and	I Water Observ	vations	Stand	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standin	r ng Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
09/07/2021	37.30	28.50	0.00						(1) Description derived f Vacuum excavation insp to drilling. (3) Inspection Double installation: 2 No standpipes installed bet 5.80-7.30m BGL. (5) UX Client instructions. (6) A between 16.55-14.50mp drilling. (7) Unable to cai Dilatometer test between to poor ground condition	rom drillers daily report. (2) tection pit attempted prior pit dug prior to drilling. (4) . 50mm diameter slotted veen 1.70-4.60m and O carried out as per the quifer protection installed rior to commencing rotary ry out High Pressure 1 22.80-25.20m BGL due s. (8) High Pressure	
All dimensions in metres Scale 1:25.00				For e	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec /	ked by: . <i>W.</i>	G.T/M.B/R.C	Contract No. <b>4339</b>

























E C5				S	ONIC	SAM	PLE HO	OLE F	REC	ORD		Status:-	FINAL
Project:		F	Prelim	inary Ons	hore Gr	round Inve	estigation	for NZT				Exp	loratory Hole No.
Client:		AECO	M			Loc	ation: North- F	west of	Redo	ar, North Yo	rkshire	-	MS\BH08
Method (Equi Sonic/Ro	pment): otary Coring	g (Boart Lor	ngyea	ar LS250/E	Boart Lo	ongyear D	B520)	Ground Lo	evel (m 8.7	): 745	Start Date: 28/05/2021	Sheet:	1 of 2
SAN	/IPLES & T	ESTS							STR	ATA	1		= tr(
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				Descrip	otion		Instrume Backfi
0.36 0.36-1.20 0.36-0.50 0.36-0.50 0.50 0.50 1.00 1.20-1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.20 2.70 2.00 2.50 2.70-4.20 2.70 2.70 3.00 3.00 3.45 3.45 3.45 3.45 3.50 1.50 1.50 1.50 1.80	$\begin{array}{c} \text{ES1} \\ \text{SL1}_{(SS)} \\ \text{J7}_{(SL1)} \\ \text{B8}_{(SL1)} \\ \text{PID} \\ \text{ES2} \\ \text{J9}_{(SL1)} \\ \text{PID} \\ \text{ES3} \\ \text{PID} \\ \text{SL2}_{(S2)} \\ \text{J11}_{(SL2)} \\ \text{B12}_{(S2)} \\ \text{B12}_{(S2)} \\ \text{B14}_{(S2)} \\ \text{B14}_{(S2)} \\ \text{B15}_{(S3)} \\ \text{B16}_{(S3)} \\ \text{B16}_{(S3)} \\ \text{S18}_{(S3)} \\ \text{B18}_{(S3)} \\ $	<0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm N11 <0.1ppm		AADE GROUND (Grass over dark grey fused medium cobble content. Gravel is fine to coars subangular and includes slag. Cobbles are and subangular and include slag. Slag is vesicular MADE GROUND (Grey brown and light grey sl slightly sandy gravel with low cobble content. S coarse. Gravel is fine to coarse angular to sub includes ash and slag. Slag is vesicular (75-10 at c.1.20m BGL dense. (3.90) 4.55 4.20 (1) MADE GROUND (Brown grey slag fill).									tent.
4.20 4.20-5.70	S SL*	50/75mm		3.05		4.20 	(1) MAD at c.4.20	E GROU	UND ve	(Brown grey ery dense.	slag fill).	<u>+1, , , , , , , , , , , , , , , , , , , </u>	
5.70-7.20 5.70 5.70-6.30 5.70 6.00 6.00 6.30 6.30-7.20 6.50	47.20     SL4 <sub>(55)</sub> J19 <sub>(SL4)</sub> S0/165mm     50/165mm       -6.30     50/165mm       -5.70       -7.20     SC       -7.20     50/165mm       -7.20     50/165mm <t< td=""><td>wn grey slign fine to coarse vesicular slag hty silty sand htly organic o</td><td>angula g. Cobbl . Sand i</td><td>y gravel ar to les include s fine to</td></t<>									wn grey slign fine to coarse vesicular slag hty silty sand htly organic o	angula g. Cobbl . Sand i	y gravel ar to les include s fine to	
7.20-8.70 7.20 7.20-7.80 7.20 7.20 7.80	SL5 <sub>(SS)</sub> J23 <sub>(SL5)</sub> B24 <sub>(SL5)</sub> S PID J25 <sub>(SL5)</sub>	N12 <0.1ppm		0.94		× 7.20 ×- ×- ×- ×- ×- ×- 7.80 - -	MADE G slightly g coarse s concrete	BROUNI gravelly subangu e, ash ar	D (Me sand. lar to nd cin	agments). edium dense Sand is fine subrounded iders).	dark grey bro to coarse. G and includes	own sligl ravel is s slag, b	ntly clayey fine to rick,
Borin	g Progress	and Water	Obs	ervations		L	iner Sam	ole Infor	matio	n		Ger	neral
Date 28/05/2021	Depth 0.00	Casing 0.00	Casing (mm 178	Dia Wa stand	ter ding	From - To 0.36 - 1.20 1.20 - 2.70 2.70 - 4.20 4.20 - 5.70 5.70 - 7.20 7.20 - 8.70	To         Internal Dia (mm)         Recovery (%)         Subsampled           120         178         100         Yes         (1) Descrip Vacuum et drilling, (3)           2.70         178         100         Yes         Vacuum et drilling, (3)           4.20         178         100         Yes         Jouble ins standpipes           5.70         178         0         No         standpipes           8.70         178         100         Yes         Client instr to commer					Rem lerived fror tion inspect action pit du on: 2 No. 5 lled betwer GL. (5) UX Is. (6) Aqui rotary drillin	n drillers daily report. (2) tion pit attempted prior to g prior to drilling. (4) Omm diameter slotted en 1.20-5.70m and O carried out as per the fer protection installed prior rg.
All din	nensions in Scale 1:50.	n metres 00		For	explana	ation of sy ons see Ke	mbols and ey Sheets	t	С	Checked by:	Logged G.T/F	d by: R.C	Contract No. 4339





E C				S	ONI	C SAM	PLE HO		CORD		Status:-	FINAL	
Project:			Prelimin	ary Ons	shore G	round Inve	estigation	for NZT			Exp	loratory Hole	No.
Client:		AECO	ОМ			Loc	ation: North-	west of Red	car, North Yo	rkshire		MS\BH08	
Method (Equip Sonic/Ro	ment): tary Corinę	g (Boart Lo	ongyear	LS250/E	Boart Lo	ongyear D	B520)	Ground Level (r 8.	n): 745	Start Date: 28/05/2021	Sheet:	2 of 2	
SAM	PLES & T	ESTS						STR	ATA	4			ent/ II
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Descri	ption			Instrume Backfi
7.80-8.50 8.20	B26 <sub>(SL5)</sub> Light yellow grey slightly clayey slightly gravelly       PID     0.4ppm       0.24        8.50     8.50										SAND. lar to su lers.	Sand is Ibrounded	
8.50 8.50-8.70 8.70-9.15	J27 <sub>(SL5)</sub> B28 <sub>(SL5)</sub> UT1 (24)										AY. Sai	nd is fine	
9.20 9.25 9.25-10.20	PID J1 SI 6cm	<0.1ppm		-0.51		9.25 	at c.8.50 at c.8.90	m BGL cl m BGL ve	ay is of intermery low streng	nediate to high th. occasional fra	n plastic	ity.	
9.25 9.25-9.75 9.75 9.75-10.20	10.20     SL6 <sub>(SS)</sub> J29 <sub>(SL6)</sub> B30 <sub>(SL6)</sub> J31 <sub>(SL6)</sub> 10.50/ -1.01     Dark grey very clayey SAND with occasional fr 9.75       10.20     B32 <sub>(SL6)</sub> B32 <sub>(SL6)</sub> 0.50/ -1.01     0.75/ -1.01     0.75/ -1.01       10.20     B32 <sub>(SL6)</sub> 0.45/ -1.01     0.45/ -1.01											coarse.	
10.20-11.70 10.20 10.20-10.95	5-10.20     B32 <sub>(SL5)</sub> 20-11.70     SL7 <sub>(SS)</sub> 20     J33 <sub>(SL7)</sub> 20-10.95     B34 <sub>(SL7)</sub>											D with	
10.20 10.20 10.95	.so     B34 <sub>(SL7)</sub> N4       PID     <0.1ppm										oarse.		
10.95-11.70 11.20	B36 <sub>(SL7)</sub> PID	<0.1ppm			·	······································						۵ ۵	₩₩₩ <sup>2</sup> 0 0 2 0   4
11.70-13.20 11.70 11.70-12.45 11.70 12.20	SL8 <sub>(SS)</sub> J37 <sub>(SL8)</sub> B38 <sub>(SL8)</sub> S PID	N12 <0.1ppm					from c.1	2.20m BGL	medium de	nse.		2 0 2 0	
12.45 12.45-13.20	J39 <sub>(SL8)</sub> B40 <sub>(SL8)</sub>						at c.12.4	5m BGL s	slightly silty sa	and.		2 0 2 0	
13.20-14.70 13.20 13.20-13.80 13.20	SL9 <sub>(SS)</sub> J41 <sub>(SL9)</sub> B42 <sub>(SL9)</sub> S	N23		-5.06									
13.80 13.80-14.25 14.20 14.25	J43 <sub>(SL9)</sub> B44 <sub>(SL9)</sub> PID J45 <sub>(SL9)</sub>	<0.1ppm					Firm gre fragmen subangu (Tidal Fl	y brown san ts of shell. S lar to subrou at Deposits)	dy slightly gra and is fine to unded and inc	avelly CLAY w coarse. Grave cludes mudsto	ith occa el is fine one.	isional 8	
14.25-14.70 14.70-15.15 14.70-15.70 14.70	B46 <sub>(SL9)</sub> UT2 SL10 <sub>(SS)</sub> J47 <sub>(SL10)</sub>	(20)				- - - (1.90)  -	at c.14.7	0m BGL v	ery low streng	gth clay of low	plastici	ty.	
14.70-15.20 15.20 15.20-15.70 15.20	B48 <sub>(SL10)</sub> J49 <sub>(SL10)</sub> B50 <sub>(SL10)</sub> PID	<0.1ppm		-6.96			at c.15.2	0m BGL (	clay is of inter	mediate plast	icity.		
15.70-15.70	J51					-	at c.15.7 Boring c	0m BGL s omplete at 1	silty clay of int 5. <i>70m BGL - c</i>	ermediate pla continued by r	isticity. <i>otary dr</i>	illing.	
Boring	g Progress	and Wate	er Obser	vations	ter	L	iner Samp	le Informati	on		Gen Rem	eral arks	
Date 28/05/2021	Deput         Casing         (mm)         Standing         From - 10         (mm)         (%)         Subsampled           121         10.20         10.20         178         5.85         9.25 - 10.20         178         100         Yes         (1) Description derived from drillers										n drillers daily repo	rt. (2)	
01/06/2021 01/06/2021 02/06/2021 02/06/2021	21         10.20         10.20         178         6.00         10.20 - 11.70         178         100         Yes         Vacuum excavation inspection pit attempted drilling. (3) Inspection pit dug prior to drilling.           121         14.70         14.70         178         5.70         11.70 - 13.20         178         100         Yes         Vacuum excavation inspection pit dug prior to drilling. Double installation: 2 No. 50mm diameter side standpipes installed between 1.20-5.70m and 11.30 - 13.30m BGL. (5) UXO carried out as p Client instructions. (6) Aquifer protection instruction side to commencing rotary drilling.										tion pit attempted p g prior to drilling. ( 0mm diameter slot en 1.20-5.70m and O carried out as pe fer protection insta g.	orior to 4) tted er the lled prior	
All dim	ensions in	metres		For	explana	ation of sy	mbols and		Checked by:	Logged	by:	Contract I	No.



RUN	DETA	ILS						STRATA		_ if
Depth	TCR	ture ex	ter	Reduced		Depth		Ľ	Description	rume
(Core Ø)	(SCR) RQD	Fract	Wat	Level	Legend	(Thickness)	Di	scontinuity Detail	Main	B
15.70 (105mm)	0	NR		-6.96		15.70 - - - - - -	15.70-16.30m no 15.70m J51 15.70m B52	recovery.	(1) Organic CLAY/SILT. (Tidal Flat Deposits).	
16.30				-7.56	× × · · ·	16.30				
(шшсог) 17.80	87	SOIL		-9.06		(1.50)	16.30-24.80m soil 16.30m J53 16.50m B54	L	Very soft to soft grey brown organic sandy CLAY/SILT with roots and rootlets. Sand is fine to coarse. (Tidal Flat Deposits). 16.30m organic slightly sandy clayey silt of very high plasticity with pockets of peat.	
(mm201) 19.30	87						17.80m J55 17.80m B56 19.30m J57		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). 17.80m clay is of intermediate to high plasticity.	
							19.50m B58			

Drilling	g Progress and	Water Observ	/ations	Stand	ard Pene	tration Test		Flush		General		
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Remarks		
04/06/2021	15.70	15.70	4.11	16.30 19.30	S	N4 N26	15.70 - 16.30 16.30 - 17.80 17.80 - 19.30 19.30 - 20.50	Water Water Water Water	100 100 100 100	(1) Description derived from drillers daily report. ( 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 th Client instructions. (6) Aquifer protection installed prior to commencing rotary drilling.		
All dir	For e abbr	xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Chec	ked by: . <i>W.</i>	Logged by: G.T/R.C	Contract No. <b>4339</b>				

Print Date and Time: 29/11/2021 14:49:26



Project:				F	Prelimina	ary Onsho	ore Ground I	nvestigatio	n for NZT			Exploratory Ho	le No.
Client:				AECO	M		1	Location: Nort	h-west of Redca	r, North Yor	kshire	MS\BH08	3
Method ( Sonic	Equipme c/Rotai	ent): ry Cori	ng (B	oart Lor	ngyear L	S250/Bo	art Longyear	r DB520)	Ground Level (m): 8.74	5	Start Date: 28/05/2021	Sheet: 2 of 13	
RUN	I DETA	AILS							1	nt/			
Depth	TCR	ex	ter	Reduced		Depth				ackfill			
(Core Ø)	(SCR) RQD	Frac	Wa	Level	Legend	(Thickness)		Discontinuity	/ Detail		Mai	n	B
(102mm)						(4.00) 	20.35m U59			Firm to brown s silt dus to coars (Tidal F <i>(continu</i> ) 20.35m	stiff thinly lar slightly sandy tings on lamin se. lat/Glacial Do <i>ied</i> )	ninated grey silty CLAY with nae. Sand is fine eposits). strength. Clay is	
20.50	67						20.80m J60 20.80m B61			of intern 20.80m gravelly	mediaté plast slightly sa / clay of interi	ticity. andy slightly mediate plasticity.	
22.30				-13.06		21.80				from 21 Gravel to subro mudsto Stiff rec gravelly Gravel and inc limesto (Glacia	.50m sligh is fine to mec ounded and ii ne, sandston I brown slight / CLAY. Sanc is fine to mec ludes sandst ne and coal. I Till).	atly gravelly. Jium subangular ncludes le and coal. tly sandy slightly d is fine to coarse. Jium subangular one, mudstone,	
(102mm)	50					- (1.50)	22.30m B62						
23.30 (105mm)	100			-14.56		23.30	23.30m U63			23.30m	clay is of	low plasticity.	

Drilling	g Progress and	Water Observ	vations		Standa	ard Pene	tration Test		Flush		General	
Date	Depth	Casing	Wate Standi	er ling	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
					22.30	S	N29	20.50 - 22.30 22.30 - 23.30 23.30 - 23.80	Water Water Water	100 100 100	(1) Description derived f Vacuum excavation insp to drilling. (3) Inspection Double installation: 2 No standpipes installed bet 11.30-13.30m BGL. (5) I Client instructions. (6) A prior to commencing rot	rom drillers daily report. (2) bection pit attempted prior pit dug prior to drilling. (4) . 50mm diameter slotted ween 1.20-5.70m and UXO carried out as per the quifer protection installed ary drilling.
All dimensions in metres Scale 1:25.00					For ex abbr	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Cheo /	ked by: 	Logged by: G.T/R.C	Contract No. <b>4339</b>



Drilling	g Progress and	l Water Observ	/ations	Standa	ard Pene	tration Test		Flush		General	
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
04/06/2021 07/06/2021	25.40 25.40	25.40 25.40	3.11 0.96				23.80 - 24.80 24.80 - 25.40 25.40 - 26.90 26.90 - 28.40	Water Water Water Water	100 100 100 0	(1) Description derived f Vacuum excavation insp to drilling. (3) Inspection Double installation: 2 Nc standpipes installed bet 11.30-13.30m BGL. (5) Client instructions. (6) A prior to commencing rot	rom drillers daily report. (2) bection pit attempted prior pit dug prior to drilling. (4) . 50mm diameter slotted ween 1.20-5.70m and UXO carried out as per the quifer protection installed ary drilling.
All din		For e	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec /	ked by: . <i>W.</i>	Logged by: G.T/R.C	Contract No. <b>4339</b>		

Ğ							DRIL	LHOLE	RECORD			Status:- FINAL	
Project:				F	Prelimina	ary Onsho	ore Ground	Investigation	n for NZT			Exploratory Ho	le No.
Client:				AECO	М			Location: Nort	h-west of Redca	Yorkshire	MS\BH08		
Method ( Sonie	Equipme c/Rotar	nt): y Cori	ng (Bo	oart Lor	ngyear L	_S250/Boa	art Longyea	ar DB520)	Ground Level (m) 8.74	45	Start Date: 28/05/2021	Sheet: 4 of 13	
RUN	DETA	ILS							STRATA			-	If.
Depth	TCR	ax	e	Reduced		Denth			De	escriptio	n		rumer ackfill
& (Core Ø)	(SCR) RQD	Fract	Wat	Level	Legend	(Thickness)		Discontinuity	Detail		Ma	in	Big
28.40 (uuu201)	100 (88) 0			-21.16		(3.10)				28. flus	JDSTONE distince edcar Mudstone F intinued) .40-29.90m dri sh to 50% returns	tly weathered. Formation).	
										sin	king casing and j	ammed tools.	

Drilling	g Progress and	I Water Observ	/ations	Stand	ard Pene	tration Test	Flush			General		
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Remarks		
07/06/2021 08/06/2021 08/06/2021	28.40 28.40 29.90	28.40 28.40 29.90	0.96 0.00 0.00				28.40 - 29.90	Water	50	(1) Description derived f Vacuum excavation insp to drilling. (3) Inspection Double installation: 2 No standpipes installed bet 11.30-13.30m BGL. (5) Client instructions. (6) A prior to commencing rot	rom drillers daily report. (2) vection pit attempted prior pit dug prior to drilling. (4) . 50mm diameter slotted ween 1.20-5.70m and UXO carried out as per the quifer protection installed ary drilling.	
All dir	For e abbr	xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Cheo /t	ked by: . <i>W.</i>	Logged by: G.T/R.C	Contract No. <b>4339</b>				












### **ALLIED EXPLORATION & GEOTECHNICS LIMITED**

Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG 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 Head Office: Regional Office:





#### **ALLIED EXPLORATION & GEOTECHNICS LIMITED**

 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 SBL
 Tel: 01972 735 300 Fax: 01772 735 399











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Ġ					S	ONIC	SAM	PLE HO	LE F	REC	ORD		Status:-	FINAL	
Project:		F	Preli	minary (	Onsł	nore Gr	ound Inve	estigation fc	r NZT				Exp	loratory Hol	e No.
Client:		AECO	DM				Loc	ation: North-w E:4	est of 56823	Redo	ar, North Yo: N:525534.8	orkshire 70		MS\BH09	
Method (Equip Sonic/Ro	oment): otary Corin	ig (Boart Lo	ongy	ear LS2	250/0	Comaco	chio GEO	9 205) G	round Le	vel (m 7.4	): 166	Start Date: 05/07/202	1 Sheet:	1 of 2	
SAM	PLES & T	ESTS					1	1		STR	ATA				ent/ ill
Depth	Type No	Test Result		Ter Redu Lev	uced vel	Legend	Depth (Thickness)				Descri	ption			Instrum Backf
0.20 0.30 0.30 0.50 0.75-1.20 1.00 1.20-2.70 1.20 1.35-1.95 1.50 1.50 2.70-2.30 2.00 2.50 2.70-4.20 2.70 3.00-3.20 3.00 3.20-4.00 3.20-4.00 3.20-4.00 3.20-4.00 3.20-4.00 3.50 4.00-4.20 4.00 4.00 4.20-4.65 4.20 4.50 4.65-4.85 4.65 4.65-7.20 5.70-6.45 5.70 5.70-6.45 5.70 6.50 6.50 7.00 7.20-8.70 7.20	$\begin{array}{c} J1\\ ES2\\ PID\\ ES3\\ PID\\ SL1_{(85)}\\ B5_{(81)}\\ ES4\\ PID\\ SL2_{(85)}\\ S\\ S\\ S\\ B6_{(82)}\\ J7_{(81)}\\ PID\\ B9_{(82)}\\ PID\\ PID\\ SL3_{(85)}\\ S\\ ES10_{(81)}\\ PID\\ B12_{(81)}\\ PID\\ B12_{(81)}\\ PID\\ B15_{(84)}\\ J19_{(84)}\\ J19_{(84)}\\ J19_{(84)}\\ J19_{(84)}\\ J19_{(84)}\\ J19_{(84)}\\ J19_{(84)}\\ J10_{(84)}\\ PID\\ B18_{(84)}\\ J19_{(84)}\\ J19_{(84)}\\ J10_{(84)}\\ PID\\ SL5_{(85)}\\ S\\ J22_{(85)}\\ PID\\ SL2_{(85)}\\ S\\ J22_{(85)}\\ PID\\ J25_{(85)}\\ S\\	<0.1ppm <0.1ppm N8 <0.1ppm <0.1ppm <0.1ppm N4 <0.1ppm <0.1ppm <0.1ppm N12 <0.1ppm N12 <0.1ppm N12 <0.1ppm N15 <0.1ppm					0.05/ (1.30) (1.30) (0.60) (2.70) (2.70) (2.70)	MADE GF MADE GF Sand inclu subangula (50-75%)) MADE GF low cobble subrounde MADE GF gravel witi angular to and brick. and incluc (Engineer at c.2.70n Medium d occasiona and incluc (Tidal Flat	COUNE COUNE addes a ar and COUNE conte d and COUNE conte d and COUNE subro Slag is le yello notes b BGL ense to l fragn les mu Depos	D (Ma D (Grd sh. G includ D (Loo ent. G includ D (Bla um c um c um c ves s ves s s ves ves ves ves ves ves ves ves	acadam). ey black slig iravel is fine des slag and ose black ye fravel is fine ides compace ack orange y obble conten d and includ icular (25-50 mpacted as ly saturated) ose and very edium dense	htly saturate to coarse a l clinker. Sla l clinker. Sla ited ash and ellow slightly to coarse a sted ash and ellow slightly ne slag, clir %). Cobble h). loose.	ed sand al ngular to ag is vesic 'sandy gra- ngular to d clinker). 'y clayey s fine to co aker, comp s are sub	And gravel. Avel with andy arse bacted ash angular SAND with angular	
7.50	PID	<0.1ppm		sonyatio		• • •		inor Sample		matio	.n	[			0.00
Date	Depth	Casing	Casin	ig Dia	Wate		From - To	Internal Dia	Reco	very	Subsampled		Ger Rem	ieral iarks	
05/07/2021	0.00	0.001780.75 - 1.20178100Yes(1) Description derived from drillers daily report. Inspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standp installed between 1.70-4.50m and 5.70-8.70m Bi0.00178100Yes(4) UXO carried out as per the Client instructions 5.70 - 7.20178100Yes7.20 - 8.70178100Yes(4) UXO carried out as per the Client instructions Aquifer protection installed between 15.15-13.70Yes0.01178100YesYes0.02178100Yes0.03178100Yes0.04178100Yes0.05178100Yes0.06178100Yes0.07178100Yes0.08178100Yes0.09178100Yes0.000178100Yes0.0101781000.0101781000.0101781000.0101781000.0101781000.0101781000.0101781000.0101781000.0101781000.0101781000.0101781000.0101781000.0101781780.0101781780.0101781780.0101781780.010178 </td <td>port. (2) andpipes Im BGL. tions. (5) 3.70m Pressure pendix III</td>											port. (2) andpipes Im BGL. tions. (5) 3.70m Pressure pendix III		
All dim	ensions in cale 1:50.	metres 00			For e	explana	tion of sy	/mbols and ey Sheets		C	Checked by:	Logg M.E	ed by: 8/R.C	Contract 4339	t No.



Project:

Client:

Depth

7.95-8.45

7.95-8.45 8.00

8 50

8.50

9.50

9.50

10.00

10.20

10.50 10.50

11.00

11.50

11.70

12.00

12.50 12.50

13.00

13.00

13 20

13.50

13.60

13 60

14.00

14.00

14.50

14 70

Date

05/07/2021

06/07/2021

06/07/2021

Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 01772 735 300 Fax: 01772 735 999 Head Office: Regional Office:

Status:-SONIC SAMPLE HOLE RECORD FINAL Preliminary Onshore Ground Investigation for NZT Exploratory Hole No. Location MS\BH09 AECOM .. North-west of Redcar, North Yorkshire E:456823.949 N:525534.870 Ground Level (m) Method (Equipment): Start Date: Sheet: Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205) 7.466 05/07/2021 2 of 2 SAMPLES & TESTS STRATA Instrument/ Backfill Water Type No Test Reduced Depth Legend Description Result Level Thickn B26(SL6) 0 Medium dense to dense yellow brown slightly gravelly SAND with B28(SL6) occasional fragments of shell. Gravel is fine to coarse angular . Ο J29(SL6) and includes mudstone and sandstone. 0 (Tidal Flat Deposits). (continued) J30<sub>(SL6)</sub> PID ° 0 Ē <0.1ppm . α 0 at c.8.70m BGL ... dense. 8.70-10.20 8.70-9.45 8.70 9.00 0 SL7(SS) B31<sub>(SL7)</sub> S 0 (8.75) N37 J32<sub>(SL7)</sub> . Ο 0 9.45-10.20 B33(SL7) . O J34<sub>(SL7)</sub> PID between c.9.60-13.40m BGL ... with frequent shell fragments. <0.1ppm 0 J35<sub>(SL7)</sub> °o. SL8<sub>(SS)</sub> 10.20-11.70 10.20-10.95 at c.10.20m BGL ... very dense. 0 B36<sub>(SL8)</sub> S J37<sub>(SL8)</sub> PID 50/295mm Ò. 0 <0.1ppm between c.10.80-13.40m BGL ... gravelly sand. 10.95-11.70 B38<sub>(SL8)</sub> . O J39<sub>(SL8)</sub> 0 . Ο J40<sub>(SL8)</sub> PID o' 11.50 11.70-13.20 <0.1ppm SL9<sub>(SS)</sub> at c.11.70m BGL ... dense. . Ο B41<sub>(SL9)</sub> 11.70-13.00 N48 S 0 J42<sub>(SL9)</sub> . O J43<sub>(SL9)</sub> PID o' <0.1ppm . Ο o 13.00-13.20 ES44<sub>(SLS</sub> J45<sub>(SL9)</sub> PID ο. <0.1ppm -5.93 13.40 13.20-14.70 SL10(SS) 0 Firm to stiff thinly laminated grey brown slightly sandy slightly S N22 (0.40)gravelly CLAY. Mild organic odour. Gravel is fine to medium B46(SL10) 13.40-13.60 \_\_\_\_\_ -6.33 13.80 subangular to subrounded and includes mudstone and J47<sub>(SL10)</sub> ES48<sub>(SL10)</sub> 0 limestone. 13 60-13 80 ES48<sub>(SL10)</sub> ES(M)49<sub>(SL</sub> (Tidal Flat/Glacial Deposits). ō \_\_\_\_\_ \_\_\_\_\_\_ PID <0.1ppm (0.90)at c.13.50m ... clay is of intermediate plasticity. J50<sub>(SL10)</sub> ES51<sub>(SL10)</sub> ES(M)52<sub>(SL</sub> 0 Stiff red brown sandy gravelly CLAY. Gravel is fine to coarse 14.00-14.20 14.00 ō angular to rounded and includes mudstone, sandstone and -7.24 14.70 ΡÍD <0.1ppm limestone B53<sub>(SL10)</sub> 14.20-14.70 (Glacial Till) J54<sub>(SL10)</sub> S at c.14.00m BGL ... clay is of intermediate plasticity. N28 Boring complete at 14.70m BGL - continued by rotary drilling. Boring Progress and Water Observations Liner Sample Information General Casing Dia Water Internal Dia Recovery Remarks Depth Casing From - To Subsampled Standing (%) (mm) (mm) 8.70 - 10.20 (1) Description derived from drillers daily report. (2) 13.20 13.20 178 4.70 178 100 Yes 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. 13.20 13.20 178 5.90 10.20 - 11.70 178 100 Yes 11.70 - 13.20 13.20 13.50 178 178 100 Yes (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 13.20 - 14.70 178 100 Yes for results.

Logged by:

M.B/R.C

Contract No.

4339



# ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 0191 387 4700 Fax: 0197 387 4710 Tel: 01772 735 390 Fax: 01772 735 999

G							DRIL	LHOLE F	RECORD			Status:- FINAL	
Project:				F	Prelimina	ry Onsho	re Ground	Investigation	for NZT			Exploratory Hol	e No.
Client:				AECO	М			Location: North· E	west of Redcar, :456823.949 N:5	North Yor 525534.87	kshire 0	MS\BH09	
Method Son	(Equipme ic/Rota	nt): ry Cor	ing (E	Boart Lo	ngyear l	_S250/Co	omacchio G	EO 205)	Ground Level (m): 7.466		Start Date: 05/07/2021	Sheet: 1 of 18	
RUN	I DETA	ILS				-			STRATA			•	ent/
Depth &	TCR (SCR)	icture idex	/ater	Reduced	Legend	Depth			Desc	ription			strume Backfi
(Core Ø)	RQD	Era D	3	Level		(1110KHESS)	14 70 45 45	Discontinuity E	oetail	Otiff	Mai		
15 15		кU		-7.24		14.70 (0.45)	14.70-15.15m	rotary openhole	e drilling.	Stiff rec Gravel rounded sandsto (Glacial	I brown sand is fine to coa d and include one and limes   Till).	y gravelly CLAY. rse angular to s mudstone, stone.	
15.50	63	SOIL				-	15.15m B56 15.15-20.00m 15.20m J55	) soil.		Stiff dar slightly coarse. angular coal, m	rk red brown gravelly CLA Gravel is fin to subangul udstone, san	slightly sandy Y. Sand is fine to e to medium ar and includes dstone and	
							15.70m U57	,		(Glacial 15.20m plasticit 15.70m interme	ITE. I Till). III clay is of y. III high strer diate plastici	intermediate ngth. Clay is of ty.	
(IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII						- - - - (3.35)	16.90m J58						
(1102 (1102 (1102	100						17.00m J60 17.10m J59 18.00m J61 18.00m J61			18.00m plasticit	clay is of y.	intermediate	
18.50	37			-11.03		- - - 18.50	18.50m B64 18.60m J63	ļ		18.60m	clay is of	high plasticity.	

Drilling	g Progress and	Water Observ	/ations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	g Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
07/07/2021	14.70	3.11				14.70 - 15.15 15.15 - 15.50 15.50 - 17.00 17.00 - 18.50 18.50 - 20.00	Water Water Water Water Water	100 100 100 100 100	(1) Description derived fr Inspection pit dug prior tr installation: 2 No. 50mm standpipes installed betv 5.70-8.70m BGL. (4) UX Client instructions. (5) A/ between 15.15-13.70m drilling. (6) High Pressur carried out. Refer to App	rom drillers daily report. (2) o drilling. (3) Double diameter slotted ween 1.70-4.50m and O carried out as per the quifer protection installed prior to commencing rotary e Dilatometer testing pendix III for results.	
All dir	All dimensions in metres Scale 1:25.00					tion of syr ns see Ke	nbols and y Sheets	Chec /	ked by: . <i>W.</i>	Logged by: M.B/R.C	Contract No. <b>4339</b>



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Status:-

Ğ							DRILLHOLE	RECORD		FINAL	
Project:				F	Prelimina	ary Onsho	ore Ground Investigation	n for NZT		Exploratory Ho	le No.
Client:				AECO	M		Location: North	n-west of Redcar, I F 456823 949 N 5	North Yorkshire 25534 870	MS\BH09	)
Method ( Soni	Equipme c/Rota	ent): iry Cor	ing (E	Boart Lo	ongyear	LS250/Co	omacchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021	Sheet: 2 of 18	
RUN	DETA	ILS			i	T	1	STRATA			ent/ ill
Depth	TCR (SCR)	acture ndex	Vater	Reduced Level	Legend	Depth (Thickness)		Desci	ription		Backf
(Core Ø)	100 (0)	Frac In		-11.53 -12.53		(Thickness) (0.50) 19.00 - - - - (1.00) - - - - - - - - - - - - - - - - - -	Discontinuity 19.00m ES65 19.00m ES(M)66 20.00m ES67 20.00 ES67	Detail	Mai Stiff thinly laminated slightly sandy CLAY coarse. (Glacial Deposits). ( Stiff dark red brown slightly gravelly CLA coarse. Gravel is fin angular to subangul coal, mudstone, san limestone. (Glacial Till).	I dark brown silty Sand is fine to continued) slightly sandy Y. Sand is fine to e to coarse ar and includes distone and	
(uutop) (105 21.00	Ő			-13.53		(1.00)			grey MUDSTONE d weathered. (Recovered as very (Redcar Mudstone f	istinctly stiff gravelly clay). Formation).	
(шш201) 21.50 (шш201) 22.50	70 (12) 0 (12) 0 80 (54) 0								Very weak thinly lan MUDSTONE partial (Redcar Mudstone F	hinated dark grey ly weathered. Formation).	

							<u>ا</u>				
Drilling	g Progress and	Water Observ	vations	Stan	dard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	g Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
07/07/2021 08/07/2021	20.00 20.00	20.00 20.00	Standing         Standing         Standing         Standing         Standing           20.00         0.00         0.00         20.00         4.16         20.00         4.16         20.00         20.00         4.16         20.00				20.00 - 21.00 21.00 - 21.50 21.50 - 22.50 22.50 - 23.30	Water Water Water Water	100 100 100 100	(1) Description derived f Inspection pit dug prior t installation: 2 No. 50mm standpipes installed bet 5.70-8.70m BGL. (4) UX Client instructions. (5) A between 15.15-13.70m drilling. (6) High Pressur carried out. Refer to App	rom drillers daily report. (2) o drilling. (3) Double diameter slotted ween 1.70-4.50m and O carried out as per the quifer protection installed prior to commencing rotary e Dilatometer testing wendix III for results.
All dir	All dimensions in metres Scale 1:25.00					ition of syr Ins see Ke	mbols and ey Sheets	Cheo /	ked by: 	Logged by: M.B/R.C	Contract No. <b>4339</b>



23.30 100 (70) 0 -15.93 23.40 16 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). (102mm) 24.40 2 100 (100) 24.50 0 100 (100) 93 (102mm) (3.90) 25.90 100 (100) 0 102mm) 26.30 100 NI 26.30-26.50m ... non-intact. (64) 22 12 26.50-27.00m ... subhorizontal (5-30 degrees) closely spaced planar smooth to rough tight stained (grey silt) discontinuities.

Drilling	g Progress and	I Water Observ	/ations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
08/07/2021 09/07/2021	24.50 24.50	0 24.50 0.00 0 24.50 2.16					23.30 - 24.40 24.40 - 24.50 24.50 - 25.90 25.90 - 26.30 26.30 - 27.50	Water Water Water Water Water	100 100 100 100 100	(1) Description derived f Inspection pit dug prior t installation: 2 No. 50mm standpipes installed bet 5.70-8.70m BGL. (4) UX Client instructions. (5) A between 15.15-13.70m drilling. (6) High Pressur carried out. Refer to App	rom drillers daily report. (2) o drilling. (3) Double diameter slotted ween 1.70-4.50m and O carried out as per the quifer protection installed orior to commencing rotary e Dilatometer testing pendix III for results.
All din	All dimensions in metres Scale 1:25.00					tion of syn ns see Ke	nbols and y Sheets	Chec /t	ked by: . <i>W.</i>	Logged by: M.B/R.C	Contract No. <b>4339</b>



	INI													
Drilling	Progress and	l Water Obser	vations	Standa	ard Pene	tration Test		Flush	Deturne	Ge	neral			
Date	Depth	Casing	Standing	Depth	Туре	Result	From - To	Туре	(%)	Rer	narks			
09/07/2021 12/07/2021	29.00 29.00	29.00 29.00	0.00 4.11				27.50 - 29.00 29.00 - 30.50 30.50 - 32.00	Water Water Water	100 100 100	(1) Description derived from drillers daily replinspection pit dug prior to drilling. (3) Double installation: 2 No. 50mm diameter slotted standpipes installed between 1.70-4.50m at 5.70-8.70m BGL. (4) UXO carried out as peclient instructions. (5) Aquifer protection ins between 15.15-13.70m prior to commencing drilling. (6) High Pressure Dilatometer testin carried out. Refer to Appendix III for results.				
All din	nensions i Scale 1:25	n metres .00		For e	xplana eviatio	tion of syn ns see Ke	nbols and ey Sheets	Check K	ked by:	Logged by: M.B/R.C	Contract No. 4339			

Print Date and Time: 29/11/2021 14:49:47

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100 (65) 49



Drilling	g Progress and	Water Observ	/ations	Stand	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
							32.00 - 33.50 33.50 - 35.00	Water Water	100 100	(1) Description derived fi Inspection pit dug prior to installation: 2 No. 50mm standpipes installed betv 5.70-8.70m BGL. (4) UX Client instructions. (5) A between 15.15-13.70m drilling. (6) High Pressur carried out. Refer to App	rom drillers daily report. (2) o drilling. (3) Double diameter slotted ween 1.70-4.50m and O carried out as per the quifer protection installed prior to commencing rotary e Dilatometer testing pendix III for results.
All dir	All dimensions in metres Scale 1:25.00				xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Chec K	ked by: W.	Logged by: M.B/R.C	Contract No. <b>4339</b>

G							DRII	LLHOLE	RECOP	RD			Status:- FINA	L
Project:				F	Prelimina	ary Onsho	ore Ground	l Investigatio	on for NZT				Exploratory	Hole No.
Client:				AECO	М			Location: No	th-west of R	edcar, l	North Yor	kshire	 MS\BH	09
Method Son	Equipme ic/Rota	nt): ry Cor	ing (B	oart Lo	ngyear	LS250/Co	omacchio (	GEO 205)	Ground Lev	949 N.5 el (m): 7.466	20004.07	0 Start Date: 05/07/2021	Sheet: 6 of 1	8
RUN	I DETA	ILS							STRATA					lt.
Depth	TCR (SCR)	sture dex	ater	Reduced	Legend	Depth				Desc	ription			ackfill
(Core Ø)	RQD							Discontinu	ity Detail			Ma	in	su u
35.00 (uu <sub>UCD</sub> )				-28.13		35.60					Comple	ey arenaceo v weathered r Mudstone l <i>led</i> ) te at 35.60m	<i>BGL.</i>	

Drilling	g Progress and	Water Observ	ations	Stand	ard Pene	tration Test		Flush		Ge	neral		
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks		
12/07/2021	35.60	35.60	0.00				35.00 - 35.60	Water	100	(1) Description derived from drillers daily repor 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 tf Client instructions. (5) Aquifer protection install between 15.15-13.70m prior to commencing ro drilling. (6) High Pressure Dilatometer testing carried out. Refer to Appendix III for results.			
All dir	All dimensions in metres Scale 1:25.00				xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Chec K	ked by:	Logged by: M.B/R.C	Contract No. <b>4339</b>		



















#### **ALLIED EXPLORATION & GEOTECHNICS LIMITED** Head Office: Unit 25 Stella Gill Industrial Estate, Petton 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: 0197 2735 300 Fax: 01772 735 999

Ē	I	DRILLHOLE F	RECORD		Status:- FINAL
Project:	Preliminary Onshore G	Ground Investigation	for NZT		Exploratory Hole No.
Client:	AECOM	Location: North E	west of Redcar, North Yo :456823.949 N:525534.8	rkshire 70	MS\BH09
Method (Equipment): Sonic/Rotary	Coring (Boart Longyear LS250/Comad	cchio GEO 205)	Ground Level (m): 7.466	Start Date: 05/07/2021	Sheet: 15 of 18
		Figure MS\BH MS\BH09 26.30-27 Jeferina Lit. Contract No. 4339 ole ID: MS\BH09 ample: 26.30-27.5	109.17 2.50m BGL ROCK CORE TOGRAPHIC BOARD 7 G.I NZT 0m BGL		
		Figure MS\BH MS\BH09 27.50-25 itle: PRELIMINAR ontract No. 4339 ole ID: MS\BH09 ample: 27.50-29.0 Imple:  H09.18 DODM BGL POCK CORE TOGRAPHIC BOARD T G.I NZT DOM BGL DOM BGL DOM BGL DOM BGL DOM BGL DOM BGL DOM BGL DOM BGL			



Status:-

Sheet:

Start Date: 05/07/2021

FINAL

Exploratory Hole No.

MS\BH09

16 of 18







SONIC SAMPLE HOLE RECORD

Status:-

FINAL

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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

Project:			Preli	minar	y Ons	hore Gr	ound Inve	estigation f	or NZT			Exp	loratory Hol	e No.
Client:		AECO	DM				Loca	ation: North-\ E:	west of Redo 457026.135	car, North Yo N:525257.6	orkshire 51	-	MS\BH10	
Method (Equip Sonic/Ro	oment): tary Coring	g (Boart Lo	ongye	ear LS	\$250/E	Boart Lo	ngyear Dl	B520)	Ground Level (m 7.5	): 502	Start Date: 07/06/2021	Sheet:	1 of 2	
SAM	IPLES & T	ESTS							STR	ATA				ent/
Depth	Type No	Test Result		Mater	educed Level	Legend	Depth (Thickness)			Descri	ption			Instrume Backfi
0.00-0.05 0.00	ES PID	<0.1ppm			7.45/ 7.26		0.05/ 0.24	MADE G	ROUND (Gr ROUND (Da	ass over sof ark grev fuse	t dark brown c d gravel with r	layey to nedium	psoil).	
0.30 0.30 0.45-1.20	ES1 PID SL1	<0.1ppm						content. includes	Gravel is fine slag. Cobble (100%))	e to coarse a es are angula	ingular to subar and include	angular slag. Sl	and lag is	
0.50	PID	<0.1ppm			2 2		<pre></pre>	ROUND (Da	ark grey very	sandy gravel	with me	/ dium		
1.00 1.00 1.20-2.70	PID SL2	<0.1ppm			2			and inclu	des slag and	d vesicular s	lag. Cobbles a	are angu	ular	
1.20 1.50	C PID	50/15mm <0.1ppm			2			from c.0.0	60m BGL	grey.				
					2			from c.1.	20-2.70m B(	GL light gr	ey with fragme	ents of r	netal	
2.00 2.00	ES4 PID	<0.1ppm			2 2 2									
2.50	PID	<0.1ppm			×									
2.70-4.20	SL3 <sub>(SS)</sub> J8 <sub>(SL3)</sub>				2			at c.2.70	m BGL ve	ry dense.				
2.70-3.45	B9 <sub>(SL3)</sub> C	50//150mm	n		e e									
3.00 3.45	PID J10(SI 3)	<0.1ppm												
3.45-4.20 3.50	B11 <sub>(SL3)</sub> PID	<0.1ppm			2 2 2									
4.00 4.00 4.20-5.70 4.20	ES6 PID SL4 <sub>(SS)</sub> J12 <sub>(SI4)</sub>	<0.1ppm						at c.4.20r	n BGL ve	ry dense.				
4.20-4.60 4.20	B13 <sub>(SL4)</sub> C	50/175mm	ו ו		2.90	×××××× ו	4.60	Brown gr	ey slightly si	Ity gravelly S	AND. Sand is	fine to	coarse.	
4.50 4.60	PID J14 <sub>(SL4)</sub>	<0.1ppm					-	Gravel is sandston	fine to coars e, limestone	se subangula and mudsto	ar to subround one.	led and	includes	
5.00 5.00	ES7 PID	<0.1ppm				×	(1.10) - -	(Tidal Fla	it Deposits).					
5.50	PID	<0.1ppm			1.80	×0'.	5.70							
5.70-7.20 5.70 5.70-7.20	SL5 <sub>(SS)</sub> J16 <sub>(SL5)</sub> B17 <sub>(SL5)</sub>					xo 	- - - -	Very den with occa	se dark brov sional shell edium subar	vn grey sligh fragments. S ngular to sub	tly silty slightly Sand is fine to rounded and i	/ gravell coarse. includes	y SAND Gravel is	
5.70	S	N57				`o`.× . `× .	·_  -	sandston (Tidal Fla	e, limestone it Deposits).	, mudstone	and coal.		-	
6.50	PID	<0.1ppm				· · .× . ·	·_ 	<b>v</b>	. ,					
						· · · × · ·	(2.25) 							
7.20-8.70	SL6(cec)					o'.×. ×	·_ 	from c 7	20m dens	e				
7.20 7.20-7.95	J18 <sub>(SL6)</sub> B19 <sub>(SL6)</sub>					· · . × . · · · · · · · · · · · · · · ·	 	10111 0.1						
7.20 7.50	PID	N37 <0.1ppm			0.45	· · × ·	- - 705							
Borin	n Progress	and Wate			tions	<u></u>	<u> </u>	iner Samn	le Informatio	n				
Date	Depth	Casing	Casii	ng Dia	Wat	er	From - To	Internal Dia	Recovery	Subsampled		Gen Rem	eral arks	
07/06/2021	0.00	0.00	1	78	Otaric		0.45 - 1.20	178	100	No	(1) Description d	erived fron	n drillers daily rep	oort. (2)
07/06/2021 08/06/2021	2.70 2.70	2.70 2.70	1 1	78 78	Dr. Dr.	y    :	1.20 - 2.70 2.70 - 4.20	178 178	100 100	No Yes	drilling. (3) Inspe vibrating piezom	ction pit du eters instal	ig prior to drilling. led at 4.30m. 8.0	. (4) 4 No. 00m.
08/06/2021 14/06/2021	4.20 4.20	4.20 4.20	1 1	78 78	Dr. Dr	y    : y    :	4.20 - 5.70 5.70 - 7.20	178 178	100 100	Yes Yes	16.00m and 32.0 the Client instruct	00m BGL. ( tions. (6) A	5) UXO carried of quifer protection	out as per installed
							7.20 - 8.70	178	100	Yes	between 12.15-1 drilling.	U.15m pric	or to commencing	g rotary
All dim	ensions in Scale 1:50.	metres			For abb	explana previatio	tion of syl	mbols and ey Sheets	C	Checked by:	Logged G.T/R.C	l by: /D.P	Contract 4339	t No.



Ğ	Status:- FINAL													
Project:			Prelimin	ary Ons	shore Gr	ound Inve	estigation fo	or NZT			Exploratory Ho	ole No.		
Client: Method (Equip Sonic/Rot	ment): ary Coring	AECC	DM ongyear l	_S250/E	Boart Lo	Loc ngyear D	ation: North-v E: B520)	vest of Redc 457026.135 Ground Level (m) 7.5	ar, North Yc <u>N:525257.6</u> ): 602	rkshire 51 Start Date: 07/06/2021	MS\BH1 Sheet: 2 of 2	0		
SAM	PLES & T	ESTS						STRA	٩ΤΑ			IT.		
Depth	Type No	Test Result	Water	Reduced Level	Legend		Instrumer Backfill							
7.95 7.95-8.70 8.50 8.70-10.20 8.70 8.70-9.45 8.70	J20 <sub>(SL6)</sub> B21 <sub>(SL6)</sub> PID SL7 <sub>(SS)</sub> J22 <sub>(SL7)</sub> B23 <sub>(SL7)</sub> S	<0.1ppm N43			x0	- - - - - - - - - - - - - - - - - - -	Brown gro Gravel is sandston (Tidal Fla at c.8.70r	ey silty slight fine to coars e, limestone t Deposits). n BGL del	tly gravelly S se subangula , mudstone <i>(continued)</i> nse.	AND. Sand is ar to subround and coal.	fine to coarse. led and includes			
9.45 9.45-10.20 9.50	J24 <sub>(SL7)</sub> B25 <sub>(SL7)</sub> PID	<0.1ppm		-1.95 -2.70		9.45 (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).							
10.20-11.70 10.20 10.20-11.30 10.20 10.50	SL8 <sub>(SS)</sub> J26 <sub>(SL8)</sub> B27 <sub>(SL8)</sub> S PID	N53 <0.1ppm			x · · · · · · · · · · · · · · · · · · ·		At c.9.45m BGL clay/silt is of low plasticity.         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 <sub>(SL8)</sub> ES29 <sub>(SL8)</sub> PID UT1 <sub>(SS)</sub> U30 <sub>(UT1)</sub>	<0.1ppm		-3.80		- 11.30 	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).							
							Boring co	mplete at 12	. 15m BGL -	continued by r	otary drilling.			
Boring	Progress	and Wate	r Observ	vations		<u>[                                    </u>	iner Samp	e Informatio	n		General			
Date	Depth	Casing	Casing Dia (mm)	a Wa Stan	ter ding	From - To	Internal Dia (mm)	Recovery (%)	Subsampled	Remarks				
14/06/2021	12.15	11.70	178	5.8	80    8   1   1	3.70 - 10.20 0.20 - 11.70 1.70 - 12.15	10.20     178     100     Yes     (1) Description derived from drillers daily report. (2)       - 11.70     178     100     No     Vacuum excavation inspection pit attempted prior 1       - 12.15     116     78     No     Vibrating piezometers installed at 4.30m, 8.00m, 16.00m and 32.00m BGL. (5) UXO carried out as p the Client instructions. (6) Aquifer protection installed between 12.15-10.15m prior to commencing rotary drilling.							

Checked by:

Logged by: G.T/R.C/D.P

Contract No.

4339

All dimensions in metres

Scale 1:50.00

For explanation of symbols and abbreviations see Key Sheets



Project:	roject: Preliminary Onshore Ground Investigation for NZT											Exploratory Hole No.	
Client:				AECO	М		1	Location: North	-west of Redcar,	North Yor	kshire	MS\BH10	
Method ( Sonic	Equipme c/Rotar	nt): y Corii	ng (B	oart Lor	ngyear L	S250/Boa	art Longyear	r DB520)	Ground Level (m): 7.502	123237.03	Start Date: 07/06/2021	Sheet: 1 of 16	3
RUN	DETA	ILS							STRATA		Ι <u></u>	ł	ut/
Depth	TCR	ture ex	ter	Reduced	1	Depth				trume			
(Core Ø)	(SCR) RQD	Frac	Wa	Level	Legend	(Thickness)		Discontinuity	Detail		Main		
12.60		RO		-4.65		(0.45) 12.60	12.15-12.60m .	rotary openho	le drilling.	(1) Lam sand lei (Driller (Tidal F	iinated browr nses. describes as lat Deposits)	n grey CLAY with 'firm').	
(102mm)	100	SOIL					12.60-20.00m . 12.60m J31 12.60m B32	soil.		Firm bro sandy s fine to c medium and incl mudsto (Tidal F 12.60m interme	own grey org lightly gravel coarse. Grave n subangular ludes coal, lin ne and sand lat Deposits) slightly si diate plastici	anic slightly ly CLAY. Sand is el is fine to to subrounded mestone, stone. andy clay of ty.	
13.60	100					(2.00)	13.60m J33 13.60m B34			13.60m	clay is of l	high plasticity.	
(102mm)				7 10			14.10m J35 14.10m B36			14.10m rare pea	clay is of ∣ at pockets.	high plasticity wit	h
15 10				-7.10		-	14.60m J37			Stiff bro gravelly Gravel subrour limestor (Glacial	wn grey sligh c CLAY. Sanc is fine to coa nded and incl ne, mudstone Till).	ntly sandy slightly d is fine to coarse rse subangular to ludes coal, e and sandstone.	
(102mm)	100						15.10m U38 15.60m J39 15.60m B40			15.10m	clay is of	high plasticity.	

Drilling	g Progress and	Water Observ	vations	Standa	ard Pene	tration Test		Flush		General		
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Remarks		
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. Vacuum excavation inspection pit attempted pric to drilling. (3) Inspection pit dug prior to drilling. ( 4 No. vibrating piezometers installed at 4.30m, 8.00m, 16.00m and 32.00m BGL. (5) UXO carrie out as per the Client instructions. (6) Aquifer protection installed between 12.15-10.15m prior commencing rotary drilling.		
All dimensions in metres Scale 1:25.00				For e abbr	xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Chec /t	ked by: . <i>W.</i>	Logged by: G.T/R.C/D.P	Contract No. <b>4339</b>	

		ł	ALI R	ead Office:	Unit 28	PLO Stella Gill Ind Business Dev	USTIAL ESTATE, Pelto velopment Centre,	ON & on Fell, Chester-le-S Eanam Wharf, Black	GEOTEC treet, Co. Durham, DH2 2R0 tburn, BB1 5BL	<b>CHNIC</b> <b>Tel:</b> 0191 38 <b>Tel:</b> 01772 7	7 4700 Fax: 0191 38 35 300 Fax: 01772 73	<b>ITED</b> 7 4710 35 999	
							DRIL	LHOLE	RECORD			Status:- FINAL	
Project:				F	Prelimina	ry Onsho	ore Ground	Investigation	n for NZT			Exploratory Ho	ole No.
Client:	AECOM Location: North-west of Redcar, North Yorkshire E-457026 135 N-525257 651												D
Method ( Sonie	Equipme c/Rota	ent): ry Cori	ng (B	oart Lor	ngyear L	S250/Bo	art Longyea	ar DB520)	Ground Level (m): 7.502	2	Start Date: 07/06/2021	Sheet: 2 of 16	
RUN	I DETA	AILS							STRATA		•	•	
Depth	TCR (SCR)	cture dex	ater	Reduced	Legend	Depth			Des	cription			strume Backfil
(Core Ø)	RQD	Frac	Š	Level		(Thickness)		Discontinuity	/ Detail	0.11	Mai	n	
16.60	100					-	16.60m ES 16.60m J42	541 2		gravelly Gravel subrou limesto (Glacia	y CLAY. Sand y CLAY. Sand is fine to coa nded and inc ne, mudstone I Till). <i>(contin</i>	d is fine to coarse. rse subangular to ludes coal, e and sandstone. <i>ued</i> )	
(uuu) (10500000000000000000000000000000000000						- - - - - - - - - - -	16.60m B4	3 4 5		17.25m of inter	ո very high mediate plas	strength. Clay is ticity.	
(mm201)	82					-							
19.50 EE 20.00	0 0 (0)	NR	-	-12.20			20.00-21.40m	n no recovery.		(1) Lan sand le (Driller (Glacia (1) Gre (Driller as ang	ninated brown nses. describes as I Deposits). y MUDSTON describes as ular hard piec	n grey CLAY with 'firm'). E. 'weak' recovered ces).	

Drilling	Drilling Progress and Water Observations			Standa	ard Pene	tration Test		Flush		General	
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Remarks	
				16.60 19.50	S S	N12 N46	16.60 - 18.10 18.10 - 19.50 19.50 - 20.00 20.00 - 21.00	Water Water Water Water	100 100 100 100	(1) Description derived fr Vacuum excavation insp to drilling. (3) Inspection 4 No. vibrating piezomet 8.00m, 16.00m and 32.0 out as per the Client inst protection installed betw commencing rotary drilling	rom drillers daily report. (2) tection pit attempted prior pit dug prior to drilling. (4) ers installed at 4.30m, 10m BGL. (5) UXO carried ructions. (6) Aquifer een 12.15-10.15m prior to 19.
All dimensions in metres Scale 1:25.00				For e abbr	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec <i>K</i>	ked by:	Logged by: G.T/R.C/D.P	Contract No. <b>4339</b>



Drilling	Drilling Progress and Water Observations				Standa	ard Pene	tration Test		Flush		General		
Date	Depth	Casing	Water Standin	er E	Depth	Туре	Result	From - To	Туре	Returns (%)	Remarks		
15/06/2021 16/06/2021	21.50 21.50	21.50 21.50	0.00		21.00 21.50 22.50	C C C	50/161mm N40 50/167mm	21.00 - 21.50 21.50 - 22.00 22.00 - 22.50 22.50 - 23.00 23.00 - 24.00 24.00 - 25.50	Water Water Water Water Water	100 100 100 100 100 100	<ol> <li>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.</li> </ol>		
All dimensions in metres Scale 1:25.00				F	For ex abbre	kplana eviatio	tion of syn ns see Ke	nbols and y Sheets	Cheo /t	ked by: . <i>W.</i>	Logged by: G.T/R.C/D.P	Contract No. <b>4339</b>	



Drilling	Drilling Progress and Water Observations				ard Pene	tration Test		Flush		General		
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Remarks		
							25.50 - 27.00 27.00 - 28.50	Water Water	100 100	(1) Description derived fr Vacuum excavation insp to drilling. (3) Inspection 4 No. vibrating piezomet 8.00m, 16.00m and 32.0 out as per the Client inst protection installed betw commencing rotary drilling	rom drillers daily report. (2) tection pit attempted prior pit dug prior to drilling. (4) res installed at 4.30m, 10m BGL. (5) UXO carried ructions. (6) Aquifer een 12.15-10.15m prior to 1g.	
All dimensions in metres Scale 1:25.00					xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec K	ked by: 	Logged by: G.T/R.C/D.P	Contract No. <b>4339</b>	



Drilling	Drilling Progress and Water Observations			Standa	ard Pene	tration Test		Flush		General		
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Remarks		
16/06/2021 17/06/2021	29.50 29.50	29.50 29.50	0.00 7.60				28.50 - 29.50 29.50 - 30.20 30.20 - 31.70 31.70 - 33.20	Water Water Water Water	100 100 100 60	(1) Description derived from drillers daily report. Vacuum excavation inspection pit attempted pri to drilling. (3) Inspection pit dug prior to drilling. 4 No. vibrating piezometers installed at 4.30m, 8.00m, 16.00m and 32.00m BGL. (5) UXO carri out as per the Client instructions. (6) Aquifer protection installed between 12.15-10.15m prio commencing rotary drilling.		
All dimensions in metres Scale 1:25.00				For e abbr	xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Cheo /	ked by: 	Logged by: G.T/R.C/D.P	Contract No. <b>4339</b>	



Drilling	Drilling Progress and Water Observations				Standa	ard Pene	tration Test		Flush		General		
Date	Depth	Casing	Wate Stand	ter ding	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks	
17/06/2021	33.20	33.20	0.00	00				33.20 - 34.70	Water	50	(1) Description derived from drillers daily report. Vacuum excavation inspection pit attempted pri to drilling. (3) Inspection pit dug prior to drilling. ( 4 No. vibrating piezometers installed at 4.30m, 8.00m, 16.00m and 32.00m BGL. (5) UXO carrie out as per the Client instructions. (6) Aquifer protection installed between 12.15-10.15m prior commencing rotary drilling.		
All dimensions in metres Scale 1:25.00					For ex abbr	xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Che /	cked by: <i>K.W.</i>	Logged by: G.T/R.C/D.P	Contract No. 4339	














### **ALLIED EXPLORATION & GEOTECHNICS LIMITED**

Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG 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











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Project:			Preli	minary	/ Onsl	hore Gr	ound In	vestigation fo	or NZT				Ехр	loratory Ho	le No.
Client:		AEC	ОМ				Lo	ocation: North-w F <sup>.</sup> 2	est of	Redo	ar, North Yo N 525296 1	rkshire 60		MS\BH11	
Method (Equi Sonic/Ro	pment): otary Coring	g (Boart Lo	ongye	ear LS2	250/B	Boart Lo	ngyear l	DB520)	round L	evel (m 7.2	): 255	Start Date: 02/06/2021	Sheet:	1 of 2	
SAN	IPLES & T	ESTS					1			STRA	<b>ATA</b>	-	•		ent/ ill
Depth	Type No	Test Result		Rater L	duced evel	Legend	Depth (Thickness	s)			Descri	ption			Instrum Backf
0.30 0.30-1.20 0.30 0.30-1.20 0.50 0.50 1.00 1.20-2.20 1.20 1.20-1.95 1.20 1.95-2.70 2.00 2.50 2.70-4.20 2.70-4.20 2.70-3.45 2.70-3.45 2.70-3.45 3.45-3.45 3.45-3.45 3.45-3.45 3.45 3.45 3.45 3.45 3.45 3.45 3.45	$\begin{array}{c} \text{ES1}_{(\mathbb{S},\mathbb{I})} \\ \text{ES1}_{(\mathbb{S},\mathbb{I})} \\ \text{B9}_{(\mathbb{S},\mathbb{I})} \\ \text{PID} \\ \text{ES2}_{(\mathbb{S},\mathbb{I})} \\ \text{PID} \\ \text{ES3}_{(\mathbb{S},\mathbb{I})} \\ \text{PID} \\ \text{ES3}_{(\mathbb{S},\mathbb{I})} \\ \text{PID} \\ \text{S12}_{(\mathbb{S},\mathbb{I})} \\ \text{B11}_{(\mathbb{S},\mathbb{I})} \\ \text{B13}_{(\mathbb{S},\mathbb{I})} \\ \text{B13}_{(\mathbb{S},\mathbb{I})} \\ \text{B13}_{(\mathbb{S},\mathbb{I})} \\ \text{B13}_{(\mathbb{S},\mathbb{I})} \\ \text{B13}_{(\mathbb{S},\mathbb{I})} \\ \text{B13}_{(\mathbb{S},\mathbb{I})} \\ \text{B15}_{(\mathbb{S},\mathbb{I})} \\ \text{B15}_{(\mathbb{S},\mathbb{I})} \\ \text{B16}_{(\mathbb{S},\mathbb{I})} \\ \text{B17}_{(\mathbb{S},\mathbb{I})} \\ \text{PID} \\ \text{S14}_{(\mathbb{S},\mathbb{I})} \\ \text{B16}_{(\mathbb{S},\mathbb{I})} \\ \text{B17}_{(\mathbb{S},\mathbb{I})} \\ \text{PID} \\ \text{S14}_{(\mathbb{S},\mathbb{I})} \\ \text{B16}_{(\mathbb{S},\mathbb{I})} \\ \text{B17}_{(\mathbb{S},\mathbb{I})} \\ \text{PID} \\ \text{S14}_{(\mathbb{S},\mathbb{I})} \\ \text{B17}_{(\mathbb{S},\mathbb{I})} \\ \text{PID} \\ \text{S21}_{(\mathbb{S},\mathbb{I})} \\ \text{B21}_{(\mathbb{S},\mathbb{I})} \\ \text{B22}_{(\mathbb{S},\mathbb{I})} \\ \text{B23}_{(\mathbb{S},\mathbb{I})} \\ \text{B23}_{(\mathbb{S},\mathbb{I})} \\ \text{B22}_{(\mathbb{S},\mathbb{I})} \\ \text{B22}_{(\mathbb{S}$	<0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm			2.66 0			MADE GF with media subangula angular an at c.1.20n MADE GF Gravel is 1 and ash. 5 0 MADE GF Gravel is 1 vesicular : at c.2.70n MADE GF cobbles w subangula subangula subangula (Engineer at c.4.20n Brown silt to coarse. (Tidal Flat	ROUNI ar and nd incl ar and nd incl ar and fine to Slag is ROUNI fine to slag an n BGL ROUNI rith bot ar and ar and ar and slag an n BGL y SAN c Depo mediur s of sha	D (Grichard Control (Grichard	ass over bla content. Gra des brick, as prick. Slag is edium dense own gravelly se angular to 00%). ack sandy gr se angular to h. Slag is 75 ose. ue grey sligh content. Gra des slag and de slag. Slag nical odour). ry dense. h numerous nse light grey and is fine to	ck red slightly vel is fine to cc h and slag. Cc 75-100%). sand with frag o subangular a avel with high o subangular a -100%). tly silty sandy vel is fine to c ash. Cobbles g is 75-100%). fragments of s v brown clayey coarse.	silty sar parse ar publes a gments ind inclu cobble ind inclu gravel a oarse a coarse a coar	of metal. Job metal. J	
Borin	g Progress	and Wate	er Ob	servat	ions <sub>Wat</sub>			Liner Sample	e Infor	matio	on 📃		Gen	ieral	
Date	Depth	Casing	(n	19 Dia 1m) 78	Stand	ling	From - To	(mm)	(%	6) 6)	Subsampled	(1) Description d		n drillere doilu	nort (2)
02/06/2021	0.00	0.00	1	/8			u.30 - 1.20 1.20 - 2.70 2.70 - 4.20 4.20 - 5.70 5.70 - 7.20 7.20 - 8.70	178 178 178 178 178 178 178 178	10 10 10 10 10 10	00 00 00 00 00	Yes Yes Yes Yes Yes	<ol> <li>Description d Inspection pit du Dilatometer testii for results. (4) TE BGL for HDP tet 23.40-24.50m ar (6) Double instal standpipes instal 7.00-11.40m BG Client instruction between 14.60-1 rotary drilling.</li> </ol>	erived from g prior to d st pockets sting. (5) R dd 26.40-2 lation: 2 No led betwee L. (7) UXC s. (8) Aqui 3.00m BG	n drillers daily re Irilling. (3) High F out. Refer to Ap, s at 23.00m and tedrilled betweer 7.10m BGL usin o. 50mm diametr en 1.20-4.40m a 0 carried out as p fer protection ins j prior to commo	port. (2) Pressure pendix III 26.00m 1 g Geobore. er slotted nd per the stalled encing
All dim	nensions in Scale 1:50.	metres 00			For e	explana previatio	tion of s ns see l	symbols and Key Sheets		C	Checked by: <i>K.W.</i>	Loggeo G.T/R	l by: C	Contrac 433	t No. 9



Ğ				S	ONIC	SAN	IPLE H	OLE RE	CORD		Status:-	FINAL				
Project:			Prelimina	iry Ons	hore Gr	ound In	vestigation	for NZT			Expl	oratory Hole N	<b>1</b> 0.			
Client:		AECO	DM			L	ocation: North	-west of Re	dcar, North Yo	orkshire		MS\BH11				
Method (Equip Sonic/Ro	pment): otary Coring	g (Boart Lo	ngyear L	S250/E	Boart Lo	ngyear	DB520)	Ground Level 7	<u>10 N.525296.1</u> (m): 7.255	Start Date: 02/06/2021	Sheet:	2 of 2				
SAM	IPLES & T	ESTS				1	1	STI	RATA				ent/ ill			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thicknes	ss)		Descr	iption			Instrum Backf			
7.90 7.90-8.70 8.70-10.20 8.70 8.70-9.45 8.70 8.70 9.45	J30(SL6) B31(SL6) SL7(SS) J32(SL7) B33(SL7) S PID J34(SL7)	N14 <0.1ppm	-	-1.45	· · · · · · · · · · · · · · · · · · ·	- - - - - - - - - - - - - - - - - - -	Loose to fragmer (Tidal F 70 Medium fragmer subangu and san (Tidal F	o medium da tts of shell. 3 lat Deposits dense dark tts of shell. 3 ular to subro dstone. lat Deposits	ense light gre Sand is fine to ( <i>continued</i> ) (grey brown <u>c</u> Sand is fine to bunded and in ().	y brown clayey o coarse. ravelly SAND ( o coarse. Grave cludes mudsto	SAND with rar el is fine ne, lime	with rare 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				
9.45-10.20 9.70 10.20-11.70 10.20 10.20-10.95 10.20 10.95 10.95-11.70	B35 <sup>(SL7)</sup> PID SL8 <sub>(SS)</sub> J36 <sub>(SL8)</sub> B37 <sub>(SL8)</sub> S PID J38 <sub>(SL8)</sub> B39 <sub>(SL8)</sub>	<0.1ppm N12 <0.1ppm		-2.95	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- - - - - - - - - - - - - - - - - - -	20 Medium numero fine to c sandsto (Tidal F	i dense dark us fragment oarse subai ne. lat Deposits	( grey brown s ts of shell. San ngular to subr ;).	ilty slightly grav nd is fine to coa ounded and ind	velly SA arse. Gi cludes	ND with avel is				
11.70-13.20 11.70 11.70-12.90 11.70 11.70	SL9 <sub>(SS)</sub> J40 <sub>(SL9)</sub> B41 <sub>(SL9)</sub> S PID	N28 <0.1ppm			x x x x x x x x x x x x x x x x x x x											
12.70 12.90 12.90-13.20 13.20-13.65 13.20-14.70 13.20 13.20 13.20 13.20 13.20 13.20 13.70 13.95 13.955	$\begin{array}{c} \text{FID} \\ \text{J42}_{(\text{SL9})} \\ \text{B43}_{(\text{SL9})} \\ \text{UT1} \\ \text{SL10}_{(\text{SS})} \\ \text{J44}_{(\text{SL10})} \\ \text{B45}_{(\text{SL10})} \\ \text{FID} \\ \text{PID} \\ \text{J46}_{(\text{SL10})} \\ \text{B47}_{(\text{SL10})} \end{array}$	<0.1ppm <0.1ppm <0.1ppm	-	-5.65		12.9 	Soft dar fragmer medium sandsto (Tidal F at c.12.9 at c.13.2	k grey brow hts of shell. : subangulai ne, coal and lat Deposits 90m BGL 20m BGL	n sandy slight Sand is fine to to subrounde d limestone. ). clay is of low low strength.	ly gravelly CLA ocarse. Grave ad and includes to intermediate Clay is of low p	Y with I is fines mudst plastic plasticit	numerous to one, ity. y.				
14.70	.70 PID <0.1ppm															
Borin	g Progress	s and Wate	or Observ	ations			Liner Sam	ple Informat	tion		Gen	eral				
Date 02/06/2021 03/06/2021 03/06/2021	Depth 10.20 10.20 14.70	Casing 10.20 10.20 14.70	Casing Dia (mm) 178 178 178 178	Wat Stand 7.4 4.0 4.0	ter <u>Jing</u> 15 8 00 11 00 1 13 13 14 15 14 15 15 15 15 15 16 16 16 16 16 16 16 16 16 16	From - To 3.70 - 10.20 0.20 - 11.7 1.70 - 13.2 3.20 - 14.7	Liner Sample Information         General Remarks           - To         Internal Dia (mm)         Recovery (%)         Subsampled           10.20         178         100         Yes           11.70         178         100         Yes           13.20         178         100         Yes           14.70         178         100         Yes           6(6) Double installation: 2.70         2.00 mad 26.40-27.10m BGL using Ge         BGL for HDP testing (6) Redrifted between 23.40-24.50m and 26.40-27.10m BGL using Ge           10.0         Yes         Standpipes installed between 1.20-4.40m and 7.00-11.40m BGL. (7) UXO carried out as perit           10.10         Yes         Standpipes installed between 1.20-4.40m and 7.00-11.30m BGL or 10.300m BGL prior to commencir									
All dim	nensions ir Scale 1:50.	n metres 00		For abb	explana	ition of s	symbols and Key Sheets	d s	Checked by:	Logged G.T/R.	by: C	Contract No 4339	0.			



# ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 0191 387 4700 Fax: 0197 387 4710 Tel: 01772 735 390 Fax: 01772 735 999

Status:-

G							DRILLHOL	E RECORD	)		FINAL	
Project:				F	Prelimina	ary Onsho	ore Ground Investigat	ion for NZT			Exploratory Ho	le No.
Client:				AECO	M		Location: No	orth-west of Red E:457121.000	lcar, North Yor ) N:525296.16	kshire 0	MS\BH11	
Method ( Sonio	(Equipme c/Rotai	ent): ry Cori	ng (B	oart Lor	ngyear L	.S250/Bo	art Longyear DB520)	Ground Level (n 7.	m): 255	Start Date: 02/06/2021	Sheet: 1 of 17	
RUN		AILS						STRATA			•	nt/
Depth	TCR	ture ex	ter	Reduced	Lanand	Depth		Γ	Description			trume
(Core Ø)	RQD	Frac	Wa	Level	Legena	(Thickness)	Discontin	uity Detail		Mai	n	
15.00		RO		-7.45		14.70 (0.30)	14.70-15.00m rotary ope	nhole drilling.	(1) Lam (Driller (Probat	inated browr describes as ble Tidal Flat	n CLAY. 'soft'). Deposits).	
15.00 (mm201)	34	SOIL	-	-7.75		15.00 (0.60)	15.00m J48 15.00-20.50m soil. 15.00m B49		Firm gre gravelly Gravel subrour mudsto (Glacial	ey brown slig CLAY. Sanc is fine to coa inded and incl ne and limes Till).	htly sandy slightly I is fine to coarse. rse subangular to ludes sandstone, tone.	
15.90	83			-0.00			15.90m J50		Stiff gre gravelly Gravel subrour mudsto	y brown sligh CLAY. Sand is fine to coal inded and incl ine and limes	htly sandy slightly d is fine to coarse. rse subangular to ludes sandstone, tone	
							15.90m U51		(Glacial 15.90m plasticit	Till). clay is of i y.	intermediate	
(102mm)							16.35m B52		16.35m high pla	clay is of i sticity.	intermediate to	
17.40	77					- - - - - -	17.20m J53 17.20m B54		17.20m plasticit	clay is of i y.	intermediate	
(102 mm)						- - - - - - - - - - - - - - - - - - -	17.55m U55		17.55m of interr	very high nediate plast	strength. Clay is iicity.	

Drilling	g Progress and	Water Observ	ations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
09/06/2021	14.70	14.70	0.00				14.70 - 15.00 15.00 - 15.90 15.90 - 17.40 17.40 - 18.90	Water Water Water Water	100 100 100 100	(1) Description derived fi Inspection pit dug prior to Pressure Dilatometer tes Appendix III for results. ( and 26.00m BGL for HD between 23.40-24.50m a using Geobore. (6) Dout 50mm diameter slotted s between 1.20-4.40m and UXO carried out as per t Aquifer protection install	rom drillers daily report. (2) o drilling. (3) High sting carried out. Refer to 4) Test pockets at 23.00m )P testing. (5) Redrilled and 26.40-27.10m BGL bei installation: 2. No. standpipes installed 47.00-11.40m BGL. (7) he Client instructions. (8) ed between 14.60-13.00m
All dir	nensions ir Scale 1:25		For e abbr	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec K	ked by: W.	Logged by: G.T/R.C	Contract No. 4339	

Print Date and Time: 29/11/2021 14:50:41

		ł						ON & C	GEOTEC	HNICS LIM	<b>ITED</b>	
							DRIL	LHOLE	RECORD		Status:- FINAL	
Project:				F	Prelimina	ry Onsho	ore Ground	Investigatior	n for NZT		Exploratory Ho	le No.
Client:				AECO	М			Location: North	n-west of Redcar,	North Yorkshire	 MS\BH11	l
Method ( Sonic	Equipme c/Rotai	ent): 'y Cori	ng (B	oart Lor	ngyear L	S250/Bo	art Longyea	ar DB520)	Ground Level (m): 7.255	Start Date: 02/06/2021	Sheet: 2 of 17	
RUN	I DETA								STRATA			t
Depth	TCR	lex re	iter	Reduced	Logond	Depth			Desc	ription		trumeni ackfill
(Core Ø)	RQD	Frac	Wa	Level	Legend	(Thickness)	)	Discontinuity	Detail	Ma	in	Ins
18.90 (шш201) 19.40 (шш201) 20.40 (шш201) 20.50 (шш201)	0 0 100 71 (50) 0	NR		-13.45		-	18.90m J1 18.90m J56 18.90m B57 20.40m J58 20.50-20.70m	3 7 3 1 no recovery.		Stiff grey brown slig gravelly CLAY. San Gravel is fine to coa subrounded and inc mudstone and lime: (Glacial Till). (contir 19.15-20.15m en material appears po and may have expa box. The following a no recovery could b	htly sandy slightly d is fine to coarse. arse subangular to cludes sandstone, stone. <i>nued</i> ) gineer notes ossibly disturbed inded within core assumed zone of we more extensive.	
(шш201) 21.20 (шш201) 21.90	79 (79) 0	14 NR 9	-	-14 65		- 	20.70-21.20m spaced planau infilled (clay) c 21.20-21.35m 21.35-21.90m spaced planau discontinuities		(5-25 degrees) closely tooth open and tight (5-25 degrees) closely d open infilled (clay)	Extremely weak thir grey MUDSTONE r (Redcar Mudstone	ıly laminated light esidual. Formation).	
(102mm)	68 (55) 0	NR NI 15	-	-14.05		-	21.90-22.15m 22.15-22.25m 22.25-22.65m spaced planar	u no recovery. u non-intact. u subhorizontal r smooth tight clea	(5-25 degrees) closely an discontinuities.	Very weak thinly lar MUDSTONE partia (Redcar Mudstone	ninated dark grey lly weathered. Formation).	

Drilling	g Progress and	I Water Observ	/ations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
09/06/2021 10/06/2021	21.90 21.90	21.90 21.90	0.00 0.00	18.90 20.40 21.20	S S C	N18 N13 100/96mm	18.90 - 19.40 19.40 - 20.40 20.40 - 20.50 20.50 - 21.20 21.20 - 21.90 21.90 - 23.00	Water Water Water Water Water Water	100 100 100 100 100 100	(1) Description derived f Inspection pit dug prior t Pressure Dilatometer te: Appendix III for results. ( and 26.00m BGL for HD between 23.40-24.50m i using Geobore. (6) Doul 50mm diameter slotted s between 1.20-4.40m an UXO carried out as per Aquifer protection install	rom drillers daily report. (2) o drilling. (3) High sting carried out. Refer to 4) Test pockets at 23.00m DP testing. (5) Redrilled and 26.40-27.10m BGL De installation: 2 No. standpipes installed d 7.00-11.40m BGL. (7) he Cilent instructions. (8) ed between 14.60-13.00m
All dir	All dimensions in metres Scale 1:25.00				xplana eviatio	ition of syn Ins see Ke	nbols and y Sheets	Chec /t	ked by: . <i>W.</i>	Logged by: G.T/R.C	Contract No. 4339

		ļ		END PROVIDE ALL PROVIDO ALL PROVIDO ALL PROVIDO ALL PROVIDO ALL PROVIDO ALL PROVIDO ALL PROVIDO ALL PROVIDO ALL PR	Unit 28	PLO Stella Gill Ind Business Dev	RATIC ustrial Estate, Pelto relopment Centre, E	ON & C	GEOTEC	CH ®	Tel: 0191 387	7 4700 Fax: 0191 38 35 300 Fax: 01772 7	<b>ITED</b> 7 4710 35 999		
				-			DRIL	LHOLE	RECORD				Status:-	FINAL	
Project:				F	Prelimina	ry Onsho	ore Ground	Investigation	for NZT				Explo	ratory Hol	le No.
Client:				AECO	М			Location: North	-west of Redca	r, No	orth Yor	kshire 0	-   r	/IS\BH11	
Method ( Sonio	Equipme c/Rotar	nt): y Cori	ng (B	oart Lor	ngyear L	S250/Bo	art Longyea	ar DB520)	Ground Level (m): 7.25	55	5200.10	Start Date: 02/06/2021	Sheet:	3 of 17	
RUN	I DETA	ILS							STRATA						t/
Denth	TCR	e v	- -						De	scrir	otion				ckfill
& (Core Ø)	(SCR) RQD	iractu Index	Wate	Reduced Level	Legend	Depth (Thickness)		Discontinuity	Detail			Ma	in		Ba
23.00		<u> </u>	-			(1.85) -	22.65-23.95m subvertical (65 undulating sm	5-85 degrees) clo ooth open and tig	(5-25 degrees) and sely spaced planar ht clean discontinuitie	es.	Very we MUDST (Redcat	eak thinly lan ONE partial Mudstone l	ninated da ly weather Formation)	rk grey ed.	
23.00 (102mm)	60 (27) 0					-					(continu	iea)			
23.75	100 (100) 0	18	-	-16.50		- <u>23.75</u> - -	23.95-24.50m	subhorizontal	(5-25 degrees) very	-	Weak tl MUDST (Redca	ninly laminat ONE partial r Mudstone l	ed dark gr ly weather Formation)	ey ed.	
24 50						-	tight clean dis	continuities.		u					
2	60 (53) 0	15	-			-	24.50-26.00m subvertical (65 spaced planar clean discontii	subhorizontal 5-85 degrees) ver t o undulating sm nuities.	(5-25 degrees) and y closely to closely ooth open and tight						
(102mm)						-					24.90-2 Pressur	7.90m red e Dilatomete	drilled high er socket.		
<u>26.00</u> E	44 (31) 0	NR	-			- - - -	26.00-26.45m	no recovery.							
(102mi		15	_			-	26.45-30.20m subvertical (65 spaced planar infilled (clay) d	horizontal (0-5 5-85 degrees) clo r to undulating sm liscontinuities.	i degrees) to sely to very closely ooth open and tight						

Drilling	g Progress and	d Water Obser	vations	Stand	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
10/06/2021 11/06/2021	24.90 24.90	24.90 24.90	0.00				23.00 - 23.75 23.75 - 24.50 24.50 - 26.00 26.00 - 26.80	Water Water Water Water	100 100 100 100	(1) Description derived f Inspection pit dug prior t Pressure Dilatometer le: Appendix III for results. and 26.00m BGL for HI between 23.40-24.50m using Geobore. (6) Doul 50mm diameter slotted between 1.20-4.40m an UXO carried out as per Aquifer protection install	rom drillers daily report. (2) o drilling. (3) High sting carried out. Refer to 4) Test pockets at 23.00m DP testing. (5) Redrilled and 26.40-27.10m BGL ole installation: 2 No. standpipes installed d 7.00-11.40m BGL. (7) he Cilent instructions. (8) ed between 14.60-13.00m
All dir	nensions i Scale 1:25	n metres .00		For e abbr	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec /	ked by: 	Logged by: G.T/R.C	Contract No. 4339



Drilling	g Progress and	I Water Observ	/ations	Stand	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
11/06/2021 14/06/2021	30.20 30.20	30.20 30.20	0.00				26.80 - 27.10 27.10 - 27.90 27.90 - 29.40 29.40 - 30.20 30.20 - 30.90	Water Water Water Water Water	100 100 100 100 100	(1) Description derived f Inspection pit dug prior t Pressure Dilatometer le: Appendix III for results. and 26.00m BGL for HI between 23.40-24.50m using Geobore. (6) Doul 50mm diameter slotted between 1.20-4.40m an UXO carried out as per Aquifer protection install	rom drillers daily report. (2) o drilling. (3) High sting carried out. Refer to 4) Test pockets at 23.00m DP testing. (5) Redrilled and 26.40-27.10m BGL De installation: 2 No. standpipes installed d 7.00-11.40m BGL. (7) he Client instructions. (8) ed between 14.60-13.00m
All din	nensions i Scale 1:25	n metres .00		For e abbr	xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Chec /	ked by: . <i>W.</i>	Logged by: G.T/R.C	Contract No. <b>4339</b>



Drillin	g Progress and	Water Observ	vations		Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Wa Stan	iter ding	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
								30.90 - 31.70 31.70 - 32.40 32.40 - 32.50 32.50 - 34.00 34.00 - 35.50	Water Water Water Water Water	100 100 100 100 100	(1) Description derived f Inspection pit dug prior t Pressure Dilatometer le: Appendix III for results. and 26.00m BGL for HI between 23.40-24.50m using Geobore. (6) Doul 50mm diameter slotted between 1.20-4.40m an UXO carried out as per Aquifer protection instal	rom drillers daily report. (2) o drilling. (3) High sting carried out. Refer to 4) Test pockets at 23.00m DP testing. (5) Redrilled and 26.40-27.10m BGL bei installation: 2 No. standpipes installed 17.00-11.40m BGL. (7) he Client instructions. (8) ed between 14.60-13.00m
All dir	All dimensions in metres Scale 1:25.00					xplana eviatio	tion of syn ns see Ke	nbols and y Sheets	Ch	ecked by: <i>K.W.</i>	Logged by: G.T/R.C	Contract No. 4339

		4		A Office:	D EX Unit 2 e: Unit 2	S Stella Gill Ind Business Dev	RATI ustrial Estate, Pelt relopment Centre,	ON & Iton Fell, Chester-le- , Eanam Wharf, Blac	GEOT Street, Co. Durham kburn, BB1 5BL	TECI	HNIC Tel: 0191 38 Tel: 01772 7	7 4700 Fax: 0191 38 35 300 Fax: 01772 7	<b>ITED</b> 7 4710 35 999		
							DRIL	LLHOLE	RECO	RD			Status:-	NAL	
Project:				P	Prelimina	ary Onsho	ore Ground	I Investigatio	on for NZT				Explorat	ory Hol	e No.
Client:				AECO	M			Location: Nor	th-west of F	Redcar, I	North Yor	kshire	MS	S\BH11	
Method ( Sonio	Equipme c/Rotar	nt): y Cori	ng (Bo	oart Lor	ngyear L	S250/Bo	art Longye	ar DB520)	E:45/121. Ground Lev	000 N:5 vel (m): 7.255	25296.16	50 Start Date: 02/06/2021	Sheet: 6	of 17	
RUN	I DETA	ALS							STRATA	4			1		ent/
Depth &	TCR (SCR)	acture ndex	Vater	Reduced	Legend	Depth (Thickness)				Desci	ription				Backfil
(102mm)				-28.25		(1.50) - - - - - - 35.50					Mediun grey MI with oc (2-40m (Redca (continu 35.00m	n strong thinl UDSTONE p casional foss m in size). r Mudstone f <i>ied)</i> i weak.	y laminated artially weatl silised remain Formation).	dark nered าร	

Drilling	g Progress and	l Water Obser	vations	Stand	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standin	r ng Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
14/06/2021	35.50	35.50	0.00							(1) Description derived f Inspection pit dug prior t Pressure Dilatometer le: Appendix III for results. ( and 26.00m BGL for HI between 23.40-24.50m using Geobore. (6) Doul 50mm diameter slotted between 1.20-4.40m an UXO carried out as per Aquifer protection install	rom drillers daily report. (2) o drilling. (3) High sting carried out. Refer to 4) Test pockets at 23.00m DP testing. (5) Redrilled and 26.40-27.10m BGL ole installation: 2 No. standpipes installed d 7.00-11.40m BGL. (7) the Cilent instructions. (8) ed between 14.60-13.00m
All dir	nensions i Scale 1:25	n metres .00		For e abbr	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Chec K	ked by: . <i>W.</i>	Logged by: G.T/R.C	Contract No. 4339

















### **ALLIED EXPLORATION & GEOTECHNICS LIMITED**

Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 01772 735 300 Fax: 01772 735 999 Head Office: Regional Office:





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Ğ					S	ONIC	C SAM	PLE HO	LE R	EC	ORD		Status:-	FINAL	
Project:			Preli	minary	y Ons	hore G	round Inve	estigation fo	r NZT				Exp	loratory Hole	e No.
Client:		AEC	OM				Loc	ation: North-w E:4	est of F	Redo 512	ar, North Yo N:525257.7	rkshire 81	1	MS\BH12	
Method (Equ Sonic/F	ipment): Rotary Corir	ng (Boart L	ongy	ear LS	S250/	Comac	chio GEO	205) G	round Lev	rel (m) 7.1	): 47	Start Date: 03/06/2021	Sheet:	1 of 3	
SA	MPLES & T	ESTS							S	STR/	ATA				ent/ iii
Depth	Type No	Test Result		Aater I Mater	educed Level	Legend	Depth (Thickness)				Descri	ption			Instrum Backf
0.12-1.20 0.12 0.12-1.20 0.30 0.50 0.50 1.00 1.20-2.70 1.20 1.20-2.70 1.20 1.50	$\begin{array}{c} SL1_{(SS)}\\ J5_{(SL1)}\\ B6_{(SL1)}\\ ES1\\ PID\\ ES2\\ PID\\ ES3\\ PID\\ SL2_{(SS)}\\ J7_{(SL2)}\\ B8_{(SL2)}\\ S\\ PID\\ \end{array}$	<0.1ppm <0.1ppm <0.1ppm N15 <0.1ppm	1		6.55		(0.60) - 0.60 - 0.60 - 1.20 - 1.20 - 1.20 	MADE GF content. G includes v vesicular s MADE GF content. G vesicular s MADE GF Gravel is f vesicular s (Engineer	COUND Gravel is esicula slag. Sla COUND Gravel is esicula slag. Sla COUND fine to c slag. Co slag. Sla notes p	(Gre s fine r sla ag is (Da fine r sla ag is (Me coars obble ag is ooor	ey sandy gra to coarse a g. Cobbles a 100%). rk grey sand to coarse a g and ash. C 100%). dium dense se angular to sare angula 100%). recovery).	vel with medingular to sub are angular and by gravel with ngular to sub Cobbles are a dark grey gra subangular a ar to subangu	um cobl angular nd incluc medium angular auvel and avel and inclu ilar and	ble and cobble and include cobbles. udes includes	
2.50 2.60 2.70-4.20 2.70-3.00 2.70 2.70-3.45 2.70 3.00 3.45 3.45-4.20 3.50	PID J9 <sub>(SL2)</sub> SL3 <sub>(SS)</sub> ES4 <sub>(SL3)</sub> J10 <sub>(SL3)</sub> B11 <sub>(SL3)</sub> S PID PID J12 <sub>(SL3)</sub> B13 <sub>(SL3)</sub> PID	<0.1ppm N13 <0.1ppm <0.1ppm <0.1ppm			4.55	× · · · · · · · · · · · · · · · · · · ·	× - - - - - - - - - - - - -	Medium d fragments coarse su limestone (Tidal Flat	ense lig of shel brounde Depos	iht b I. Sa ed a its).	rown slightly and is fine to nd includes	v silty gravelly medium. Gra granite, sand	SAND with the second se	with rare he to hd	
4.20-5.70 4.20 4.20-4.95 4.20 4.50 4.95	SL4 <sub>(SS)</sub> J14 <sub>(SL4)</sub> B15 <sub>(SL4)</sub> S PID J16 <sub>(SL4)</sub>	N23 <0.1ppm	1		2.45	× · · · · · · · · · · · · · · · · · · ·		Light grey fine to coa	brown arse.	silty	SAND with	rare fragment	s of she	II. Sand is	
4.95-5.70 5.70-7.20 5.70 5.70 5.80 5.80-6.80	B17( <sub>SL4</sub> ) SL5( <sub>SS</sub> ) PID J18( <sub>SL5</sub> ) B19( <sub>SL5</sub> )	N10 <0.1ppm	1		1.35		(0.85)	Dark grey fragments subangula sandstone (Tidal Flat Soft dark I Sand is fir (Tidal Flat at c.5.80n occasiona	brown of shel to sub Depos brown s brown s Depos Depos BGL I sand	its). and arse is). cla cla	ey/silty slight and is fine to nded and ind y CLAY with a. y is of intern ets.	ly gravelly SA coarse. Grav cludes mudst occasional fr nediate plasti	ND with rel is fine one and agments	s of shell.	
6.70 6.80 6.80-7.20 7.20-8.70 7.20 7.20-7.90 7.20 7.70	PID     <0.1ppm       J20 <sub>(8L5)</sub> B21 <sub>(8L5)</sub> 8.70     SL6 <sub>(85)</sub> J22 <sub>(8L6)</sub> S       7.90     B23 <sub>(86)</sub> S     N5       PID     <0.1ppm										slightly d is fine to ded and				
Borir	ng Progress	and Wate	er Ob	servat	tions		L	iner Sample	e Inform	natio	n		Gen	eral	
Date	Depth	Casing	Casi (n	ng Dia nm)	Wa Stand	ter ding	From - To	Internal Dia (mm)	Recov (%)	ery	Subsampled		Rem	arks	
03/06/2021 03/06/2021 04/06/2021	0.00 7.20 7.20	0.00 7.20 7.20	1   1   1	78 78 78	3.0 4.0	00	0.12 - 1.20 1.20 - 2.70 2.70 - 4.20 4.20 - 5.70 5.70 - 7.20 7.20 - 8.70	178 178 178 178 178 178 178	100 53 100 100 100 100		Yes Yes Yes Yes Yes Yes	(1) Description of Inspection pit du installation: 1 No and 1 No. 25mm between 18.20-4 respectively. (4) instructions. (5) 14.90-16.65m B	lerived fron Ig prior to d b. 50mm dia n diameter a 20.50m and UXO carrie Aquifer pro GL prior to	n drillers daily rep Irilling. (3) Double ameter slotted sta slotted standpipe d 30.70-34.50m B ed out as per the ( tection installed b commencing rota	ort. (2) ndpipe installed GL Client etween iry drilling.
											booked by		1 6, "	Contract	Nc
All dir	nensions ir Scale 1:50.	n metres 00			⊦or abb	explana	ation of sy ons see Ke	mbols and ey Sheets			K, W,	G.T/R.C	2/D.P	4339	INU.



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Project:			Preli	minar	y Ons	hore C	Ground Inve	estigation fo	or NZT					Exp	loratory Hol	e N	lo.
Client:		AEC	ОМ				Loc	ation: North-w F <sup>.</sup> 2	/est of R	edc	ar, North Yo N:525257 7	orksh '81	ire		MS\BH12		
Method (Equip Sonic/R	oment): otary Corir	ng (Boart L	.ongy	/ear L	S250/	Coma	cchio GEO	205) G	round Leve	əl (m) 7.1	47	Star 03	rt Date: SI 3/06/2021	heet:	2 of 3		
SAM	IPLES & T	ESTS							S	TRA	ATA		ŀ				ent/
Depth	Type No	Test Result		Mater B	educed Level	Legen	Depth (Thickness)				Descri	iption	1				Backf
7.90 7.90-8.70 8.70-10.20 8.70 8.70-9.45 8.70 9.45 9.45-10.20 9.45-10.20 9.70	J24 <sub>(SL6)</sub> B25 <sub>(SL6)</sub> SL7 <sub>(SS)</sub> J26 <sub>(SL7)</sub> B27 <sub>(SL7)</sub> S PID J28 <sub>(SL7)</sub> PID	N11 <0.1ppm				x o x o x o x o x o x		at c.7.90n Medium d fragments subangula sandstone (Tidal Flat	n BGL lense lig of shell ar to sub e. t Deposi	. cla ht g . Sa roui ts).	yey very gra rey brown si and is fine to nded and ind (continued)	avelly ilty gi coal clude	v sand. ravelly SAN rse. Gravel es mudstone	D with is fine e and	h rare e to coarse		
10.20-11.70 10.20 10.20-10.95 10.20 10.70 10.95 10.95-11.70	SL8 <sub>(S5)</sub> J30 <sub>(SL8)</sub> B31 <sub>(SL8)</sub> PID J32 <sub>(SL8)</sub> B33 <sub>(SL8)</sub>	N29 <0.1ppm	1				· - · - · - · - · - · - · - · -										
11.70-13.20 11.70 11.70-12.45 11.70 11.70 12.45 12.45-13.20 12.70	SL9 <sub>(SS)</sub> J34 <sub>(SL9)</sub> B35 <sub>(SL9)</sub> S PID J36 <sub>(SL9)</sub> B37 <sub>(SL9)</sub> PID	N23 <0.1ppm	1				· · · · · · · · · · · · · · · · · · ·										
13.20-14.70 13.20 13.20-13.95 13.20 13.70 13.95 13.95-14.70	SL10 <sub>(SS)</sub> J38 <sub>(SL10)</sub> B39 <sub>(SL10)</sub> S PID J40 <sub>(SL10)</sub> B41 <sub>(SL10)</sub>	N31 <0.1ppm	1		-6.05	o x 2 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0		Dense lig coarse. G includes s (Tidal Flat	ht grey b ravel is f andston t Deposi	prow fine ie ai ts).	n silty grave to medium nd mudstone	elly S suba e.	AND. Sand ngular to su	is find Ibrour	e to nded and		
14.70-16.20 14.70 14.70-15.40 14.70-15.15 14.70 15.40 15.40-16.20 15.70	0-16.20       SL11 <sub>(SS)</sub> J42 <sub>(SL11)</sub> ×       · <td< td=""><td></td><td></td><td></td></td<>																
Borin	Boring Progress and Water Observations Liner Sample Information General																
Date	Depth	Casing	Casii (n	ng Dia nm)	Wa Stan	ter ding	From - To	Internal Dia (mm)	Recove (%)	ry	Subsampled			Rem	arks		
04/06/2021 07/06/2021	14.70 14.70	14.70 14.70	1	78 78	4.5 4.0	50	8.70 - 10.20 10.20 - 11.70 11.70 - 13.20 13.20 - 14.70 14.70 - 16.20	178 178 178 178 178	100 100 100 100 100		Yes Yes Yes Yes Yes	(1) I Insp insta and betw resp instr 14.9	Description deriv bection pit dug p allation: 1 No. 5( 1 No. 25mm dia veen 18.20-20.5 bectively. (4) UX ructions. (5) Aqu 90-16.65m BGL	ved fron rior to d Omm dia ameter s 50m and 0 carrie uifer pro prior to	n drillers daily rep rilling. (3) Double ameter slotted st slotted standpipe d 30.70-34.50m f ad out as per the tection installed commencing rot	port. e andp inst BGL Clie betw tary o	(2) bipe talled ent veen drilling.
All dim	Il dimensions in metres Scale 1:50.00     For explanation of symbols and abbreviations see Key Sheets     Checked by: K.W.     Logged by: G.T/R.C/D.P												Logged b G.T/R.C/D	iy: ).P	: Contract No. P <b>4339</b>		



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G	3

Ē				S	ONIC	C SAMI	PLE H	OLE RE	CORD		Status:-	FINAL		
Project:			Prelimina	ary Ons	hore G	round Inve	estigation	for NZT			Exp	loratory Hole	e No.	
Client:		AEC	DM			Loc	ation: North	west of Re	edcar, North Yo	rkshire	-	MS\BH12		
Method (Equip Sonic/Ro	ment): tary Corin	ıg (Boart L	ongyear	LS250/	Comac	chio GEO	205)	Ground Level	(m): 7.147	Start Date: 03/06/2021	Sheet:	3 of 3		
SAM	PLES & T	ESTS						ST	RATA		1		_if	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Descri	ption			Instrume Backfil	
16.20-16.65	UT1	(100)		-9.50			Soft gre (Tidal Fl at c.16.2 plasticity <i>Boring c</i>	y brown sa at Deposits 20m BGL <i></i> <i>omplete at</i>	ndy CLAY. Sar s). <i>(continued)</i> . very low stren 16.65m BGL - d	nd is fine to co orgen in the second	arse. f interme otary dr	ediate illing.		
Boring	Drogroop			votiona		<u>E</u>	inor Som	alo Informa	tion					
Date	Depth	Casing	Casing Dia	Wa	ter ding	From - To	Internal Dia (mm)	Recover	y Subsampled		Gen Rem	erai arks		
07/06/2021	16.65	16.20	146	Start	1	6.20 - 16.65	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 dime	ensions in cale 1:50.0	metres 00		For abb	explana	ation of sy	mbols and		Checked by:	Logged G.T/R.C	l by: C/D.P	Contract 4339	No.	

		4	ALI R	LIEC	DEX Unit 25		RATIO	ON &	GEOT	ECH	<b>INICS LIM</b> Tel: 0191 387 4700 Fax: 0191 38 Tel: 01772 735 300 Fax: 01772 7	ITED 77 4710 35 999			
							DRIL	LHOLE	RECOR	D		Status:- FINAL			
Project:				F	Prelimina	ry Onsho	ore Ground	Investigatio	on for NZT			Exploratory Ho	ole No.		
Client:				AECO	M			Location: Nor	th-west of Re	edcar, N	orth Yorkshire	 MS\BH1:	2		
Method ( Soni	Equipme c/Rota	nt): ry Cor	ing (E	Boart Lo	ongyear l	_S250/Co	omacchio G	GEO 205)	E:45/207.5 Ground Level	0 <u>12 N:52</u> I (m): 7.147	5257.781 Start Date: 03/06/2021	Sheet: 1 1 1 of 16			
RUN	DETA	ILS							STRATA						
Depth &	TCR (SCR)	acture ndex	/ater	Reduced	Legend	Depth				Descri	ption		Istrume Backfil		
(Core Ø)	RQD		3	Level		(THICKHESS)	16 65 20 40m	Discontinui	ity Detail		Ma		 		
(102 102 100 100	55	UNIL		-9.30		- 10.03 - - - -	16.65m J4 16.65m B4	7			Firm to suit dark gre sandy slightly grave fine to coarse. Grav subangular to subro includes siltstone, li mudstone. (Tidal Flat/Glacial D 16.65m clay is of plasticity.	ay brown slightly illy CLAY. Sand is rel is fine to coarse ounded and mestone and peposits). intermediate			
17.60					 	-									
(105mm) (18.10	0					_ _(2.25) _									
02mm)	63					-									
(10						-									
18.90	400			-11.75		- 18.90									
(102mm)	100					-	18.90m J48 18.90m B4	9			Stiff light red brown slightly gravelly CLA coarse. Gravel is fir subangular to subro includes sandstone limestone.	slightly sandy AY. Sand is fine to to coarse bunded and , mudstone and			
Ê	70					- - (1.50) -	19.40m J50 19.40m B5	) 1			(Glacial TIII). 18.90m clay is of intermediate plastic	low to ity.			
(102mr						-  - -									
20.40	100 (0) 0	NI		-13.25		20.40 - -	20.40-23.00m	n non-intact.							

Drilling	g Progress and	I Water Obser	vations	Standard Penetration Test				Flush		General		
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks	
11/06/2021	16.65	16.65	4.11	17.60 18.90	S	N4 N25	N4 N25     16.65 - 17.60     Water     100     (1) Description derived from drillers of Inspection pit dug prior to drilling. (3) installation: 1 No. 50mm diameter sit standpipe and 1 No. 25mm diameter sit standpipe installed between 18.20-21       N25     17.60 - 18.10     Water     100     Inspection pit dug prior to drilling. (3) installation: 1 No. 50mm diameter sit standpipe installed between 18.20-22       19.40 - 20.40     Water     100     30.70-34.50m BGL respectively. (4) out as per the Client instructions. (5) protection installed between 14.90-11 prior to commencing rotary drilling.					
All din	All dimensions in metres Scale 1:25.00				xplana eviatio	tion of syn ns see Ke	nbols and y Sheets	Checked by:		Logged by: G.T/R.C/D.P 4339		



Drilling	Drilling Progress and Water Observations			Standa	Standard Penetration Test			st Flush			neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
11/06/2021 14/06/2021	24.00 24.00	24.00 24.00	0.00 4.09				21.70 - 22.00 22.00 - 23.50 23.50 - 24.00 24.00 - 25.20	Water Water Water Water	100 100 100 100	(1) Description derived fi Inspection pit dug prior ti installation: 1 No. 50mm standpipe and 1 No. 25r standpipe installed betw 30.70-34.50m BGL resp out as per the Client inst protection installed betw prior to commencing rota	rom drillers daily report. (2) o drilling. (3) Double diameter slotted nm diameter slotted een 18.20-20.50m and ectively. (4) UXO carried ructions. (5) Aquifer een 14.90-16.65m BGL ary drilling.
All dimensions in metres Scale 1:25.00				For e abbr	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Checked by:		Logged by: G.T/R.C/D.P	Contract No. <b>4339</b>



Drilling	Drilling Progress and Water Observations				ard Pene	tration Test	st Flush			Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
							25.20 - 26.70 26.70 - 28.20 28.20 - 29.50	(1) Description derived fi Inspection pit dug prior ti installation: 1 No. 50mm standpipe and 1 No. 25r standpipe installed betw 30.70-34.50m BGL resp out as per the Client inst protection installed betw prior to commencing rota	rom drillers daily report. (2) o drilling. (3) Double diameter slotted nm diameter slotted een 18.20-20.50m and ectively. (4) UXO carried ructions. (5) Aquifer een 14.90-16.65m BGL ary drilling.		
All dimensions in metres Scale 1:25.00				For e abbr	xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Chec K	ked by:	Logged by: G.T/R.C/D.P	Contract No. <b>4339</b>



Drilling	Drilling Progress and Water Observations			Standard Penetration Test			st Flush			Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
14/06/2021 16/06/2021	29.50 29.50	29.50 29.50	2.19 5.19				29.50 - 30.20 30.20 - 31.20 31.20 - 31.70 31.70 - 33.20	Water Water Water Water	100 100 100 100	(1) Description derived f Inspection pit dug prior t installation: 1 No. 50mm standpipe and 1 No. 25r standpipe installed betw 30.70-34.50m BGL resp out as per the Client inst protection installed betw prior to commencing rota	rom drillers daily report. (2) o drilling. (3) Double diameter slotted mm diameter slotted een 18.20-20.50m and ectively. (4) UXO carried ructions. (5) Aquifer een 14.90-16.65m BGL ary drilling.
All dimensions in metres Scale 1:25.00				For e abbr	xplana eviatio	tion of syn ns see Ke	nbols and y Sheets	Chec //	ked by: . <i>W.</i>	Logged by: G.T/R.C/D.P	Contract No. <b>4339</b>

							DRIL	LHOLE	RECORD			Status:- FINAL		
Project:				P	Prelimina	ry Onsho	ore Ground	Investigatio	n for NZT			Exploratory Ho	le No.	
Client:				AECO	M			Location: Nort	h-west of Redcar,	North You	rkshire	MS\BH12	2	
Method (I Soni	Equipme c/Rota	nt): ry Cor	ing (E	Boart Lo	ngyear	_S250/Co	omacchio G	GEO 205)	Ground Level (m): 7.147	20201.10	Start Date: 03/06/2021	Sheet: 5 of 16		
RUN	DETA	ALS .							STRATA		•		_ if	
Depth	TCR (SCR)	cture dex	ater	Reduced	Legend	Depth			Desc	ription			strume Backfil	
(Core Ø)	RQD	Fra	ŝ	Level	Logona	(Thickness)		Discontinuity	/ Detail	March 4	Main <u> </u>			
33.20 (uw201) 34.20 (uw201) 35.30 (uw201)	100 (100) 70 100 (100) 82	NI 6		-28.55		35.70	32.70-33.00m 33.00-35.70m spaced plana and rough tigt	n subhorizonta r and irregular ro nt clean discontir	I (10-20 degrees) closely ugh undulating smooth uuities.	black g MUDS (Redca (contine Comple	rey black fos TONE partial ir Mudstone f <i>ued</i> )	BGL.		

Drilling	g Progress and	Water Observ	ations		Standa	ard Pene	tration Test		Flu	sh		Ge	neral
Date	Depth	Casing	Water Standir	er ing	Depth	Туре	Result	From - To	-	Туре	Returns (%)	Rer	narks
16/06/2021 17/06/2021 17/06/2021	33.20 33.20 35.70	33.20 33.20 35.70	5.19 4.67 4.67	9 7 7				33.20 - 34.20 34.20 - 35.30 35.30 - 35.70	v v v	Vater Vater Vater	100 100 100	(1) Description derived fi Inspection pit dug prior t installation: 1 No. 50mm standpipe and 1 No. 25r standpipe installed betw 30.70-34.50m BGL resp out as per the Client inst protection installed betw prior to commencing rota	rom drillers daily report. (2) o drilling. (3) Double diameter slotted mm diameter slotted een 18.20-20.50m and ectively. (4) UXO carried ructions. (5) Aquifer een 14.90-16.65m BGL ary drilling.
All dimensions in metres Scale 1:25.00					For explanation of syn abbreviations see Ke			mbols and by Sheets		Checked by:		Logged by: Contract No. G.T/R.C/D.P 4339	






Project:

Client:

### **ALLIED EXPLORATION & GEOTECHNICS LIMITED**

Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG 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 Head Office: Regional Office:

Status:-**DRILLHOLE RECORD** FINAL Preliminary Onshore Ground Investigation for NZT Exploratory Hole No. Location: North-west of Redcar, North Yorkshire MS\BH12 AECOM E:457207.512 N:525257.781 Method (Equipment): Sonic/Rotary Coring (Boart Longyear LS250/Comacchio GEO 205) Start Date: 03/06/2021 Ground Level (m): 7.147 Sheet: 8 of 16









Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG 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 Head Office: Regional Office:





 
 Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG
 Tel: 0191 387 4700 Fax: 0191 387 4700

 Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL
 Tel: 0197 2735 300 Fax: 01772 735 999
 Head Office: Regional Office:

















G				S	SONIC	SAM	PLE HO		CORD		Status:-	FINAL	
Project:			Prelimin	ary Ons	shore Gr	ound Inv	estigation fo	or NZT			Ехр	loratory Hol	e No.
Client:		AEC	ОМ			Lo	cation: North-w	vest of Red	Icar, North Yo	rkshire		MS\BH13	
Method (Equi	pment): Sonic/R	otary Cori	ing (Boa	rt Longy	ear LS2	:50)	G	round Level (I 5.	<u>z n.525178.5</u> m): .714	Start Date: 25/06/2021	Sheet:	1 of 2	
SAN	/IPLES & T	ESTS						STF	RATA				_ ıt/
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Descri	ption			Instrume Backfil
0 15-1 20	SI 1			5.56		0.15	(1) MADE	GROUND	) (Black ash a	nd soil).			
0.13-1.20 0.15-1.20 0.30 0.30 0.50 0.50	B7 <sub>(SL1)</sub> B7 <sub>(SL1)</sub> B1D ES2 <sub>(SL1)</sub> J8 <sub>(SL1)</sub>	0.1ppm				(1.05)	MADE GF with low c subrounde subangula	ROUND (B obble cont ed and incl ar to subro	rown black ve ent. Gravel is ludes grey to unded and ind	ery sandy grave fine to coarse dark grey slag clude slag. Sla	el and d angula . Cobbl ig is 10	cobbles ar to es are 0%).	
0.50	ES3 <sub>(SL1)</sub>	<0.1ppm		4.51		1.20							
1.00 1.00 1.20-2.70 1.20-1.95	99(SL1) PID SL2(SS) B10(SL2)	<0.1ppm	1			€ € €	MADE GF and grave includes s	ROUND (M el. Gravel is slag. Slag i	ledium dense s fine to coars s 100%).	grey brown sli e angular to ro	ightly cl ounded	ayey sand and	
1.20 1.50	S         N28         Image: S         Image:												
1.50 1.95-2.70 2.00 2.00	PID     <0.1ppm												
2.00		<0.1ppm	1	3.01		2.70							
2.50 2.70-4.20	PID SL3(SS)	<0.1ppm	1			4 4	MADE GF	ROUND (S	oft red brown	sandy gravelly	y clay w to subr	ith low	
2.70-3.65 2.70 3.00	PID <0.1ppm SL3 <sub>(SS)</sub> N9 ES5 <sub>(SJ3)</sub> N9 N9 ES5 <sub>(SJ3)</sub> <0.1ppm N9 ES5 <sub>(SJ3)</sub> <0.1ppm N9 ES5 <sub>(SJ3)</sub> N9 Cobble content. Gravel is fine to coarse angular to subrounded and includes grey slag. Slag is vesicular (100%). Cobbles are subrounded and include slag).												
3.00	PID	<0.1ppm	n	2.06		- - 3.65							
3.60 3.65-4.20 4.00	PID B17 <sub>(SL3)</sub> J18 <sub>(CL3)</sub>	<0.1ppm	1			(0.55)	MADE GF odour. Sa	ROUND (D nd is fine t	ark blue brow o coarse).	n sand with m	ild hydr	ocarbon	
4.00 4.20-5.70	PID SL4 <sub>(SS)</sub>	<0.1ppm	1	1.51	××××× 	4.20	Soft brow	n black slig	phtly organic s	lightly sandy (	CLAY w	vith	
4.20-4.80 4.20 4.50	B19 <sub>(SL4)</sub> S J20 <sub>(SL4)</sub>	N4				4 + + +	occasiona (Tidal Flat at c.4.20m	al fragment t Deposits) n BGL cl	s of white she lay is of high p	olasticity.	c odour	<u>.</u>	
4.80-5.70 5.00 5.00	J22 <sub>(SL4)</sub> PID	<0.1ppm	1			 (1.85) 	between o	2.4.80-5.70	m BGL bla	ck brown.			
5.50 5.70-6.15	J23 <sub>(SL4)</sub> UT1						at c.5.70n	n BGL lo	ow strength. C	lay is of interm	nediate	plasticity.	
5.70-7.20 5.70-6.05 6.00 6.05-7.20	SL5 <sub>(SS)</sub> B24 <sub>(SL5)</sub> PID B26 <sub>(SL5)</sub>	<0.1ppm	1	-0.34		- 6.05 - -	between of Brown cla (Engineer	vey SAND notes slig	m BGL bro . Sand is fine htly saturated	own. to coarse. ).			
6.50	J25 <sub>(SL5)</sub>					- (1.15)		Deposits)					
7.00	PID	<0.1ppm	1	-1.49	·	7.20	)						
7.20-8.70 7.20-7.95 7.20 7.50	8.70     SL6 <sub>(SS)</sub> B27 <sub>(SL6)</sub> N33       J28 <sub>(S16)</sub> N33         X X X         Medium dense to dense yellow brown very silty SAND with occasional fragments of bivalve shell. (Tidal Flat Deposits).												
													° do
Borin	Boring Progress and Water Observations Liner Sample Information Ger												
Date	e Depth Casing Casing Dia Water (mm) From - To Internal Dia Recovery (%) Subsampled Remarks												
25/06/2021 25/06/2021 28/06/2021	1         0.00         0.00         178         5.00         1.20 - 2.70         178         76         Yes         (1) Description derived from drillers daily report.         (2) Inspection pit dug prior to drilling.           1         5.70         5.70         178         5.00         1.20 - 2.70         178         100         Yes         (3) Double installation: 2No. 50m diameter slotted standpipes installed between 6.50-9.50m and 17.00-20.00m BGL.         (3) Double installation: 2No. 50m and 17.00-20.00m BGL.         (4) UXO carried out as per the Client instructions.           5.70         7.20 - 8.70         178         100         Yes         (4) UXO carried out as per the Client instructions.         (5) Aquifer protection installed prior to commencing rotary drilling.												
All din	nensions in Scale 1:50.	metres		For abl	explana	tion of sy	ymbols and and Sheets		Checked by:	Logged M.B/R	by: .C	Contrac 4339	t No. 9



				S	ONIC	SAMI	PLE H	OLE REC	CORD		Status:-	FINAL	
Project:		F	Prelimina	ary Ons	hore Gr	ound Inve	estigation	for NZT			Exp	loratory Ho	ole No.
Client:		AECC	DM			Loc	ation: North- F	west of Red	car, North Yo	orkshire 76		MS\BH13	3
lethod (Equip	ment): Sonic/Ro	otary Corin	ig (Boart	Longy	ear LS2	50)		Ground Level (n 5.	n): 714	Start Date: 25/06/2021	Sheet:	2 of 2	
SAM	PLES & TE	ESTS						STR	ATA	-	-1		nt/
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Descri	ption			Instrume Backfil
7.95-8.70 3.00 3.00 3.70-10.20 3.70-10.20 3.70- 3.70	B29 <sub>(SL6)</sub> J30 <sub>(SL6)</sub> PID J31 <sub>(SL6)</sub> SL7 <sub>(SS)</sub> B32 <sub>(SL7)</sub> SPID J33 <sub>(SL7)</sub> ES34 <sub>(SL8)</sub> ES34 <sub>(SL8)</sub> ES35 <sub>(SL8)</sub> ES35 <sub>(SL8)</sub> ES(M)36 <sub>(SL8)</sub> B38 <sub>(SL8)</sub> J37 <sub>(SL8)</sub> UT2	<0.1ppm N24 <0.1ppm <0.1ppm *) <0.1ppm		-4.79 -5.19 -5.99			Medium occasior (Tidal FI very san (Tidal FI Stiff thin (Glacial at c.11.5 <i>Boring c</i>	dense to der al fragments at Deposits). dy clay. San at Deposits). y laminated Deposits). 0m BGL c omplete at 1	AND with occ (continued) AND with occ d is fine to co red brown sil lay is of high 7.70m BGL -	casional pock barse. ty CLAY. plasticity. continued by	ets of sc	oft brown	
Boring	Progress	and Wate	r Observ	ations		<u>t</u>	iner Samı	ble Informatio	on		Gor	oral	
Date	Depth	Casing	Casing Dia (mm)	Wa	ter ding	From - To	Internal Dia (mm)	Recovery (%)	Subsampled		Rem	harks	
!8/06/2021	11.70	11.70	178	5.0	)00 { 1	3.70 - 10.20 0.20 - 11.70	178 178	47 100	Yes Yes	<ol> <li>Description (2) Inspection p</li> <li>Double insta standpipes insta 17.00-20.00m E</li> <li>UXO carried</li> <li>Aquifer prote rotary drilling.</li> </ol>	derived fror it dug prior illation: 2 No alled betwee 3GL. I out as per ection instal	n drillers daily re to drilling. . 50mm diamel en 6.50-9.50m a the Client instru lled prior to com	eport. ter slottec and uctions. umencing
All dime	ensions in	metres		For	explana	ition of sy	mbols and	(	Checked by:	Logge M.B/I	d by: R.C	Contrac 433	ct No. 89



G							DRIL	LHOLE I	RECORD			Status:- FINAL	
Project:				F	Prelimina	ry Onsho	ore Ground	Investigation	for NZT			Exploratory Ho	le No.
Client:				AECO	М			Location: North	-west of Redcar,	North Yor	kshire	MS\BH13	5
Method (	(Equipme	nt): Sonic/	/Rotai	ry Corin	g (Boart	Longyea	r LS250)	<u> </u>	Ground Level (m): 5.714	23170.37	Start Date: 25/06/2021	Sheet: 1 of 10	
RUN	I DETA	AILS	ł		nt/								
Depth &	TCR (SCR)	cture dex	ater			l strum∈ Backfi							
(Core Ø)	RQD	La La	ŝ	Level	Logona	(Thickness)		Discontinuity [	Detail		Mai	n	<u><u> </u></u>
11.70 (шесон) 12.70	100	SOIL		-5.99		11.70 - - - - - - - - - - - - - - - - - - -	11.70-15.30m 12.80m J42 12.80m B4 12.80m E4 12.80m E5 12.80m U4	2 3 4 (M)45 6		Stiff da gravelly Gravel subang mudsto (Glacial 11.70m	rk brown sligl ( CLAY. Sanc is fine to mec ular and inclu ne, sandston   Till). clay is of high strer diate plastici	htly sandy slightly d is fine to coarse. dium angular to udes coal, le and limestone. high plasticity. hgth. Clay is of ty.	
14.20	97 (0)			-8.49	× ×	14.20	14.20m B4	8		Stiff thir	nly laminated	grey brown silty	
	0			-8.99	* * * * * * * *	(0.50)	14.30m J47	7		slightly coarse. (Glacial	sandy CLAY   Till).	. Sand is fine to	
(102mm)						- - -(0.60) -	14.70m U4	9		Stiff dan gravelly Gravel subang sandsto (Glacial 14.70m	rk brown sligt c CLAY. Sand is fine to med ular and inclu one, limeston Till). clav is of	htly sandy slightly d is fine to coarse. Jium angular to udes mudstone, e and coal. intermediate	
		NI	-	-9.59		15.30 - -(0.40)	15.30m E5 15.30-15.70m	0 i non-intact. Rec	covered as clay.	plasticit Extreme grey MU (Recove	y ely weak thin JDSTONE re ered as stiff o	ly laminated blue esidual. clay). Formation	
15.70		1		-9.99		15.70				Ineuca		onnauon).	

Drilling	g Progress and	Water Observ	vations		Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Wate Standi	er ling	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
29/06/2021	11.70	11.70	5.00	0	14.20	S	N18	11.70 - 18.20	Water	100	<ol> <li>Description derived f</li> <li>Inspection pit dug pri</li> <li>Double installation: 2</li> <li>slotted standpipes instal and 17.00-20.00m BGL.</li> <li>UXO carried out as p</li> <li>Aquifer protection ins rotary drilling.</li> </ol>	rom drillers daily report. or to drilling. No. 50mm diameter led between 6.50-9.50m er the Client instructions. talled prior to commencing
All dir	All dimensions in metres Scale 1:25.00				For ex abbre	kplana eviatio	tion of syn ns see Ke	nbols and y Sheets	Cheo /	ked by: . <i>W.</i>	Logged by: M.B/R.C	Contract No. <b>4339</b>



EE CS							DRIL	LHOLE	RECORD			Status:-	FINAL	
Project:				P	relimina	ary Onsho	ore Ground	Investigation	for NZT			Expl	oratory Ho	le No.
Client:				AECO	М			Location: North	-west of Redcar, N	North York	shire		MS\BH13	
Method (	Equipme	nt): Sonic/	Rotar	y Corin	g (Boart	Longyea	r LS250)		Ground Level (m): 5.714	5	Start Date: 25/06/2021	Sheet:	2 of 10	
RUN	DETA	ILS							STRATA	ł		•		ant/
Depth &	TCR (SCR)	icture idex	/ater	Reduced	Legend	Depth			Descr	ription				strume Backfi
(Core Ø)	RQD'	ETa Pu	3	Levei		(Thickness)	15 70 15 00m	Discontinuity I	Detail		Mai	n		 
	87 (0) 0	NR					15.70-15.90m	no recovery.		Very wea MUDST( weathere	ak thinly lam ONE partiall ed. <i>(continue</i>	inated g y to disti ed)	rey nctly	
(mm201)		15					16.20-17.20m (85-90 degree undulating sm infilled (gravel) on surface of o	horizontal (0-5 s) very closely sp ooth to rough ope discontinuities w xore.	degrees) to vertical aced planar to n and tight clean and th some clayey gravel					
(102mm)	100 (38) 0	12 NI				(4.50)	17.20-18.20m subvertical (65 spaced planar infilled (clay) d	subhorizontal ( 5-85 degrees) clos to undulating sm iscontinuities.	5-25 degrees) and sely to very closely ooth open and tight					
18.20 (uum201)	100 (45) 0	NI 12 9					17.95-18.05m 18.05-18.20m (85-90 degree undulating sm infilled (gravel) on surface of 18.20-20.20m subvertical (65 undulating sm (clay) discontir	non-intact. horizontal (0-5 s) very closely sp ooth to rough ope ) discontinuities w Jore. subhorizontal ( j-85 degrees) clos ooth open and tig nuities.	degrees) to vertical aced planar to n and tight clean and tith some clayey gravel (5-25 degrees) and sely spaced planar to ht clean and infilled					

Drilling	g Progress and	Water Observ	ations	Standa	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
29/06/2021 30/06/2021	18.20 18.20	18.20 18.20	5.00 6.00	17.20	С	50/30mm	18.20 - 20.20	Water	100	<ol> <li>Description derived fi</li> <li>Inspection pit dug pri</li> <li>Double installation: 2</li> <li>slotted standpipes installation: 4</li> <li>UXO carried out as p</li> <li>Aquifer protection ins rotary drilling.</li> </ol>	rom drillers daily report. or to drilling. No. 50mm diameter led between 6.50-9.50m er the Client instructions. talled prior to commencing
All dir	All dimensions in metres Scale 1:25.00				xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Chec K	ked by: <i>W.</i>	Logged by: M.B/R.C	Contract No. <b>4339</b>



G							DRIL	LHOLE	RECORD			Status:- FINAL	
Project:				F	relimina	ry Onsho	ore Ground	Investigation	for NZT			Exploratory Ho	le No.
Client:				AECO	M			Location: North	-west of Redcar, - 456773 892 N :	North Yor 525178 37	kshire 6	MS\BH13	5
Method	(Equipme	ent): Sonic/	/Rotar	y Corin	g (Boart	Longyea	r LS250)		Ground Level (m): 5.714		Start Date: 25/06/2021	Sheet: 3 of 10	
RUI		ILS				1			STRATA		•		ent/ ill
Depth	TCR (SCR)	acture ndex	Vater	Reduced Level	Legend	Depth (Thickness)			Desc	cription			Backf
(Core Ø	RQD	<u> </u>	>			-		Discontinuity	Detail	Very we MUDST weathe	Mai eak thinly lam FONE partiall red. <i>(continue</i>	<sup>n</sup> hinated grey y to distinctly ed)	
				-14.49		20.20				Comple	te at 20.20m	BGL.	

Drilling	g Progress and	I Water Observ	/ations	Stand	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
30/06/2021	20.20	20.20	6.00							<ol> <li>Description derived f</li> <li>Inspection pit dug pri</li> <li>Double installation: 2</li> <li>slotted standpipes instal and 17.00-20.00m BGL.</li> <li>UXO carried out as p</li> <li>Aquifer protection ins rotary drilling.</li> </ol>	rom drillers daily report. or to drilling. No. 50mm diameter led between 6.50-9.50m wer the Client instructions. stalled prior to commencing
All dir	mensions i Scale 1:25	n metres .00		For e abbr	xplana eviatio	tion of syr ns see Ke	nbols and y Sheets	Cheo /	ked by: 	Logged by: M.B/R.C	Contract No. <b>4339</b>











 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 SBL
 Tel: 0197 2735 300 Fax: 01772 735 399





 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: 01972 735 300 Fax: 01772 735 999





 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 SBL
 Tel: 01972 735 300 Fax: 01772 735 399





Ē					S	ONIC	SAMI	PLE HO	OLE F	REC	ORD		Status:-	FINAL	
Project:			Preli	minar	y Onsł	nore Gr	ound Inve	estigation	for NZT				Exp	loratory Hole	No.
Client:		AEC	ОМ				Loca	ation: North- E	west of :457078	Redo	ar, North Yo: N:525022.2	rkshire 26		MS\BH14	
Method (Equi	pment): Sonic/R	otary Cori	ng (B	loart l	Longye	ear LS2	250)		Ground Le	vel (m 7.1	): 191	Start Date: 28/06/2021	Sheet:	1 of 2	
SAN	IPLES & T	ESTS							:	STR/	ATA				ent/ îll
Depth	Type No	Test Result		R Mater	educed Level	Legend	Depth (Thickness)				Descri	ption			Instrum Backi
0.10-1.20 0.30 0.30 0.50 0.50 1.00 1.20-2.70 1.20-1.95 1.20 1.50 1.50 1.50 1.50 2.50 2.50 2.70 2.00 2.00 2.00 2.00 2.00 2.00 2.50 2.70-4.20 2.70-3.55 2.70 3.00 3.00 3.00 3.55 3.55-4.20 4.00 4.20 4.20 4.20 4.20 4.20 4.20 4.20 4.50 4.50 4.50 4.50 4.50 4.50 4.50 4.50 4.50 4.50 4.50 5.70-7.20 5.70-6.45 5.70 6.00 6.00 6.45-7.20 6.50 7.00 7.20-7.95 7.20 7.50 Borin	SL1(SS) B4(SL1) ES1(SL1) PID SL2(SS) B6(SL2) S J7(SL2) PID SL2(SS) B6(SL2) S J7(SL2) PID J9(SL2) PID J9(SL2) PID J9(SL2) PID J9(SL2) PID J9(SL2) PID J12(SL3) B11(SL3) S PID J12(SL3) B11(SL3) S PID J12(SL3) B11(SL3) S PID J12(SL3) B14(SL3) PID SL4(SS) PID J17(SL4) S S PID J17(SL4) S S PID J17(SL4) S S PID J17(SL4) S S PID J17(SL4) S S PID J21(SL4) S S J23(SL5) PID SL4(SS) B22(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S J23(SL5) PID SL2(SL5) S S J23(SL5) S S S S S S S S S S S S S S S S S S S	<0.1ppm <0.1ppm N26 <0.1ppm <0.1ppm <0.1ppm <0.1ppm N15 <0.1ppm N19 <0.1ppm N19 <0.1ppm N19 <0.1ppm N19 <0.1ppm N19 <0.1ppm N15	er Ob	serva	5.99 3.64 2.99 2.79 2.69       		(1.20) (1.20) (2.35) (2.35) (0.65) (0	MADE C content. to subroi Cobbles MADE C with med ash and includes are suba between slag. MADE C cobble c angular (100%). Slag is v MADE C Gravel is Mild to n Black ps Medium fragmen (Tidal Fla at c.4.50 plasticity between silt.	ROUNE Sand is unded a are sub ROUNE dium cot slag. Gr slag an- ingular a c.1.20-3 ROUNE ontent. S to subro Cobbles esicular sROUNE s fine to noderate eudofibl dense b ts of she at Depos m BGL c.4.50-3	0 (Grine indin in round in round in round in round in round in and in 3.55r	ey brown ver to coarse. G cludes slag. ded and inclu- softent. Sand is fine to coa- ker. Slag is in nclude slag n BGL occ d and includ subangular to rocarbon odd PEAT. brown silty S ild organic of ndy slightly g n BGL occ	y gravelly sa ravel is fine Slag is vesi ude slag). black silty v d is fine to c arse angular vesicular (25 Slag is vesic casional oral casional oral casional oral casional oral casional oral casional oral casional oral gravel. Sar subangular bur noted). ( Casional poc casional poc	and with I to coarse cular (100 ery sandy oarse and to suban 5-50%). C cular). nge stain gravel w is fine to g is vesic ed and incl Slightly s ccasiona f interme kets of so	ow cobble angular 0%).	
Date	Depth	Casing	Casir	ig Dia	Wate	er	From - To	Internal Dia	Reco	very	Subsampled		Ger Rem	ieral iarks	
28/06/2021 28/06/2021 29/06/2021	Date         Depth         Casing         Casing (mm)         Casing (mm)         Water Standing         From - To         Internal Dia (mm)         Recovery (%)         Subsampled           6/2021         0.00         0.00         178         0.10 - 1.20         178         100         Yes         (1)           6/2021         1.20         0.00         178         Dry         1.20 - 2.70         178         100         Yes         (3)           6/2021         1.20         0.00         178         Pry         2.70 - 4.20         178         100         Yes         (3)           6/2021         1.20         0.00         178         Pry         5.70 - 7.20         178         100         Yes         (4)           5.70 - 7.20         178         100         Yes         (5)         rot         (5)         rot         (5)           7.20 - 8.70         178         100         Yes         (5)         rot         Yes         (5)         rot         Yes         (5)         Yes         (5)         Yes											<ol> <li>Descriptior</li> <li>Inspection</li> <li>S0mm dian between 5.00-</li> <li>Uccorried</li> <li>Aquifer pro rotary drilling.</li> </ol>	derived fror pit dug prior neter slotted 8.00m BGL. d out as per tection insta	n drillers daily repor to drilling. standpipe installed the Client instruction led prior to commer	t. ns. ncing
All dim	nensions in Scale 1:50.	metres 00			For e	explana reviatio	ition of syl	mbols and ey Sheets	I	C	Checked by:	Logge M.	ed by: Bell	Contract N 4339	lo.



Ē				S	ONIC	C SAM	PLE H	OLE RE	ECORD		Status:-	FINAL
Project:			Prelimin	ary Ons	shore G	round Inve	estigation	for NZT			Expl	oratory Hole No.
Client:		AECO	MC			Loc	ation: North F	west of Re	edcar, North Yo 25 N·525022 2	orkshire 26		MS\BH14
Method (Equip	nent): Sonic/R	otary Corii	ng (Boar	t Longy	ear LS2	250)		Ground Leve	I (m): 7.191	Start Date: 28/06/2021	Sheet:	2 of 2
SAM	PLES & TE	ESTS						ST	<b>TRATA</b>	•	•	ent/
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Descri	ption		Instrume Backfi
7.95-8.70 8.00 8.00 8.50	B29 <sub>(SL6)</sub> J30 <sub>(SL6)</sub> PID	<0.1ppm			× · · · · · · · · · · · · · · · · · · ·	- - - - - -	Medium fragmen (Tidal Fl	dense bla ts of shell. at Deposit	ck brown silty S Mild organic o s). <i>(continued)</i>	SAND with occ dour	casional	
8.70-10.20 8.70-9.45 8.70 9.00 9.00	SL7 <sub>(SL6)</sub> SL7 <sub>(SS)</sub> B32 <sub>(SL7)</sub> S J33 <sub>(SL7)</sub> PID	N25 <0.1ppm		-1.51	× · · · · · · · · · · · · · · · · · · ·		Medium brown s (Tidal Fl	dense yel lty clay. at Deposit	low brown silty s).	SAND with po	ockets of	soft
9.45-10.20 9.50 10.00 10.20-11.70 10.20-10.95	J36 <sub>(SL7)</sub> J36 <sub>(SL7)</sub> PID SL8 <sub>(SS)</sub> B37 <sub>(SL8)</sub>	<0.1ppm		-3.01		 - - - - - - - - - - - - - - - - - -	Very loo (Tidal Fl	se yellow at Deposit	brown SAND. S s).	Sand is fine to	coarse.	
10.20 10.50 10.95-11.40 11.00 11.00	S J38 <sub>(SL8)</sub> J40 <sub>(SL8)</sub> PID	N2 <0.1ppm		-4.21	· · · · · · · · · · · · · · · · · · ·	 (1.20)             	Medium	dense vel	low brown silty	SAND with or	casiona	Loockets
11.50 11.70-13.20 11.70-12.45 11.70 12.00 12.00	$\begin{matrix} J41_{(SL8)} \\ SL9_{(SS)} \\ B42_{(SL9)} \\ S \\ J43_{(SL9)} \\ PID \end{matrix}$	N23 <0.1ppm			· · · · × · · · · · · · · · · · · · · ·	·- - - - - - - - - (1.60)	of soft b coarse. (Tidal Fl	at Deposit	s).	ents of shell. S	Sand is fi	ne to
12.45-12.65 12.45 12.50	ES44 <sub>(SL9)</sub> PID J45 <sub>(SL9)</sub>	<0.1ppm		-5.81	· . · .× . ·× · . · . · . · .× .	- - - - - - 13.00						
13.00 13.20 13.20	J46 <sub>(SL9)</sub> UT*B1 PID	(15) <0.1ppm		-6.01		- 13.20 	Soft dar Boring c	k brown ve	ery sandy CLAY	Y. (Tidal Flat D continued by r	eposits). rotary drii	lling.
Boring	Progress	and Wate		vations	ter	L	iner Sam		ation		Gene	eral
Date 29/06/2021	Oring Progress and Water Observations     Liner Sample Information     General Remarks       1     Depth     Casing     Casing Dia (mm)     Water Standing     From - To     Internal Dia (mm)     Recovery (%)     Subsampled     Remarks       021     13.20     13.20     178     8.70     10.20     178     100     Yes     (1) Description derived from drillers daily report.     (2) Inspection pit dug prior to drilling.       11.70     13.20     178     100     Yes     (4) UXO carried out as per the Client instructions.     (5) Aquifer protection installed prior to commencing rotary drilling.											
All dime	ensions in	metres		For	explana	ation of sy	mbols and	L L	Checked by:	Logged M. B	d by: ell	Contract No. 4339



Ē							DRIL	LHOLE I	RECORD			Status:- FINAL	
Project:				P	relimina	ry Onsho	re Ground	Investigation	for NZT			Exploratory Ho	le No.
Client:				AECO	М			Location: North	-west of Redcar,	North Yor	kshire 6	MS\BH14	
Method (	Equipme	nt): Sonic/	Rota	ry Corin	g (Boart	Longyea	r LS250)	<u> </u>	Ground Level (m): 7.191	020022.22	Start Date: 28/06/2021	Sheet: 1 of 11	
RUN	I DETA	ILS							STRATA			•	ent/
Depth	TCR (SCR)	acture ndex	/ater	Reduced	Legend	Depth (Thickness)			Dese	cription			Backfi
(Core Ø)	RQD 100	E -	\$	6.01	× ×	13.20	13.20m B47	Discontinuity [	Detail	Coff are		n	
13.20	100	OOL		-6.36		- _(0.35) - 13.55	13.20-17.25m	soil.		(Tidal F	lat Deposits)	I.	
02mm)				-6.81		(0.45) 14.00	13.55m J48 13.55m B49	)		Firm bro gravelly coarse includes limestor (Tidal F	own slightly s v CLAY. Grav subangular to s sandstone, ne. lat Deposits)	sandy slightly rel is fine to o subrounded and mudstone and	
11)						-	14.00m B50 14.20m U5 14.20m ES	) 51A		Stiff bro gravelly coarses includes limestor (Tidal F 14.20m	wn slightly sa CLAY. Grav subangular to s sandstone, ne. lat Deposits) clay is of	andy slightly rel is fine to o subrounded and mudstone and intermediate	
14.70	100					- _(1.38) - - - -	14.57m B52 15.00m J53 15.05m U54	4		15.05m of interr	y. very high nediate plast	strength. Clay is ticity.	
(mm201) 16.20				-8.19			15.38m B58	5		Stiff thir lenses of remains (Tidal F 15.60m plasticit	nly laminated of silt and occ s. lat Deposits) clay is of y.	silty CLAY with casional plant intermediate	
(u	100 (0) 0			-9.18		- <u>16.37</u> - - - -(0.88)	16.20m J57 16.20m B56 16.20m ES9 16.62m U59	3 57A 9		Firm red gravelly coarses includes mudsto Stiff red gravelly coarses includes	d brown sligh CLAY. Grav subangular to s sandstone, ne. (Glacial 1 brown slight CLAY. Grav subangular to s sandstone.	htly sandy slightly rel is fine to o subrounded and limestone and Fill). tly sandy slightly rel is fine to o subrounded and limestone and	
(102mm						- -	16.95m J60			mudstor (Glacial 16.62m Clay is	ne. Till). BGL very of low to inte	high strength.	

Drilling	g Progress and	I Water Observ	ations	Stand	ard Pene	tration Test		Flush		Ge	neral
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Rer	marks
01/07/2021				16.20	S	N28	13.20 - 22.20	Water	100	<ol> <li>Description derived f</li> <li>Inspection pit dug pri</li> <li>S0mm diameter slotti between 5.00-8.00m BG</li> <li>UXO carried out as p</li> <li>Aquifer protection ins rotary drilling.</li> </ol>	rom drillers daily report. or to drilling. ed standpipe installed i. er the Client instructions. talled prior to commencing
All dir	mensions i Scale 1:25	n metres .00		For e abbr	xplana eviatio	tion of syr ns see Ke	mbols and ey Sheets	Cheo /	ked by: 	Logged by: M. Bell	Contract No. <b>4339</b>



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Ğ	DRILLHOLE RECORD												FINAL		
Project:				F	Prelimina	ry Onsho	re Ground	Investigation	for NZT			Exploratory Ho	le No.		
Client:				AECO	М			Location: North	-west of Redcar,   = 457078 825 N 5	North York	kshire	MS\BH14			
Method (E	quipme	nt): Sonic/	'Rotar	y Corin	g (Boart	Longyea	r LS250)		Ground Level (m): 7.191		Start Date: 28/06/2021	Sheet: 2 of 11			
RUN	DETA	ILS								nt/					
Depth	TCR	ture lex	ater	Reduced	Logond	Depth			Desc	ription			trume		
(Core Ø)	RQD	Frac	Ma	Level	Legend	(Thickness)		Discontinuity	Detail		Mair	1	Ins		
		NI		-10.06		17.25 (0.45)	17.25m B61 17.25-17.70m	l non-intact. Re	covered as clay.	plasticity Extreme residual (Recove	/. ely weak grey ered as grave	MUDSTONE			
17 70						1	17.50m ESt	02		fine to c	oarse angula Mudstone F	ar). ormation)			
17.70	100 (77) 7	NI		-10.51		(0.30)	17.70-18.00m	non-intact.		Extreme destruct (Redcar	ely weak grey ured. Mudstone F	MUDSTONE			
		30		-11.01		-(0.20) 18.20	18.00-19.15m extremely to v smooth to very	horizontal to v ery closely space y tight to tight clea	ertical (0-90 degrees) d planar to undulating an discontinuities.	Very we grey ML weather (Redcar	ak thinly to th IDSTONE di ed. Mudstone F	nickly laminated stinctly ormation) /			
(102mm)				-11.81		-(0.80) 				Weak g weather of shell (Redcar	rey MUDSTC ed with occa (5-20mm in s Mudstone F	DNE partially sional fragments size). ormation).			
19.20	100 (70) 29	<u>NI</u> 20		-11.96 -12.01		<u>19.15</u> <u>19.20</u> - -	19.15-19.20m 19.20-21.50m very closely sp clean discontir	non-intact. horizontal to vi paced planar very nuities.	ertical (0-90 degrees) tight to partly open	very we grey ML weather (Redcar Extreme destruct (Redcar Weak g	A thing to the JDSTONE dia ed. Mudstone F ely weak grey ured. Mudstone F rey thing to t	ormation). / MUDSTONE ormation). / hickly laminated			
(mm201) 20.70	100									grey ML with occ (5-40mr (Redcar	IDSTONE pa asional fragr n in size). Mudstone F	artially weathered nents of shell ormation).			
	(77) 35														

Drilling	g Progress and	Water Observ	/ations	Standa	ard Pene	tration Test		Flush		General		
Date	Depth	Casing	Water Standing	Depth	Туре	Result	From - To	Туре	Returns (%)	Ren	narks	
								<ol> <li>Description derived fr</li> <li>Inspection pit dug prid</li> <li>S0mm diameter slotte</li> <li>S0mm SG</li> <li>UXO carried out as p</li> <li>Aquifer protection ins rotary drilling.</li> </ol>	rom drillers daily report. or to drilling. ed standpipe installed L. er the Client instructions. talled prior to commencing			
All dir	nensions iı Scale 1:25	n metres .00		For ex abbre	xplana eviatio	tion of syn ns see Ke	nbols and y Sheets	Chec /t	ked by: . <i>W.</i>	Logged by: Contract N M. Bell 4339		



							DRIL	LHOLE	RECORD			Status:-	FINAL	
Project:				F	relimina	ry Onsho	re Ground	Investigation	for NZT			Expl	oratory Hol	e No.
Client:				AECO	М			Location: North	-west of Redcar, -457078 825 N:5	North Yor	kshire	MS\BH14		
Method (	(Equipme	nt): Sonic/	Rotar	y Corin	g (Boart	Longyea	r LS250)		Ground Level (m): 7.191		Start Date: 28/06/2021	Sheet: 3 of 11		
RUN	RUN DETAILS STRATA													ent/
Depth &	TCR (SCR)	racture Index	Nater	Reduced Level	Legend	Depth (Thickness)		Discontinuity	Desc	ription	Mai	<b>n</b>		Backf
		NI 12	Wa	-15.01		(Thickness)	21.50-21.70m 21.70-22.20m very closely s clean disconti	Discontinuity	Detail ertical (0-90 degrees) tight to partly open	Weak g grey Mi with oc. (5-40m (Redca (continu	Mai grey thinly to Epi casional frag m in size). r Mudstone F <i>ued</i> )	n thickly la artially w ments o Formatio BGL.	minated reathered f shell n).	

Drilling		Standa	ard Pene	tration Test		Flu	ish		General				
Date	Depth	Casing	Wate Standi	er ing	Depth	Туре	Result	From - To		Туре	Returns (%)	Rer	marks
01/07/2021	22.20	22.20	3.80	0								<ol> <li>Description derived f</li> <li>Inspection pit dug pri</li> <li>Sofmm diameter slotti between 5.00-8.00m BG</li> <li>UXO carried out as p</li> <li>Aquifer protection ins rotary drilling.</li> </ol>	rom drillers daily report. or to drilling. ed standpipe installed L. er the Client instructions. talled prior to commencing
All dimensions in metres Scale 1:25.00					For ex abbre	kplana eviatio	tion of syr ns see Ke	mbols and ey Sheets		Checked by: <i>K.W.</i>		Logged by: M. Bell	Contract No. <b>4339</b>













 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





FINAL

10 of 11



Ē	DRILLHOLE RECORD													
Project:	Preliminary Onshore Grour	nd Investigation	for NZT		Exploratory Hole No.									
Client:	AECOM	Location: North	west of Redcar, North York	shire	MS\BH14									
Method (Equ	ipment): Sonic/Rotary Coring (Boart Longyear LS250)		::457078.825 N:525022.226 Ground Level (m): 7.191	Start Date: 28/06/2021	Sheet: 11 of 11									
		Figure MS\B	114.15											
		Figure MiStBi SSBH14 20.70-21 Article: PRELIMINA Contract No. 433 Hole ID: MS\BH1 Sample: 20.70-21	114.15 2.20m BGL RY G.I NZT 9 4 2.20m BGL											



Ē				S	ONIC	SAM	PLE HO	OLE REC	CORD		Status:-	Status:- FINAL			
Project:			Prelim	ninary Ons	hore Gr	ound Inve	estigation fo	or NZT			Ехр	loratory Hole No.			
Client:		AEC	MC			Loc	ation: North-v F י	vest of Red	car, North Yo 8 N:524931 8	rkshire		MS\BH15			
Method (Equi	pment): Son	c Coring (	Boart	Longyear	LS250)	I	G	Start Date: 01/07/2021	Sheet:	1 of 10					
SAN	/IPLES & T	ESTS													
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description								
0.13-1.20 0.30 0.50 0.50 1.00 1.20-2.70 1.20-2.70 1.250 1.50 1.80-2.00 1.80 2.00 2.20-2.70 2.50 2.70-4.20 2.70-4.20 2.70-4.20 2.70-2.90	SL1(SS) ES1(SL1) PID J2(SL1) PID ES3(SL1) PID SL2(SS) C B6(SL2) J1(SL2) PID ES7(SL2) PID ES7(SL2) PID ES7(SL2) PID SL3(SS) ES13(SL3) C PID J14(SL3) SL4(SS) B17(SL4) SL4(SS) B17(SL4) SL4(SS) B17(SL4) SL4(SS) B17(SL4) SL2(SL5) S J22(SL5) S S J22(SL5) S S J22(SL5) S S S S S S S S S S S S S S S S S S S	<0.1ppm <0.1ppm N8 <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm N28 <0.1ppm N28 <0.1ppm N28 <0.1ppm N28 <0.1ppm	er Obs Casing			0.13 (0.65) (0.65) (0.47) (0.95) (1.10) (1.10) (0.90) (1.10) (0.90) (1.100) (0.90) (1.100) (1.100) (0.90) (1.100) (1.1	MADE GF MADE GF coarse ar (100%)). MADE GF cobble co and inclus subround MADE GF clay with I metal. Gr includes a subanguli at c.1.25r MADE GF fragments Gravel is (75-100% MADE GF fow cobbl subround includes s odour). MADE GF flow cobbl subround includes s odour).	ROUND (Da ROUND (Bi Igular to su ROUND (Gi Intent. Grav des slag. Sl ed and incl ROUND (Fi low cobble avel is fine slag and bri ar to angular to sugular to su nker. Cobbl c.2.70-3.30 ROUND (Da s of wood a fine to coar )). ROUND (Da s of wood a fine to coar )). ROUND (Da s of wood a fine to coar )).	ark grey slag) ack clayey sa bangular and rey dark grey rel is fine to c ag is vesicula ude slag). rm red brown content and c to coarse any ck. Slag is vé ar and include ay is of intern ense black cla d includes asl bangular and es are suban m BGL gra rown black cla d frequent n se angular to ense blue ligh Gravel is fine udes slag. Co s vesicular (11 w brown slight s of shell (biv s mudstone, s Subsampled	. (Driller notes ind and gravel includes slag slightly gravel barse angular ar (100%). Col slightly sandy cobble sized fr gular to subrou sicular (50-75 e brick and sla nediate plastic ayey very sand includes slag gular and inclivel includes slag gular and inclivel includes slag gular and inclivel includes slag gular and inclivel includes slag gular and inclivel vel includes wa ayey slightly gin utiticoloured p subangular a to coarse ang obbles are sub 00%). Mild hyd	s iron ric i ron ric Gravelity Slag is ily sand to suba bbles ar v slightly agmenti- unded ar (%). Co g). ity. dy graver ravelity solastic bla- white sla- ravelity solastic bla- nd inclu- indy gra- ular to prounded drogen ND wit s fine to limesto Gen Rem	ch).       is fine to         is fine to       is fine to         is vesicular       is is fine to         with low       is is fine to         angular       is of         re       is of         y gravelly       is of         ind       is of         is of       is of			
01/07/2021	0.00	0.00	178	3		0.13 - 1.20         178         75         Yes         (1) Description derived from drillers daily reproduced from drillers dai						n drillers daily report. bection pit attempted prior to drilling. 5.50mm diameter slotted en 9.00-12.00m and the Client instructions.			
All din	nensions in Scale 1:50.0	metres 00		For	explanation of symbols and checked by: Logger breviations see Key Sheets K.W. G.T/N						by: I.B	Contract No. 4339			



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Project:			Preli	minary	y Ons	hore G	round	Inve	stigation fo	or NZT					Ехр	loratory Hol	e No.		
Client:		AEC	ОМ					Loca	ition: North-w E:4	est of Re 56595.2	edc 38	ar, North Yo N:524931.8	orkshire 15	<b>;</b>		MS\BH15			
Method (Equip	oment): Son	ic Coring	(Boai	rt Long	gyear	LS250	)		Ground Level (m): Start Date: Sheet: 2 of 10										
SAM	PLES & T	ESTS								STR	RAT.	A					ent/		
Depth	Type No	Test Result		arer I Mater	educed Level	Legend	Dep (Thickn	th iess)				Descri	ption		Instrume				
7.95-8.70 8.00 8.00 8.50	B30 <sub>(SL6)</sub> J31 <sub>(SL6)</sub> PID J32 <sub>(SL6)</sub>	<0.1ppm	1						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). <i>(continued)</i>										
8.70-10.20 8.70-9.45 8.70 9.00	SL7 <sub>(SS)</sub> B33 <sub>(SL7)</sub> S J34 <sub>(SL7)</sub>	N24				· · · · a ·													
9.00 9.45-10.20 9.50	PID B35 <sub>(SL7)</sub> J36 <sub>(SL7)</sub>	<0.1ppm	1				(8.20) - - - - -												
10.00 10.00 10.20-11.70 10.20-10.95	J37 <sub>(SL7)</sub> PID SL8 <sub>(SS)</sub> B38 <sub>(SL8)</sub>	<0.1ppm	1			· · · · · ·			at c.10.20	at c.10.20m BGL dense.									
10.20 10.50 10.95-11.70	S J39 <sub>(SL8)</sub> B40 <sub>(SL8)</sub>	N31				· · · · · · · · · · · · · · · · · · ·	   												
11.00 11.00 11.50	J41 <sub>(SL8)</sub> PID J42 <sub>(SL8)</sub>	<0.1ppm	1			o'	   										00000		
11.70-13.20 11.70-12.45 11.70 12.00 12.00	SL9 <sub>(SS)</sub> B43 <sub>(SL9)</sub> S J44 <sub>(SL9)</sub> PID	N27 <0.1ppm	1			· · · · · · · · · · · · · · · · · · ·													
12.45 12.45-13.00 12.45-13.00 12.50	PID B45 <sub>(SL9)</sub> ES45 <sub>(SL9)</sub> J46 <sub>(SL9)</sub>	<0.1ppm	1			· · · · · · · · · · · · · · · · · · ·													
13.00-13.20 13.00 13.00 13.20-14.70	ES47 <sub>(SL9)</sub> J48 <sub>(SL9)</sub> PID SL10 <sub>(SS)</sub>	<0.1ppm	1		-6.15		 - - - - -	3.40	Soft black	brown s	ligh	itly sandy Cl	LAY wi	th freque	nt poc	kets of			
13.20 13.40-13.60 13.40 13.40	ES49 <sub>(SL10</sub> ES(M)50 <sub>(SL</sub> PID	N12	1				  - <u>(</u> 0.90) 		black very (Tidal Flat	organic Deposit	silt s).	y clay. Mild t	to mod	erate org	anic c	odour.			
13.60-14.30 14.00 14.30-14.50 14.30 14.30	B51 <sub>(SL10)</sub> J52 <sub>(SL10)</sub> ES53 <sub>(SL10)</sub> ES(M)54 <sub>(SL</sub>	)) L10) <0.1ppm			-7.05	× ×	- 1/ - 1/ - 1/ - 1/ - 1/ - 1/ - 1/ - 1/	4.30	Firm to sti blue grey	ff dark bi organic t	row	n slightly sa es and fragi	ndy sil	ty CLAY v of wood.	with o	ccasional			
14.50-14.70 14.70-15.15 14.70-16.20 14.80 14.80-15.45 15.00 15.45-15.65	B56 <sub>(SL10)</sub> UT1 SL11 <sub>(SS)</sub> J57 <sub>(SL11)</sub> B58 <sub>(SL11)</sub> J59 <sub>(SL11)</sub> ES60 <sub>(SL11)</sub>	0			-7.65	×  	- 1 - 1  - (0.75)   - 1	4.90 5.65	(Tidal Flat at c.14.70 Firm to sti gravelly C subangula (Tidal Flat at c 15.00	f thinly la ff thinly la LAY with ar to rour /Glacial l m BGI	s). <u> cl</u> ami n sa nde Dep cl	ay is of low nated dark l nd dustings d and includ posits). ay is of high	plastici brown . Grave les mu	ity. slightly sa el is fine t dstone ar city	andy s to coa nd sar	lightly rse idstone.			
15.45 15.50	PID J62 <sub>(SL11)</sub>	<0.1ppm	1			× · × · × · · × ·			Firm to sti	ff thinly la	ami	nated grey I	prown	sandy silt	ty CLA	\Υ.			
Boring	g Progress	s and Wate	er Ob Casi	servat	tions <sub>Wat</sub>	ter	Erom -	Li	ner Sample	e Informa	atio y	N Subsometed			Gen Rem	eral arks			
Date 01/07/2021 02/07/2021	Depth 13.20 13.20	Casing 13.20 13.20	Casing         Casing (mm)         Water Standing         From           13.20         178         6.00         8.70 - 10.20           13.20         178         11.70         13.20           13.20         178         11.70         13.20						Instruction         Instruction         Reference         Reference           (mm)         (%)         Subsampled         Reference           0         178         100         Yes         (1) Description derived from drillers daily report.           0         178         100         Yes         (2) Vacuum excavation inspection pit attempted prior to drilling.           0         178         100         Yes         (3) Inspection pit dug prior to drilling.           0         178         100         Yes         (4) Double installation: 2 No. 50mm diameter slotted standpipes installed between 9.00-12.00m and 2.00-5.00m BGL.           0         178         100         Yes         (5) UXO carried out as per the Client instructions.						port. oted prior er slotted and tions.				
All dim	ensions ir cale 1:50.	n metres 00			For	explan	ation o	of syn e Ke	nbols and y Sheets		С	hecked by:		Logged b G.T/M.E	ру: З	Contract 4339	t No.		


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Project:			Preli	minary	Onsh	ore Gr	ound Ir	nvestigat	ion for	NZT			Exp	loratory Hole	e No.
Client:		AEC	ОМ				L	Location: No	orth-we	est of Re	dcar, North Yo 8 N:524931 8	orkshire		MS\BH15	
Method (Equi	oment): Son	ic Coring (	Boar	t Longy	/ear L	S250)	I		Gro	ound Level ( 7	(m): /.247	Start Date: 01/07/2021	Sheet:	3 of 10	
SAM	IPLES & T	ESTS			ĺ				•	STRA	ATA		•		ent/ fill
Depth	Type No	Test Result		Redi	uced vel	Legend	Depth (Thickne	ı ss)			Descri	ption			Instrum Backf
15.70-15.90 15.70 15.90-16.20 15.90 16.00 16.20-17.70 16.20-16.95 16.95 17.00 17.15-17.70 17.70-18.15 17.70-18.15 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.50 19.00-19.20 19.20-20.00 19.20-20.00 19.20 20.00	ES63(sL11) PID B64(sL11) ES(M)66(sL J65(sL11) SL12(sS) J68(sL12) ES69(sL12) ES69(sL12) ES69(sL12) ES1(M)73(sL D712(sL12) ES(M)73(sL B74(sL13) J75(sL13) ES76(sL	<0.1ppm 11) N15 <0.1ppm 12) 13) <0.1ppm 50/225mr <0.1ppm	n		9.70 × × × × × × × × × × × × × × × × × × ×		(1.30) (1.30) (2.05) (2.05) (1.00) (1.00) (1.00)	(Tida Firm (Tida at c. 95 Firm fine sanc (Gia at c. on th (Rec (Rec (Rec at c. 00 Com	al Flat/ to stiff al Flat/ 16.00n to stiff to coal stone cial Til 17.70n te lami	Glacial D f thinly la Glacial D n BGL f brown r rse subar and lime l). n BGL m BGL m BGL n BGL n BGL n BGL	eposits). minated grey l leposits). <i>(con</i> clay is of high ed silty sandy ngular to roun- stone. high strength y is of high pla e grey MUDS slightly sandy Formation). clay fines are <i>BGL</i> .	brown sandy s tinued) a plasticity. gravelly silty C ded and includ and laminated asticity. TONE residua slightly grave of low plastici	L. CLAY. Cdes much	AY. Bravelly is distone, ilt dustings	
Borin <sub>Date</sub>	g Progress	casing	er Ob Cașir	servations Dia	ons Wate	er	From - To	Liner S	ample	Recovery	Subsampled		Ger Rem	ieral iarks	
02/07/2021	20.00	20.00	(m 1	78	Standii	10 10 17 15	6.20 - 17. 7.70 - 19. 9.20 - 20.	(m) 70 17 20 17 00 17	n) 8 8 8	(%) 73 73 100	Yes Yes Yes	(1) Description d (2) Vacuum exca to drilling. (3) Inspection pit (4) Double instal standpipes instal 2.00-5.00m BGL (5) UXO carried	erived fror avation ins dug prior lation: 2 No lled betwee out as per	n drillers daily repo pection pit attempt to drilling. o. 50mm diameter en 9.00-12.00m ar the Client instructi	ort. ted prior slotted nd
All dim	All dimensions in metres Scale 1:50.00       For explanation of symbols and abbreviations see Key Sheets       Checked by: K.W.       Logged by: G.T/M.B       Contract No. <b>4339</b>										No.				











 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: 0197 2735 300 Fax: 01772 735 999



Contract No.: 4339



## **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: 01772 735 300 Fax: 01772 735 999

















E C				;	SONIC	SAM	PLE H	OLE F	REC	ORD		Status:-	FINAL
Project:			Prelii	minary On	shore Gi	round Inve	estigation	for NZT				Ехр	loratory Hole No.
Client:		AEC	ОМ			Loc	ation: North∙ E	west of :456991	Redo .050	car, North Yo N:524873.20	rkshire 62	1	MS\BH16
Method (Equi	pment): Son	ic Coring (	Boar	t Longyea	r LS250)			Ground Le	vel (m 7.9	): 904	Start Date: 01/07/2021	Sheet:	1 of 10
SAM	IPLES & T	ESTS			i	1		ST	RAT	Ā	•	•	ent/
Depth	Type No	Test Result		Reduce Level	d Legend	Depth (Thickness)				Descri	ption		Instrum Backf
0.00-0.40 0.10 0.30 0.30 0.40-1.20 0.50 0.50 1.00 1.20-2.70 1.20 1.40 1.50-1.70 1.50 2.30-2.50 2.30 2.50-3.00 2.70-4.20 2.70-4.20 2.70-3.30 3.00-4.20 3.00-4.20 3.00-3.30 3.00-3.50 3.30-3.50 3.30 4.00 4.20-5.70 4.20-4.40 4.20 4.20-4.40 4.20 4.20-4.40 4.20 5.00 5.70	B1 J2 ES3 PID SL1 <sup>(SS)</sup> ES5 <sup>(SL1)</sup> J6 <sup>(SL2)</sup> J11 <sup>(SL2)</sup> ES9 <sup>(SL2)</sup> B10 <sup>(SL2)</sup> J11 <sup>(SL2)</sup> ES12 <sup>(SL2)</sup> B11 <sup>(SL2)</sup> B11 <sup>(SL2)</sup> B11 <sup>(SL2)</sup> B11 <sup>(SL2)</sup> B11 <sup>(SL2)</sup> B11 <sup>(SL2)</sup> B11 <sup>(SL2)</sup> B11 <sup>(SL2)</sup> B11 <sup>(SL2)</sup> B11 <sup>(SL2)</sup> B11 <sup>(SL2)</sup> B11 <sup>(SL2)</sup> B12 <sup>(SL2)</sup> C J15 <sup>(SL3)</sup> B14 <sup>(SL3)</sup> B14 <sup>(SL3)</sup> B14 <sup>(SL3)</sup> B14 <sup>(SL3)</sup> B14 <sup>(SL3)</sup> B14 <sup>(SL3)</sup> B12 <sup>(SL4)</sup> SL2 <sup>(SL4)</sup> J22 <sup>(SL</sup>	<0.1ppm <0.1ppm N26 <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm <0.1ppm N20 <0.1ppm <0.1ppm N20 <0.1ppm N20 <0.1ppm		6.4 6.4 5.6 2.9 2.3 2.2 3.7		(0.40) 0.40 0.40 1.10 1.50 (0.80) - - - - - - - - - - - - -	MADE C with occ is fine to (25-50% MADE C occasion coarse a is occass between MADE C Gravel is Slag is v at c.2.00 MADE C Gravel is Slag is v at c.2.50 between between MADE C Gravel is (75-100 MADE C Gravel y includes odour). at c.5.60 Black ve (Tidal fl at c.5.62 Loose to occasion (Tidal Fl at c.5.70 at c.5.90 matter. between	GROUNE asional r coarse ))). SROUNE al cobbi angular to ionally vi c.1.30- GROUNE s fine to o resicular m BGL c.3.00- c.3.10-	) (Brc voice of the second sec	aver slightly sets and fragmilar to subrou- ack grey dark ted fragment bangular and ular (10-25%) n BGL slan n BGL slan n BGL slan ft to firm blac se angular to 25%)). ay is if interm n BGL will n BGL ver ey black brow se angular to se  andy slightly lents of glass inded and incomposed area of the solution of the	gravelly gravelly and me sludes gr y sand w ravel is f ker and ally whit dy grave and inclu- ity. Iy grave and inclu- city. y sand a and inclu- city. y sand s o subang lydrogen city. tlets. icity. rey SAN dy silty o of shell.	ropsoil rey slag /ith ine to slag. Slag e. 	
Borin <sub>Date</sub>	Depth         Casing         Casing Dia (mm)         Water Standing         From - To         Internal Dia (mm)         Recovery (%)         Subsar								ner Sample Information General Internal Dia Recovery Subsampled Remarks				
01/07/2021 01/07/2021 02/07/2021	0.00 5.70 5.70	0.00 5.70 5.70	(m 17 17 17	m) <u>Sta</u> 78 78 78	nding	0.40 - 1.20 1.20 - 2.70 2.70 - 4.20 4.20 - 5.70 5.70 - 7.20 7.20 - 8.70	(mm) 178 178 178 178 178 178 178	(% 10) 10) 10) 10) 10) 10)	) ) ) ) )	Yes Yes Yes Yes Yes Yes	(1) Description c (2) Inspection pi (3) 4 No. vibratir 8.00m, 16.00m a (4) UXO carried	derived fror t dug prior ng piezome and 18.50n out as per	n drillers daily report. to drilling. ters installed at 5.00m, n BGL. the Client instructions.
All dim	Impensions in metres     For explanation of symbols and abbreviations see Key Sheets     Checke									Checked by:	Logged M. B	d by: ell	Contract No. 4339



Ē				Ş	SONIC	SAM	PLE H	OLE F	REC	ORD		Status:-	FINAL
Project:			Prelir	ninary On	shore G	round Inve	estigation	for NZT				Exp	loratory Hole No.
Client:		AEC	ОМ			Loc	ation: North- E	west of :456991	Redc .050	ar, North Yo N:524873.2	rkshire 62	1	MS\BH16
Method (Equip	ment): Son	ic Coring (	Boart	Longyea	- LS250)			Ground Le	evel (m) 7.9	):  04	Start Date: 01/07/2021	Sheet:	2 of 10
SAM	PLES & T	ESTS			1	1		S	[RAT	A			ient/
Depth	Type No	Test Result	Motor	Reduced Level	Legend	Depth (Thickness)				Descri	ption		Instrum Back
7.95-8.70 8.00	B36 <sub>(SL6)</sub> J37 <sub>(SL6)</sub>						Loose to occasior	mediur nal pock	n den ets of	se brown da soft dark br	ark brown clay own very san	yey SAN idy silty	ID with clay.
8.50 8.60 8.70-10.20 8.70-9.45 8.70 9.00	J38 <sub>(SL6)</sub> PID SL7 <sub>(SS)</sub> B39 <sub>(SL7)</sub> S J40 <sub>(SL7)</sub>	<0.1ppm N22					(Tidai Fi	at Depo	sits).	(continuea)			
9.45-10.20 9.50 9.60	B41 <sub>(SL7)</sub> J42 <sub>(SL7)</sub> PID <0.1ppm												
10.00 10.20-11.70 10.20-10.95 10.20 10.20 10.50 10.60 10.95-11.70 11.00	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$								d loose silty s	and.			
11.50 11.60 11.70-13.20 11.70-12.45 11.70 12.00 12.20 12.45-13.00 12.50	$\begin{array}{c} J48_{(\rm SL8)}\\ PID\\ SL9_{(\rm SS)}\\ B49_{(\rm SL9)}\\ S\\ J50_{(\rm SL9)}\\ PID\\ B51_{(\rm SL9)}\\ J52_{(\rm SL9)} \end{array}$	<0.1ppm N8 <0.1ppm				· · · · · · · · · · · · · · · · · · ·							
13.00-13.20 13.00 13.00 13.20-14.70 13.20 13.40-13.60 13.40 13.40 13.40	$\begin{array}{c} ES53_{(SL9)}\\ J54_{(SL9)}\\ PID\\ SL10_{(SS)}\\ S\\ ES55_{(SL10)}\\ ES(M)56_{(SI)}\\ PID\\ J57_{(SL10)}\\ J57_{(SL10)}\\ \end{array}$	<0.1ppm N27		-5.30		- <u>13.20</u> - (0.90) - <u>14.10</u>	Firm thir CLAY. G includes (Glacial between at c.13.5	Ily lamin Gravel is mudsto Deposite c.13.20 0m BGI	ated fine to ne an s). -13.4 cl	red brown sl o coarse sul nd sandstone 5m BGL v ay is of high	ightly sandy s bangular to ro e. very sandy. plasticity.	slightly g bunded a	Jravelly and
13.60-14.10 14.00 14.10-14.30 14.10 14.30-14.70 14.50 14.70-15.15 14.70-16.20 15.00 15.10 15.50	$\begin{array}{c} {}_{B38(st.10)}\\ J59(st.10)\\ ES60(gt.10)\\ ES(M)61(st\\PID\\B62(st.10)\\UT1\\SL11(st)\\B64(st.11)\\J65(st.11)\\PID\\J66(st.11)\\\end{array}$	<sup>))</sup> <0.1ppm (100) <0.1ppm					Stiff brow angular limeston (Glacial at c.14.7 plasticity	wn red s to round e. Till). 'Om BGI '.	andy ed ar hi	gravelly silty nd includes r	≀ CLAY. Grav nudstone, sa Clay is of int	el is fine ndstone ermedia	e to coarse and ite
Boring	$\frac{   }{   } = \frac{    }{   } = \frac{    }{   } = \frac{    }{   } = \frac{    }{   } = \frac{    }{   } = \frac{     }{   } = \frac{     }{    } = \frac{     }{    } = \frac{      }{    } = \frac{          }{                         $												
Date	Depth	Casing	Casin (mi	g Dia Wa m) Star	ater nding	From - To	Internal Dia (mm)	Reco	very )	Subsampled		Rem	narks
02/07/2021 05/07/2021	14.70 14.70	14.70 14.70	17 17	8		8.70 - 10.20 10.20 - 11.70 11.70 - 13.20 13.20 - 14.70 14.70 - 16.20	178 178 178 178 178 178	10 10 10 10 73	0 0 0 3	Yes Yes Yes Yes Yes	(1) Description ( (2) Inspection p (3) 4 No. vibrati 8.00m, 16.00m (4) UXO carried	derived fror it dug prior ng piezome and 18.50r out as per	n drillers daily report. to drilling. sters installed at 5.00m, n BGL. the Client instructions.
All dim	dimensions in metres     For explanation of symbols and abbreviations see Key Sheets     Checked by:     Loc								Logge M. B	d by: sell	Contract No. 4339		



E G				S	ONIC	SAMI	PLE HO	OLE RE(	CORD		Status:-	FINAL
Project:			Prelimina	ary Ons	hore Gr	ound Inve	estigation	for NZT			Exp	loratory Hole No.
Client:		AECO	DM			Loca	ation: North- F	west of Red	car, North Yo	orkshire		MS\BH16
Method (Equip	nent): Soni	c Coring (	Boart Lo	ngyear	LS250)	<b>I</b>		Ground Level (n 7.	n): 904	Start Date: 01/07/2021	Sheet:	3 of 10
SAM	PLES & TE	ESTS						STRA	ΓΑ	1	1	) jue
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)			Descri	ption		Instrume Backfi
16.00 16.10 16.20-17.20 16.20-16.95 16.50 16.95-17.50 17.00	$\begin{array}{c} J67_{(SL11)}\\ PID\\ SL12_{(SS)}\\ B68_{(SL12)}\\ J69_{(SL12)}\\ B70_{(SL12)SL12}\\ J71_{(SL12)}\\ \end{array}$	<0.1ppm					Stiff brov angular limeston (Glacial	vn red sandy o rounded a e. Till). <i>(continu</i>	/ gravelly silty nd includes r <i>ied)</i>	/ CLAY. Grave mudstone, sar	el is fine ndstone	to coarse and
17.10 17.20-19.20 17.50-17.70 17.50 17.50 17.50 17.70-18.55 17.70 18.00	$\begin{array}{c} \text{PiD} \\ \text{SL13}_{(\text{SS})} \\ \text{ES72}_{(\text{SL13})} \\ \text{ES(M)73}_{(\text{SL1})} \\ \text{J74}_{(\text{SL13})} \\ \text{PiD} \\ \text{B75}_{(\text{SL13})} \\ \text{S} \\ \text{J76}_{(\text{SL13})} \end{array}$	<0.1ppm 3) <0.1ppm N39		-9.80	× × × · · · · · · · · · · · · · · · · ·	(0.85)	Extreme (Recove (Redcar at c.18.0	y weak blue red as grey l Mudstone F 0m BGL o	grey MUDS <sup>-</sup> brown sandy ormation). clay fines are	TONE residua gravelly clay) of intermedia	ll. te plasti	city.
18.50 18.50-18.70 18.50 18.70-19.20 19.00	J77 <sub>(SL13)</sub> ES78 <sub>(SL13)</sub> PID B79 <sub>(SL13)</sub> J80 <sub>(SL13)</sub>	<0.1ppm		-10.65 -11.30		- 18.55 - - - - - - - - - - - - - - - - - -	Extreme (Recove (Redcar between	y weak blue red as sand Mudstone F c.19.00-19.	grey MUDS and gravel). ormation). 20m BGL o	TONE residua	II. veak.	
Boring	Progress	and Wate	r Observ	rations			iner Sam	le Informati				
Date	Depth	Casing	Casing Dia (mm)	Wat Stand	ter ting	From - To	Internal Dia (mm)	Recovery (%)	Subsampled		Gen Rem	eral arks
05/07/2021	19.20	19.20	178		11	6.20 - 17.20 7.20 - 19.20	178 178	100	Yes Yes	(1) Description d (2) Inspection pi (3) 4 No. vibratir 8.00m, 16.00m (4) UXO carried	lerived from t dug prior t g piezome and 18.50n out as per	n drillers daily report. to drilling. ters installed at 5.00m, t BGL. the Client instructions.
All dime	ensions in cale 1:50.0	metres		For	explana	tion of sy	mbols and		Checked by:	Logged M. B	l by: ell	Contract No. 4339











# ALLIED EXPLORATION & GEOTECHNICS LIMITED Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 0191 387 4700 Fax: 0197 387 4710 Tel: 01772 735 390 Fax: 01772 735 999

CS SONIC SA	AMPLE 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	MS\BH16
Method (Equipment): Sonic Coring (Boart Longyear LS250)	Ground Level (m): Start Date: 7.904 01/07/2021	Sheet: 6 of 10
	Figure MS\BH16.5 S\BH16.5.70-7.20m BGL ** PERLIMINARY 6.1 NZT tract No. 4339 DI: MS\BH16 pig: 5.70-7.20m BGL ************************************	
Image: Sector	Figure MS\BH16.6 SNBH16 7.20-8.70m BGL Tet: PRELIMINARY G.I.NZT Contract No. 4339 Hol DJ: MS\BH16 Sample: 7.20-8.70m BGL	



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SONIC S	SAMPLE H	OLE RECORD		Status:- FINAL
Project: Preliminary Onshore Grou	und Investigation	for NZT		Exploratory Hole No.
Client: AECOM	Location: North E	-west of Redcar, North E:456991.050 N:524873	Yorkshire 3.262	MS\BH16
Method (Equipment): Sonic Coring (Boart Longyear LS250)		Ground Level (m): 7.904	Start Date:         S           01/07/2021         S	sheet: 7 of 10
	Figure MS/B US/BH16 8.70-10 Title: PRELIMINAR Contract No. 4339 Hole D: MS/BH16 Sample: 8.70-10.20	H16.7 J.20m BGL		
	Figure MS/B IS/BH16 10.20-1 Title: PRELIMINAR Contract No. 4339 Hole ID: MS/BH16 Sample: 10.20-11.	H16.8 1.70m BGL Y GI NZT 70m BGL		











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G SONIC	SAMPLE H	OLE RECORD		Status:- FINAL
Project: Preliminary Onshore Gr	ound Investigation	for NZT		Exploratory Hole No.
Client: AECOM	Location: North	-west of Redcar, North E:456991.050 N:52487	Yorkshire 3.262	MS\BH16
Method (Equipment): Sonic Coring (Boart Longyear LS250)	·	Ground Level (m): 7.904	Start Date: 01/07/2021	Sheet: 10 of 10
	Figure MS\B IS\BH16 17.70-1 Title: PRELIX Contract No. Hole ID: MS\ Sample: Total Contract No. Hole ID: MS\ Sample: Total Cont	H16.13 9.20m BGL INARY G.I NZT 4339 BH16 DI DI		



G					S	ON	C SAM	PLE HO	LE R	EC	ORD		Status:-	FINAL	
Project:			Preli	minar	ry Ons	hore (	Ground Inve	estigation fo	or NZT				Exp	loratory Ho	le No.
Client:		AECO	DM				Loc	ation: North-w	vest of R	Redca	ar, North Yo	orkshire		MS\BH17	,
Method (Equi	<sup>pment):</sup> Son	ic Coring (	Boar	t Lon	gyear	LS25	) )	E:2  G	107 140.8 round Lev	<u>890 r</u> rel (m): 9.24	17	92 Start Date: 06/07/20	Sheet:	1 of 10	
SAN	IPLES & T	ESTS						I	ST	RATA	4	1			ent/
Depth	Type No	Test Result		Water A	Reduced Level	Legen	d Depth (Thickness)				Descri	ption			Instrume Backfi
0.10 0.30 0.30 0.50 0.50 0.50 0.50 0.75-1.20 1.00-1.20	J1 B1 ES2 PID B2 ES3 B4 PID SL1 <sub>(SS)</sub> ES6 <sub>(SL1)</sub>	<0.1ppm <0.1ppm					(1.70)	MADE GF occasiona to rounde and slag ( at c.0.50n at c.1.20n between o	ROUND al fragme d and in (10-25% n BGL n BGL c.1.20-1	(Ora ents occlude o)). clay mee .70m	nge brown of plastic. G es mudston / is of low to dium dense BGL ver	sandy slig Gravel is fir e, sandsto o intermedi o, y clayey.	htly gravelly ne to coarse one, limesto iate plastici	y clay with e angular one, brick ty.	BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB
1.00 1.00 1.20-2.70 1.20-1.70 1.20 1.50 1.50 2.00-2.20	PID SL2 <sub>(SS)</sub> B8 <sub>(SL2)</sub> PID PID ES10 <sub>(SL2)</sub> <0.1ppm										ne to and				
2.00 2.00 2.20-2.70 2.50 2.70-4.20 2.70-3.90 2.70 3.00-3.20 3.00	ES10 <sub>(SL2)</sub> J11 <sub>(SL2)</sub> PID B12 <sub>(SL2)</sub> J13 <sub>(SL2)</sub> SL3 <sub>(SS)</sub> B14 <sub>(SL3)</sub> S       <0.1ppm														
3.00 3.50	PID J17 <sub>(SL3)</sub>	0.7ppm			5.35		3.90	between o	c.3.70-3	.90m	BGL pin	k red.			
3.50 3.90-4.20 3.90 4.00 4.20-5.70 4.20 5.00-5.20	PID ES18 <sub>(SL3)</sub> PID J19 <sub>(SL3)</sub> SL4 <sub>(SS)</sub> S ES20 <sub>(SL4)</sub>	0.7ppm 2.0ppm 50/200mm	1				(1.80)	MADE GF Gravel is clinker, cc to subang hydrocarb (Engineer at c.4.20n	ROUND fine to c ompacte jular and oon odou notes lo n BGL	(Blac oarse d asl d incl ur). ocally . very	ck slightly s e angular to h and slag ( ude slag ar y saturated) y dense.	ilty sandy ( o subround (25-50%). nd compac	gravel and led and incl Cobbles ar ted ash. Mi	cobbles. ludes e angular ild	
5.00 5.00 5.20-5.70 5.50 5.50	J21 <sub>(SL4)</sub> PID B22 <sub>(SL4)</sub> J23 <sub>(SL4)</sub> PID	0.3ppm			3.55		5.70								
5.70-7.20 5.70 6.00 6.00-6.20 6.00 6.20-6.70 6.50 6.50	$\begin{array}{c} {\rm SL5}_{\rm (SS)} \\ {\rm S} \\ {\rm J24}_{\rm (SL5)} \\ {\rm ES25}_{\rm (SL5)} \\ {\rm PID} \\ {\rm B26}_{\rm (SL5)} \\ {\rm J27}_{\rm (SL5)} \\ {\rm PID} \end{array}$	N24 <0.1ppm <0.1ppm					(1.50)	MADE GF and cobbl silt. Grave slag, clink at c.5.70n at c.5.70n	ROUND les with el is fine cer and b n BGL n BGL	(Ora pock to co brick. . darl . meo	nge yellow ets of black parse angul Moderate k blue roun dium dense	black sligh very orga ar to subai organic od ded metall	ntly silty sar nic pseudo ngular and lour). ic cobble.	idy gravel -fibrous includes	
7.00 7.20-8.70 7.20-7.40 7.20 7.20 7.40-7.95 7.50	PID <0.1ppm SL6 <sub>(SS)</sub> K40 SL6 <sub>(SS)</sub> FS28 <sub>(SL6)</sub> N13 PID <0.1ppm S N13 PID <0.1ppm S N13 PID <0.1ppm S N13 PID <0.1ppm S N13 PID <0.1ppm S N13 PID <0.1ppm S N13 S N13 PID <0.1ppm S N13 S S N13 S S N13 S S N13 S S N13 S S S N13 S S S N13 S S S S N13 S S S S S S S S S S S S S S S S S S S								sional						
Borin	oring Progress and Water Observations Liner Sample Information Gen								ieral						
Date	Depth 0.00	Casing 0.00	Casir (m 17	ng Dia nm) 78	Wa Stand	ter ding	From - To 0.75 - 1.20 1.20 - 2.70 2.70 - 4.20 4.20 - 5.70 5.70 - 7.20 7.20 - 8.70	Internal Dia (mm) 178 178 178 178 178 178 178 178	Recove (%) 100 100 50 33 100	ery	Subsampled Yes Yes Yes Yes Yes	(1) Descript (2) Inspectio (3) Double i standpipes 18.50-20.00 (4) UXO car	Rem ion derived fror nstallation: 2 Nu installed betwee m BGL. ried out as per	n arKS n drillers daily re to drilling. o. 50mm diamet en 2.00-5.00m a the Client instru	port. er slotted ind ctions.
All dim	nensions in Scale 1:50.	metres	dimensions in metres     For explanation of symbols and abbreviations see Key Sheets     Checked by:     Logged by:									Log N	iged by: I. Bell	Contrac 433	ct No. 9



Ē				S	ONIC	C SAMI	PLE HO	OLE F	REC	ORD		Status:-	FINAL	
Project:			Prelimi	nary Ons	hore G	round Inve	estigation	for NZT				Exp	loratory Ho	le No.
Client:		AECO	MC			Loc	ation: North- F	west of	Redo	car, North Yo	rkshire 92		MS\BH17	,
Method (Equipr	ment): Son	ic Coring (	Boart L	ongyear	LS250)			Ground Le	evel (m 9.2	): 247	Start Date: 06/07/2021	Sheet:	2 of 10	
SAM	PLES & T	ESTS						S	FRAT	Ā				ent/ II
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)				Descri	ption			Instrume Backfi
7.95-8.70 8.00 8.00 8.50 8.70-10.20 8.70-9.45	B31 <sub>(SL6)</sub> J32 <sub>(SL6)</sub> PID J33 <sub>(SL6)</sub> SL7 <sub>(SS)</sub> B34 <sub>(SL7)</sub>	<0.1ppm			× · · · · · · · · · · · · · · · · · · ·	- - - - - - - - - - - - - - - - - - -	Medium fragmen (Tidal Fla	dense y ts of she at Depo	vellov ell. sits).	v grey brown (continued)	silty SAND	with occa	isional	
8.70 9.00 9.00 9.45-10.20 9.50	S     N28       J35 <sub>(SL7)</sub> <0.1ppm													
10.00 10.20-11.70 10.20 10.50-10.70	J38 <sub>(SL7)</sub> N29         Image: state													
10.50 10.50 10.50 10.70-11.40 11.00 11.00	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $											signal		
11.50 11.70-13.20 11.70 12.00	J44 <sub>(SL8)</sub> SL9 <sub>(SS)</sub> S PID	N14 <0.1ppm				- - - - - - - - - - -	fragmen (Tidal Fla	ts of she at Depo	sits).	ise yellow bi	OWN SAND	with occa	ISIONAI	
12.45-13.20 12.50 13.00 13.20-14.70 13.20-13.40 13.20 13.20	$\begin{array}{c} B41_{(SL9)}\\ J42_{(SL9)}\\ \\ J43_{(SL9)}\\ \\ SL10_{(SS)}\\ \\ \\ ES44_{(SL10)}\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $	) N9 <0.1ppm				- - - - - - - - - - - - - - - - - - -	between	c.13.20	)-13.4	45m BGL v	very sandy.			
14.20-14.40 14.20 14.20 14.50 14.70-15.15 14.70-16.20 14.70-15.35	ES45 <sub>(SL10</sub> ES(M)46 <sub>(SL</sub> PID J47 <sub>(SL10)</sub> UT1 SL11 <sub>(SS)</sub> B48 <sub>(SI11)</sub>	<sup>))</sup> - <sup>10)</sup> <0.1ppm (30)		-4.95		· 14.20 · 14.20 · 14.20 · 14.20	Soft dark (Tidal Fla at c.14.7 plasticity	c brown at Depo 0m BGI	sligh sits). lo	tly sandy silt	y CLAY. Clay is of int	ermediat	e	
15.00 15.00 15.35-15.55 15.35 15.35 15.50 15.55-16.20	J.490 (BL11) J.49 (BL11) PID     <0.1ppm										s fine to c andstone	oarse		
Boring	oring Progress and Water Observations Liner Sample Information General										neral			
Date 06/07/2021 07/07/2021	Depth 14.70 14.70	Casing 14.70 14.70	(mm) (mm) 178 178	6.0	ding 00 4 00 1 1 1	From - To 8.70 - 10.20 10.20 - 11.70 1.70 - 13.20 13.20 - 14.70 4.70 - 16.20	(mm) 178 178 178 178 178 178 178	(%) (%) (%) (%) (%) (%) (%) (%) (%) (%)	very 5) 3 3 0 7 0	Subsampled Yes Yes Yes Yes Yes	(1) Description (2) Inspection (3) Double inst standpipes ins 18.50-20.00m (4) UXO carrie	rtem n derived fror pit dug prior tallation: 2 No talled betwee BGL. BGL. ed out as per	n drillers daily re to drilling. o. 50mm diamet en 2.00-5.00m a the Client instru	eport. er slotted nd ctions.
All dime Sc	Il 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 4335										zt No. 9			



Co. Durham, DH2 2RG	Tel: 019
BB1 5BL	Tel: 017

Status:-

Ġ					S	ONIC	C SA	MF	PLE HO	LE F	REC	ORD		Status:-	FINAL	
Project:			Preli	minar	ry Ons	hore G	round I	Inve	estigation fo	r NZT				Exp	loratory Hol	e No.
Client:		AEC	ОМ					Loca	ation: North-w ⊏∙⊿	est of	Redo	car, North Yo	orkshire 92		MS\BH17	
Method (Equi	pment): Son	ic Coring (	Boai	rt Lon	gyear	LS250)			G	ound Le	evel (m 9.2	11.024010.0 1): 247	Start Date: 06/07/2021	Sheet:	3 of 10	
SAM	1PLES & T	ESTS								S	FRAT	ΓA		•		ent/ II
Depth	Type No	Test Result		Water a	Reduced Level	Legend	Dept (Thickne	h ess)				Descri	ption			Instrume Backfi
16.00 16.00 16.20-17.70 16.20-17.70 16.20-17.30 16.20 17.00 17.00 17.30-17.70 17.50 17.70-18.15 17.70-19.20 17.70-17.90 17.70 18.00-18.70 18.70 18.70 18.90-20.00 19.20 19.20 20.00 20.00	J54(s11) PID SL12(ss) B55(s12) J56(s12) J57(s12) PID B58(s12) J59(s12) UT2 SL13(ss) ES(M)61(s PID B62(s13) J63(s13) SL14(ss) S J67(s14) PID	<0.1ppm N23 <0.1ppm (50) (5) <0.1ppm 50/105mn <0.1ppm	n		-6.95 -8.05 -9.45 -10.75			<u>3.20</u> <u>3.00</u> <u>3.70</u>	at c.15.50 Firm thinly (Glacial Ti at c.17.70 plasticity. Extremely (Recovere (Redcar M at c.18.50 Extremely (Recovere (Redcar M between c	m BGI lamin II). m red s round II). m BGI weak d as s ludsto 19.00 <i>at 20.0</i>	andy andy ed a V blue b ne Fc C blue b ne Fc C blue b ne Fc C	ay is of interbrown sand brown sand grey MUDS orown sandy orration). and grey MUDS and gravel). ormation). 20m BGL BGL.	rmediate plast y silty CLAY. AY. Gravel is mudstone, sat ength. Clay is TONE residua gravelly clay) rmediate plast TONE residua weak.	fine to c ndstone of interr II. ticity.	poarse and mediate	
Borin	g Progress	and Wate	er Ob	serva	ations			L	iner Sample	e Infor	matic	on		Gen	ieral	
Date	Depth	Casing	Casi (n	ng Dia nm)	Wa Stand	ter ding	From - T	o	Internal Dia (mm)	Reco (%	very )	Subsampled		Rem	Iarks	
07/07/2021	20.00	20.00	1	78	6.0	00    1    1    1	16.20 - 17 17.70 - 19 19.20 - 20	7.70 9.20 0.00	178 178 178	10 10 89	0	Yes Yes Yes	(1) Description c (2) Inspection pi (3) Double instal standpipes instal 18.50-20.00m B (4) UXO carried	lerived fron t dug prior llation: 2 N Illed betwee GL. out as per	n drillers daily rep to drilling. o. 50mm diamete en 2.00-5.00m ar the Client instruc	port. er slotted nd tions.
All dim	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. <b>4339</b>										t No. )					



















## **ALLIED EXPLORATION & GEOTECHNICS LIMITED** 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: 0191 387 4700 Fax: 0197 375 999





















ALLIED EXPLORATION & GEOTECHNICS LTD Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, County Durham, DH2 2RG Regional Office: Suite 20 Business Development Centre, Eanam Wharf, Eanam Old Road, Blackburn, BB1 5BL

#### VARIABLE HEAD PERMEABILITY TEST CALCULATION BS5930: 1999 (Amendment 1): Section 4: Clause 25.4

Installation Type :	tallation Type : 50mm Standpipe ntract & Position Details				Method:	, Falling Head		Test No:		1 of 2			
<b>Contract &amp; Position Det</b>	tails					<u> </u>							
Site: Preliminary (	Onshore Gr	ound Investiga	tion f	or NZT									
Contract: 4339		Explorat	ory H	lole:	MS\BH03	(Shallow)	Depth (n	nBGL):	5.00				
Initial Conditions			Inta	ke Facto	r Selection	<u> </u>	· · ·		Comments				
Top of Section:	1.20	mBGL	Opti	ion	Criteria				(1) Refer to E	xploratory Hole			
Base of Section:	2.70	mBGL	Ō,	4	Soil flush with	bottom at imp	ervious boundar	у	Record for so	il conditions.			
Diameter of Section:	178.00	mm	Oe	3	Soil flush with	bottom in unif	form soil		-				
Measurement Offset:	0.00	mAGL	0	0	Well point or h	nole extended	at impervious bo	undary					
Standpipe Diameter:	50.00	mm	O	D	Well point or h	nole extended	in uniform soil						
Initial Water Level:	2.14	mBGL	O	Ξ	Soil in casing with bottom at impervious boundary								
Weather Conditions:	Clear/Wind	ly	Or	=	Soil in casing with bottom in uniform soil								
			$\odot$	3	Standpipe or I	Piezometer							
Initial Response Zone C	Calculation	S	Rea	dings									
Length, L:	1.50	m		Minutes	Seconds	Total Seconds	Water Level Depth (m)	Head (m)	H/H <sub>0</sub>	Notes			
Diameter, D:	0.18	m		0	0	0	0.000	2.14	1.000				
L/D:	8.43	Ratio		0	30	30	1.550	0.59	0.276				
Response Area, A:	0.0249	m <sup>2</sup>		1	0	60	1.710	0.43	0.201				
Intake Factor, F:	3.7706	Coefficient		1	30	90	1.780	0.36	0.168				
using	1	1		2	0	120	1.860	0.28	0.131				
2.32πL / In{1.1(L / D	)} + √{1 + 1	.1(L / D)²}		2	30	150	1.940	0.20	0.093				
Permeability Equations		× 71		3	0	180	1.960	0.18	0.084				
General Approach				4	0	240	2.000	0.14	0.065				
K= A	$.Ln(H_1/H_2)$	Eq.(i)		5	0	300	2.040	0.10	0.047				
F * (T <sub>2</sub> - T <sub>1</sub> )				6	0	360	2.070	0.07	0.033				
Lag Time Analysis				7	0	420	2.090	0.05	0.023				
K= A		Eq.(ii)		8	0	480	2.100	0.04	0.019				
F.T				9	0	540	2.100	0.04	0.019				
Eq.(ii) where T is the Bas	ic Time Lag	Factor		10	0	600	2.110	0.03	0.014				
coinciding with a H/H <sub>0</sub> of	0.37			15	0	900	2.140	0.00	0.000				
Permeability Variable D	eterminatio	on											
General Approach		-											
Factor, T <sub>1</sub> :	n/a	Seconds											
Head, H <sub>1</sub> :	n/a	m											
Factor, T <sub>2</sub> :	n/a	Seconds	Perr	neability	Graph								
Head, H <sub>2</sub> :	n/a	m		1.0 🔶									
Lag Time Analysis Appro	ach												
Lag Time, T :	26.09	Seconds		0.9 -									
Permeability Calculatio	n			0.8 -									
General Approach		Eq.(i)											
		]		0.7 -									
K= N/	Α	mle		06 -									
		11//5	_	0.0									
Lag Time Analysis		Eq.(ii)	HH	0.5 -									
		]		04 -									
K= 2.53	E-04	mle		0.4	400 00		400 500	coo	700 000	000 1000			
		11//5		0.3	100 20	JU 3UU	400 500	000	τυυ δυυ	900 1000			
				02	<b>`</b>								
Approvals			1	0.2									
Operator	A.M	21/10/2021	1	0.1 -									
Calculated	LC	15/11/2021	1	0.0			Time Elansed in S	Seconds					
Checked & Approved:	KW	15/11/2021	L	0.0 -									

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#### VARIABLE HEAD PERMEABILITY TEST CALCULATION BS5930: 1999 (Amendment 1): Section 4: Clause 25.4

Installation Type :	50mm Sta	ndpipe		·	Method:	Rising Head		Test No:		2 of 2		
<b>Contract &amp; Position De</b>	tails											
Site: Preliminary	Onshore Gr	ound Investiga	tion f	or NZT								
Contract : 4339 Explorat			ory H	ole:	MS\BH03	(Shallow)	Depth (n	Depth (mBGL):		5.00		
Initial Conditions			Intal	Intake Factor Selection						Comments		
Top of Section:	1.20	mBGL	Opti	ption Criteria (1) Refer						xploratory Hole		
Base of Section:	2.70	mBGL	O A		Soil flush with	bottom at imp	Record for soil conditions.					
Diameter of Section:	178.00	mm	Ов		Soil flush with	bottom in unif						
Measurement Offset:	0.00	mAGL	Oc		Well point or I	nole extended						
Standpipe Diameter:	50.00	mm	OD		Well point or I	nole extended						
Initial Water Level:	2.14	mBGL	OE		Soil in casing with bottom at impervious boundary			ndary				
Weather Conditions: Clear/Windy		dy	OF		Soil in casing	with bottom in						
			G Standpipe or Piezometer									
Initial Response Zone Calculations			Rea	Readings								
Length, L:	1.50	50 m		linutes	Seconds	Total Seconds	Water Level Depth (m)	Head (m)	H/H₀	Notes		
Diameter, D:	0.18	m	0		0	0	2.740	0.60	1.000			
L/D:	8.43	Ratio	0		30	30	2.690	0.55	0.917			
Response Area, A:	0.0249	m <sup>2</sup>	1		0	60	2.650	0.51	0.850			
Intake Factor, F:	3.7706	Coefficient	1		30	90	2.600	0.46	0.767			
using	using		2		0	120	2.550	0.41	0.683			
2.32πL / In{1.1(L / D)} + √{1 + 1.1(L / D)²}		2		30	150	2.510	0.37	0.617				
Permeability Equations	;			3	0	180	2.460	0.32	0.533			
General Approach				4	0	240	2.390	0.25	0.417			
K= A	$Ln(H_1/H_2)$	Eq.(i)		5	0	300	2.310	0.17	0.283			
F * (T <sub>2</sub> - T <sub>1</sub> )				6	0	360	2.250	0.11	0.183			
Lag Time Analysis			7		0	420	2.200	0.06	0.100			
K= A		Eq.(ii)		8	0	480	2.160	0.02	0.033			
F.T				9	0	540	2.140	0.00	0.000			
Eq.(ii) where T is the Basic Time Lag Factor												
coinciding with a H/H <sub>0</sub> of 0.37												
Permeability Variable Determination												
General Approach		-										
Factor, T <sub>1</sub> :	n/a	Seconds										
Head, H <sub>1</sub> :	n/a	m										
Factor, T <sub>2</sub> :	n/a	Seconds	Pern	neability	y Graph							
Head, H <sub>2</sub> :	n/a	m		1.0 🔦								
Lag Time Analysis Appro	bach	1										
Lag Time, T :	261.00	Seconds		0.9 -								
Permeability Calculatio	n			0.8 -								
General Approach		Eq.(i)			×							
				0.7		×						
K= N/	A	m/s		0.6								
		111/3	ę									
Lag Time Analysis		Eq.(ii)	호	0.5		· · · · · · · · · · · · · · · · · · ·	<					
K= 2.53E-05		]		04 -								
		m/s			100	200	300	40	0 50			
				0.3	100	200	, 300	40	5 50	000		
				0.2 -				$\searrow$				
Approvals								- <b>-</b>				
Operator	A.M	21/10/2021		0.1								
Calculated	ulated LC 15/11/2			0.0 Time Elapsed in Seconds								
Checked & Approved:	K.W	15/11/2021					•			÷		

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#### VARIABLE HEAD PERMEABILITY TEST CALCULATION BS5930: 1999 (Amendment 1): Section 4: Clause 25.4

Installation Type :	50mm Sta	ndpipe		·	Method:	, Falling Hea	ad	Test No:		1 of 2	
<b>Contract &amp; Position Det</b>	ails	- F F -				<u> </u>				-	
Site: Preliminary C	Onshore Gr	ound Investiga	tion fo	or NZT							
Contract : 4339 Explorat			ory Hole:		MS\BH05 (Deep)		Depth (mBGL):		29.90		
Initial Conditions			Intak	e Facto	r Selection			,	Comments		
Top of Section:	23.50	mBGL	Opti	on	Criteria						
Base of Section:	29.90	mBGL	<u>O</u> A		Soil flush with	bottom at in					
Diameter of Section:	50.00	mm	Ов		Soil flush with	bottom in ur					
Measurement Offset:	0.00	mAGL	Ōc		Well point or I	nole extende					
Standpipe Diameter:	50.00	mm	OD		Well point or I	nole extende					
Initial Water Level:	5.70	mBGL	Oe		Soil in casing	with bottom					
Weather Conditions:	Rain		OF		Soil in casing	with bottom					
			🖲 G		Standpipe or	Piezometer					
Initial Response Zone Calculations			Read	lings							
Length, L:	6.40	m	Minutes		Seconds	Total Seconds	Water Level Depth (m)	Head (m)	H/H <sub>0</sub>	Not	es
Diameter, D:	0.05	m	0		0	0	0.020	5.68	1.000		
L/D:	128.00	Ratio	0		30	30	0.150	5.55	0.977		
Response Area, A:	0.0020	m <sup>2</sup>	1		0	60	0.340	5.36	0.944		
Intake Factor, F:	8.3046	Coefficient	1		30	90	0.480	5.22	0.919		
using	using		2		30	150	0.590	5.11	0.900		
2.32πL / In{1.1(L / D)} + √{1 + 1.1(L / D)²}		3		0	180	0.730	4.97	0.875			
Permeability Equations				4	0	240	0.960	4.74	0.835		
General Approach				5	0	300	1.180	4.52	0.796		
K= A	$Ln(H_1/H_2)$	Eq.(i)		10	0	600	2.070	3.63	0.639		
$F * (T_2 - T_1)$			15		0	900	2.710	2.99	0.526		
Lag Time Analysis			20		0	1200	3.180	2.52	0.444		
K= <u>A</u>		Eq.(ii)		25	0	1500	3.610	2.09	0.368		
F.T			30		0	1800	3.900	1.80	0.317		
Eq.(ii) where T is the Basic Time Lag Factor			40		0	2400	4.370	1.33	0.234		
coinciding with a H/H <sub>0</sub> of 0.37			50		0	3000	4.680	1.02	0.180		
Permeability Variable Determination				60	0	3600	4.870	0.83	0.146		
General Approach	. / .	0									
Factor, I <sub>1</sub> :	n/a	Seconds									
Head, H <sub>1</sub> :	n/a	M Casanda	Down		Crenh						_
	n/a	Seconds	Pern	leadinty	/ Graph						
Lag Time Analysis Approx	n/a	111		1.0							
Lag Time Tialysis Apploa	1401 01	Seconds		0.9							
Permeability Calculation		Occonda									
General Approach		Ea (i)		0.8 -	Ĩ. Ì						
				07 -							
<b>K</b> - N/	٨			0.1							
	A	m/s		0.6 -							
Lag Time Analysis Fg (ii)		⊥ Fa.(ii)	H/	0.5 -		X					
		<del>-</del>	0.0								
K= 1.58E-07 <sub>m/s</sub>			0.4 -								
		m/s		03	500	1000	1500 2000	2500	3000	3500	4000
		4									
Approvala				0.2 -				-			
Operator	Λ M	20/10/2024		0.1 -							
Calculated		15/11/2021									
Checked & Approved	KW	15/11/2021	-	0.0 🗌			Time Elapsed in	Seconds			
oneoneu a Appioveu.		13/11/2021									
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### VARIABLE HEAD PERMEABILITY TEST CALCULATION BS5930: 1999 (Amendment 1): Section 4: Clause 25.4

Installation Type :	50mm Sta	ndpipe			Method:	Rising Hea	d	Test No:		2 of 2
<b>Contract &amp; Position Det</b>	tails	••				<u> </u>				
Site: Preliminary (	Onshore Gr	ound Investiga	tion for	NZT						
Contract: 4339		Explorat	ory Ho	le:	MS\BH0	5 (Deep)	Depth (	mBGL):	29.90	
Initial Conditions		· ·	Intake	e Facto	or Selection			,	Comments	
Top of Section:	23.50	mBGL	Optio	n	Criteria					
Base of Section:	29.90	mBGL	О а		Soil flush with	bottom at in	npervious bounda	ary		
Diameter of Section:	50.00	mm	Ōв		Soil flush with	bottom in ur	niform soil		-	
Measurement Offset:	0.00	mAGL	Оc		Well point or I	nole extende	d at impervious b	oundary	-	
Standpipe Diameter:	50.00	mm	ΟD		Well point or I	nole extende	d in uniform soil	,	-	
Initial Water Level:	5.42	mBGL	Ōe		Soil in casing	with bottom	at impervious bo	undary	-	
Weather Conditions:	Clear/Wind	dv	Ōf		Soil in casing	with bottom	in uniform soil	,	-	
		- <b>J</b>	G		Standpipe or	Piezometer			-	
Initial Response Zone C	alculation	S	Readi	ngs						
Length, L:	6.40	m	Min	nutes	Seconds	Total	Water Level	Head	H/H <sub>0</sub>	Notes
Diameter D	0.05	m		0	0	Seconds	9 180	(m) 3 76	1 000	
	128.00	Ratio		0	30	30	9,000	3.58	0.952	
Response Area A	0.0020	m <sup>2</sup>		1	0	60	8 910	3.49	0.002	
Intake Factor F	8.3046	Coefficient		1	30	90	8 820	3.40	0.020	
using	0.0040	oocmolent		2	0	120	8 730	3 31	0.304	
2 32πL / In/1 1/L / D	)\ + √/1 + 1	1/1 / ח)²		2	30	120	8 650	3.01	0.000	
	<u>);                                    </u>			<u>~</u> 3	0	180	8 570	3.15	0.000	
General Approach				<u>J</u>	0	240	8.430	3.01	0.000	
K= A	In(H <sub>4</sub> /H <sub>2</sub> )	Ea (i)		5	0	300	8 250	2.83	0.001	
$F^*(T_2 - T_1)$		-9.(1)	1	0	0	600	7 670	2.00	0.598	
Lag Time Analysis			1	15	0	900	7.260	1.84	0.489	
K= A		Eq.(ii)	2	20	0	1200	6.980	1.56	0.415	
F T	Ē.	-4.()	2	25	0	1500	6 690	1.00	0.338	
Eq (ii) where T is the Bas	ic Time La	n Factor		30	0	1800	6.510	1.09	0.290	
coinciding with a H/H <sub>o</sub> of	0.37	grader	4	10	0	2400	6 270	0.85	0.226	
Permeability Variable D	eterminati	on	F	50	0	3000	6 110	0.69	0.184	
General Approach		<u> </u>	6	50	0	3600	5.990	0.57	0.152	
Factor, T <sub>1</sub> :	n/a	Seconds			-					
Head, H₁ :	n/a	m								
Factor, T <sub>2</sub> :	n/a	Seconds	Perm	eabilit	y Graph					
Head, H <sub>2</sub> :	n/a	m								
Lag Time Analysis Appro	ach			1.0						
Lag Time, T :	1374.62	Seconds	(	).9 -						
Permeability Calculation	n									
General Approach		Eq.(i)	1	J.8 -	<b>N</b> .					
		7	C	).7 -						
K= N/	Α	m/s	C	).6 -						
Lag Time Analysis		Eq.(ii)	위/H (	).5 -						
K= 1.72	F-07	]	C	).4 -			<u>,</u>		<u> </u>	
	- •1	m/s	C	).3 -	500	1000	1500 2000	) 2500	3000	3500 4000
Approvals			. c	).2 -						
Operator	AM	21/10/2021		).1 -						•
Calculated		15/11/2021					<b></b>			
Checked & Annroved	KW	15/11/2021	(	).0 _			Time Elapsed ir	Seconds		
enound a Approved		10/11/2021								

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#### VARIABLE HEAD PERMEABILITY TEST CALCULATION BS5930: 1999 (Amendment 1): Section 4: Clause 25.4

Installation Type :	50mm Sta	ndpipe			Method:	Falling Head	1	Test No:		1 of 2
<b>Contract &amp; Position Det</b>	tails					<u> </u>				-
Site: Preliminary	Onshore Gr	ound Investiga	tion f	or NZT						
Contract: 4339		Explorat	ory H	lole:	MS\BH15	(Shallow)	Depth (r	nBGL):	5.00	
Initial Conditions			Intal	ke Facto	or Selection	<u> </u>		,	Comments	
Top of Section:	2.00	mBGL	Opti	on	Criteria				(1) Refer to E	xploratory Hole
Base of Section:	5.00	mBGL	Ó A	١	Soil flush with	bottom at imp	pervious bounda	ry	Record for so	il conditions.
Diameter of Section:	178.00	mm	Oe	}	Soil flush with	bottom in uni	form soil		-	
Measurement Offset:	0.22	mAGL	0	2	Well point or I	nole extended	at impervious be	oundary	-	
Standpipe Diameter:	50.00	mm	O	)	Well point or I	nole extended	in uniform soil			
Initial Water Level:	3.70	mBGL	O		Soil in casing	with bottom a	t impervious bou	indary	-	
Weather Conditions:	Raining		Of		Soil in casing	with bottom in	n uniform soil		-	
			$\odot$	6	Standpipe or	Piezometer				
Initial Response Zone C	Calculation	S	Rea	dings						
Length, L:	3.00	m	_	Vinutes	Seconds	Total Seconds	Water Level Depth (m)	Head (m)	H/H <sub>o</sub>	Notes
Diameter, D:	0.18	m		0	0	0	0.000	3.92	1.000	
L/D:	16.85	Ratio		0	30	30	3.700	0.22	0.056	
Response Area, A:	0.0249	m <sup>2</sup>								
Intake Factor, F:	6.0902	Coefficient								
using										
2.32πL / In{1.1(L / D	)} + √{1 + 1	.1(L / D)²}								
Permeability Equations		· · ·								
General Approach										
K= A	$.Ln(H_1/H_2)$	Eq.(i)								
F * (T <sub>2</sub> - T <sub>1</sub> )	-									
Lag Time Analysis										
K= A	_	Eq.(ii)								
F.T										
Eq.(ii) where T is the Bas	sic Time Lag	Factor	-							
coinciding with a H/H <sub>0</sub> of	0.37									
Permeability Variable D	etermination	on								
General Approach		1-								
Factor, T <sub>1</sub> :	n/a	Seconds								
Head, H <sub>1</sub> :	n/a	m								
Factor, T <sub>2</sub> :	n/a	Seconds	Perr	neabilit	y Graph					
Head, H <sub>2</sub> :	n/a	m		1.0 🔦						
Lag Time Analysis Appro	ach	0		0.0						
Lag Time, T:	20.02	Seconds		0.9 -						
Permeability Calculatio	n	<b>F</b> .e. (i)		0.8 -						
General Approach		Eq.(I)		0.7						
				0.7 -						
K= N/	Α	m/s		0.6						
			웃	0.5						
		⊑q.(II) ¬	Ŧ	0.5 -						
	- ~ 4			0.4 -						
K= 2.04	E-04	m/s			5	10	15	20	25	30 35
		J		0.3 -	-	-		$\sim$		
				0.2 -					$\mathbf{i}$	
Approvals									$\sim$	
Operator	A.M	20/10/2021		0.1 -						<b>`</b>
Calculated	L.C	15/11/2021		0.0			Time Elapsed in	Seconds		
Checked & Approved:	K.W	15/11/2021								

ALLIED EXPLORATION & GEOTECHNICS LTD Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, County Durham, DH2 2RG Regional Office: Suite 20 Business Development Centre, Eanam Wharf, Eanam Old Road, Blackburn, BB1 5BL

#### VARIABLE HEAD PERMEABILITY TEST CALCULATION BS5930: 1999 (Amendment 1): Section 4: Clause 25.4

Installation Type :	50mm Star	ndpipe		·	Method:	Rising Head		Test No:		2 of 2
<b>Contract &amp; Position Det</b>	tails									
Site: Preliminary (	Onshore Gr	ound Investiga	tion f	for NZT						
Contract: 4339		Explorat	ory ł	Hole:	MS\BH15	(Shallow)	Depth (n	nBGL):	5.00	
Initial Conditions			Inta	ke Facto	r Selection	· ·		·	Comments	
Top of Section:	2.00	mBGL	Opt	ion	Criteria				(1) Refer to E	xploratory Hole
Base of Section:	5.00	mBGL	Ō,	۹.	Soil flush with	bottom at imp	ervious boundar	у	Record for so	il conditions.
Diameter of Section:	178.00	mm	0	В	Soil flush with	bottom in unif	form soil			
Measurement Offset:	0.00	mAGL	0	С	Well point or h	nole extended	at impervious bo	oundary		
Standpipe Diameter:	50.00	mm	Ο	D	Well point or h	nole extended	in uniform soil			
Initial Water Level:	3.49	mBGL	0	E	Soil in casing	with bottom at	impervious bou	ndary		
Weather Conditions:	Sunny		0	F	Soil in casing	with bottom in	uniform soil			
			$\odot$	G	Standpipe or I	Piezometer				
Initial Response Zone C	Calculation	S	Rea	dings						
Length, L:	3.00	m		Minutes	Seconds	Total Seconds	Water Level Depth (m)	Head (m)	H/H <sub>0</sub>	Notes
Diameter, D:	0.18	m		0	0	0	4.780	1.29	1.000	
L/D:	16.85	Ratio		0	30	30	4.520	1.03	0.798	
Response Area, A:	0.0249	m <sup>2</sup>		1	0	60	4.270	0.78	0.605	
Intake Factor, F:	6.0902	Coefficient		1	30	90	4.010	0.52	0.403	
using				2	0	120	3.770	0.28	0.217	
2.32πL / In{1.1(L / D	)} + √{1 + 1	.1(L / D)²}		2	30	150	3.540	0.05	0.039	
Permeability Equations				3	0	180	3.490	0.00	0.000	
General Approach										
K= A	$.Ln(H_1/H_2)$	Eq.(i)								
F * (T <sub>2</sub> - T <sub>1</sub> )		• • •								
Lag Time Analysis										
K= A		Eq.(ii)								
F.T										
Eq.(ii) where T is the Bas	ic Time Lag	Factor								
coinciding with a H/H <sub>0</sub> of	0.37									
Permeability Variable D	eterminatio	on								
General Approach										
Factor, T <sub>1</sub> :	n/a	Seconds								
Head, H <sub>1</sub> :	n/a	m								
Factor, T <sub>2</sub> :	n/a	Seconds	Peri	meability	Graph					
Head, H <sub>2</sub> :	n/a	m		10 🔶						
Lag Time Analysis Appro	ach				<hr/>					
Lag Time, T :	95.34	Seconds		0.9 -	$\mathbf{X}$					
Permeability Calculatio	n			08 -						
General Approach		Eq.(i)		0.0		<b>_</b>				
		1		0.7 -		$\mathbf{i}$				
K= N/	Α			06-						
		m/s	0	0.0		$\sim$	<			
Lag Time Analysis		Eq.(ii)	ΗΉ	0.5 -			$\searrow$			
		1		0.4						
K= 4.29	E-05			0.4		+ + + + + + + + + + + + + + + + + + + +			· · · · · · · · · · · · · · · · · · ·	····
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Approvals				0.2 -						
Operator	A.M	21/10/2021		0.1 -						
Calculated	L.C.	15/11/2021		0.0			Time Flancod in	Seconde		
Checked & Approved:	K.W.	15/11/2021		U.U -			nine Lidpseu III	occonus		
	<u>,</u>									



Test Date: 19/10/2021	
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# Hydraulic Conductivity Insertion/Extraction Data





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Hydraulic Conductivity Insertion Data









# Hydraulic Conductivity Insertion Data





Contract: Preliminary Onshore Ground Investigation for NZT Contract No.: 4339 Date: 28/01/2022 Sheet: 8 of 31



# Hydraulic Conductivity Insertion Data



Contract: Preliminary Onshore Ground Investigation for NZT Contract No.: 4339 Date: 28/01/2022 Sheet: 10 of 31









Contract: Preliminary Onshore Ground Investigation for NZT Contract No.: 4339 Date: 28/01/2022 Sheet: 13 of 31





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— MSBH13 (D)



Contract: Preliminary Onshore Ground Investigation for NZT Contract No.: 4339 Date: 28/01/2022 Sheet: 17 of 31 —— MSBH13 (S)



Hydraulic Conductivity Insertion Data



Contract: Preliminary Onshore Ground Investigation for NZT Contract No.: 4339 Date: 28/01/2022 Sheet: 19 of 31



—— MSBH13 (S)

2500.00



Contract: Preliminary Onshore Ground Investigation for NZT Contract No.: 4339 Date: 28/01/2022 Sheet: 21 of 31





MSBH14



Contract: Preliminary Onshore Ground Investigation for NZT Contract No.: 4339 Date: 28/01/2022 Sheet: 24 of 31 Hydraulic Conductivity Insertion Data



Slug In: 2086 secs



MSBH14



Contract: Preliminary Onshore Ground Investigation for NZT Contract No.: 4339 Date: 28/01/2022 Sheet: 27 of 31





— MSBH15



Hydraulic Conductivity Insertion Data



### **GROUNDWATER MONITORING DATA**



Title: Preliminary Onshore Ground Investigation for Net Zero Teeside (NZT) - 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** 15.00 14.00 4.00 13.00 12.00 3.50 11.00 <del>(</del> Water Level m(OD) Temperature (Deg 10.00 3.00 9.00 we man 8.00 2.50 7.00 6.00 2.00 5.00 23/07/2021 00:00 12/08/2021 00:00 01/09/2021 00:00 21/09/2021 00:00 11/10/2021 00:00 31/10/2021 00:00 20/11/2021 00:00 - MS\BH03 Groundwater MS\BH03 Temperature

Title: Preliminary Onshore Ground Investigation for Net Zero Teeside (NZT) - South Tees Development Corporation (STDC) 'Main Site; and Onshore CO2 Export Pipeline Corridor

Contract No: 4339

#### Client: AECOM

Printed: 29/11/2021


Title: Preliminary Onshore Ground Investigation for Net Zero Teeside (NZT) - South Tees Development Corporation (STDC) 'Main Site; and Onshore CO2 Export Pipeline Corridor

Contract No: 4339

Client: AECOM

**GROUNDWATER MONITORING DATA** 



Title: Preliminary Onshore Ground Investigation for Net Zero Teeside (NZT) - South Tees Development Corporation (STDC) 'Main Site; and Onshore CO2 Export Pipeline Corridor

Contract No: 4339

#### Client: AECOM



Title: Preliminary Onshore Ground Investigation for Net Zero Teeside (NZT) - South Tees Development Corporation (STDC) 'Main Site; and Onshore CO2 Export Pipeline Corridor

Contract No: 4339

#### Client: AECOM

**GROUNDWATER MONITORING DATA** 



Title: Preliminary Onshore Ground Investigation for Net Zero Teeside (NZT) - South Tees Development Corporation (STDC) 'Main Site; and Onshore CO2 Export Pipeline Corridor

Contract No: 4339

#### Client: AECOM

**GROUNDWATER MONITORING DATA** 4.50 15.00 14.00 4.00 13.00 12.00 Water Level m(OD) 00.6 11.00 <del>(</del> Temperature (Deg 10.00 9.00 8.00 7.00 2.50 6.00 2.00 5.00 23/07/2021 00:00 12/08/2021 00:00 01/09/2021 00:00 21/09/2021 00:00 11/10/2021 00:00 31/10/2021 00:00 20/11/2021 00:00 10/12/2021 00:00 - MS\BH14 Groundwater —— MS\BH14 Temperature

Title: Preliminary Onshore Ground Investigation for Net Zero Teeside (NZT) - South Tees Development Corporation (STDC) 'Main Site; and Onshore CO2 Export Pipeline Corridor

Contract No: 4339

Client: AECOM



Title: Preliminary Onshore Ground Investigation for Net Zero Teeside (NZT) - South Tees Development Corporation (STDC) 'Main Site; and Onshore CO2 Export Pipeline Corridor

Contract No: 4339

#### Client: AECOM

**Geological Cross Sections** 









### SECTION B-B'



	KEY								
	MADE GROUND								
	TIDAL FLAT DEPOSI	тя							
	GLACIAL DRIFT DEP	OSITS							
	REDCAR MUDSTON	E FORMATION							
	MG-G MG-SLAG TFD GLLA GLTL RCMF								
	MG - SLAG : MADE GROUND DC MG - G : GRANULAR MADE GRO MG - C : COHESIVE MADE GROU TFD: TIDAL FLAT DEPOSITS (ES AND CLAYS) GLTL: GLACIAL TILL GLLA: GLACIAL TILL GLLA: GLACIOLACUSTRINE DEF RCMF: REDCAR MUDSTONE FO	DMINATED BY SLAG IUND IND TUARINE SANDS, SILTS POSITS RMATION							
	NOT								
	REV DATE CC	MMENT CAD							
· · · · · · · · · · · · · · · · · ·	TITLE: CROSS SEC	TION B-B'							
· · _ · ·	SITE:	WARRENBY							
	CLIENT: SOUTH TEES								
· · <u></u> ·	CLIENT: SOUTH	TEES							
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· · · · · · · · · · · · · · · · · · ·	CLIENT:         SOUTH           DEVELOPMENT C           PROJECT:         10035117           DATE:         05/05/22         DRAWN:           DRG.No.:         10035117-AUK-XX-XX	TEES CORPORATION APPENDIX C.2 AP REV: - -DR-XX-0533-XX PRINT: A3							
1050	CLIENT: SOUTH DEVELOPMENT C PROJECT: 10035117 DATE: 05/05/22 DRAWN: DRG.No.: 10035117-AUK-XX-XX	APPENDIX C.2 AP REV: - -DR-XX-0533-XX PRINT: A3							

Groundwater Elevation Data



**Groundwater Elevation Data** 

			10 Appendix	035117-AUK-XX F, Table 1: Grour	-XX-RP-ZZ-0428-0 ndwater Elevation I	03-LWoW_DQR/ _evels by Geolog	A ical 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		5.68	1	5	3.37	2.31	No Comment
IVIG	07/11/2017		5.68	1	5	3.38	2.3	No Comment
	00/11/2017	эт-рцлл 21-вн0/	5.00	1	5	5.50 72 2	2.3 2.21	No Comment
MG	10/11/2017	51-BH04 \$1-BH04	5.00	1 1	5	5.37 2.28	2.31	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	2.5	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	0//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		5.72	1	5	3.67	2.05	No Comment
	12/11/2017	эт-рцог 21-рпог	5./2 5.72	1	5	ט.ט ד כ	2.03	No Comment
	15/12/2017		5.72	1	5	5./ 2.97	2.02	No Comment
MG	10/12/201/ 21/12/2017	S1-BHOS	5.72	1	5	3.07 2.07	ده.± 1 ۹	No Comment
MG	21/02/2017	S1-BH05	5.72	± 1	5	3.92	1.0 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	01/05/2018	S1-BH06	7.09	1	6	3.99	3.1	No Comment	
140			7.00						
MG	21/02/2018	S1-BH06	7.09	1	6	3.62	3.47	No Comment	
MG	21/12/2017	S1-BH06	7.09	1	6	3.79	3.3	No Comment	
MG	14/12/2017	S1-BH06	7.09	1	6	3.79	3.3	No Comment	
MG	13/11/2017	S1-BH06	7.09	1	6	3.52	3.57	No Comment	

			1( _Appendix	035117-AUK-X	K-XX-RP-ZZ-0428-	03-LWoW_DQR	A nical Unit	
			Appendix					
Geology	Date	Location Code	Reference Elevation	Top of Screen Depth	Bottom of Screen	Water Level (m AOD)	Water Depth (m bTOC)	Comments
bereeneu				Depth	Depth			
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	1//10/2017	51-ВН12 51-ВН12	5./3 5.72	1	5	3.82	1.91	No Comment
MG	18/10/2017 19/10/2017	эт-внт5 21-внт5	5./3 5.72	1	5	3.83 २.87	1.9 1 Q1	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
	31/10/2017 01/11/2017	51-ВН12 51-ВН17	5./3 5 72	1	5	3./b 2.75	1.97 1 QQ	No Comment
MG	02/11/2017	S1-BH12	5.73	1	5	3.76	1.90	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
	21/12/2017 21/02/2019	эт-вшт 21-внт5	5./3 5.72	1 1	5	4.03	1./ 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
	19/10/2017	51-ВН14 \$1-ВН14	8.31 8 21	1	ک م	3.55	4./b 17	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	51-BH14	8.31	1	8	3.49	4.82	No Comment
	02/11/201/	эт-впт4 S1-RH1 <i>1</i>	0.31 8 21	1	Ծ Ջ	3.49 २ / २	4.82 4.83	No Comment
MG	06/11/2017	51-BH14 S1-BH14	8.31	1	0 8	3.40	4.00 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	эт-внт4 S1-RH14	8.3⊥ 8.31	11	ð Q	3./1 2.06	4.0 1 35	No Comment
MG	23/10/2017	S1-BH18	7.36	<u> </u>	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	51-ВН18 51-ВН18	7.36 7.26	1	6 6	3.68	3.68 2.60	No Comment
MG	06/11/2017	51-BH18	7.36	1	6	3.69	3.00 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	51-ВН18	7.36 7.26	1	6	4.16	3.2	No Comment
MG	21/02/2018 01/05/2018	51-ВН18	7.36	1	6	4.00 4 44	5.5 2 92	No Comment

	10035117-AUK-XX-RP-ZZ-0428-03-LWoW_DQRA											
			Appendix	F, Table 1: Grour	ndwater Elevation	Levels by Geolog	ical Unit					
Coology			Defenses	Townoff	Dettern of Courses		Motor Douth (m					
Screened	Date	Location Code	Elevation	Depth	Depth	AOD)	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	0.98	1	/	4.26	2.72	No Comment				
MG	08/11/2017	SZ-BHAU4S	7.53	1	4.5	2.78	4.75	No Comment				
MG	09/11/2017	52-BHA045	7.53	1	4.5	2.78	4.75	No Comment				
MG	10/11/2017	52-BHA045	7.53	1	4.5	2.70	4.75	No Comment				
MG	18/12/2017	52-BHA045	7.53	1	4.5	2.8	4.75	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	Drv	Drv	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	M2/BH032	4.67	1.2	2.7	2.78	1.89	NO LNAPL/DNAPL detected.				
SIVIG	17/09/2021		4.67	1.2	2./	2./	1.97	NO LINAPL/DINAPL detected.				
SIVIG	12/10/2021		4.07	1.2	2.7	2.8	1.8/	NO LNAPL/DNAPL delected.				
SIVIG	15/11/2021		4.67	1.2	2.7	2.70	1.91	NO LINAPL/DINAPL DETECTED.				
SIVIG	13/07/2021		7.33	1./	4.6	3.12	4.21	NO LINAPL/DINAPL DETECTED.				
SMG	09/08/2021		/.33	1./	4.6	3.04	4.29	NO LINAPL/DINAPL DETECTED.				
SIVIG	12/10/2021		/.33 2 2 2	17	4.0	3.02	4.31	NO LIVAPL/DIVAPL delected.				
	15/10/2021		7.55 7.22	17	4.0	Damp	Damp	NO LIVARL DIVARL DELECTED.				
DIVIC	12/11/2021		7.55	1./	4.0	2.94	4.39	NO LIVAT LI DIVAT L'UELECLEU.				

				10	0035117-AUK-XX	-XX-RP-ZZ-0428-0	03-LWoW_DQR	A	
				Appendix	F, Table 1: Grour	ndwater Elevation	Levels by Geolog	gical Unit	
Ge	ology	Date	Location Code	Reference	Top of Screen	Bottom of Screen	Water Level (m	Water Depth (m	Comments
JUI	eeneu			Lievation	Deptil	Deptil	AODJ	5100)	
S	SMG	14/06/2021	MS\BH08S	8,745	1.2	5.7	Dry	Dry	No I NAPI /DNAPI detected
S	SMG	15/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No INAPI/DNAPI detected
S	SMG	16/06/2021	MS\BH08S	8.745	1.2	5.7	Drv	Drv	No LNAPL/DNAPL detected.
S	SMG	17/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	18/06/2021	MS\BH08S	8.745	1.2	5.7	, Dry	, Dry	No LNAPL/DNAPL detected.
S	MG	21/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	22/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	23/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	24/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	25/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	28/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	29/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	30/06/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	01/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	02/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	05/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	06/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	07/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	08/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	09/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	12/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	13/07/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
5	SMG	09/08/2021	MS\BH08S	8.745	1.2	5.7	Damp	Damp	No LNAPL/DNAPL detected.
5	SMG	17/09/2021	MS\BH08S	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
5		12/10/2021		8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
5		15/11/2021	MS/BH085	8.745	1.2	5.7	Dry	Dry	No LNAPL/DNAPL detected.
5		09/08/2021	MS/BH09S	7.466	1.7	4.5	Damp	Damp	No LNAPL/DNAPL detected.
3		17/09/2021		7.400	1.7	4.5	Dry	Dry	NO LNAPL/DNAPL detected.
	MG	12/10/2021	MS\BH095	7.400	1.7	4.5	Dry	Dry	No LNAPL/DNAPL detected.
	MG	16/06/2021	MS\BH11S	7.400	1.7	4.5	2.58	3.68	No LNAPL/DNAPL detected.
- -	MG	17/06/2021	MS\BH11S	7.20	1.2	4.4	3.58	3.08	No LNAPL/DNAPL detected
5	SMG	18/06/2021	MS\BH11S	7.26	1.2	4.4	3 54	3.72	No LNAPL/DNAPL detected.
S	SMG	21/06/2021	MS\BH11S	7.26	1.2	4.4	3.55	3.71	No INAPI/DNAPI detected
S	SMG	22/06/2021	MS\BH11S	7.26	1.2	4.4	3.54	3.72	No LNAPL/DNAPL detected.
S	SMG	23/06/2021	MS\BH11S	7.26	1.2	4.4	3.51	3.75	No LNAPL/DNAPL detected.
S	SMG	24/06/2021	MS\BH11S	7.26	1.2	4.4	3.5	3.76	No LNAPL/DNAPL detected.
S	SMG	25/06/2021	MS\BH11S	7.26	1.2	4.4	3.26	4	No LNAPL/DNAPL detected.
S	SMG	28/06/2021	MS\BH11S	7.26	1.2	4.4	3.48	3.78	No LNAPL/DNAPL detected.
S	SMG	29/06/2021	MS\BH11S	7.26	1.2	4.4	3.48	3.78	No LNAPL/DNAPL detected.
S	MG	30/06/2021	MS\BH11S	7.26	1.2	4.4	3.48	3.78	No LNAPL/DNAPL detected.
S	SMG	01/07/2021	MS\BH11S	7.26	1.2	4.4	3.48	3.78	No LNAPL/DNAPL detected.
S	MG	02/07/2021	MS\BH11S	7.26	1.2	4.4	3.48	3.78	No LNAPL/DNAPL detected.
S	SMG	05/07/2021	MS\BH11S	7.26	1.2	4.4	3.46	3.8	No LNAPL/DNAPL detected.
S	SMG	06/07/2021	MS\BH11S	7.26	1.2	4.4	3.46	3.8	No LNAPL/DNAPL detected.
S	SMG	07/07/2021	MS\BH11S	7.26	1.2	4.4	3.46	3.8	No LNAPL/DNAPL detected.
S	MG	08/07/2021	MS\BH11S	7.26	1.2	4.4	3.46	3.8	No LNAPL/DNAPL detected.
S	SMG	09/07/2021	MS\BH11S	7.26	1.2	4.4	3.51	3.75	No LNAPL/DNAPL detected.
S	SMG	12/07/2021	MS\BH11S	7.26	1.2	4.4	3.56	3.7	No LNAPL/DNAPL detected.
S	SMG	13/07/2021	MS\BH11S	7.26	1.2	4.4	3.56	3.7	No LNAPL/DNAPL detected.
S	MG	09/08/2021	MS\BH11S	7.26	1.2	4.4	3.31	3.95	No LNAPL/DNAPL detected.
S	SMG	17/09/2021	MS\BH11S	7.26	1.2	4.4	Dry	Dry	No LNAPL/DNAPL detected.
S	SMG	12/10/2021	MS\BH11S	7.26	1.2	4.4	Dry	Dry	No LNAPL/DNAPL detected.
c	SMG	15/11/2021	MS\BH11S	7.26	1.2	4.4	Dry	Dry	No LNAPL/DNAPL detected.

Geology Scienced         Date         Location Code         Reference Enclation         Voting Science Depth         Voting Mark Mark Mark Mark Mark Mark Mark Mark									
Security         Depth         ADD         PTOC           SMG         06/07/2021         MS/94155         7.25         2         5         3.95         3.3         No IMAPL/DMAPL detected.           SMG         06/07/2021         MS/94155         7.25         2         5         3.55         3.3         No IMAPL/DMAPL detected.           SMG         06/07/2021         MS/94155         7.25         2         5         3.55         3.3         No IMAPL/DMAPL detected.           SMG         02/07/2021         MS/94153         7.25         2         5         3.57         3.3         No IMAPL/DMAPL detected.           SMG         02/07/2021         MS/94153         7.25         2         5         3.57         3.44         No IMAPL/DMAPL detected.           SMG         02/07/2021         MS/94155         7.25         2         5         3.76         3.49         No IMAPL/DMAPL detected.           SMG         12/07/2021         MS/94155         7.25         2         5         3.76         3.49         No IMAPL/DMAPL detected.           SMG         12/07/2021         MS/94155         7.25         2         5         3.76         3.49         No IMAPL/DMAPL detected.	Geology	Date	Location Code	Reference	Top of Screen	Bottom of Screen	Water Level (m	Water Depth (m	Comments
Mod         06/07/2011         MSIH155         7.25         2         5         3.95         3.3         No LNAPL/DNAPL detected.           Mod         06/07/2021         MSIH155         7.25         2         5         3.95         3.3         No LNAPL/DNAPL detected.           Mod         08/07/2021         MSIH155         7.25         2         5         3.95         3.3         No LNAPL/DNAPL detected.           Mod         08/07/2021         MSIH155         7.25         2         5         3.95         3.3         No LNAPL/DNAPL detected.           Mod         03/07/2021         MSIH155         7.25         2         5         3.95         3.3         No LNAPL/DNAPL detected.           Mod         03/07/2021         MSIH155         7.25         2         5         3.75         3.40         No LNAPL/DNAPL detected.           Mod         03/07/2021         MSIH155         7.25         2         5         3.75         3.40         No LNAPL/DNAPL detected.           Mod         03/07/2021         MSIH155         7.25         2         5         3.77         3.49         No LNAPL/DNAPL detected.           Mod         03/07/2021         MSIH165         7.25         2.1 <th< th=""><th>Screened</th><th></th><th></th><th>Elevation</th><th>Depth</th><th>Depth</th><th>AOD)</th><th>bTOC)</th><th></th></th<>	Screened			Elevation	Depth	Depth	AOD)	bTOC)	
SMG         00/07/201         MSMM155         7.25         2         5         3.95         3.3         No LNAPL/DNAP. detected.           SMG         00/07/201         MSMM155         7.25         2         5         3.95         3.3         No LNAPL/DNAP. detected.           SMG         00/07/201         MSMM155         7.25         2         5         3.95         3.3         No LNAPL/DNAP. detected.           SMG         00/07/201         MSMM155         7.25         2         5         3.95         3.3         No LNAPL/DNAP. detected.           SMG         00/07/201         MSMM155         7.25         2         5         3.94         3.84         No LNAPL/DNAP. detected.           SMG         00/07/201         MSM155         7.25         2         5         3.72         3.84         No LNAPL/DNAP. detected.           SMG         00/07/201         MSM155         7.25         2         5         3.72         3.84         No LNAPL/DNAP. detected.           SMG         00/07/2017         MSM155         7.25         7.05         5.17         3.74         No Comment           MG/TFD         01/02/0717         S149         3.04         No Comment         MO         MSM17	SMG	05/07/2021	MS\BH15S	7.25	2	5	3.95	3.3	No LNAPL/DNAPL detected.
SM6         00/70/201         MS/84155         7.25         2         5         3.36         No UNAPU/DNAPI detected.           SM6         09/70/201         MS/84155         7.25         2         5         3.35         No UNAPU/DNAPI detected.           SM6         13/07/201         MS/84155         7.25         2         5         3.95         3.3         No UNAPU/DNAPI detected.           SM6         03/07/201         MS/84155         7.25         2         5         3.97         3.28         No UNAPU/DNAPI detected.           SM6         03/07/201         MS/84155         7.25         2         5         3.84         3.41         No UNAPU/DNAPI detected.           SM6         03/07/2011         MS/84155         7.25         2         5         3.84         3.41         No UNAPU/DNAPI detected.           SM6         03/07/2011         MS/84155         7.25         2         5         3.77         1.38         No UNAPU/DNAPI detected.           MG7TF0         01/10/2011         S1.8407A         8.95         0.95         7.05         5.11         3.78         No UNAPU/DNAPI detected.           MG7TF0         01/10/2011         S1.8407A         8.95         0.95         7.05	SMG	06/07/2021	MS\BH15S	7.25	2	5	3.95	3.3	No LNAPL/DNAPL detected.
SMG         09/07/2011         MSIMP155         7.25         2         5         3.35         No <unapucmar detected.<="" th="">           SMG         12/07/201         MSIMP157         7.25         2         5         3.35         No<unapucmar detected.<="" td="">           SMG         13/07/201         MSIMP157         7.25         2         5         3.97         3.38         No<unapucmar detected.<="" td="">           SMG         05/02/021         MSIMP157         7.25         2         5         3.97         3.84         No<unapucmar detected.<="" td="">           SMG         12/02/021         MSIMP157         7.25         2         5         3.76         3.97         3.84         No<unapucmar detected.<="" td="">           SMG         12/02/021         SUMP/A         8.55         0.95         7.05         5.17         3.78         No<unapucmar detected.<="" td="">           MG/TPD         06/02/021         SUMP/A         8.55         0.95         7.05         5.14         3.74         No<unapucmar detected.<="" td="">           MG/TPD         12/02/021         SUMP/A         8.55         0.95         7.05         5.14         3.81         No<unapucmar detected.<="" td="">           MG/TPD         12/02/021         SUMP/A         8.95         0.95         7.05</unapucmar></unapucmar></unapucmar></unapucmar></unapucmar></unapucmar></unapucmar></unapucmar>	SMG	07/07/2021	MS\BH15S	7.25	2	5	3.95	3.3	No LNAPL/DNAPL detected.
SMG         09/07/2021         MSBH55         7.25         2         5         3.56         3.3         No LMAPL/DMAPL detected.           SMG         13/07/2021         MSBH55         7.25         2         5         3.95         3.3         No LMAPL/DMAPL detected.           SMG         07/02/2021         MSBH55         7.25         2         5         3.97         3.24         No LMAPL/DMAPL detected.           SMG         17/02/2021         MSBH55         7.25         2         5         3.76         3.46         No LMAPL/DMAPL detected.           SMG         17/12/2021         MSBH55         7.25         2         5         3.77         1.33         No LMAPL/DMAPL detected.           SMG         17/12/2021         MSBH56         7.25         2         5         3.77         3.74         No LMAPL/DMAPL detected.           MG/TH0         12/16/2021         S1-8407A         8.95         0.95         7.05         5.17         3.74         No Comment           MG/TH0         12/16/2021         S1-8407A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/TH0         12/10/2021         S1-8407A         8.95         0.95         7.05<	SMG	08/07/2021	MS\BH15S	7.25	2	5	3.95	3.3	No LNAPL/DNAPL detected.
SMG         13/07/2021         MSIMI-155         7.25         2         5         3.35         No IMAP/QNAP.4 detected.           SMG         03/07/2021         MSIMI-157         7.25         2         5         3.97         3.28         No IMAP/QNAP.4 detected.           SMG         12/02/2021         MSIMI-157         7.25         2         5         3.76         3.40         No IMAP/QNAP.4 detected.           SMG         12/10/2021         MSIMI-157         7.25         2         5         3.72         3.53         No IMAP/QNAP.4 detected.           SMG         15/10/201         SI-BIP/A         8.55         0.95         7.05         5.21         3.34         No IMAP/QNAP.4 detected.           MG/FPD         05/10/2011         SI-BIP/A         8.55         0.95         7.05         5.21         3.34         No Comment           MG/FPD         12/10/2012         SI-BIP/A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/FPD         12/10/2012         SI-BIP/A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/FPD         12/10/2012         SI-BIP/A         8.95         0.95         7.05	SMG	09/07/2021	MS\BH15S	7.25	2	5	3.95	3.3	No LNAPL/DNAPL detected.
SM6         13/07/2021         MSUH135         7.25         2         5         3.95         3.3         No LMAPL/NMPL detected.           SM6         17/08/2021         MSUH135         7.25         2         5         3.84         3.41         No LMAPL/NMPL detected.           SM6         12/0/2021         MSUH135         7.25         2         5         3.84         3.41         No LMAPL/NMPL detected.           MG/T10         06/0/2021         S1-8407A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/T10         06/0/2021         S1-8407A         8.95         0.95         7.05         5.17         3.74         No Comment           MG/T10         01/0/2021         S1-8407A         8.95         0.95         7.05         5.17         3.76         No Comment           MG/T10         11/0/2021         S1-8407A         8.95         0.95         7.05         5.13         3.8         No Comment           MG/T10         11/0/2021         S1-8407A         8.95         0.95         7.05         5.14         3.8         No Comment           MG/T10         11/0/2021         S1-8407A         8.95         0.95         7.05	SMG	12/07/2021	MS\BH15S	7.25	2	5	3.95	3.3	No LNAPL/DNAPL detected.
SMG         01/08/201         MSUH155         7.25         2         5         3.87         3.28         No LMAR/JVAPL elected.           SMG         12/10/2021         MSUH155         7.25         2         5         3.76         3.41         No LMAR/JVAPL elected.           SMG         15/11/2021         MSUH155         7.25         2         5         3.76         3.74         No Comment           MG/FTE         06/10/2015         S1-8407A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/FTE         10/10/2015         S1-8407A         8.95         0.95         7.05         5.11         3.74         No Comment           MG/FTE         10/10/2015         S1-8407A         8.95         0.95         7.05         5.19         3.76         No Comment           MG/FTE         11/10/2015         S1-8407A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/FTE         11/10/2015         S1-8407A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/FTE         11/10/2015         S1-8407A         8.95         0.95         7.05         5.14 </td <td>SMG</td> <td>13/07/2021</td> <td>MS\BH15S</td> <td>7.25</td> <td>2</td> <td>5</td> <td>3.95</td> <td>3.3</td> <td>No LNAPL/DNAPL detected.</td>	SMG	13/07/2021	MS\BH15S	7.25	2	5	3.95	3.3	No LNAPL/DNAPL detected.
SMG         17/09/2021         MSVH155         7.25         2         5         3.84         3.14         No LAAPL/NAPL detected.           SMG         15/12/021         MSVH155         7.25         2         5         3.72         3.53         No LAAPL/NAPL detected.           MG/TT0         06/1201         S1-8H07A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/TT0         01/10/2013         S1-8H07A         8.95         0.95         7.05         5.17         3.74         No Comment           MG/TT0         11/10/2013         S1-8H07A         8.95         0.95         7.05         5.13         3.74         No Comment           MG/TT0         11/10/2013         S1-8H07A         8.95         0.95         7.05         5.13         3.76         No Comment           MG/TT0         10/10/2013         S1-8H07A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/TT0         10/10/2017         S1-8H07A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/TT0         20/10/2017         S1-8H07A         8.95         0.95         7.05         <	SMG	09/08/2021	MS\BH15S	7.25	2	5	3.97	3.28	No LNAPL/DNAPL detected.
SM6         12/10/201         MSRH155         7.25         2         5         3.76         3.49         No LIAPU/DNAPL detected.           MG/FT0         06/11/2017         S1-8H07A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/FT0         10/10/2017         S1-8H07A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/FT0         10/10/2017         S1-8H07A         8.95         0.95         7.05         5.19         3.76         No Comment           MG/FT0         11/10/2017         S1-8H07A         8.95         0.95         7.05         5.19         3.76         No Comment           MG/FT0         16/10/2017         S1-8H07A         8.95         0.95         7.05         5.13         3.8         No Comment           MG/FT0         16/10/2017         S1-8H07A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/FT0         12/10/2017         S1-8H07A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/FT0         21/10/2017         S1-8H07A         8.95         0.95         7.05         <	SMG	17/09/2021	MS\BH15S	7.25	2	5	3.84	3.41	No LNAPL/DNAPL detected.
SMG         15/11/2017         MSABI1S         7.7.5         2         5         3.72         3.83         No Lonzent           MG/TFD         06/1/2017         51-BH07A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/TFD         10/10/2017         51-BH07A         8.95         0.95         7.05         5.17         3.78         No Comment           MG/TFD         15/10/2017         51-BH07A         8.95         0.95         7.05         5.19         3.76         No Comment           MG/TFD         15/10/2017         51-BH07A         8.95         0.95         7.05         5.11         3.88         No Comment           MG/TFD         15/10/2017         51-BH07A         8.95         0.95         7.05         5.16         3.81         No Comment           MG/TFD         15/10/2017         51-BH07A         8.95         0.95         7.05         5.16         3.79         No Comment           MG/TFD         25/10/2017         51-BH07A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/TFD         25/10/2017         51-BH07A         8.95         0.95         7.05         5.14	SMG	12/10/2021	MS\BH15S	7.25	2	5	3.76	3.49	No LNAPL/DNAPL detected.
MG/T10         06/10/2017         3:1=H01/A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/T10         00/0/2017         S1=H01/A         8.95         0.95         7.05         5.12         3.74         No Comment           MG/T10         11/0/2017         S1=H01/A         8.95         0.95         7.05         5.19         3.76         No Comment           MG/T10         16/10/2017         S1=H01/A         8.95         0.95         7.05         5.13         3.8         No Comment           MG/T10         16/10/2017         S1=H01/A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/T10         18/10/2017         S1=H01/A         8.95         0.95         7.05         5.16         3.79         No Comment           MG/T10         21/10/2017         S1=H01/A         8.95         0.95         7.05         5.16         3.81         No Comment           MG/T10         21/10/2017         S1=H01/A         8.95         0.95         7.05         5.16         3.81         No Comment           MG/T10         21/10/2017         S1=H01/A         8.95         0.95         7.05         5	SMG	15/11/2021	MS\BH15S	7.25	2	5	3.72	3.53	No LNAPL/DNAPL detected.
NMA         NMA         Sol         Opsile         7.05         S.2.1         3.7.4         No Comment           MG/TD         11/10/0207         S1=HH1/A         8.95         0.95         7.05         S.1.7         3.7.6         No Comment           MG/TD         11/10/0207         S1=HH1/A         8.95         0.95         7.05         S.1.9         3.7.6         No Comment           MG/TD         13/10/0207         S1=HH1/A         8.95         0.95         7.05         S.1.1         3.7.6         No Comment           MG/TD         16/10/0207         S1=HH1/A         8.95         0.95         7.05         S.1.1         3.8         No Comment           MG/TD         16/10/0207         S1=HH1/A         8.95         0.95         7.05         S.1.6         3.79         No Comment           MG/TD         16/10/0207         S1=H1/A         8.95         0.95         7.05         S.1.6         3.79         No Comment           MG/TD         21/10/0207         S1=H1/A         8.95         0.95         7.05         S.1.4         3.81         No Comment           MG/TD         21/10/0207         S1=H1/A         8.95         0.95         7.05         S.2.1         3.72	MG/TFD	06/10/2017	S1-BH07A	8.95	0.95	7.05	4.97	3.98	No Comment
MG/FTD         D/J/J/2017         S1-BH07A         8.395         D.95         7.05         S.11         3.74         No Comment           MG/FTD         12/10/2017         S1-BH07A         8.95         D.95         7.05         S.19         3.76         No Comment           MG/FTD         12/10/2017         S1-BH07A         8.95         D.95         7.05         S.19         3.76         No Comment           MG/FTD         16/10/2017         S1-BH07A         8.95         D.95         7.05         S.14         3.81         No Comment           MG/FTD         18/10/2017         S1-BH07A         8.95         D.95         7.05         S.16         3.79         No Comment           MG/FTD         18/10/2017         S1-BH07A         8.95         D.95         7.05         S.14         3.81         No Comment           MG/FTD         21/10/2017         S1-BH07A         8.95         D.95         7.05         S.14         3.81         No Comment           MG/FTD         21/10/2017         S1-BH07A         8.95         D.95         7.05         S.14         3.81         No Comment           MG/FTD         21/10/2017         S1-BH07A         8.95         D.95         7.05 <t< td=""><td>MG/TFD</td><td>09/10/2017</td><td>S1-BH07A</td><td>8.95</td><td>0.95</td><td>7.05</td><td>5.21</td><td>3.74</td><td>No Comment</td></t<>	MG/TFD	09/10/2017	S1-BH07A	8.95	0.95	7.05	5.21	3.74	No Comment
mid (r)         11/10/2017         51-BH07A         8.39         0.39         7.05         5.19         3.76         No Comment           MG/TTD         13/10/2017         51-BH07A         8.95         0.95         7.05         5.19         3.76         No Comment           MG/TTD         13/10/2017         51-BH07A         8.95         0.95         7.05         5.17         3.78         No Comment           MG/TTD         13/10/2017         51-BH07A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/TTD         19/10/2017         51-BH07A         8.95         0.95         7.05         5.16         3.79         No Comment           MG/TTD         23/10/2017         51-BH07A         8.95         0.95         7.05         5.16         3.79         No Comment           MG/TTD         23/10/2017         51-BH07A         8.95         0.95         7.05         5.19         3.76         No Comment           MG/TTD         23/10/2017         51-BH07A         8.95         0.95         7.05         5.19         3.76         No Comment           MG/TTD         03/10/2017         51-BH07A         8.95         0.95         7.05 <t< td=""><td></td><td>10/10/2017</td><td>S1-BHU7A</td><td>8.95</td><td>0.95</td><td>7.05</td><td>5.21</td><td>3.74</td><td>No Comment</td></t<>		10/10/2017	S1-BHU7A	8.95	0.95	7.05	5.21	3.74	No Comment
mod, nr         1,1,1,1,2,1,1         1,1,1,1,2,1,1         1,1,1,1,1,1         1,1,1,1,1,1         1,1,1,1,1,1           MG/TPD         16,11,2,11,1         16,11,2,11,1         16,11,2,11,1         17,13         No Comment           MG/TPD         16,11,2,11,1         16,11,2,11,1         17,13         No Comment           MG/TPD         18,11,2,11,1         18,11,2,11,1         18,11,2,11,1         18,11,2,11,1         18,11,2,11,1         18,11,2,11,1         18,11,2,11,1         18,11,2,11,1         18,11,2,11,1         18,11,2,11,1         18,11,2,11,1         18,11,2,11,1         18,11,2,11,1         18,11,2,11,1         18,11,2,11,1         18,11,2,11,1         18,11,2,11,1         18,11,1,1,1,1         18,11,1,1,1,1         18,11,1,1,1,1         18,11,1,1,1,1,1         18,11,1,1,1,1,1,1,1,1,1         18,11,1,1,1,1,1,1,1,1,1,1,1,1         18,11,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1		11/10/2017		8.95	0.95	7.05	5.17	3.78	No Comment
morth         L3/L3/L31         L3/L3/L31         L3/L3		12/10/2017		8.95	0.95	7.05	5.19	3.70	No Comment
MG/TPD         L12/L02012         S1-BH07A         8.25         0.25         7.05         5.15         3.8         No Comment           MG/TPD         L8/10/2017         S1-BH07A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/TPD         L9/10/2017         S1-BH07A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/TPD         22/10/2017         S1-BH07A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/TPD         22/10/2017         S1-BH07A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/TPD         22/10/2017         S1-BH07A         8.95         0.95         7.05         5.13         3.8         No Comment           MG/TPD         22/10/2017         S1-BH07A         8.95         0.95         7.05         5.21         3.76         No Comment           MG/TPD         30/14/0017         S1-BH07A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/TPD         30/14/2017         S1-BH07A         8.95         0.95         7.05         5		16/10/2017	51-ВН07А \$1-ВН07А	8.95	0.95	7.05	5.19	3.70	No Comment
MG/TPD         11/10/2017         S1-BH07A         8.85         0.95         7.05         5.14         3.81         No Comment           MG/TPD         19/10/2017         S1-BH07A         8.95         0.95         7.05         5.15         3.8         No Comment           MG/TPD         23/10/2017         S1-BH07A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/TPD         23/10/2017         S1-BH07A         8.95         0.95         7.05         5.16         3.79         No Comment           MG/TPD         25/10/2017         S1-BH07A         8.95         0.95         7.05         5.19         3.76         No Comment           MG/TPD         25/10/2017         S1-BH07A         8.95         0.95         7.05         5.21         3.77         No Comment           MG/TPD         31/10/2017         S1-BH07A         8.95         0.95         7.05         5.23         3.77         No Comment           MG/TPD         31/10/2017         S1-BH07A         8.95         0.95         7.05         5.24         3.71         No Comment           MG/TPD         01/11/2017         S1-BH07A         8.95         0.95         7.05	MG/TED	17/10/2017	S1-BH07A	8.95	0.95	7.05	5.17	3.78	No Comment
MG/TED         19/10/2017         51.BH07A         8.95         0.05         7.05         5.16         3.79         No Comment           MG/TFD         20/10/2017         51.BH07A         8.95         0.95         7.05         5.13         3.8         No Comment           MG/TFD         22/10/2017         51.BH07A         8.95         0.95         7.05         5.16         3.79         No Comment           MG/TFD         22/10/2017         51.BH07A         8.95         0.95         7.05         5.16         3.79         No Comment           MG/TFD         25/10/2017         51.BH07A         8.95         0.95         7.05         5.21         3.76         No Comment           MG/TFD         30/10/2017         51.BH07A         8.95         0.95         7.05         5.23         3.72         No Comment           MG/TFD         01/11/2017         51.BH07A         8.95         0.95         7.05         5.24         3.71         No Comment           MG/TFD         01/11/2017         51.BH07A         8.95         0.95         7.05         5.22         3.74         No Comment           MG/TFD         01/11/2017         51.BH07A         8.95         0.95         7.05	MG/TED	18/10/2017	S1-BH07A	8.95	0.95	7.05	5.15	3.8	No Comment
MG/TED         20/10/2017         \$1-BH07A         8.95         0.95         7.05         5.15         3.8         No Comment           MG/TFD         22/10/2017         \$1-BH07A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/TFD         22/10/2017         \$1-BH07A         8.95         0.95         7.05         5.15         3.8         No Comment           MG/TFD         22/10/2017         \$1-BH07A         8.95         0.95         7.05         5.23         3.72         No Comment           MG/TFD         27/10/2017         \$1-BH07A         8.95         0.95         7.05         5.23         3.72         No Comment           MG/TFD         31/10/2017         \$1-BH07A         8.95         0.95         7.05         5.23         3.72         No Comment           MG/TFD         02/11/2017         \$1-BH07A         8.95         0.95         7.05         5.24         3.71         No Comment           MG/TFD         02/11/2017         \$1-BH07A         8.95         0.95         7.05         5.23         3.72         No Comment           MG/TFD         02/11/2017         \$1-BH07A         8.95         0.95         7.05         5	MG/TFD	19/10/2017	S1-BH07A	8.95	0.95	7.05	5 16	3 79	No Comment
MG/TFD         23/10/2017         S1-BH07A         8.95         0.95         7.05         5.14         3.81         No Comment           MG/TFD         24/02017         S1-BH07A         8.95         0.95         7.05         5.16         3.79         No Comment           MG/TFD         26/02017         S1-BH07A         8.95         0.95         7.05         5.19         3.76         No Comment           MG/TFD         26/02017         S1-BH07A         8.95         0.95         7.05         5.23         3.72         No Comment           MG/TFD         30/02017         S1-BH07A         8.95         0.95         7.05         5.23         3.72         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         5.22         3.73         No Comment           MG/TFD         02/11/2017         S1-BH07A         8.95         0.95         7.05         5.22         3.75         No Comment           MG/TFD         06/11/2017         S1-BH07A         8.95         0.95         7.05         5.21 <td>MG/TFD</td> <td>20/10/2017</td> <td>S1-BH07A</td> <td>8.95</td> <td>0.95</td> <td>7.05</td> <td>5.15</td> <td>3.8</td> <td>No Comment</td>	MG/TFD	20/10/2017	S1-BH07A	8.95	0.95	7.05	5.15	3.8	No Comment
MG/TFD         24/10/2017         \$1=H07A         8.95         0.95         7.05         5.16         3.79         No Comment           MG/TFD         25/102017         \$1=H07A         8.95         0.95         7.05         5.19         3.76         No Comment           MG/TFD         27/10/2017         \$1=H07A         8.95         0.95         7.05         5.2         3.72         No Comment           MG/TFD         31/10/2017         \$1=H07A         8.95         0.95         7.05         5.23         3.72         No Comment           MG/TFD         01/11/2017         \$1=H07A         8.95         0.95         7.05         5.23         3.72         No Comment           MG/TFD         03/11/2017         \$1=H07A         8.95         0.95         7.05         5.23         3.71         No Comment           MG/TFD         03/11/2017         \$1=H07A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/TFD         07/11/2017         \$1=H07A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/TFD         07/11/2017         \$1=H07A         8.95         0.95         7.05         5.21	MG/TFD	23/10/2017	S1-BH07A	8.95	0.95	7.05	5.14	3.81	No Comment
MG/TFD         25/10/2017         S1-BH07A         8.95         0.95         7.05         5.15         3.8         No Comment           MG/TFD         27/10/2017         S1-BH07A         8.95         0.95         7.05         5.23         3.75         No Comment           MG/TFD         31/10/2017         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         5.23         3.72         No Comment           MG/TFD         01/11/2017         S1-BH07A         8.95         0.95         7.05         5.24         3.71         No Comment           MG/TFD         02/11/2017         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         5.21         3.74         No Comment           MG/TFD         06/11/2017         S1-BH07A         8.95         0.95         7.05         5.21         3.75         No Comment           MG/TFD         06/11/2017         S1-BH07A         8.95         0.95         7.05	MG/TFD	24/10/2017	S1-BH07A	8.95	0.95	7.05	5.16	3.79	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         5.23         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         5.23         3.71         No Comment           MG/TFD         02/11/2017         S1-BH07A         8.95         0.95         7.05         5.23         3.72         No Comment           MG/TFD         06/11/2017         S1-BH07A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/TFD         06/11/2017         S1-BH07A         8.95         0.95         7.05         5.21         3.75         No Comment           MG/TFD         06/11/2017         S1-BH07A         8.95         0.95         7.05 <td< td=""><td>MG/TFD</td><td>25/10/2017</td><td>S1-BH07A</td><td>8.95</td><td>0.95</td><td>7.05</td><td>5.15</td><td>3.8</td><td>No Comment</td></td<>	MG/TFD	25/10/2017	S1-BH07A	8.95	0.95	7.05	5.15	3.8	No Comment
MG/TFD         27/10/2017         S1-BH07A         8.95         0.95         7.05         S.2         3.75         No Comment           MG/TFD         30/10/2017         S1-BH07A         8.95         0.95         7.05         S.21         3.74         No Comment           MG/TFD         01/11/2017         S1-BH07A         8.95         0.95         7.05         S.23         3.72         No Comment           MG/TFD         02/11/2017         S1-BH07A         8.95         0.95         7.05         S.24         3.71         No Comment           MG/TFD         03/11/2017         S1-BH07A         8.95         0.95         7.05         S.22         3.73         No Comment           MG/TFD         06/11/2017         S1-BH07A         8.95         0.95         7.05         S.21         3.74         No Comment           MG/TFD         09/11/2017         S1-BH07A         8.95         0.95         7.05         S.21         3.74         No Comment           MG/TFD         10/11/2017         S1-BH07A         8.95         0.95         7.05         S.43         3.5         No Comment           MG/TFD         13/11/2017         S1-BH07A         8.95         0.95         7.05         S	MG/TFD	26/10/2017	S1-BH07A	8.95	0.95	7.05	5.19	3.76	No Comment
MG/TFD         30/10/2017         S1-BH07A         8.95         0.95         7.05         5.23         3.72         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         5.24         3.71         No Comment           MG/TFD         02/11/2017         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         5.21         3.74         No Comment           MG/TFD         09/11/2017         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         5.21         3.75         No Comment           MG/TFD         10/11/2017         S1-BH07A         8.95         0.95         7.05         5.45         3.5         No Comment           MG/TFD         11/12/2017         S1-BH07A         8.95         0.95         7.05	MG/TFD	27/10/2017	S1-BH07A	8.95	0.95	7.05	5.2	3.75	No Comment
MG/TFD         31/10/2017         S1-BH07A         8.95         0.95         7.05         S.21         3.74         No Comment           MG/TFD         01/11/2017         S1-BH07A         8.95         0.95         7.05         S.23         3.72         No Comment           MG/TFD         02/11/2017         S1-BH07A         8.95         0.95         7.05         S.24         3.71         No Comment           MG/TFD         02/11/2017         S1-BH07A         8.95         0.95         7.05         S.22         3.73         No Comment           MG/TFD         06/11/2017         S1-BH07A         8.95         0.95         7.05         S.22         3.75         No Comment           MG/TFD         09/11/2017         S1-BH07A         8.95         0.95         7.05         S.21         3.74         No Comment           MG/TFD         10/11/2017         S1-BH07A         8.95         0.95         7.05         S.45         3.5         No Comment           MG/TFD         13/11/2017         S1-BH07A         8.95         0.95         7.05         S.45         3.5         No Comment           MG/TFD         13/11/2017         S1-BH07A         8.95         0.95         7.05         S	MG/TFD	30/10/2017	S1-BH07A	8.95	0.95	7.05	5.23	3.72	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         5.24         3.71         No Comment           MG/TFD         03/11/2017         S1-BH07A         8.95         0.95         7.05         5.23         3.72         No Comment           MG/TFD         03/11/2017         S1-BH07A         8.95         0.95         7.05         5.22         3.73         No Comment           MG/TFD         03/11/2017         S1-BH07A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/TFD         10/11/2017         S1-BH07A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/TFD         10/11/2017         S1-BH07A         8.95         0.95         7.05         5.45         3.5         No Comment           MG/TFD         10/11/2017         S1-BH07A         8.95         0.95         7.05         5.48         3.47         No Comment           MG/TFD         10/10/2017         S1-BH13A         8.23         1         8         3.47 </td <td>MG/TFD</td> <td>31/10/2017</td> <td>S1-BH07A</td> <td>8.95</td> <td>0.95</td> <td>7.05</td> <td>5.21</td> <td>3.74</td> <td>No Comment</td>	MG/TFD	31/10/2017	S1-BH07A	8.95	0.95	7.05	5.21	3.74	No Comment
M6/TFD         02/11/2017         S1-BH07A         8.95         0.95         7.05         5.24         3.71         No Comment           M6/TFD         03/11/2017         S1-BH07A         8.95         0.95         7.05         5.24         3.71         No Comment           M6/TFD         06/11/2017         S1-BH07A         8.95         0.95         7.05         5.22         3.73         No Comment           M6/TFD         08/11/2017         S1-BH07A         8.95         0.95         7.05         5.21         3.74         No Comment           M6/TFD         08/11/2017         S1-BH07A         8.95         0.95         7.05         5.21         3.74         No Comment           M6/TFD         13/11/2017         S1-BH07A         8.95         0.95         7.05         5.45         3.5         No Comment           M6/TFD         13/11/2017         S1-BH07A         8.95         0.95         7.05         5.45         3.5         No Comment           M6/TFD         13/11/2017         S1-BH07A         8.95         0.95         7.05         5.48         3.47         No Comment           M6/TFD         0/05/2018         S1-BH07A         8.95         0.95         7.05         5.	MG/TFD	01/11/2017	S1-BH07A	8.95	0.95	7.05	5.23	3.72	No Comment
M6/TFD         03/11/2017         S1-BH07A         8.95         0.95         7.05         5.24         3.71         No Comment           M6/TFD         06/11/2017         S1-BH07A         8.95         0.95         7.05         5.23         3.72         No Comment           M6/TFD         08/11/2017         S1-BH07A         8.95         0.95         7.05         5.21         3.74         No Comment           M6/TFD         09/11/2017         S1-BH07A         8.95         0.95         7.05         5.21         3.74         No Comment           M6/TFD         13/11/2017         S1-BH07A         8.95         0.95         7.05         5.21         3.74         No Comment           M6/TFD         13/11/2017         S1-BH07A         8.95         0.95         7.05         5.45         3.5         No Comment           M6/TFD         21/12/2017         S1-BH07A         8.95         0.95         7.05         5.48         3.47         No Comment           M6/TFD         01/05/2018         S1-BH07A         8.95         0.95         7.05         5.63         3.32         No Comment           M6/TFD         01/02/2017         S1-BH13A         8.23         1         8         3.47 </td <td>MG/TFD</td> <td>02/11/2017</td> <td>S1-BH07A</td> <td>8.95</td> <td>0.95</td> <td>7.05</td> <td>5.25</td> <td>3.7</td> <td>No Comment</td>	MG/TFD	02/11/2017	S1-BH07A	8.95	0.95	7.05	5.25	3.7	No Comment
MG/TFD         06/11/2017         S1-8H07A         8.95         0.95         7.05         5.23         3.72         No Comment           MG/TFD         07/11/2017         S1-8H07A         8.95         0.95         7.05         5.21         3.73         No Comment           MG/TFD         08/11/2017         S1-8H07A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/TFD         10/11/2017         S1-8H07A         8.95         0.95         7.05         5.21         3.75         No Comment           MG/TFD         13/11/2017         S1-8H07A         8.95         0.95         7.05         5.43         3.5         No Comment           MG/TFD         13/1/12017         S1-8H07A         8.95         0.95         7.05         5.48         3.47         No Comment           MG/TFD         21/02/2018         S1-8H07A         8.95         0.95         7.05         5.63         3.32         No Comment           MG/TFD         01/05/2018         S1-8H07A         8.95         0.95         7.05         5.63         3.32         No Comment           MG/TFD         01/05/2018         S1-8H07A         8.95         0.95         7.05	MG/TFD	03/11/2017	S1-BH07A	8.95	0.95	7.05	5.24	3.71	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         10/11/2017         S1-BH07A         8.95         0.95         7.05         5.21         3.75         No Comment           MG/TFD         11/1/2017         S1-BH07A         8.95         0.95         7.05         5.45         3.5         No Comment           MG/TFD         14/12/2017         S1-BH07A         8.95         0.95         7.05         5.45         3.5         No Comment           MG/TFD         11/12/2017         S1-BH07A         8.95         0.95         7.05         5.43         3.2         No Comment           MG/TFD         01/05/2018         S1-BH07A         8.95         0.95         7.05         5.63         3.2         No Comment           MG/TFD         01/02/2018         S1-BH13A         8.23         1         8         3.47         4.76         No Comment           MG/TFD         01/02/2017         S1-BH13A         8.23         1         8         3.7	MG/TFD	06/11/2017	S1-BH07A	8.95	0.95	7.05	5.23	3.72	No Comment
MG/TFD         08/11/2017         51-BH07A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/TFD         09/11/2017         51-BH07A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/TFD         10/11/2017         51-BH07A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/TFD         14/12/2017         51-BH07A         8.95         0.95         7.05         5.45         3.5         No Comment           MG/TFD         21/12/2018         51-BH07A         8.95         0.95         7.05         5.48         3.47         No Comment           MG/TFD         01/10/2018         51-BH07A         8.95         0.95         7.05         5.63         3.32         No Comment           MG/TFD         0/10/2017         51-BH13A         8.23         1         8         3.47         4.53         No Comment           MG/TFD         09/10/2017         51-BH13A         8.23         1         8         3.47         4.53         No Comment           MG/TFD         10/10/2017         51-BH13A         8.23         1         8         3.68         <	MG/TFD	07/11/2017	S1-BH07A	8.95	0.95	7.05	5.22	3.73	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         21/02/2018         S1-BH07A         8.95         0.95         7.05         5.63         3.22         No Comment           MG/TFD         01/05/2018         S1-BH07A         8.95         0.95         7.05         5.63         3.22         No Comment           MG/TFD         01/02/017         S1-BH13A         8.23         1         8         3.47         4.76         No Comment           MG/TFD         10/10/2017         S1-BH13A         8.23         1         8         3.68         4.55         No Comment           MG/TFD         11/10/2017         S1-BH13A         8.23         1         8         3.68 <td< td=""><td>MG/TFD</td><td>08/11/2017</td><td>S1-BH07A</td><td>8.95</td><td>0.95</td><td>7.05</td><td>5.21</td><td>3.74</td><td>No Comment</td></td<>	MG/TFD	08/11/2017	S1-BH07A	8.95	0.95	7.05	5.21	3.74	No Comment
MG/TFD         10/11/2017         \$1:BH07A         8.95         0.95         7.05         5.21         3.74         No Comment           MG/TFD         13/11/2017         \$1:BH07A         8.95         0.95         7.05         5.42         3.75         No Comment           MG/TFD         14/12/2017         \$1:BH07A         8.95         0.95         7.05         5.45         3.5         No Comment           MG/TFD         21/02/2018         \$1:BH07A         8.95         0.95         7.05         5.48         3.47         No Comment           MG/TFD         01/05/2017         \$1:BH13A         8.23         1         8         3.47         4.76         No Comment           MG/TFD         06/10/2017         \$1:BH13A         8.23         1         8         3.47         4.53         No Comment           MG/TFD         10/10/2017         \$1:BH13A         8.23         1         8         3.77         4.53         No Comment           MG/TFD         13/10/2017         \$1:BH13A         8.23         1         8         3.68         4.55         No Comment           MG/TFD         13/10/2017         \$1:BH13A         8.23         1         8         3.72         4.51 <td>MG/TFD</td> <td>09/11/2017</td> <td>S1-BH07A</td> <td>8.95</td> <td>0.95</td> <td>7.05</td> <td>5.2</td> <td>3.75</td> <td>No Comment</td>	MG/TFD	09/11/2017	S1-BH07A	8.95	0.95	7.05	5.2	3.75	No Comment
M6/TFD         13/11/2017         \$1-BH07A         8.95         0.95         7.05         5.2         3.75         No Comment           M6/TFD         14/12/2017         \$1-BH07A         8.95         0.95         7.05         5.45         3.5         No Comment           M6/TFD         21/12/2017         \$1-BH07A         8.95         0.95         7.05         5.48         3.47         No Comment           M6/TFD         01/05/2018         \$1-BH07A         8.95         0.95         7.05         5.63         3.32         No Comment           M6/TFD         01/05/2018         \$1-BH07A         8.95         0.95         7.05         5.63         3.32         No Comment           M6/TFD         01/05/2017         \$1-BH13A         8.23         1         8         3.77         4.53         No Comment           M6/TFD         10/10/2017         \$1-BH13A         8.23         1         8         3.68         4.55         No Comment           M6/TFD         11/10/2017         \$1-BH13A         8.23         1         8         3.72         4.51         No Comment           M6/TFD         13/10/2017         \$1-BH13A         8.23         1         8         3.74         4.5	MG/TFD	10/11/2017	S1-BH07A	8.95	0.95	7.05	5.21	3.74	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         5.48         3.47         No Comment           MG/TFD         10/05/2018         S1-BH07A         8.95         0.95         7.05         5.63         3.22         No Comment           MG/TFD         06/10/2017         S1-BH13A         8.23         1         8         3.47         4.76         No Comment           MG/TFD         10/10/2017         S1-BH13A         8.23         1         8         3.47         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         3.68         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         3.73         4.51	MG/TFD	13/11/2017	S1-BH07A	8.95	0.95	7.05	5.2	3.75	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         5.63         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         3.68         3.55         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         3.68         4.55         No Comment           MG/TFD         13/10/2017         S1-BH13A         8.23         1         8         3.72         4.51         No Comment           MG/TFD         16/10/2017         S1-BH13A         8.23         1         8         3.74         4.49 <td< td=""><td>MG/TFD</td><td>14/12/2017</td><td>S1-BH07A</td><td>8.95</td><td>0.95</td><td>7.05</td><td>5.45</td><td>3.5</td><td>No Comment</td></td<>	MG/TFD	14/12/2017	S1-BH07A	8.95	0.95	7.05	5.45	3.5	No Comment
MG/IFD         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         3.68         4.55         No Comment           MG/TFD         11/10/2017         S1-BH13A         8.23         1         8         3.68         4.55         No Comment           MG/TFD         13/10/2017         S1-BH13A         8.23         1         8         3.72         4.51         No Comment           MG/TFD         16/10/2017         S1-BH13A         8.23         1         8         3.74         4.49         No Comment           MG/TFD         19/10/2017         S1-BH13A         8.23         1         8         3.74         4.49 <t< td=""><td>MG/TFD</td><td>21/12/2017</td><td>S1-BH07A</td><td>8.95</td><td>0.95</td><td>7.05</td><td>5.45</td><td>3.5</td><td>No Comment</td></t<>	MG/TFD	21/12/2017	S1-BH07A	8.95	0.95	7.05	5.45	3.5	No Comment
MG/TFD         01/05/2018         51-BH13A         8.95         0.95         7.05         5.63         3.32         No Comment           MG/TFD         06/10/2017         \$1-BH13A         8.23         1         8         3.47         4.76         No Comment           MG/TFD         09/10/2017         \$1-BH13A         8.23         1         8         3.7         4.53         No Comment           MG/TFD         10/10/2017         \$1-BH13A         8.23         1         8         3.7         4.53         No Comment           MG/TFD         11/10/2017         \$1-BH13A         8.23         1         8         3.68         4.55         No Comment           MG/TFD         12/10/2017         \$1-BH13A         8.23         1         8         3.68         4.55         No Comment           MG/TFD         13/10/2017         \$1-BH13A         8.23         1         8         3.68         4.55         No Comment           MG/TFD         17/10/2017         \$1-BH13A         8.23         1         8         3.74         4.49         No Comment           MG/TFD         19/10/2017         \$1-BH13A         8.23         1         8         3.73         4.5         No Com	MG/TFD	21/02/2018	S1-BH07A	8.95	0.95	7.05	5.48	3.47	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         3.72         4.51         No Comment           MG/TFD         16/10/2017         S1-BH13A         8.23         1         8         3.68         4.55         No Comment           MG/TFD         18/10/2017         S1-BH13A         8.23         1         8         3.74         4.49         No Comment           MG/TFD         18/10/2017         S1-BH13A         8.23         1         8         3.73         4.5         No Comment </td <td>MG/TFD</td> <td>01/05/2018</td> <td>S1-BH07A</td> <td>8.95</td> <td>0.95</td> <td>7.05</td> <td>5.63</td> <td>3.32</td> <td>No Comment</td>	MG/TFD	01/05/2018	S1-BH07A	8.95	0.95	7.05	5.63	3.32	No Comment
MG/TFD05/10/2017S1-BH3A8.23185.74.33No CommentMG/TFD10/10/2017S1-BH13A8.23183.74.53No CommentMG/TFD11/10/2017S1-BH13A8.23183.684.55No CommentMG/TFD12/10/2017S1-BH13A8.23183.74.53No CommentMG/TFD13/10/2017S1-BH13A8.23183.774.53No CommentMG/TFD16/10/2017S1-BH13A8.23183.684.55No CommentMG/TFD17/10/2017S1-BH13A8.23183.744.49No CommentMG/TFD18/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD19/10/2017S1-BH13A8.23183.744.49No CommentMG/TFD20/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD23/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD24/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD25/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD26/10/2017S1-BH13A8.23183.664.55No CommentMG/TFD27/10/2017S1-BH13A8.23183.664.55 <td>MG/TFD</td> <td>06/10/2017</td> <td>S1-BH13A</td> <td>8.23</td> <td>1</td> <td>8</td> <td>3.47</td> <td>4.76</td> <td>No Comment</td>	MG/TFD	06/10/2017	S1-BH13A	8.23	1	8	3.47	4.76	No Comment
MG/TFD10/10/2017S1-BH13A8.23183.684.33NO CommentMG/TFD12/10/2017S1-BH13A8.23183.684.55No CommentMG/TFD13/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD16/10/2017S1-BH13A8.23183.684.55No CommentMG/TFD16/10/2017S1-BH13A8.23183.684.55No CommentMG/TFD17/10/2017S1-BH13A8.23183.744.49No CommentMG/TFD18/10/2017S1-BH13A8.23183.744.49No CommentMG/TFD19/10/2017S1-BH13A8.23183.744.49No CommentMG/TFD20/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD23/10/2017S1-BH13A8.23183.734.51No CommentMG/TFD24/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD25/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD26/10/2017S1-BH13A8.23183.664.55No CommentMG/TFD26/10/2017S1-BH13A8.23183.674.56No CommentMG/TFD27/10/2017S1-BH13A8.23183.664.		09/10/2017		0.25	1	8	3.7	4.53	No Comment
MG/TFD11/10/2017S1-BH13A8.23183.064.53No CommentMG/TFD12/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD13/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD16/10/2017S1-BH13A8.23183.684.55No CommentMG/TFD17/10/2017S1-BH13A8.23183.744.49No CommentMG/TFD18/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD19/10/2017S1-BH13A8.23183.744.49No CommentMG/TFD20/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD20/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD23/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD24/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD25/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD26/10/2017S1-BH3A8.23183.664.55No CommentMG/TFD26/10/2017S1-BH3A8.23183.664.55No CommentMG/TFD27/10/2017S1-BH3A8.23183.664.57		10/10/2017	S1-BH13A	8.23	1	8	3.7	4.55	No Comment
MG/TFD       12/16/217       S1-BH13A       8.12       1       8       3.7       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       3.73       4.5       No Comment         MG/TFD       23/10/2017       S1-BH13A       8.23       1       8       3.72       4.51       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	MG/TFD	12/10/2017	51-BH13A	8.23	1	8	3.08	4.55	No Comment
MG/TFD16/10/2017S1-BH13A8.23183.684.55No CommentMG/TFD17/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD18/10/2017S1-BH13A8.23183.744.49No CommentMG/TFD19/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD20/10/2017S1-BH13A8.23183.744.49No CommentMG/TFD20/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD23/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD24/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD25/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD26/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD26/10/2017S1-BH13A8.23183.684.55No CommentMG/TFD27/10/2017S1-BH13A8.23183.664.57No CommentMG/TFD30/10/2017S1-BH13A8.23183.674.56No CommentMG/TFD31/10/2017S1-BH13A8.23183.674.56No Comment	MG/TFD	13/10/2017	S1-BH13A	8 23	1	8	3.72	4.51	No Comment
MG/TFD17/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD18/10/2017S1-BH13A8.23183.744.49No CommentMG/TFD19/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD20/10/2017S1-BH13A8.23183.744.49No CommentMG/TFD20/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD23/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD24/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD25/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD26/10/2017S1-BH13A8.23183.684.55No CommentMG/TFD27/10/2017S1-BH13A8.23183.674.56No CommentMG/TFD30/10/2017S1-BH13A8.23183.664.57No CommentMG/TFD31/10/2017S1-BH13A8.23183.674.56No Comment	MG/TFD	16/10/2017	S1-BH13A	8.23	1	8	3.68	4.55	No Comment
MG/TFD18/10/2017S1-BH13A8.23183.744.49No CommentMG/TFD19/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD20/10/2017S1-BH13A8.23183.744.49No CommentMG/TFD23/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD23/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD24/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD25/10/2017S1-BH13A8.23183.684.55No CommentMG/TFD26/10/2017S1-BH13A8.23183.664.55No CommentMG/TFD30/10/2017S1-BH13A8.23183.664.57No CommentMG/TFD30/10/2017S1-BH13A8.23183.664.57No CommentMG/TFD31/10/2017S1-BH13A8.23183.674.56No Comment	MG/TFD	17/10/2017	S1-BH13A	8.23	1	8	3.72	4.51	No Comment
MG/TFD19/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD20/10/2017S1-BH13A8.23183.744.49No CommentMG/TFD23/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD24/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD24/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD25/10/2017S1-BH13A8.23183.684.55No CommentMG/TFD26/10/2017S1-BH13A8.23183.664.55No CommentMG/TFD27/10/2017S1-BH13A8.23183.664.57No CommentMG/TFD30/10/2017S1-BH13A8.23183.674.56No CommentMG/TFD31/10/2017S1-BH13A8.23183.674.56No Comment	MG/TFD	18/10/2017	S1-BH13A	8.23	1	8	3.74	4.49	No Comment
MG/TFD20/10/2017S1-BH13A8.23183.744.49No CommentMG/TFD23/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD24/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD25/10/2017S1-BH13A8.23183.774.53No CommentMG/TFD25/10/2017S1-BH13A8.23183.684.55No CommentMG/TFD27/10/2017S1-BH13A8.23183.674.56No CommentMG/TFD30/10/2017S1-BH13A8.23183.664.57No CommentMG/TFD31/10/2017S1-BH13A8.23183.674.56No Comment	MG/TFD	19/10/2017	S1-BH13A	8.23	1	8	3.73	4.5	No Comment
MG/TFD23/10/2017S1-BH13A8.23183.734.5No CommentMG/TFD24/10/2017S1-BH13A8.23183.724.51No CommentMG/TFD25/10/2017S1-BH13A8.23183.74.53No CommentMG/TFD26/10/2017S1-BH13A8.23183.684.55No CommentMG/TFD27/10/2017S1-BH13A8.23183.674.56No CommentMG/TFD30/10/2017S1-BH13A8.23183.664.57No CommentMG/TFD31/10/2017S1-BH13A8.23183.674.56No Comment	MG/TFD	20/10/2017	S1-BH13A	8.23	1	8	3.74	4.49	No Comment
MG/TFD24/10/2017\$1-BH13A8.23183.724.51No CommentMG/TFD25/10/2017\$1-BH13A8.23183.74.53No CommentMG/TFD26/10/2017\$1-BH13A8.23183.684.55No CommentMG/TFD27/10/2017\$1-BH13A8.23183.674.56No CommentMG/TFD30/10/2017\$1-BH13A8.23183.664.57No CommentMG/TFD31/10/2017\$1-BH13A8.23183.674.56No Comment	MG/TFD	23/10/2017	S1-BH13A	8.23	1	8	3.73	4.5	No Comment
MG/TFD25/10/2017S1-BH13A8.23183.74.53No CommentMG/TFD26/10/2017S1-BH13A8.23183.684.55No CommentMG/TFD27/10/2017S1-BH13A8.23183.674.56No CommentMG/TFD30/10/2017S1-BH13A8.23183.664.57No CommentMG/TFD31/10/2017S1-BH13A8.23183.674.56No Comment	MG/TFD	24/10/2017	S1-BH13A	8.23	1	8	3.72	4.51	No Comment
MG/TFD         26/10/2017         \$1-BH13A         8.23         1         8         3.68         4.55         No Comment           MG/TFD         27/10/2017         \$1-BH13A         8.23         1         8         3.67         4.56         No Comment           MG/TFD         30/10/2017         \$1-BH13A         8.23         1         8         3.66         4.57         No Comment           MG/TFD         31/10/2017         \$1-BH13A         8.23         1         8         3.67         4.56         No Comment	MG/TFD	25/10/2017	S1-BH13A	8.23	1	8	3.7	4.53	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	26/10/2017	S1-BH13A	8.23	1	8	3.68	4.55	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	27/10/2017	S1-BH13A	8.23	1	8	3.67	4.56	No Comment
MG/TFD 31/10/2017 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	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	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	03/11/2017	S1-BH13A	8.23	1	8	3.64	4.59	No Comment
NG/1FD 06/11/201/ 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
NIG/TFD         0//11/201/         S1-BH13A         8.23         1         8         3.65         4.58         No Comment           NG/TFD         09/41/2047         S1-BH13A         8.23         1         8         3.65         4.58         No Comment	MG/TFD	0//11/2017	S1-BH13A	8.23	1	8	3.65	4.58	No Comment
NIG/11/201/ S1-BH13A 8.23 1 8 3.64 4.59 No Comment	MG/TFD	08/11/2017	S1-BH13A	8.23	1	8	3.64	4.59	No Comment
אסוידו איז און און איז א אראבארא און און און און און איז א אראבארא און און און און און און און און איז א אראבא ארא אראבאר אראבארא אראבארא און און און איז איז איז איז איז איז איז איז איז איז		09/11/2017	21-RH134	8.23	1	8	3.65	4.58	No Comment
אסויין אָטאָן 10/11/2017 S1-BH13A 8.23 1 8 3.66 4.57 No Comment		10/11/2017	21-8H13A	8.23	1	8	3.66	4.57	No Comment
אר אראדאר אראדאר אראדער ארא אראדאר אראדער ארא אראדאר אראדער ארא אראדער ארא אראדער ארא אראדער ארא אראדער ארא אר ארג אראדער אראדער אראדער אראדער אראדער אראדער אראדער אראדער אראדער אראדער אראדער אראדער אראדער אראדער אראדער ארא		13/11/2017	21-8H13A	8.23	1	8	3.65	4.58	No Comment
NG/TED 21/12/2017 S1-BH13A 8.25 1 δ 4.05 4.2 NO COMMENT		14/12/201/ 21/12/2017	от-рштом С1-рштом	0.23 0.23	1	ŏ	4.03	4.Z 1 0	No Comment
MG/TED 21/02/2018 \$1-BH13A \$23 1 6 5.35 4.3 NO COMMENT MG/TED 21/02/2018 \$1-BH13A \$23 1 8 4.02 4.3 No Comment		21/12/201/ 21/02/2010	51-0013A \$1-RH13A	0.23 8.72	1	o o	5.35 1 02	4.5 1 7	No Comment
MG/TFD 01/05/2018 S1-BH13A 8.23 1 8 4.05 4.2 No comment	MG/TFD	01/05/2018	S1-BH13A	8.23	1	8	4.32	3.91	No Comment

10035117-AUK-XX-RP-ZZ-0428-03-LWoW_DQRA											
			Appendix	F Table 1: Groun	dwater Elevation L	evels by Geologi	ical Unit				
Goology			Poforonco	Top of Scroop	Pottom of Scroon	Water Lovel (m	Water Depth (m				
Screened	Date	Location Code	Elevation	Depth	Depth	AOD)	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			
	01/11/2017		4.53	0.95	5.1	2.73	1.8	No Comment			
	02/11/2017	52-BHA05A	4.53	0.95	5.1 5.1	2.73	1.8	No Comment			
MG/TFD	06/11/2017	S2-BHA05A	4.53	0.95	5.1	2.72	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	SZ-BHA05A	4.53	0.95	5.1	2.93	1.6	No Comment			
	22/02/2018	52-ΒΗΑυ5Α 52-ΒΗΔΩ5Δ	4.53 1 53	0.95	5.1	2.89	1.64	No Comment			
MG/TFD	13/11/2017	S2-BHA06A	7 16	0.95	7 1	2 66	1.55	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.			
	12/10/2021		7.28	5.1	8.1	2.64	4.64	No LNAPL/DNAPL detected.			
	28/06/2021		5	5.1	5	2.7	4.58	No LNAPL/DNAPL detected.			
TED	29/06/2021	MS\BH04S	5	2	5	2.91	2.1	No INAPI/DNAPI 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.			
	09/07/2021		5	2	5	2.89	2.12	No LNAPL/DNAPL detected.			
	12/07/2021		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.			
	01/07/2021		7.48	6.5	12.5	3.09	4.39	NO LNAPL/DNAPL detected.			
	02/07/2021		7.48 7 /Q	0.5	12.5 12 5	3.U9 2 1 Q	4.39 A	NO LINAPL/DINAPL delected			
TFD	06/07/2021	MS\BH055	7.40 7.48	6.5	12.5	5.40 2 Ng	4 2 20	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.			
	15/11/2021		7.48	6.5	12.5	2.87	4.61	NO LNAPL/DNAPL detected.			
	13/07/2021		/.33	5.8	7.3	3.17	4.16	NO LNAPL/DNAPL detected.			
IFU	09/08/2021		1.55	5.8	7.3	3.03	4.3	NO LIVATLY DIVATL UPLECLEU.			

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.

			10	0035117-AUK-XX	-XX-RP-ZZ-0428-	03-LWoW_DQR	A	
			Appendix	F, Table 1: Grou	ndwater Elevation	Levels by Geolog	gical Unit	
Castan			Defense	T	B-11-11-16			
Geology	Date	Location Code	Elevation	Top of Screen Depth	Bottom of Screen Depth	Water Level (m AOD)	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.
	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.
	15/11/2021	MS/BH09D	7.47	5./	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		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.
	22/06/2021		7.26	7	11.4	3.48	3.78	NO LNAPL/DNAPL detected.
	23/06/2021		7.20	7	11.4	3.37	3.69	No LNAPL/DNAPL detected.
	24/06/2021		7.20	7	11.4	3.31	3.95	NO LNAPL/DNAPL detected.
	23/06/2021		7.20	/ 7	11.4 11 <i>1</i>	3.20	4	NO LNAPL / DNAPL detected
	20/00/2021		7.20	7	11.4	2.20	4	No LNAPL/DNAPL detected.
	29/00/2021		7.20	7	11.4	2.10	4.03	No LNAPL/DNAPL detected.
	30/06/2021 01/07/2021		7.20	7	11.4	2.19	4.07	No LNAPL/DNAPL detected.
	01/07/2021		7.20	7	11.4	2.16	4.08	No LNAPL/DNAPL detected.
	02/07/2021		7.20	7	11.4	2.15	4.1	No LNAPL/DNAPL detected.
	06/07/2021		7.20	7	11.4 11 <i>/</i>	2 15	4.11 / 11	No INAPI /DNAPI detected
	07/07/2021	MS\BH11D	7.20	, 7	11.4 11 <i>1</i>	3.15	ч.11 Д 11	No INAPI /DNAPI detected
TED	08/07/2021	MS\BH11D	7.20	7	11 <i>Δ</i>	3.15	4.11 A 11	No INAPI /DNAPI detected
	09/07/2021	MS\RH11D	7.20	7	11 <i>Δ</i>	2 21	4.11	No INAPI /DNAPI detected
	12/07/2021	MS\RH11D	7.20	7	11 <i>Δ</i>	3.21	20	No INAPI /DNAPI detected
	13/07/2021	MS\RH11D	7.20	7	11 <i>A</i>	3.30	3.5	No INAPI /DNAPI detected
TED	09/08/2021	MS\BH11D	7.26	, 7	11 <i>Δ</i>	3.55	4 07	No INAPI /DNAPI detected
TED	17/09/2021	MS\BH11D	7.20	7	11 <i>Δ</i>	3.10	4.07	No INAPI /DNAPI detected
TED	12/10/2021	MS\BH11D	7.26	7	11 <i>4</i>	3.14	4.12	No INAPI /DNAPI detected
TFD	15/11/2021	MS\BH11D	7.26	, 7	11 <i>Δ</i>	3.09	4 17	No LNAPL/DNAPL detected.

	10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA Appendix F. Table 1: Groundwater Elevation Levels by Geological Unit											
			Appendix	F, Table T: Grour	ndwater Elevation I	Levels by Geolog	licai Unit					
Geology	Date	Location Code	Reference	Top of Screen	Bottom of Screen	Water Level (m	Water Depth (m	Comments				
Screened	Dute	Location code	Elevation	Depth	Depth	AOD)	bTOC)	connents				
TED	30/06/2021	MS\BH13S	5.71	6.5	9.5	2.93	2,78					
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.				
	12/07/2021		5.71	6.5	9.5	3.53	2.18	No LNAPL/DNAPL detected.				
	13/07/2021		5.71	0.5 6 F	9.5	3.53	2.18	NO LNAPL/DNAPL detected.				
TED	17/09/2021	MS\BH13S	5.71	6.5	9.5	3.51	2.11	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		7.19	5	8	3.8	3.39	No LNAPL/DNAPL detected.				
	09/08/2021		7.19	5	8	3.69	3.5	NO LNAPL/DNAPL detected.				
	17/09/2021		7.19	5	ð	3.04	3.55	NO LNAPL/DNAPL detected.				
TED	12/10/2021	MS\BH14 MS\BH14	7.19	5	8	3.50	3.05	No INAPL/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.				
	12/10/2021		7.25	9	12	3.74	3.51	No LNAPL/DNAPL detected.				
TED	15/11/2021		7.25	9	12	3.68	3.57	No ENAPL/DNAPL detected.				
	08/11/2017	52-BHA04D	7.55	0 9	10	2.0	4.75	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.				
IFD/GT	24/06/2021	MS\BH12S	7.15	18.2	20.5	3.45	3.7	NO LNAPL/DNAPL detected.				
	25/06/2021		7.15	18.2	20.5	3.45	3./ 2 7	NO LNAPL/DINAPL detected.				
	20/00/2021		7.15	10.2 10.2	20.5	3.45 2 12	3./ 2.70	NO LNAPL/DINAPL delected.				
TFD/GT	30/06/2021	MS\BH12S	7.15	18.2	20.5	3.43 2 <u>4</u> 2	3.72	No INAPI /DNAPI 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.	

			1	0035117-AUK-XX	-XX-RP-ZZ-0428-	03-LWoW_DQR/	4	
			Appendix	F, Table 1: Grou	ndwater Elevation	Levels by Geolog	jical Unit	
Geology	Data	Location Code	Reference	Top of Screen	Bottom of Screen	Water Level (m	Water Depth (m	Commonto
Screened	Date	Location Code	Elevation	Depth	Depth	AOD)	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		7.28	35	38	2.76	4 52	No INAPI/DNAPI detected
RMS	09/08/2021		7.20	35	38	2.70	4 73	No LNAPI /DNAPI detected
RMS	17/09/2021		7.20	35	38	2.33	4.55	No LNAPL/DNAPL detected
RMS	17/09/2021		7.20	35	38	2.75	4.55	No LNAPL/DNAPL detected
RMS	15/11/2021		7.20	35	38	2.07	4.01	No LNAPL /DNAPL detected
BMS	30/06/2021		4.67	25.5	28.5	3.20	1.38	No LNAPL/DNAPL detected
RMS	01/07/2021		4.07	25.5	28.5	3.29	1.30	No LNAPL/DNAPL detected
RMS	01/07/2021		4.07	25.5	28.5	2.2	1.30	No LNAPL/DNAPL detected
	02/07/2021		4.07	25.5	20.5	3.5	1.37	No LNAPL/DNAPL detected.
	05/07/2021		4.07	25.5	20.5	3.5	1.37	No LNAPL/DNAPL detected.
	00/07/2021		4.07	25.5	20.5	3.5	1.37	No LNAPL/DNAPL detected.
RIVIS	07/07/2021		4.07	25.5	20.5	5.5	1.57	No LNAPL/DNAPL detected.
RIVIS	08/07/2021		4.67	25.5	28.5	3.3	1.37	NO LNAPL/DNAPL detected.
RIVIS	09/07/2021		4.67	25.5	28.5	3.22	1.45	No LNAPL/DNAPL detected.
RIVIS	12/07/2021		4.67	25.5	28.5	3.17	1.5	No LNAPL/DNAPL detected.
RIVIS	13/07/2021		4.67	25.5	28.5	3.17	1.5	No LNAPL/DNAPL detected.
RIVIS	09/08/2021		4.67	25.5	28.5	2.9	1.77	No LNAPL/DNAPL detected.
RIVIS	17/09/2021	MS/BH03D	4.67	25.5	28.5	2.77	1.9	No LNAPL/DNAPL detected.
RIMS	12/10/2021	MS/BH03D	4.67	25.5	28.5	2.8	1.87	No LNAPL/DNAPL detected.
RIVIS	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.

			10 Appendix	035117-AUK-XX F Table 1: Groun	-XX-RP-ZZ-0428- dwater Elevation L	)3-LWoW_DQR/ .evels by Geologi	a Ical 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 asa point between the site and the estuary.

m AOD	Meters Above Ordance Datum
m TOC	m from Top of Cover
LNAPL / DNAPL	Light Non-Aqeuous Phase Liquid / Dense Non-Aqueous Phase Liquid
SMG	Slag Made Ground
MG	Made Ground
TFD	Tidal Flat Deposits
GT	Glacial Till
RMS	Redcar Mudstone

Schedule of Laboratory Analysis



## Schedule of Laboratory Analysis

10035117	AUK-XX-XX-RP-ZZ	-0428-03-LWoW_I	DQRA															
Appendix (	G - Schedule of Ana	lysis (Soil)																
Chemical	Group			Metals														
	Sample Depth (m					TPH	PAH	voc	svoc	PCB	BTEX	Phenols	Sulphate	Nitrate	Thiocyanate	Cyanide	Cyanide	Asbestos
Location	bal)	Date	CLEA	Cr (VI)	Other											(Total)	(Free)	
12AB2	6-6	22/04/2004					~		1		<ul> <li>✓</li> </ul>	1				<b>√</b>	1	
124710	0.3-0.3	16/04/2004	×				1				~	1				1	1	
12/110	4-4	16/04/2004	✓				1				1	~				✓	1	
12AT11	0.3-0.3	16/04/2004	<ul> <li>✓</li> </ul>				1				1	1				~	✓	
	4-4	16/04/2004	<ul> <li>✓</li> </ul>				<ul> <li>✓</li> </ul>				<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>				✓	1	
12AT13	0.2-0.2	16/04/2004	✓				✓				✓	✓				<b>v</b>	✓	
	4-4	16/04/2004	- <b>*</b>				×				×	· ·				×	×	
12AT16	0.3-0.3	16/04/2004					· ·				· ·	· ·				×	· ·	
	0.3-0.3	16/04/2004					~				~	1				~	1	
12A117	2-2	16/04/2004	<ul> <li>✓</li> </ul>				1				~	1				~	1	
12477	0.25-0.25	16/04/2004	<ul> <li>✓</li> </ul>				~				~	~				✓	1	
12A17	4-4	16/04/2004	✓				✓				1	1				✓	✓	
12AT8	2-2	16/04/2004	<ul> <li>✓</li> </ul>				✓				~	~				~	✓	
	4.2-4.2	16/04/2004	×				~				~	1				~	1	
12BB1	5.5-5.5	22/04/2004	<ul> <li>✓</li> <li>✓</li> </ul>				✓				✓	×				✓ ✓	✓ ✓	
	7.5-7.5	22/04/2004	×				¥				×	×				*	×	
12BT12	0.4-0.4	21/04/2004	· ·				• •				•	• -/				• •	• •	
<u> </u>	0.3-0.3	21/04/2004	· ·				· ·				· ·	· ·				· ·	· ·	
12BT14	3.9-3.9	21/04/2004	×				~				~	1				1	1	
12BT15	1-1	21/04/2004	<ul> <li>✓</li> </ul>				~				~	~				✓	✓	
12BT0	0.5-0.5	20/04/2004	<ul> <li>✓</li> </ul>				×				<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>				✓	<ul> <li>✓</li> </ul>	
2013	3.2-3.2	20/04/2004	<ul> <li>✓</li> </ul>				1				1	~				1	1	
13AT1	0.1-0.1	13/04/2004	<ul> <li>✓</li> </ul>				<ul> <li>✓</li> </ul>				~	✓				~	✓	
	4.3-4.3	13/04/2004	<b>•</b>				×				×	✓ 				✓ 	✓	
13AT2	0.15-0.15	13/04/2004	V				¥				×	×				×	×	
	0.2-0.2	14/04/2004	· ·								· ·					· ·		
13AT3	4-4	14/04/2004					1				1	1				~	1	
40474	0.25-0.25	14/04/2004	- V				1				1	~				✓	~	
13A14	4.1-4.1	14/04/2004	×				1				1	~				✓	✓	
13AT5	0.8-0.8	14/04/2004	<ul> <li>✓</li> </ul>				~				✓	✓				1	✓	
	4-4	14/04/2004	<ul> <li>✓</li> </ul>				1				~	~				~	✓	
13AT6	1.8-1.8	14/04/2004	<b>√</b>				<ul> <li>✓</li> </ul>				<ul> <li>✓</li> </ul>	✓				✓	✓	
12PT10	3.3-3.3	14/04/2004	×				*				*	*				*	×	
130110	0.2-0.2	14/04/2004					· ·				• •	· ·				× ✓	×	
13BT11	0.5-0.5	14/04/2004	- V				1				1	1				1	✓	
120712	0.3-0.3	14/04/2004	<ul> <li>✓</li> </ul>				1				1	~				~	✓	
130112	2-2	14/04/2004	1				1				~	1				1	✓	
13BT8	0.3-0.3	14/04/2004	<ul> <li>✓</li> </ul>				1				1	~				✓	✓	
13BT9	0.1-0.1	14/04/2004	<ul> <li>✓</li> </ul>				~				1	~				~	✓	
13CB1	5.5-5.5	21/04/2004	<ul> <li>✓</li> </ul>				1				1	✓				✓	✓	
13CT14	0.3-0.3	14/04/2004	<b>_</b>				✓ ✓				✓ ✓	✓				✓	✓	
	3.6-3.6	14/04/2004	×				×				×	*				*	×	
13CT15	3.8-3.8	14/04/2004	· ·								· ·	· ·				· ·		
	0.3-0.3	14/04/2004					1				1	1				~	✓	
13C116	4-4	14/04/2004	<ul> <li>✓</li> </ul>				1				1	~				~	~	
13CT17	0.5-0.5	14/04/2004	<ul> <li>✓</li> </ul>				1				~	~				✓	✓	
14AT7	4-4	21/04/2004	✓				1				1	✓				✓	✓	
	0.3	23/06/2021	1	1			1				1		1	1	1	1	1	1
	0.0	20/05/2021							-									
	0.5	23/06/2021	<b>·</b>	4	-		4		-		-		4			4	¥	
LF\BH01	<u>∠</u> A	23/06/2021	Ť	~	-		× ×		-		-		v ✓	×	× ✓	* 	✓ ✓	
	Ť	20/00/2021																
	28.1-28.1	23/06/2021					1	~			1	~						
	28.65-28.95	29/06/2021	×	~			1						1	~	1	1	✓	
	0.3	24/06/2021	⊢ <del>∕</del>	-			×						×	<ul> <li>✓</li> <li>✓</li> </ul>		<b>√</b>	✓	-
	1	24/06/2021	×	<b>v</b>			*					~	*	V	*	*	*	
	0.7-0.9	23/00/2021	· ·	· ·	~	, v	, v				•		v	v	•	, v	v	
	24.9-24.9	08/07/2021					~	~			~	~						
	0.3	23/06/2021	<ul> <li>✓</li> </ul>	1		~	~	~	1		~	~	~	~	1	√	✓	~
	1	23/06/2021	<ul> <li>✓</li> </ul>	1		~	1	✓	~		1	~	1	~	1	1	✓	
LF\TP02	1	23/06/2021	<ul> <li>✓</li> </ul>	1		~	1	✓	1		1	~	~	~	~	✓	~	√
LF\TP03	4	24/06/2021	×	<ul> <li>✓</li> </ul>		~	1	✓	✓		✓	~	1	~	✓	✓	✓	~
	0.3-0.3	25/06/2021	<b>⊢</b> ∕_	×			×							<b>√</b>		<b>√</b>	✓	-
MS\BH02	2.25-2.7	28/06/2021	<b>·</b>	×	-	× -/	*	× _/	×	1	×	×	× ./		* 	*	×	
	10.2-10.4	28/06/2021	Ť	× ✓		* 	× 	•	×	*	×	* 	* 	× ×	* ✓	*	* 	
<u> </u>	0.5	23/06/2021	· ·			· ·			1		· ·			~		· ·		~
	1	23/06/2021	×	1		~	1	~	~		~	~	1	~	1	1	1	
	2	23/06/2021	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>		1	1	✓	<ul> <li>✓</li> </ul>		1	1	1	1	✓	1	✓	
MS\BH03	3-3.3	23/06/2021	<ul> <li>✓</li> </ul>	1			~						~	~	1	1	~	
	9.5-9.8		✓	<ul> <li></li> <li></li> </ul>			<ul> <li>Image: A start of the start of</li></ul>						×	<ul> <li>✓</li> </ul>	✓	<ul> <li>✓</li> </ul>	✓	
	11-11.2	00/00/0001	<b>⊢</b> ́				×							-	×	~	~	
	11.2-11.2	23/06/2021					*	~	-		*	*	1	1		d		
L	23.4	1	. ·	· ·			· ·	1				•		· ·			'	

10035117	-AUK-XX-XX-RP-ZZ	-0428-03-LWoW_	DQRA															
Appendix	G - Schedule of Ana	lysis (Soil)																
Chemical	Group			Metals														
	Sample Depth (m					ТРН	PAH	voc	svoc	PCB	BTEX	Phenols	Sulphate	Nitrate	Thiocyanate	Cyanide	Cyanide	Asbestos
Location	bgl)	Date	CLEA	Cr (VI)	Other											(TOLAI)	(Free)	
	0.0	40/00/0004	1	1		4	1	1	1		1		4	4	4	1		1
	0.3	18/06/2021	Ľ.	· ·		•	•	•	· ·		· ·	· ·	•	· ·	•	•	· ·	· ·
MS\BH04	0.5	18/06/2021	<ul> <li>✓</li> </ul>	✓			<ul> <li>✓</li> </ul>		- · ·	<u> </u>	<u> </u>		<ul> <li>✓</li> </ul>	✓	1	✓	<ul> <li>✓</li> </ul>	
	1	18/06/2021	<b>·</b>		<u> </u>	~	×	~				~	V (	✓		×	V	
<u> </u>	22.3-22.3	23/06/2021	×	- <b>*</b>			•		-				V	V	· ·	¥	V	
MS\BH05	4.4-4.4	17/06/2021	· ·		-	<ul> <li>✓</li> </ul>	· ·				-	1		· ·		· ·	· ·	
<u> </u>	0.35	05/07/2021	- V	-			~				-		1	· ·	1	~	1	<ul> <li>✓</li> </ul>
	1-2	05/07/2021	<ul> <li>✓</li> </ul>	~			~						✓	~	✓	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	
	2.7-4.2	05/07/2021	✓	~			1						✓	~	1	✓	1	
MS\BH07	4.2-4.65	05/07/2021	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>		✓	✓	✓	~	✓	<ul> <li>✓</li> </ul>	✓	✓	~	×	✓	✓	
	4.65-5	05/07/2021	<ul> <li>✓</li> </ul>			~	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	~	-		✓ ✓	~	~	<b>√</b>			
	15.7-15.7	05/07/2021	1				¥	~				~						
	10.7-10.9	09/07/2021				v	· ·	1	<ul> <li>✓</li> </ul>		- ·	1	· ·	•	•	•	•	
<u> </u>	0.36	28/05/2021				~	· ·	· ·	· ·			· ·	· ·	<ul> <li>✓</li> </ul>				
MS\BH08	3	28/05/2021	1	-			~						1	×	1	<ul> <li>✓</li> </ul>	1	
	6	28/05/2021	×	~			1			1			1	~	1	✓	1	
	0.5	05/07/2021	✓	✓		✓	✓				<ul> <li>✓</li> </ul>	✓	✓	✓	✓	✓	✓	1
	2-2.3	05/07/2021	<ul> <li>✓</li> </ul>				~						1	<ul> <li>✓</li> </ul>	1	✓	1	
MS\BH09	4.65-4.85	05/07/2021	<b>√</b>				~						~	~				
	13-13.2	05/07/2021	· ·	<b></b>			<0.0E	1	-		-	4						
	14-14 2	05/07/2021					<0.03	· ·	<ul> <li>✓</li> </ul>			· ·			-			
<u> </u>	1	08/06/2021	<ul> <li>✓</li> </ul>	-		~	~	~	~	~	-	1	~	~	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	1	<ul> <li>✓</li> </ul>
	4	09/06/2021	<ul> <li>✓</li> </ul>	~		~	~	1	~	~	~	1	1	~	×	<ul> <li>✓</li> </ul>	~	
INS DITIO	5	15/06/2021	<ul> <li>✓</li> </ul>	1			×						1	✓	✓	✓	✓	
	19.1	18/06/2021	×	1		~	~	1	~	✓	~	~	1	~	✓ 	✓	1	
	0.5	03/06/2021	✓	<u> </u>			✓						✓ ✓	✓		✓ ✓	V	✓
MS\BH11	4	03/06/2021	×			× 	× 	~	~			~	V	V 		×	×	
	13.2	04/06/2021	· ·			· ·	· ·						· ·	· ·	· ·		· ·	
	1	04/06/2021	- V	-		~	1	~	~		-	~	1	~	1	✓ <b>√</b>	1	<ul> <li>✓</li> </ul>
MS/BH12	2.7-3	04/06/2021	<ul> <li>✓</li> </ul>	~			~	~	~		~	~	1	~	1	×	<ul> <li>✓</li> </ul>	
	0.5	28/05/2021	<ul> <li>✓</li> </ul>	1			1						1	✓	✓	✓	✓	
	3-3	28/06/2021					~	1			-	~						
MS\BH13	3.6	28/05/2021	<b>√</b>				✓ ✓						✓ ✓	✓ ✓			- V	
	10.2-10.4	28/05/2021	- ×	<b></b>	<u> </u>		×						V	~	· ·	¥		
	11-11.2	28/05/2021	<ul> <li>✓</li> </ul>	-			· ·						1	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>		
<u> </u>	0.3	28/06/2021	· ·	-			~						1	<ul> <li>✓</li> </ul>	1	<ul> <li>✓</li> </ul>		~
	1	28/06/2021	×	~			1						1	×	1	✓	1	
	4.2-4.4	30/06/2021	<ul> <li>✓</li> </ul>	×		✓	✓	✓	~	✓	<ul> <li>✓</li> </ul>	✓	✓	✓	1	✓	✓	
MS\BH14	4.5-4.8	30/06/2021	<ul> <li>✓</li> </ul>	✓			<ul> <li>✓</li> </ul>			-			✓	✓	∕	✓	✓	
	14.2	02/07/2021	V			✓ √	¥						✓ √	V (		¥	V	
	17.5-17.7	02/07/2021	· ·	•	-	•	× ✓	~	-	•	- V	* 	•	~	•		•	
<u> </u>	1	05/07/2021	<ul> <li>✓</li> </ul>	~		~	~	~	~	~	-	1	~	~	<ul> <li>✓</li> </ul>	~	~	<ul> <li>✓</li> </ul>
	2-2	05/07/2021					~	~			~	1						
MS\BH15	2.7-2.9	05/07/2021	✓	~		1	1				<ul> <li>✓</li> </ul>		✓	~	1	✓	1	
	4.4-4.6	05/07/2021	✓	×	<u> </u>		<ul> <li>Image: A state of the state of</li></ul>			<u> </u>	<u> </u>		✓	<ul> <li>Image: A state of the state of</li></ul>		✓	✓	
	12.45-13	06/07/2021	· ·				×						~	~				
<u> </u>	0.5	02/07/2021			+	1	×	, v			×	*	1	-				
	3.3-3.5	02/07/2021	· ·	+ ·	+	· ·	· ·	~	~	· ·	· ·	~		· ·	· · ·	· ·	· ·	· · ·
	4.2-4.4	02/07/2021	<ul> <li>✓</li> </ul>	-		~	~				~		✓	<ul> <li>✓</li> </ul>	✓	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	
MS\BH16	5-5	05/07/2021					<ul> <li>✓</li> </ul>	1			~	1						
	5-5.2	02/07/2021	<ul> <li>✓</li> </ul>			~	~			✓			1	~	1	✓	1	
	5.7-5.9	02/07/2021	✓		<u> </u>		✓ ✓						~	~				
L	13.4-13.6	05/07/2021	- ×				¥	*	V			*						
	3-3.2	07/07/2021	- V		+	-	~	✓ ✓	· ·	1		• •		-	-	-	+	-
	3.9-4.2	07/07/2021	<ul> <li>✓</li> </ul>	-	~		~	~	~		~	~						
	5-5.2	07/07/2021	<ul> <li>✓</li> </ul>	-	<ul> <li>✓</li> </ul>		<ul> <li>✓</li> </ul>	1	<ul> <li>✓</li> </ul>		<ul> <li>✓</li> </ul>	1						
MS\BH17	6-6.2	07/07/2021	<ul> <li>✓</li> </ul>	1	1													
	7.2-7.4	07/07/2021	<ul> <li>✓</li> </ul>	×	<b>✓</b>					<u> </u>	<u> </u>							
	14.2-14.2	07/07/2021	×		<b>↓                                    </b>			-				~						
	14.2-14.4	07/07/2021	٠ ۲	+ *	+		-	1	-	+		1				+	+	
	0.5	16/06/2021	+ ·	+ •		-	· ·		· ·	-	+ •		~	~	✓	<ul> <li>✓</li> </ul>	-	✓
MS\TP01	3	16/06/2021	×	×	1		~			1	1		✓ <b>√</b>		×	✓	✓ ✓	
	4	16/06/2021	<ul> <li>✓</li> </ul>	~		~	~	1	✓	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	✓	1	1	× _	✓	1	
MS\TP03	2-2	14/06/2021	<ul> <li>✓</li> </ul>	✓			~						1	~	1	✓	✓	1
MS\TP04	0.5	14/06/2021	<ul> <li>✓</li> </ul>				<ul> <li>✓</li> </ul>		-	<u> </u>	<u> </u>		✓	<ul> <li>✓</li> </ul>		✓	✓	
1	4-4	15/06/2021	I ✓	1	1	✓	✓	✓	I ✓	1	<b>↓</b> ✓	<ul> <li>✓</li> </ul>	✓	✓	✓	✓	✓	1

10035117-	AUK-XX-XX-RP-ZZ	2-0428-03-LWoW_I	DQRA			_												
Appendix (	G - Schedule of Ana	alysis (Soil)		84-4-1-														
Chemical	Group Sample Denth (m			Metals		трн	PAH	voc	svoc	РСВ	BTEX	Phenols	Sulphate	Nitrate	Thiocyanate	Cyanide	Cyanide	Asbestos
Location	bgl)	Date	CLEA	Cr (VI)	Other											(Total)	(Free)	
	0.5	17/06/2021	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>			<ul> <li>✓</li> </ul>						1	✓ ✓	✓ √	1	✓ √	1
MS\TP05	2	17/06/2021	× ×	✓ ✓		v √	✓ ✓	✓ ✓	✓ ✓		▼ ✓	✓ ✓	· ·	✓ ✓	× ·	× •	✓ ✓	
	3	17/06/2021	×	1			1						1	1	1	1	1	
MS\TP06	0.5	15/06/2021	✓ ✓	✓ ✓		~	✓ ✓	~	~	~	~	1	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	~
	0.5	17/06/2021	<ul> <li>✓</li> </ul>	1			1						1	~	<i>✓</i>	1	1	<ul> <li>✓</li> </ul>
MS\TP07	2	17/06/2021	✓ ✓	✓ ✓		~	✓ ✓	~	~	~	~	~	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	
MS\TP09	1	16/06/2021	1	~		~	~				~		~	· ·	~	1	~	<ul> <li>✓</li> </ul>
	3	16/06/2021	×	<ul> <li>✓</li> </ul>		✓ √	<ul> <li>✓</li> </ul>	✓	~		4	4	1	✓ ✓	✓ 	1	✓ √	
MS\TP10	0.5	21/06/2021	· ·	× ×		v	✓ ✓			•	•	•	✓ ✓	✓ ✓	· ·	× •	✓ ✓	
S1-BH04	3.9-3.9	16/10/2017																1
S1-BH05	5.9-5.9	16/10/2017	- ×	✓ ✓	✓ ✓	✓ ✓	✓ ✓	~	~		1	~			· ·	✓ ✓	~	✓
S1-BH06	7.3-7.3	06/10/2017	<ul> <li>✓</li> </ul>	1	1	~	1								~	1	1	1
S1-BH07A	2.5-2.5	04/10/2017		4	✓ ✓	4	4	4	4		4	4				1		✓
S1-BH12	5.5-5.5	10/10/2017	· ·	· ·		✓	· ·	· ·	· ·		· ·	~			~	· ·	· ·	~
S1-BH13A	4.9-4.9	04/10/2017																1
S1-BH14	6.8-6.8 5.5-5.5	04/10/2017	×	✓ ✓	✓ ✓	✓ ✓	✓ ✓	~	~		~	~				✓ ✓	✓ ✓	✓
S1-BH18	3-3	12/10/2017	<ul> <li>✓</li> </ul>	~	1	~	~								✓	1	1	1
S1-BH19	5.6-5.6	13/10/2017		~	-	~	~								✓ ✓	✓	~	
S1-BH20A	4.2-4.2	30/10/2017	· ·	· ·		· •	· ·									· ·		
S1-TPA01	0.6	11/01/2017	<ul> <li>✓</li> <li>✓</li> </ul>	✓ /	<b>√</b>	<b>√</b>	<ul> <li>✓</li> <li>✓</li> </ul>								✓ ✓	1	<b>√</b>	<ul> <li>✓</li> </ul>
51-1PA04	0.7	12/01/2017	- <b>*</b>	× ×	× - ×	✓ ✓	× ×	~			*				× 	✓ ✓	× ×	✓ ✓
S1-TPA06	2	12/01/2017	<b>√</b>	<b>√</b>		<b>√</b>	<ul> <li>✓</li> </ul>								×	1	<b>√</b>	
S1-TPA09	3.7	12/01/2017	<b>↓</b>	✓ ✓		✓ ✓	✓ ✓	-	-		-	-			✓ ✓	✓ ✓	✓ ✓	
S1-TPA12	1.8	11/01/2017	<ul> <li>✓</li> </ul>	1	~	1	~	~	~		1	~			1	1	1	×
S1-TPA14	0.8	10/01/2017	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	~	-		~	1			✓ ✓	✓ ✓	✓ ✓	
S1-TPA15	0.45	10/01/2017	· ·	· ·		~	· ·								· · ·	~	· ·	✓
S1-TPA17	2.1	11/01/2017	<ul> <li>✓</li> </ul>	1		1	1	1	<b>√</b>		1	1			1	1	1	1
S1-TPA20	1.3	09/01/2017	- ✓ - ✓	✓ ✓		✓ ✓	✓ ✓	~	✓ ✓		~	✓ ✓				✓ ✓	✓ ✓	✓ ✓
S1-TPA22	2.3	15/12/2016	<ul> <li>✓</li> </ul>	~		~	~								~		~	
S1-TPA25	0.3	14/12/2016		<ul> <li>✓</li> </ul>	4	4	4	✓	~		1	~			1		✓ √	4
S1-TPA20	0.5	12/12/2016	· ·	✓ ✓	▼ ✓	✓ ✓	✓ ✓		~			~			× ·		✓ ✓	✓ ×
S1-TPA29	1.7	09/12/2016	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<b>√</b>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>			<ul> <li>✓</li> </ul>				1	~	<b>√</b>	✓
S1-TPA31	0.6	15/12/2016	- V	✓ ✓	✓	✓ ✓	✓ ✓	~			~					✓	✓ ✓	✓ ✓
S1-TPB02	2.6	19/01/2017																1
S1-TPB03	0.4	23/01/2017	<ul> <li>✓</li> </ul>	✓	1	~	~								~	~	~	
S1-TPB04	0.5	19/01/2017	· ·	~		~	~									~		✓
S1-TPB05	0.7	23/01/2017																✓
S1-TPB06	2.5	19/01/2017	- V	<ul> <li>✓</li> </ul>	~	~	~									×	~	~
S1-TPB08	0.3	18/01/2017	<ul> <li>✓</li> </ul>	1	1	~	✓	1	1		1	~			1	~	~	1
S1-TPB12	3	18/01/2017		✓ ✓	-	✓ ✓	✓ ✓									✓ ✓		
S1-TPH02	0.7	14/02/2017																✓
S1-TPH04	0.9	25/04/2017	<b>↓</b>			~									✓	✓	<ul> <li>✓</li> </ul>	
S1-TPHOS	1.1	25/04/2017	<ul> <li>✓</li> </ul>	1		~	~									<ul> <li>✓</li> </ul>		<ul> <li>✓</li> </ul>
	1.8	25/04/2017	<ul> <li>✓</li> <li>✓</li> </ul>	<ul> <li>✓</li> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> <li>✓</li> </ul>								<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	✓ 	
S1-TPH06	3	25/04/2017	· ·	<b>↓</b>			• •	~	~		~	~			•	¥ •	•	
S1-TPH07	0.5	16/02/2017	<b>v</b>	<ul> <li>✓</li> <li>✓</li> </ul>	<ul> <li>✓</li> <li>✓</li> </ul>	✓ /	<ul> <li>✓</li> <li>✓</li> </ul>								1	✓ ✓	<b>v</b>	1
S1-TPH09	0.4	16/02/2017	×	× ×	× •	v √	× ×	•	×		•	×			✓ ✓	✓ ✓	× ×	<ul> <li>✓</li> </ul>
S1-TPH10	1.5	14/02/2017	×	✓	<b>√</b>	✓	<ul> <li>✓</li> </ul>	<b>√</b>	<ul> <li>✓</li> </ul>		<b>√</b>	✓			✓	✓	<b>√</b>	<ul> <li>✓</li> </ul>
S1-TPH11	1.7	01/01/2016	$\downarrow$	✓ ✓	✓ ✓	✓ ✓	✓ ✓	-	-	-	-	-			✓ ✓	✓ ✓	✓ ✓	✓ ✓
S1-TPH14	2	01/01/2016	×	✓	1	✓	~								1	1	1	✓
S1-TPH16	2.2	14/02/2017		1	1	1	1								✓	✓	~	✓
S1-TPH17	1.5	01/01/2016	~	~	~	~	~								✓	~	~	× ×
S1-TPH23	1.5	14/02/2017	<ul> <li>✓</li> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>		<b>√</b>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>		<ul> <li>✓</li> </ul>	<b>√</b>			<ul> <li>✓</li> </ul>	1	<b>√</b>	×
S1-TPH24	3.4	14/02/2017	<b>↓</b>	✓ ✓	-	✓ ✓	✓ ✓	✓ ✓	✓ ✓		✓ ✓	✓ ✓			✓ ✓	✓ ✓	✓ ✓	
S1-TPH25	1.2	15/02/2017	×	1	1	~	1	1	1		1	1			1	1	1	×
S1-TPH27	1.2	01/01/2016	<ul> <li>✓</li> <li>✓</li> </ul>	<ul> <li>✓</li> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> <li>✓</li> </ul>								<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	✓ 	×
S1-TPH33	0.8	02/02/2017		× ×	× ✓	✓ ✓	× ×	•	×		×	*			• •	× ×	· ·	× ×
S1-TPI02	0.2	02/02/2017	<ul> <li>✓</li> </ul>	<b>√</b>	<b>√</b>	<b>√</b>	<ul> <li>✓</li> </ul>									1		<ul> <li>✓</li> </ul>
	4	02/02/2017	$\downarrow$	↓ ✓ ✓		✓ ✓	- V - V								✓ ✓	✓ ✓	✓ ✓	
S1-TPI03	4	02/02/2017	<ul> <li>✓</li> </ul>	1	~	1	~	~	~		1	1			<ul> <li>✓</li> </ul>	~	~	
S1-TPI04	3	02/02/2017		<ul> <li>✓</li> <li>✓</li> </ul>	<ul> <li>✓</li> <li>✓</li> </ul>	✓ ✓	✓ ✓								✓ ✓	✓ ✓	✓ ✓	✓ <u> </u>
S1-TPI0/	0.2	25/01/2017	Ľ,	×	× ✓	v √	· ·								<b>√</b>		× •	×
	3	25/01/2017																
S1-TPI09	0.2	25/01/2017 25/01/2017	~	~	~	~	~								✓	~	~	
S1-TPI11	1	01/01/2016	<ul> <li>✓</li> </ul>	1	1	1	~									~		✓
S1-TPI12	0.6	01/01/2016	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>														✓

10035117	-AUK-XX-XX-RP-Z	Z-0428-03-LWoW_	DQRA															
Appendix	G - Schedule of An	alysis (Soil)																
Chemical	Group			Metals														
Location	Sample Depth (n	<sup>n</sup> Date		Cr (VI)	Other	TPH	PAH	voc	svoc	PCB	BTEX	Phenols	Sulphate	Nitrate	Thiocyanate	(Total)	(Free)	Asbestos
	bgl)			0. (0.)														(
	3.8	01/01/2016	<ul> <li>✓</li> </ul>	~	✓	~	1								~	~	~	
S1-TPI13	0.7	02/02/2017	<ul> <li>✓</li> </ul>	~	<ul> <li>✓</li> </ul>	~	~								~	~	~	✓
S1-TPI14	0.6	02/02/2017	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	~	<ul> <li>✓</li> </ul>									✓		~
S1-TPI16	0.7	02/02/2017	<ul> <li>✓</li> </ul>	~	~	~	1								~	~	~	✓
	4	02/02/2017	<ul> <li>✓</li> </ul>	~	~	~	~	~	~		~	~			~	~	~	
S1-TPI17	0.2	02/02/2017	<ul> <li>✓</li> </ul>	~	<ul> <li>✓</li> </ul>	~	~									~		✓
	1	02/02/2017	<ul> <li>✓</li> </ul>	~	~	~	1									~		
S1-TPI19	1	01/01/2016	<ul> <li>✓</li> </ul>	~	~	~	~								~	~	~	~
S1-TPI21	0.9	01/01/2016																✓
S1-TPI22	1	01/01/2016	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	~	<ul> <li>✓</li> </ul>	~			~				✓	✓	~	✓
S1-TPI23	2.2	01/01/2016	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	~	<ul> <li>✓</li> </ul>								✓	✓	~	✓
S1-TPI24	1.5	08/02/2017	<ul> <li>✓</li> </ul>	✓	✓	~	1								✓	~	~	~
S1-TPI25	3.7	09/02/2017	<ul> <li>✓</li> </ul>	~	<ul> <li>✓</li> </ul>	~	~								✓	~	~	✓
S1-TPI26	2.6	01/01/2016	<ul> <li>✓</li> </ul>	✓	<ul> <li>✓</li> </ul>	~	1								1	✓	~	✓
S1-TPI27	1.3	09/02/2017	<ul> <li>✓</li> </ul>	✓	✓	~	<ul> <li>✓</li> </ul>								✓	1	~	✓
S1-TPI28	3.5	01/01/2016																✓
S1-TPI29	0.6	08/02/2017	<ul> <li>✓</li> </ul>	✓	✓	~	<ul> <li>✓</li> </ul>								1	1	~	✓
S1-TPI30	1	26/04/2017	<ul> <li>✓</li> </ul>	×	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>									✓	✓	✓
S1-TPI31	1.3	01/01/2016	<ul> <li>✓</li> </ul>	✓	✓	~	1								✓	~	~	~
S1-TPI32	4.1	09/02/2017	<ul> <li>✓</li> </ul>	✓	✓	~	<ul> <li>✓</li> </ul>								✓	1	~	✓
S1-TPI33	2.8	01/01/2016	<ul> <li>✓</li> </ul>	✓	<ul> <li>✓</li> </ul>	~	1								1	✓	~	✓
S1-TPI34	0.8	01/01/2016	<ul> <li>✓</li> </ul>	✓	<ul> <li>✓</li> </ul>													✓
S1-TPI35	1.5	01/01/2016	<ul> <li>✓</li> </ul>	✓	✓	~	~								✓	1	~	✓
S1-TPI36	1.5	01/01/2016																✓
011100	3.5	01/01/2016	<ul> <li>✓</li> </ul>	✓	✓	✓	<ul> <li>✓</li> </ul>									✓		
S1-TPI37	1	09/02/2017			<ul> <li>✓</li> </ul>	~	<ul> <li>✓</li> </ul>								1	✓	✓	<ul> <li>✓</li> </ul>
S2-BHA04	4 5.8-5.8	26/10/2017	<ul> <li>✓</li> </ul>	✓	✓	~	<ul> <li>✓</li> </ul>								✓	1		✓
S2-BHA06	6 4.5-4.5	07/11/2017	<ul> <li>✓</li> </ul>	~	<ul> <li>✓</li> </ul>	~	<ul> <li>✓</li> </ul>	~	~		<ul> <li>✓</li> </ul>	✓				✓		<ul> <li>✓</li> </ul>
S2-TPA10	0.2-0.5	04/05/2017	✓	✓	✓	~	<ul> <li>✓</li> </ul>								✓	1	~	~
	4.1	04/05/2017	<ul> <li>✓</li> </ul>	✓	✓	~	<ul> <li>✓</li> </ul>								✓	1	~	
S2-TPA37	0.5-0.5	04/10/2017	<ul> <li>✓</li> </ul>	~														<ul> <li>✓</li> </ul>
	1-1	04/10/2017	<ul> <li>✓</li> </ul>	✓	✓	~	<ul> <li>✓</li> </ul>								✓	✓	~	
S2-TPA38	0.5-0.5	04/10/2017																~
	1.5-1.5	04/10/2017	×	1	×	~	1	~	1		~	~			✓	~	~	
S2-TPA38	3, 1.5	04/10/2017	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	~	<ul> <li>✓</li> </ul>	~	~		~	~			✓	✓	~	~
	0.5-0.5	04/10/2017	✓	✓														×
S2-TPA39	1-1	04/10/2017	<ul> <li>✓</li> </ul>	~	<ul> <li>✓</li> </ul>	~	~									~		
	3-3	04/10/2017	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	~	<ul> <li>✓</li> </ul>								✓	✓		
	0.3-0.3	03/10/2017	<ul> <li>✓</li> </ul>	~		~	1								~			✓
S2-TPA40	2.2-2.2	03/10/2017																
L	2.5-2.5	03/10/2017	_ <b>∕</b>	~	1	~	-									1		
S2-TPA45	0.6	12/05/2017					<ul> <li>✓</li> </ul>	✓	<ul> <li>✓</li> </ul>		<ul> <li>✓</li> </ul>	✓						<ul> <li>✓</li> </ul>
S2-TPA46	6 2	12/05/2017	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>								✓	✓	✓	<ul> <li>✓</li> </ul>
S2-TPA4P	0.8	12/05/2017	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>		<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	✓	<ul> <li>✓</li> </ul>		<ul> <li>✓</li> </ul>	✓			✓	✓	✓	✓
	4.2	12/05/2017	×	1		1	<ul> <li>✓</li> </ul>								✓	~	~	
S2-TPA49	2	12/05/2017	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>		<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>									✓		<ul> <li>✓</li> </ul>
S2-TPA50	0.7	17/05/2017	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>		~	<ul> <li>✓</li> </ul>									✓		<ul> <li>✓</li> </ul>
	1.4	17/05/2017	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>		<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>									1		1

10035117-4	UK-XX-XX-RP-ZZ	Z-0428-03-LWoW_I	DQRA															
Appendix G	- Schedule of Ana	alysis (Soil)																
Chemical G	Group			Metals														
Location	Sample Depth (m	Date	CLEA	Cr (VI)	Other	ТРН	PAH	voc	svoc	РСВ	BTEX	Phenols	Sulphate	Nitrate	Thiocyanate	(Total)	(Free)	Asbestos
	bgi)		_															í de la compañía de l
S2-TPA51	1	17/05/2017																~
00 70 4 50	1.4	17/05/2017	- ×	•		•	•									•	•	
S2-TPA52	0.5	17/05/2017	- <b>·</b>	×		×	*								<b>v</b>	<b>v</b>	V (	×
S2-TPA53	2.2	17/05/2017	<b></b>	×	· · ·	×	*	~	~		~	~			<b>v</b>	<b>v</b>	V (	×
S2-1PA54	0.3	12/05/2017	<b></b>	*	~	•	*								~	~	~	×
S2-TPA55	4.4	23/05/2017	×	×		×	×									×		✓ ✓
S2-1PA56	2.6	12/05/2017	× –	×		×	*									<b>v</b>		×
S2-TPA58	1.2	17/05/2017	<b></b>	×		×	*	~	~		~	~				×		×
	3.6	17/05/2017	×	×		V	*									*		
S2-TPA59	3	17/05/2017	- <b>·</b>	-		~	~	~	~		~	~			×	×	×	×
S2-1PA60	2	17/05/2017	× .	-		V	-								×	×	~	×
S2-TPA61	0.2	17/05/2017	<b></b>	*		•	*	~	~		~	~				~		~
	2.1	17/05/2017	- ×	~		~	~									~		
S2-1PA62	0.5	17/05/2017																×
S2-TPA63	1.8	10/05/2017	- <b>·</b>			~	V									×		~
S2-1PA64	0.3	17/05/2017	- <b>·</b>	V		~	~									~		~
S2-TPA65	2	17/05/2017	×	<ul> <li>✓</li> </ul>	~	~	<b>v</b>									<b>v</b>	~	
	2.7	17/05/2017	× .	×		V	V									×		
S2-TPA66	2.7	17/05/2017	- <b>·</b>	-	~	~	-								×	~	~	~
S2-TPA67	1.5	17/05/2017	- <b>·</b>	~		~	✓								~	~	~	~
S2-TPA68	1.5	18/05/2017	<u> </u>				✓	~	~		✓	1						~
S2-TPA69	2	17/05/2017	×	×	~	×	×	~	~		~	~				✓	✓	~
S2-TPA70	0.6	22/05/2017	×	~		~	~								~	✓	~	~
	2.7	22/05/2017	× .	V		~	✓									~		
S2-TPA71	4	22/05/2017	✓	~	✓	~	~									~		~
S2-TPA/2	2.3	10/05/2017	- <b>·</b>	-		~	-	~	~		~	~			×	~	~	~
S2-1PA73	0.3	10/05/2017	× .	¥		~	✓								~	~	~	~
S2-TPA74	1	18/05/2017	✓	V		~	~									~		~
S2-TPA75	0.5	18/05/2017	×	×	~	×	<b>√</b>	~	~		~	~				✓	<b>v</b>	~
S2-1PA/6	2.8	18/05/2017	- <b>·</b>	V		~	~								~	~	~	~
S2-TPA78	1.2	09/05/2017	× .	V		~	✓									~		~
S2-TPA79	0.02	09/05/2017	× .	~		~	~	~	~		~	~				~		~
	1	01/01/2016	- <b>·</b>	-	×	~	-								×	~	~	
S2-1PA80	2.5	09/05/2017	× .	¥	~	~	✓								×	~	~	~
S2-TPA81	0.5	01/01/2016	V	×	~	~	<b>v</b>									✓	~	<b>v</b>
S2-TPA82	0.3	10/05/2017	- <b>·</b>			~	-									×		~
S2-1PA83	3	22/05/2017	- <b>·</b>	¥	~	~	~	~	~		~	~			×	~	~	~
S2-1PA84	0.5	01/01/2016	- <b>*</b>	~	~	~	~	~	~		~	~			×	×	×	×
S2-TPA86	0.4	08/05/2017	- ×	~	V	~	~								×	~	~	~
	2.8	08/05/2017			~													
S2-1PA87	0.3	01/01/2016	<b>·</b>		~	-	-		-						×	×	~	×
S2-1PA88	1	09/05/2017	<b></b>		-	-	-		-							×		×
S2-1PA89	1.2	04/05/2017	<b></b>			-	-									¥		
S2-1PA90	0.5	05/05/2017	<b>·</b>			-	-									×		×
S2-TPA92	0.4	08/05/2017	<b>·</b>		×	×	×								×	×	×	×
	3.5	08/05/2017	<b>·</b>		×	-	-								×	×	V (	
52-1PA94	0.05	04/05/2017	۰,		×	×	×								*	*	×	×
S2-TPA97	0.5	04/05/2017	× (		-	×	×								*	*	×	*
	4	04/05/2017	× 1	✓	✓	V V	V V	1	1	1		1		1	✓	✓	✓	1

10035117-4	AUK-XX-X	.X-RP-ZZ-0428-	03-LW6W	_DQRA															
Appendix G	i - Schedu	lle of Analysis (l	_eachate)																
Chemical (	Group			Metals															
	Sample					трн	РАН	VOC	svoc	PCB	BTEY	Phonole	Sulphate	Chloride	Ammoniacal	Nitrato	Thiocyanate	Cyanide	Cyanide
Location	Depth	Date	CLEA	Cr (VI)	Other				0,000	100	DILA	1 nenois	ouipriate	omoride	nitrogen	Mulate	Theoryanate	(Total)	(Free)
	(m bgl)																		
LF\TP02	1	23/06/2021	<ul> <li>✓</li> </ul>	✓	1		✓								✓	1		<b>↓</b> ✓	<ul> <li>✓</li> </ul>
MS\BH02	2.25-2.7	28/06/2021	<ul> <li>✓</li> </ul>	~	~		✓								✓	1		~	1
MS\BH07	4.2-4.65	05/07/2021	<ul> <li>✓</li> </ul>	1	1		1								~	1		~	1
MS\BH08	0.36	28/05/2021	×	1	1		~								✓	1		×	1
MS\BH09	0.5	05/07/2021	1	1	1		~								1	1		1	1
MEIRUIA	11.3	16/06/2021	1	1	1		~								1	1		~	1
	19.1	18/06/2021	1	1	1		~								1	1		✓	1
MS\BH11	4	03/06/2021	<ul> <li>✓</li> </ul>	1	1		√								✓	1		<ul> <li>✓</li> </ul>	1
	0.3	28/06/2021	<ul> <li>✓</li> </ul>	1	1		✓								1	1		~	~
MS\BH14	1	28/06/2021	1	1	1		~								1	1		✓	1
MS\BH15	1	05/07/2021	1	1	~		~								1	1		1	~
MS\BH16	0.5	02/07/2021	1	1	1		~								✓	1		1	1
MS\TP06	3.8-3.8	22/06/2021	1	1	1		~								1	1		×	1
MS\TP09	3	16/06/2021	<ul> <li>✓</li> </ul>	1	1		~								✓	1		<ul> <li>✓</li> </ul>	1
MS\TP10	0.3	21/06/2021	<ul> <li>✓</li> </ul>	1	1		~								1	-		1	1
S1-BH05	19	13/10/2017	<ul> <li>✓</li> </ul>	1	1										✓				
S1-BH07A	5.3	04/10/2017	~	1	1										<ul> <li>✓</li> </ul>				
S1-BH13A	6.8	04/10/2017	1	1	1										✓				
S1-TPA01	0.6	11/01/2017	<ul> <li>✓</li> </ul>	1	1											-			
S1-TPA04A	1.1	12/01/2017		×	1									1	<ul> <li>✓</li> </ul>				
	0.7	12/01/2016	-	1	1									1	4			-	
S1-TPA06	2	12/01/2017		-											· ·			-	
	27	12/01/2017		-														-	
C1 TDA12	1.0	11/01/2017									-					-		-	
SIFIFAIZ	0.0	10/01/2017												1	1			-	
S1-TPA14	2.2	10/01/2017																-	
C1 TDA15	2.5	10/01/2017																	
31-1PA15	0.45	11/01/2017		•	•														
S1-TPA17	2.1	00/01/2017																	
31-TPA20	1.3	15/12/2017	•	•	•														
SI-TPAZZ	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	×	<b>v</b>	•										· · ·				
S1-TPA29	1.7	09/12/2016	· ·	×										(					
S1-TPA31	0.6	15/12/2016	×	×	*									~	- V				
S1-TPB06	2.5	19/01/2017	×	×	×										- V				
S1-TPB08	0.3	18/01/2017	×	×	~														
S1-TPB12	0.3	16/01/2017	×	~	~														
S1-TPH04	0.9	25/04/2017	×		-						<u> </u>			1	✓	<u> </u>			
S1-TPH06	0.5	25/04/2017	<ul> <li>✓</li> </ul>	~	~									~	✓				
S1-TPI02	4	02/02/2017		1	-										✓		L		
S1-TPI04	3	02/02/2017	<ul> <li>✓</li> </ul>	1	1										✓				
S1-TPI08	0.2	25/01/2017	<ul> <li>✓</li> </ul>	✓	1									~	<ul> <li>✓</li> </ul>				
S1-TPI09	3	25/01/2017	1	1	1									1	<ul> <li>✓</li> </ul>				
S1-TPI12	3.8	01/01/2016	<ul> <li>✓</li> </ul>	1	1									~	✓				
S1-TPI13	0.7	02/02/2017	1	1	1										1				

Appendix G	- Schedu	A-RP-22-0420-	eachate)	_DQRA															
Chemical 0	Group			Metals															
	Sample														Ammoniacal			Cvanide	Cvanide
Location	Denth	Date		Cr (VI)	Other	трн	PAH	voc	svoc	PCB	BTEX	Phenols	Sulphate	Chloride	nitrogen	Nitrate	Thiocyanate	(Total)	(Free)
	(m bal)																		
	0.7	02/02/2017	×	<ul> <li>✓</li> </ul>	×										1				
S1-TPI16	A	02/02/2017		· ·	· ·										· ·				<u> </u>
S1 TDI10		01/01/2016		1											4				
S1-TPI22	1	01/01/2016	+ ·	· ·	· ·								-	1					<u> </u>
S1 TDI24	1.5	08/02/2017		1									-		4				
S1-TF124	2.7	09/02/2017	- ·										-	-		-		-	
S1-TPI27	1.3	09/02/2017	+ ·	· ·	· ·														<u> </u>
S1-TF127	0.6	08/02/2017				-						-	-					-	
S1-TPI30	1.5	26/04/2017	- ·										-	-				-	
S1-TPI26	1.5	01/01/2016	- ·																
S1=TF135	1.5	01/01/2016				-								4					
S1-1PI30	3.5	00/02/2017	+ <del>`</del>																
S1=TF137	2.6	01/06/2017																	
S2-TPA30	3.0	01/00/2017	+ ·	-															
52-TPA 40	0202	04/10/2017	- ·				-												
32-TPA40	0.3-0.3	12/05/2017	<u> </u>	•	•	<u> </u>												· ·	
52-1PA46	2	12/05/2017	- <b>*</b>	×	×									· ·	· ·				
S2-TPA48	0.0	12/05/2017	· ·	•	•	<u> </u>								•					
CO TRACO	4.2	12/05/2017	· ·	•	•									•	•				
S2-TPA50	1.4	17/05/2017	- <b>·</b>	•	• •								-	•	•				
SZ-TPA5Z	0.5	17/05/2017	- ·	•	· ·			-		-				•	•				
S2-TPA53	2.2	17/05/2017	×	*	*				-					*	· · · ·				
S2-1PA54	0.3	12/05/2017	- <b>·</b>	•	• •								-	•	•			-	
S2-TPA58	3.6	17/05/2017	- ×	×	×									•	· · ·				
S2-TPA59	3	17/05/2017	- ×	×	×									*	· · ·				
S2-TPA60	2	17/05/2017	- <b>*</b>	V (	×														
S2-TPA65	2	17/05/2017		×															
	2.7	17/05/2017	- <b>·</b>	×	×									· · · ·					
S2-TPA66	2.7	17/05/2017	- <b>*</b>	×	×									×	· ·				
S2-TPA70	2.6	22/05/2017	- <b>*</b>	V (	×									*	· ·				
S2-TPA72	2.3	10/05/2017	- ×	×	×									· ·	<b>v</b>				
S2-TPA73	0.3	10/05/2017	- ×	V (	×									*	<b>v</b>				
S2-TPA74	1	18/05/2017	- <u>·</u>	×	×	<u> </u>								- · · ·				L	
S2-TPA76	2.8	18/05/2017	- ×	×	×		-								×			L	
S2-TPA79	1	01/01/2016	- <b>*</b>	×	×										×				
S2-TPA80	2.5	09/05/2017	- ·	V	×			-							<b>v</b>				
S2-TPA81	0.5	01/01/2016	<b>↓</b> ′				-							+				L	
S2-TPA83	3	22/05/2017	<u> </u>			<u> </u>						L						L	
S2-TPA84	0.5	01/01/2016	- <u>·</u>	-		<u> </u>						L						L	
S2-TPA87	0.3	01/01/2016	+										+	+			-	L	
S2-TPA89	1.2	04/05/2017	<u> </u>		×	<u> </u>											-	L	L
S2-TPA92	0.4	08/05/2017		-	<u>↓ ✓</u>	<u> </u>						L		✓	✓		-	L	L
· · ·	3.7	08/05/2017	1 1	· - ✓	I ✓	1	1	1		1	1			✓	✓	1		1	

10035117-/	AUK-XX-XX-F	RP-ZZ-0428-03-	LWoW_D	QRA															
Appendix G	G - Schedule	of Analysis (Gro	oundwater																
Chemical C	Group			Metals		·									Ammoniacal			Cvanide	Cvanide
Location	Geology	Date	CLEA	Cr (VI)	Other	TPH	РАН	VOC	svoc	РСВ	BTEX	Phenols	Sulphate	Chloride	nitrogen	Nitrate	Thiocyanate	(Total)	(Free)
40400	Screened	20/04/2004						-											
12RB1	MG	29/04/2004	· ·				×				×	v 						×	×
12001 13CB1	MG	20/04/2004																	
13001	RMS	12/08/2021		-	~	~	· ·				· ·	· ·	~		~	~	~		· ·
	SMG	12/08/2021	~	~	~	~	~	~	~		~	1	1		1	~	1		~
MS/BH03	RMS	16/11/2021	~	-	~	~		1			~	1	~		~	~	~	1	×
1	SMG	17/11/2021	~	√	✓	~	~	✓	~	1	1	1	~		✓	~	✓	~	~
	GT	12/08/2021	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	×	~	~				<ul> <li>✓</li> </ul>	1	~		1	~	1		×
MS\BH04	TFD	12/08/2021	<ul> <li>✓</li> </ul>	✓	✓	<ul> <li>✓</li> </ul>	✓	✓	1		✓	✓	<ul> <li>✓</li> </ul>		√	✓	✓		~
1.0.0	GT	16/11/2021	1	✓	✓	1	~	~	1		~	1	~		~	~	×	1	1
	TFD	16/11/2021	<ul> <li>✓</li> </ul>	✓	~	~	~	~	1		~	✓	~		~	~	~	✓	1
1	RMS	12/08/2021	~	✓	✓	~	~				1	~	~		~	~	~		~
1	TFD	12/08/2021	<ul> <li>✓</li> </ul>	×	×	<ul> <li>✓</li> </ul>	~	<ul> <li>✓</li> </ul>	-		×	✓	~		~	~	✓ ✓		✓
MS\BH05	RMS	12/10/2021	×	×	×	×					×	×			×		×	×	×
1	PMS	12/10/2021	•	· ·	• •	•	• •	•	*		• •	•			•		•	•	•
1	TED	15/11/2021	•	· ·	• •	•	v	v	· ·		• •	•			•		•	•	•
	TED	12/08/2021				-	1	1	~	1			1		· ·	×			
	SMG	12/08/2021	1		-	1	1	1	~	-	-	1	1		1	1	1		· ·
MS\BH07	TED	12/10/2021	~	-	-	~	1	~	~		~	~			1		-	~	~
1	TFD	15/11/2021	<ul> <li>✓</li> </ul>	1	-	1		İ			~	1			~		1	1	1
	TFD	11/08/2021	<ul> <li>✓</li> </ul>	1	✓	~	~	~	~		1	~	~		~	~	~		~
MS\BH08	TFD	12/10/2021	<ul> <li>✓</li> </ul>	1	1	1	~	~	1		×	1			1		1	1	×
	TFD	15/11/2021	1	×	×	~					1	1			1		1	1	1
	SMG	13/08/2021	1		<ul> <li>Image: A state of the state of</li></ul>	-	~	~	1		-	1	-		~	<ul> <li>✓</li> </ul>	✓		1
MS\BH09	SMG	12/10/2021	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	<ul> <li>Image: A start of the start of</li></ul>	<ul> <li>✓</li> </ul>	~	<ul> <li>✓</li> </ul>	~		<ul> <li>✓</li> </ul>	1			<ul> <li>Image: A start of the start of</li></ul>		<ul> <li>Image: A start of the start of</li></ul>	1	1
	SMG	15/11/2021	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	×	~	~	×	1		×	1			~	~	~	✓	✓
	SMG	15/11/2021	✓	✓	✓	✓	✓ ✓	~	~		<ul> <li>✓</li> </ul>	✓			×		✓	~	×
MONDUAA	TED	11/08/2021	× (	V (	×	×	×	- ·	- <u> </u>		×	✓	~		×	×	~		~
MS/BH11	SMG	12/08/2021	×	×	×	×	×	×	×		×	✓ ✓	~		×	~			
	TFD	17/11/2021	×	*	*	*	*	×	*		×	*			*		•	~	*
1	TED/CT	13/06/2021	· ·	×	×	×	×	• •	· ·		×	×	×		• •	v 	• •		×
	RMS	18/10/2021						1	1									1	
MS\BH12	TED/GT	12/10/2021	-	-		1					· ·	-			1	~	~	1	-
1	RMS	17/11/2021	<ul> <li>✓</li> </ul>	-	~	~	~	~	1		~	1			~	~	~	1	×
1	TFD/GT	17/11/2021	~	1	~	~	~	~	1		~	1			~	~	~	1	1
	RMS	12/08/2021	<ul> <li>✓</li> </ul>	1	~	~	~				~	1	~		~	~			
1	TFD	12/08/2021	<ul> <li>✓</li> </ul>	1	×	~	~				<ul> <li>✓</li> </ul>	1	~		1	~			
MS\BH13	RMS	12/10/2021	<ul> <li>✓</li> </ul>	✓	✓	<ul> <li>✓</li> </ul>					✓	1			√	✓	✓	✓	✓
1.0.0.0.0.0	TFD	12/10/2021	1	✓	✓	<ul> <li>✓</li> </ul>	~	~	1		~	1			~	~	×	1	✓
1	RMS	16/11/2021	~	~	~	~					~	~			~	~	~	~	1
	TFD	16/11/2021	<ul> <li>✓</li> </ul>	~	×	~	~	<ul> <li>✓</li> </ul>	1		<ul> <li>✓</li> </ul>	1			~	~	~	1	✓
MONDUAA	TFD	10/08/2021	V	✓	✓	×	~				✓	×	~		<b>v</b>	✓	<b></b>		V
	TFD	16/11/2021	×	× (	× (	×					×	×			*	~	· ·	*	*
L	TFD	16/11/2021	· ·	×	×	×					×	×			*	· · ·	<b>v</b>	~	×
1	TFD	13/08/2021	•	· ·	• -/	•	• •	1	4		4	•	· ·		•	v ./	•		•
MS\BH15	TED	16/11/2021		•				· ·	•		•	•			· ·	•	· ·	1	•
1	SMG	16/11/2021					1	1	~										
	RMS	10/08/2021	-	-	· ·	1	-				· ·	-	<ul> <li>✓</li> </ul>		~	~	1		-
MS\BH17	RMS	16/11/2021	<ul> <li>✓</li> </ul>	~	~	~	1	1	~		1	~			~		~	1	~
MS\TP06	N/A	22/06/2021	<ul> <li>✓</li> </ul>	-	-	1	~	~	1		~	1	1		~	~	1		1
S1-BH04	MG	08/01/2018	<ul> <li>✓</li> </ul>		~	~	1	1	~	1	1	~		1			✓	1	1
S1-BH05	MG	08/01/2018	<ul> <li>✓</li> </ul>		×	1	×	1	1		×	1		1			✓	1	1
S1-BH05	MG	22/02/2018	<ul> <li>✓</li> </ul>			1	1				1	1					✓	1	1
S1-BH06	MG	08/01/2018	1		<ul> <li>✓</li> </ul>	1	1	1	1		1	1		1			1	1	1
S1-BH06	MG	22/02/2018	<ul> <li>✓</li> </ul>			1	1				1	1					1	1	1
S1-BH07A	MG/TFD	08/01/2018	<ul> <li>Image: A start of the start of</li></ul>		1	<ul> <li>Image: A start of the start of</li></ul>	1	1	1		1	1		1			✓	1	1
S1-BH12	MG	09/01/2018	<ul> <li>✓</li> </ul>		1	1	1	1	1		1	1		1			1	1	1
S1-BH13A	MG/TFD	09/01/2018	<ul> <li>Image: A start of the start of</li></ul>		<ul> <li>Image: A start of the start of</li></ul>	1	1	1	1	1	1	1		1			<ul> <li>✓</li> </ul>	1	1
S1-BH13A	MG/TFD	22/02/2018	<ul> <li>✓</li> </ul>			1	~				<ul> <li>✓</li> </ul>	1					×	✓	1
S1-BH14	MG	09/01/2018	1		<ul> <li>✓</li> </ul>	×	<ul> <li>✓</li> </ul>	1	~		<ul> <li>✓</li> </ul>	1		~			<ul> <li>Image: A start of the start of</li></ul>	1	1
S1-BH18	MG	09/01/2018	× .		×	×	<ul> <li>✓</li> </ul>	1	-	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	×		-			×	×	-
S1-BH18	MG	22/02/2018	<b>↓ Ý</b>			<b>√</b>	<b>√</b>				<b>√</b>	✓					×	<ul> <li>✓</li> <li>✓</li> </ul>	
S1-BH19	MG	09/01/2018	× .	-	×	× .	×	-	-	-	-	× .	-	× .		-	×	×	×
CO DUAGA	IFD	09/01/2018	×			-	-					×					×	×	
32-DHAU4	MG	09/01/2018	×		×		× /	-	-	-	× /			-			×	4	4
S2-BUADE	MG/TED	23/02/2018	× ./	-	1	-	-/	./	./	./	-/		-	1		-		× ./	× ./
32-DTIAU5	MG/TED	09/01/2016	• •		• ./	•	· ·/	• ./	4	×	· ·/	•		*			•	*	*
S2-BHA06	MG/TED	23/02/2018			•				· ·	•		· ·		•			· ·	•	•
L	RMS	13/08/2021	· ·	×	1	· ·		1	-									-	<ul> <li>✓</li> </ul>
1	TED	13/08/2021		· ·		· ·	· ·												
L D D L D	RMS	18/10/2021		· ·	×	1	~		· ·		~	-			~	~	~		
LF/BH01	TFD	18/10/2021	~	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>	1	1	~	~		~	~			~	~	~	~	~
1	RMS	17/11/2021	~	×	~	~	1	1	~		1	~			~	~	~	1	~
	TFD	17/11/2021	<ul> <li>✓</li> </ul>	×	✓	1	1	1	1		1	1			×	✓	✓	✓	✓

Notes: ✓ Contaminant tested for

SMG MG TFD GT RMS N/A

Slag Made Ground Made Ground Tidal Flat Deposits Glacial Till Redcar Mudstone Trial pit, no well

Summary of Sample Deviations



## **Summary of Sample Deviations**

10035117 Appendix	7-AUK-XX-XX-RP-ZZ-0428-03-LW H: Summary of Sample Deviations	oW_DQRA s at Environr	nental Testing Laboratory		
Lab	Lab Reference	Lab No	Sample ID	Deviation	
Lab	Lab Reference	Lab No.	Sample ID	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 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	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 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-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	-
DETS	4153 Combined Report	1273339	\$1-BH18 10 00 SOIL	days), pH + Conductivity (7 days) Sample date not supplied, Anions 2:1 (365 days), pH +	-
	4153 Combined Report	1275555	51 BH04 C 00 SOL	Conductivity (7 days) Sample date not supplied, Anions 2:1 (365 days), pH +	
		12/6855	S1-BH04 6.00 SOIL	Conductivity (7 days) Sample date not supplied, Anions 2:1 (365 days), pH +	-
DETS	4153 Combined Report	1276856	S1-BH04 11.40 SOIL	Conductivity (7 days)	-
DETS	4153 Combined Report	1276860	\$1-BH18 5.60 SOIL	(365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365	_
		1270000		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 +	-
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	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)	-

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Appendix				Deviation							
Lab	Lab Reference	Lab No.	Sample ID	Holding Time Exceeded for tests	Inappropriate container for tests						
DETS	17-90043	1117393		nH + 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		pH + Conductivity (7 days)	-						
DETS	17-90393-1	1119393	31PI08 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)	-						

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-ppondix				Deviation						
Lab	Lab Reference	Lab No.	Sample ID	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	-					
DEIS	17-00243-2	1176070	52 1 PA48 U.8U SUIL S2TPA48 4 20 SOII	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)	-					

				Deviation	Deviation						
Lab	Lab Reference	Lab No.	Sample ID	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	21-1/182	1890318	Duplicate B 4.30-7.30 WATER	pH/Cond/TDS (1 days), Nitrite as N (2 days)	-						
	21-1/182	1890319	MS\BH07 4 20 7 20 WATER	pH/Cond/TDS (1 days), Nitrite as N (2 days)	-						
	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\BH03 1 89-2 70 WATER	nH/Cond/TDS (1 days), Nitrite as N (2 days)	-						
DETS	21-17182	1890322	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)

10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA																			
Appendix I, Table 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2018 and AEG 2021)																			
		Location		On-Site															
		Location ID	Location	12AB2	12	AT10	12AT11		12/	AT13	12AT16		12AT17		12	AT7	12AT8		12
Chemical Group	Compound	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
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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
	Cyanide (Free)	mg/kg		<1	<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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganics	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


10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																		
Appendix I Tab	le 1: Soil data (Enviros 2004, CH2M 2017) AEG 2021)	c&d, AEG 2018 and	_																
		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	12/	AT10	12 <i>F</i>	\T11	12/	AT13	12 <i>A</i>	\T16	12A	T17	12	AT7	12	AT8	12E
Chemical Group	Compound	Sample Depth	Sample Depth	6-6	0.3-0.3	4-4	0.3-0.3	4-4	0 2-0 2	4-4	0.3-0.3	22-22	0.3-0.3	2-2	0 25-0 25	4-4	2-2	4 2-4 2	5 5-5 5
		(m bgl)	(m bgl)		0.0 0.0		0.0 0.0		0.2 0.2		0.0 0.0		0.0 0.0		0.20 0.20				0.0 0.0
		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
	>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 Petroleum	Total >C5-C35 Aliphatics	mg/kg		-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
Hydrocarbons	>EC5-EC7 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Working Group	>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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrocarbons	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
	TPH by GCFID (AR)	mg/kg		70	72	87	427	249	548	715	202	16	45	2641	233	54	374	219	42
	Benzene	mg/kg	0.05	<250	<10	<10	<10	<10	<10	<25	<25	<10	<10	<10	<10	<10	<10	<10	<10
Benzene,	Toluene	mg/kg	0.05	<250	<10	<10	<10	<10	<10	<25	<25	<10	<10	<10	<10	<10	<10	<10	<10
Toluene,	Ethylbenzene	mg/kg	0.05	<250	<10	<10	<10	<10	<10	<25	<25	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene,	Xylene (m & p)	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
tertiary butyl	Xylene (o)	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ether	Xylene Total	mg/kg		<500	<20	<20	<20	<20	<20	<50	<50	<20	<20	<20	<20	<20	<20	<20	<20
	МТВЕ	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
Polvcvclic	Pyrene	mg/kg	0.01	<1	<1	3	4	<1	25	5	<1	<1	21	<1	<1	<1	6	<1	<1
Aromatic	Benzo(a)anthracene	mg/kg	0.01	<1	<1	2	3	<1	13	4	<1	<1	11	<1	<1	<1	6	<1	<1
Hydrocarbons	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		-	-	-	- 1	-	-	-	-	-	- 1	-	-	-	- 1	-	-
	Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Xylenols	mg/kg	1	-	-	-	-	-	-	-	-	-	- 1	-	-	-	-	-	
	3-&4-methylphenol	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenolics	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 Monohvdric	ma/ka		-	-	-	-	-	-	-	-	-	-	-	-	-		-	
1	.,		1	1	I	1	1	1	1	I	I	I	1	1	I	I	1	1	1 I



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Appendix I Tab	le 1: 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						
			Looption	40400	101-0110		10/	T11	40/	011-0110 A T 4 2	40/	AT10	40	011-011C	40		10		400
Chemical Group	Compound	Location ID	Location	12AB2	128		124		124	4113	124		12/		12		12		120
Chemical Croup	Compound	(m hal)	(m hal)	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
	Styrene	ma/ka	0.05	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1 3-dichloropropene	ma/ka	0.05	-		-		-		-		-		-	-	-	-	-	-
	trans-1 3-dichloropropene	ma/ka	0.05	-		-		-		-		-	-	-	-	-	<u> </u>	-	<u> </u>
	1 1 1 2-tetrachloroethane	ma/ka	0.05	-	· ·	-		-		-		-		-	-	-	-	-	-
	1 1 1-trichloroethane	mg/kg	0.05	-		-		-	-	-	-	-		-	-		-		
	1 1 2 2-tetrachloroethane	mg/kg	0.05	-		-		-		-		-	<u> </u>	-	-				
	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-chloropropage	mg/kg	0.05		<u> </u>			-				-							
	1.2-dibromoethane	mg/kg	0.05					-				<u> </u>	+	-				-	
	1.2-dichloroethane	mg/kg	0.05	-	-	-		-	-	-	-			-	-	-	-	-	
		mg/kg	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		mg/kg	0.05	-		-	-	-	-	-	-	-		-	-	-	-	-	-
		mg/kg	0.05	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-
		mg/kg	0.05			-		-		-		-	-	-	-	-	-	-	-
		mg/kg	0.05			-		-	-	-		-	-	-	-	-	-	-	-
	2,2-dichioropropane	mg/kg	0.05			-	· ·	-		-		-		-	-	-	-	-	-
		mg/kg	0.05		· ·	-	· ·	-		-		-		-	-	-	-	-	-
	4-chiorotototene	mg/kg	0.05			-		-		-		-		-	-	-	-	-	-
Volatile Organic	Bromobenzene	mg/kg	0.05		· ·	-	· ·	-		-		-		-	-	-	-	-	-
Carbon		mg/kg	0.05	-	· ·	-	· ·	-		-				-	-	-	-	-	
		mg/kg	0.05	-		-		-		-	-	-		-	-	-	-	-	
	Bromotorm	mg/kg	0.05	-		-		-		-		-		-	-	-	-	-	-
	Bromometnane	mg/kg	0.05	-		-	-	-		-	-	-		-	-	-	-	-	
	Carbon tetrachioride	mg/kg	0.05	-		-		-		-	-	-		-	-	-	-	-	
		mg/kg	0.05	-		-	-	-	-	-	-	-		-	-	-	-	-	
	Chloroetnane	mg/kg	0.05	-		-	-	-	-	-	-	-		-	-	-	-	-	-
		mg/kg	0.05	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
		mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	cis-1,2-dichloroethene	mg/kg	0.05	-		-		-		-		-		-	-	-	-	-	
		mg/kg	0.05	-		-	-	-	-	-	-	-	-	-	-	-	-	-	
		mg/kg	0.05	-		-		-		-	-	-		-	-	-	-	-	
		mg/kg	0.05			-		-	-	-	-	-	-	-		-	-	-	
		mg/kg	0.05			-		-	-	-		-		-		-		-	
		mg/kg	0.00			-		-		-		-	-	-	-	-		-	
		mg/kg	0.05			-		-	-	-		-		-		-		-	
		mg/kg	0.00			-		-		-		-		-		-	-	-	
		mg/kg	0.05			-		-	-	-	-	-	-	-	-	-	-	-	
		mg/kg	0.05			-		-	-	-		-		-		-		-	
		mg/kg	0.05			-		-	-	-		-		-		-		-	
		mg/kg	0.05			-		-		-		-		-	-	-	-	-	
		ing/kg	0.05		· ·	-	· ·	-		-		-		-	-	-	-	-	
		тд/кд	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-		-	
		тд/кд	0.05	-	· ·	-		-	-	-	-	-	-	-	-	-		-	
		mg/kg	0.05	-		-	-	-	-	-		-		-	-	-		-	
Volatile Organic		тд/кд	0.01	-	-	-	-	-	-	-	-	-		-	-	-		-	
Compounds /		тд/кд	0.01	-		-	-	-	-	-	-	-	-	-	-	-	-	-	
Semi Volatile	1,3-aichiorobenzene	тд/кд	0.01	-		-	-	-	-	-		-	-	-	-	-	-	-	
Compounds	1,4-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Chlorobenzene	mg/kg	0.05	-	· ·	-	-	-	-	-	-	-	-	-	-	-		-	-
	Hexachlorobutadiene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Appendix I Tal	ble 1: Soil data (Enviros 2004, CH2M 20	17c&d, AEG 2018 and																	
	AEG 2021)	Location		On-Site															
			Location	40400	10	AT10	40	AT11	40/	AT12	40/		40	AT17	40		10	AT0	400
Chemical Group	Compound	Location ID Somple Dopth	Location Sample Dopth	12AD2	12		12/		124		124	41 10	12/		12		12		120
		(m bal)	(m bal)	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
	1,4-dinitrobenzene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzyl alcohol	mg/kg		-	-	-	-	-	-	-	-	-		-	-	-	-	-	-
	4-bromophenyl phenyl ether	mg/kg	0.01	-		-		-	-	-	- 1	-		-	-	-	-	-	-
	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	-		-	-	-		-		-		-	-	-	-	-	-
		mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-		-	
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg	0.04	-		-		-	-	-	-	-		-		-		-	
Organic	4-chloro-3-methylphenol	mg/kg	0.01			-		-	-	-	-	-		-		-		-	
Compounds	4-chiorophonyl phonyl other	mg/kg	0.01	-		-	-	-	-	-		-		-	-	-	-	-	
	4-chlorophenyl phenyl etter	mg/kg	0.01			-		-	-	-	-	-		-	-	-		-	-
		mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Azobenzene	mg/kg	0.01		<u> </u>							-						-	
	Bis(2-chloroethoxy) methane	mg/kg	0.01					-		-				-				-	
	Bis(2-chloroethyl)ether	mg/kg	0.01	-			<u> </u>	-	-			_							
	Bis(2-chloroisopropyl) ether	mg/kg	0.01	-			<u> </u>	-	-				· .						
	Bis(2-ethylhexyl) phthalate	mg/ka	0.1	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Butyl benzyl phthalate	mg/kg	0.1	-	- I	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbazole	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dibenzofuran	mg/kg	0.01	-		-	-	-	-	-	· ·	-	-	-	-	-	-	-	-
	Diethylphthalate	mg/kg	0.1	-	- 1	-	- 1	-	-	-	-	-	- 1	-	- 1	-	- 1	-	
	Dimethyl phthalate	mg/kg	0.1	-	- 1	-	- 1	-	-	-	- 1	-	- 1	-		-		-	-
	Di-n-butyl phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-
	Di-n-octyl phthalate	mg/kg	0.1	-	- 1	-	-	-	-	-	-	-	-	-	-	-	- 1	-	-
	Diphenylamine	mg/kg		-	-	-	-	-	-	-	- 1	-	-	-	-	-	-	-	-
	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Appendix I, Tab	ole 1: Soil data (Enviros 2004, CH2M 2017c&d, . AEG 2021)	AEG 2018 and																	
		Location		On-Site															
		Location ID	Location	12AB2	12/	AT10	12A	T11	12/	AT13	12/	AT16	12	AT17	12	2AT7	12	AT8	12
Chemical Group	Compound	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
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polychlorinated	PCB 180	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biphenyls (PCB)	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 -#



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tat	ble 1: Soil data (Enviros 2004, CH2M 2017c&d,	, AEG 2018 and																			
	AEG 2021)	Location		On Site	On Sito	On Sito	On Sito	On Sito	On Site	On Sito	On Site	On Sito	On Site	On Sito	On Sito	On Sito	On Site				
		Location																			
Chemical Group	Compound	Location ID	Location	381	12	B112	12t	5114	12B115	12	BIA	13	ATT	13/	412	13	AI3	13	A14	13/	
	Compound	(m bal)	(m bal)	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	21/04/200	4 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
	Aluminium	mg/kg		-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Antimony	ma/ka			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Arsenic	ma/ka		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	ma/ka		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bervllium	ma/ka				-	· ·	-		-	-		-	-	-		-	-	-	-	-
	Boron	ma/ka		<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		<0.0	0.6	0.4	0.6	0.5	17	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)	ma/ka		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	Copper	mg/kg	-	2.8	13.5	31.2	12	0.5	65.3	41.2	46.4	20	160 5	2.9	27	9.6	10.7	14	23	43	5.8
motalo	Iron	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	l ead	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	01	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	33
	Selenium	ma/ka	-	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	ma/ka		-	-	-		-	-	-	-		-	-	-	-	-	-	-	-	-
	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
	Cvanide (Free)	mg/kg		<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Cvanide Total	ma/ka		<1	3	6	3	7	3	18	3	1	<1	<1	<1	2	<1	2	3	14	15
	cvanides-complex	mg/kg	-	<u> </u>		-		-	-	-	-		-	-	-	-	-	-	-	-	-
	Magnesium	ma/ka		-	-	-		-	-	-	-		-	-	-	-	-	-	-	-	-
	Nitrate (as NO3-)	ma/ka	-	-		-	· .	-		-	-		-	-	-		-	-	-	-	-
Inorganics	Sulphate	mg/kg	-	<u> </u>		-		-	-	-	-		-	-	-		-	-	-	-	-
linerganiee	Sulphate as SO4	ma/ka		-	-	-		-	-	-	-		-	-	-	-	-	-	-	-	-
	Sulphide	mg/kg	-	<5	1710	414	2039	1509	297	1020	604	409	68	3448	2468	399	<5	654	16	1921	2816
	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	1.36
	Sulphur (free)	ma/ka		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Thiocvanate (as SCN)	ma/ka		<u> </u>		-		-	-	-	-	-	-	-		-	-	-	-	-	-
	Organic Matter	%	-	-		-	-	-	-	-	-		-	-		-	-	-	-	-	<u>+</u>
	Fraction Organic Carbon	-		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	Moisture	%	0.1	-		-	-	-	-	-	-	-	-	-		-	-	-	-	-	-
0.000	Moisture Content 105C	%	5.1	-		-	-	-	-	-	-	-	-	-	_	-	-	-	-	-	-
	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	10.8



		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 3	B1	128	3T12	12E	3T14	12BT15	12	BT9	13	AT1	13	AT2	13/	AT3	13/	AT4	13/	AT5
Chemical Group	Compound	Sample Depth	Sample Depth	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
		(m bgl)	(m bgl) 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	14/04/2
	>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 Petroleum	Total >C5-C35 Aliphatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrocarbons	>EC5-EC7 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Working Group	>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		-		-		-	-	-	-		-		-	-	-	-	-		
	EDH > C10 40	mg/kg		-		-		-	-	-	-		-		-	-	-	-	-		
Petroleum		mg/kg		-	-	-		-	-	-	-	-	-	-		-	-	-	-	-	
Trydrocarbons		mg/kg		~0.2	138	<0.2	1650	<0.2 0/	<0.2 318	242	<0.2 31	181	325	30	11	173	~0.2	33	<0.2 60	×0.2	<10.2
	Benzene	mg/kg	0.05	<10	<10	<10	<10	<10	<10	<10	<10	<10	<25	<10	<25	<10	<10	<10	<10	<10	<10
Benzene	Toluene	mg/kg	0.00	<10	<10	<10	<10	<10	<10	<10	<10	<10	<25	<10	<25	<10	<10	<10	<10	<10	<10
Toluene,	Fthylbenzene	mg/kg	0.00	<10	<10	<10	<10	<10	<10	<10	<10	<10	<25	<10	<25	<10	<10	<10	<10	<10	<10
Ethylbenzene,	Xvlene (m & p)	ma/ka	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes, Methyl	Xylene (o)	ma/ka	0.05	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
ether	Xylene Total	mg/kg		<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	<20	<50	<20	<20	<20	<20	<20	<20
001	МТВЕ	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	<1
	Acenaphthene	mg/kg	0.01	<1	<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	<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	<1	<1	<1
	Anthracene	mg/kg	0.01	<1	<1	<1	8	<1	<1	<1	<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	<1	<1	<1
	Fluorene	mg/kg	0.01	<1	<1	<1	2	<1	<1	<1	<1	<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	<1	<1	<1	<1
Polycyclic	Pyrene	mg/kg	0.01	<1	2	<1	37	3	1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1
Aromatic	Benzo(a)anthracene	mg/kg	0.01	<1	1	<1	26	2	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1
Hydrocarbons	Benzo(b)fluoranthene	mg/kg	0.01	<1	2	<1	34	3	2	1	<1	<1	<1	<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	<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	<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	<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	<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	<1	<1	<1	<1
	PAH 16 Iotal	mg/kg		<16	<22	<16	<309	<26	<18	<16	<16	<16	<16	<16	<16	<18	<16	<16	<16	<16	<16
		mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<u> </u>	
	Ayienois	mg/kg		-	-	-		-	-	-	-		-		-	-	-	-	-		
	L3-64-MEINVIDDEDOI	Imd/kd		-			I -					I -					-		-	т - <u>́</u>	
Phenolics	Dhanal	mg/kg	0.01	-0 F	-0 5	-0.5	-0.5	-05	-0.5	-0.5	-05	-0.5	-0 5		0.7	-0.5	-0 5	-0 5		-05	-0 -



	ALG 2021)			0.01	0.01	0.01	0 -0:	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	
		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 ID	Location	3B1	128	BT12	12	BI14	12BT15	121	319	13	SAT1	13/	412	13	BAT3	13.	A14	13	3A15
	Compound	Sample Depth (m.bal)	Sample Depth	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	4 21/04/2004	4 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	4 14/04/2004	14/04/2004	14/04/2004	14/04/2004	4 14/04/20
	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Volatile Organic	Bromobenzene	mg/kg	0.05		-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon	Bromochioromethane	mg/kg	0.05	-		-			· ·		-		-	-	-	-	-		-		
	Bromodichioromethane	mg/kg	0.05	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbon tetrachlorido	mg/kg	0.05	-		-		-	-	-	-	-	-	-	-	-	-		-	-	-
	Chlorodibromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroethane	mg/kg	0.05				+		<u> </u>		-			-	-						
	Chloroform	mg/kg	0.05					-			-		-	-			-				
	Chloromethane	mg/kg	0.05	-	-	-	<u> </u>	-		-	-			-	_	-		-	_	<u> </u>	-
	cis-1 2-dichloroethene	mg/kg	0.05	-		-		-		-	-		-	-	-	-	-	-	-		-
	Dibromomethane	ma/ka	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Isopropylbenzene	mg/kg	0.05	-	-	-	-	-	- 1	-	-	-	-	-	-	-	-	-	-	-	-
	n-butylbenzene	mg/kg	0.05	-	- 1	-	- 1	-	- 1	-	-	- 1	-	-	-	-	-	- 1	-		-
	n-propylbenzene	mg/kg	0.05	-	-	-	-	-	- 1	-	-	-	-	-	-	-	-	-	-	-	-
	p-isopropyltoluene	mg/kg	0.05	-	-	-	-	-	- 1	-	-	-	-	-	-	-	-	-	-	-	-
	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,3-trichlorobenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Volatile Organic	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Compounds /	1,2-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi Volatile	1,3-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organic	1,4-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Compounds	Chlorobenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



10035117-AUK-XX	K-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	le 1: 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
		Location ID	Location	3B1	12B	T12	12E	3T14	12BT15	12	ВТ9	13/	AT1	13/	T2	13/	AT3	13/	AT4	13/	AT5
Chemical Group	Compound	Sample Depth	Sample Depth																		
		(m bal)	(m bal)	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
	1 4 dinitrobenzene	ma/ka	campio_Date	22/01/2001	2 1/0 1/2001	2 110 112001		2 110 11200 1							10/0 1/2001				1 1/0 1/2001	1 1/0 1/2001	
		mg/kg		-		-		-			-		-	-	-		-	-	-	-	-
		під/кд	0.04	-		-		-			-		-	-	-		-	-	-	-	-
	4-bromopnenyi pnenyi etner	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	ma/ka		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2 4 5-trichlorophenol	ma/ka	0.01		-			-	-	-	-		-	-		-	_				-
		mg/kg	0.01																		
		malka	0.01	-		-		-			-	-	-	-	-	<u> </u>	-	-	-	-	-
		mg/kg	0.01	-		-		-			-				-		-		-		-
		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-methvlnaphthalene	ma/ka	0.01	-	-	-	· -	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-methylphenol	ma/ka	0.01					-		-	-	-	-	-		-					
		mg/kg	0.01																		
		mg/kg	0.01	-		-		-			-		-	-	-		-	-	-	-	
		mg/kg	0.01	-	-	-		-		-	-		-	-	-	-	-	-	-	-	-
	3-nitroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organic	4-chloro-3-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Compounds	4-chloroaniline	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-chlorophenyl phenyl ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-methylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aniline	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Azobenzene	ma/ka	0.01	-	-	-	· -	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bis(2-chloroethoxy) methane	ma/ka	0.01	-	-	-	· -	-			-	-	-	-		-	-	-		-	-
	Bis(2-chloroethyl)ether	mg/kg	0.01																		
		mg/kg	0.01	-		-		-		-	-	-	-	-	-		-		-	-	
		mg/kg	0.1	-	-	-		-			-	-	-	-	-	-	-	-	-	-	-
		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	-	-	-	-	-	- 1	-	-	-	-	-	-	-	-	-	-	-	-
	Di-n-octyl phthalate	mg/ka	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Diphenvlamine	ma/ka		-		-	<u> </u>	-			-	-	-	-	-		-	-	-	-	-
	Hexachlorobenzene	ma/ka	0.01			_		-	<u> </u>	-	-		-	-	_	<u> </u>	_	-	_	-	<u> </u>
		mg/kg	0.01	-		-		-			-		-	-	-		-	-	-	-	-
		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	-	-	-	-	-	- 1	-	-	-	-	-	-	-	-	-	-	-	-
I	-		1	I		I		1			1		1		I		1		I		I



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I Tab	le 1: Soil data (Enviros 2004, CH2M 2017c&d, A AEG 2021)	AEG 2018 and																			
		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	3B1	12	BT12	128	BT14	12BT15	12	BT9	1:	BAT1	13/	AT2	13	AT3	13	AT4	13,	AT5
Chemical Group	Compound	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	21/04/200	4 21/04/2004	21/04/2004	21/04/2004	21/04/2004	20/04/2004	20/04/2004	13/04/2004	4 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
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polychlorinated	PCB 180	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biphenyls (PCB)	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Not analysed #



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ole 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2021)	AEG 2018 and																			
		Location		On-Site																	
		Location ID	Location	13	AT6	13BT10	13	BT11	13B	3T12	13BT8	13BT9	13CB1	130	CT14	13	CT15	13	CT16	13CT17	14AT7
Chemical Group	Compound	Sample Depth	Sample Depth	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
		(m bgi)	(M Dgi) Sample, Date	11/01/2001	14/04/2004	14/04/2004	11/01/2001	14/04/2004	11/01/2001	14/04/2004	11/01/2001	14/04/2004	21/04/2004	11/01/2001	11/01/2001	11/01/2001	14/04/2004	14/04/2004	14/04/2004	14/04/2004	21/04/2004
	Aluminium	ma/ka	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
	Antimony	mg/kg		-	-	-	-			_	-			-	-	-	-	<u> </u>		<u> </u>	<u> </u>
	Arsenic	mg/kg		34.7	18.3	31.3	6.8	12 1	8	17.5	12 7	9.5	24	13.6	21.4	94	26.3	6.9	12.2	5.3	81
	Barium	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bervllium	mg/kg			-	-	-			-	-			-		-	-	<u> </u>		<u> </u>	
	Boron	mg/kg		21	27	17	12	2.3	0.6	0.8	1.9	2.6	19	13	12	0.7	1.8	14	1.5	1	0.6
	Cadmium	mg/kg		0.6	0.4	32	0.4	0.3	0.0	0.0	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	51	311.4	468.2	200	334.9	22.1	196	35.9	18.8
	Chromium (Trivalent)	mg/kg		-	-	-	-	-		-	-	-	-	-	-		-		-	-	-
Metals	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	ma/ka		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
	Cyanide (Free)	mg/kg		<1	<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	21
	cyanides-complex	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	Magnesium	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate (as NO3-)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	- 1	-
Inorganics	Sulphate	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-
	Sulphate as SO4	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-
	Sulphide	mg/kg		803	1919	<5	101	156	<5	5	415	30	3060	524	290	439	571	447	267	127	3617
	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	0.96
	Sulphur (free)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Thiocyanate (as SCN)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Organic Matter	%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fraction Organic Carbon	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	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	10.2



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tal	ole 1: Soil data (Enviros 2004, CH2M 2017c&c AEG 2021)	I, AEG 2018 and																			
		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	13	AT6	13BT10	13E	3T11	13E	3T12	13BT8	13BT9	13CB1	130	T14	130	CT15	130	CT16	13CT17	14AT7
Chemical Group	Compound	Sample Depth	Sample Depth	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
		(m bgl)	(m bgl)	4.4/0.4/0.004	4.4/0.4/00.0.4	4.4/0.4/00.0.4	4.4/0.4/00.0.4	4.4.10.4.10.00.4	4.4/0.4/0.004	4.4/0.4/00.04	4.4/0.4/000.4	4410410004	04/04/0004	4.4.10.4.10.00.4	4.4/0.4/000.4	4.4/0.4/00.0.4	4.4.10.4.10.00.4	4.4.10.4.10.00.4	4.4/0.4/00.0.4	4.4/0.4/000.4	04/04/0004
		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
		mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	>C6-C8 Aliphatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	>C8-C10 Alignatics	mg/kg		-	-			-		-	-	-		-	-	-	-	-	-	-	-
	>C10-C12 Aliphatics	mg/kg			-			-		-	-	-		-	-		-	-	-	-	-
	>C12-C16 Aliphatics	mg/kg			-			-		-	-			-	-		-		-		-
	>C10-C21 Aliphatics	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	Total SCE C2E Aliphatics	mg/kg		-	-	-	-	-	-	-	-	-		-	-		-	-	-		-
Total Petroleum	FOR ECT Aremetics	mg/kg		-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
Working Group	>EC3-EC7 Alomatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	>EC8 EC10 Aromatics	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	>EC10 EC12 Aromatics	mg/kg	_	-	-			-		-	-	-	-	-	-		-	-	-	-	-
	>EC12 EC16 Aromatics	mg/kg	_	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	>EC16-EC21 Aromatics	mg/kg		<u> </u>			<u> </u>		<u> </u>			<u> </u>			-	<u> </u>	-		<u> </u>	<u> </u>	
	>EC10-EC21 Aromatics	mg/kg	_	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total >EC5-EC35 Aromatics	mg/kg						-									-				
	TPH >C5-C35 Alighetics/Aromatics	mg/kg																			
	TPH Band (C10 - C40)	mg/kg	+					-			-			-			-				
Detroloum	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	-			-				-
Hvdrocarbons	GRO C5-C10	mg/kg	-	<0.2	<0.2	0.6	<0.2	<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 GCEID (AR)	mg/kg		90	<10	172	2574	84	93	83	2808	91	<10	74	120	212	571	401	148	264	268
	Benzene	mg/kg	0.05	<10	<10	<25	<10	<10	<10	<10	<10	<10	<25	<10	<10	<10	<10	<10	<10	<10	<10
Benzene	Toluene	mg/kg	0.05	<10	<10	<25	<10	<10	<10	<10	<10	<10	<25	<10	<10	<10	<10	<10	<10	<10	<10
Toluene,	Fthylbenzene	mg/kg	0.05	<10	<10	<25	<10	<10	<10	<10	<10	<10	<25	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene,	Xvlene (m & p)	ma/ka	0.1	-	-		-	-	-	-	-	-	· ·	-	-	-	-	-	-	-	-
Xylenes, Methyl	Xvlene (o)	ma/ka	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ether	Xylene Total	mg/kg		<20	<20	<50	<20	<20	<20	<20	<20	<20	<50	<20	<20	<20	<20	<20	<20	<20	<20
	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	<1
	Acenaphthene	mg/kg	0.01	<1	<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	<1
	Fluoranthene	mg/kg	0.01	<1	<1	<1	9	<1	<1	<1	4	<1	<1	<1	<1	<1	29	<1	<1	<1	6
	Anthracene	mg/kg	0.01	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	5	<1	<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	3
	Fluorene	mg/kg	0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<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	3
Polycyclic	Pyrene	mg/kg	0.01	<1	<1	1	6	<1	<1	<1	2	<1	<1	<1	<1	<1	21	<1	<1	<1	5
Aromatic	Benzo(a)anthracene	mg/kg	0.01	<1	<1	1	4	<1	<1	<1	4	<1	<1	<1	<1	<1	10	<1	<1	<1	3
Hydrocarbons	Benzo(b)fluoranthene	mg/kg	0.01	<1	<1	2	<1	3	<1	<1	<1	<1	<1	<1	<1	<1	13	<1	<1	<1	2
	Benzo(k)fluoranthene	mg/kg	0.01	<1	<1	<1	2	<1	<1	<1	2	<1	<1	<1	<1	<1	5	<1	<1	<1	2
	Benzo(a)pyrene	mg/kg	0.01	<1	<1	1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	9	<1	<1	<1	2
	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	<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	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	1
	PAH 16 Total	mg/kg		<16	<16	<18	<47	<16	<16	<16	<26	<16	<16	<16	<16	<16	<153	<16	<16	<16	<68
	PAHs (Sum of total)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Xylenols	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenolics	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	<0.5
1	Phenols Monohydric	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



		Location		On-Site	On-Site	On-Site	On-Site	On-Site	On-Site												
		Location ID	Location	13	AT6	13BT10	13E	3T11	13B	T12	13BT8	13BT9	13CB1	13C	T14	130	CT15	130	CT16	13CT17	14/
nemical Group	Compound	Sample Depth	Sample Depth	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
		(m bgl)	(m bgl)	11/01/2001	14/04/2004	14/04/2004	14/04/2004	14/04/2004	11/01/2001	14/04/2004	14/04/2004	14/04/2004	21/04/2004	14/04/2004	14/04/2004	1 14/04/2004	14/04/2004	14/04/2004	14/04/2004	14/04/2004	1 21/04
	Styrene	ma/ka		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
	cis-1.3-dichloropropene	mg/kg	0.05		-	-	-	-		-		-	-	-			-	-		-	
	trans-1.3-dichloropropene	ma/ka	0.05		-	-		-	-	-		-		-	-		-	-	-	-	+
	1.1.1.2-tetrachloroethane	ma/ka	0.05		-	-		-		-		-		-	-		-	-	-	-	+
	1.1.1-trichloroethane	ma/ka	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	1,1-dichloropropene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
ŀ	1,2,3-trichloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
ŀ	1,2,4-trimethylbenzene	mg/kg	0.05	-	-	-	- ·	-	-	-	-	-	-	-	-	· -	-	-	-	-	+
1	1,2-dibromo-3-chloropropane	mg/kg	0.05	- 1	-	- 1	-	-	-	-	- 1	-	-	-	-		-	-	-	- 1	1
1	1,2-dibromoethane	mg/kg	0.05	- 1	-	- 1	-	-	-	-	- 1	- 1	- 1	-	-	- 1	-	-	-	- 1	1
1	1,2-dichloroethane	mg/kg	0.05	- 1	-	-	-	-	-	-	- 1	-	-	-	-	-	-	-	-	- 1	1
ł	1,3-Dichloropropene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
1	1,2-dichloropropane	mg/kg	0.05	- 1	-	-	-	-	-	-	- 1	- 1	-	-	-	- 1	-	-	-	- 1	1
ŀ	1,3,5-trimethylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
ŀ	1,3-dichloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
ŀ	2,2-dichloropropane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
ł	2-chlorotoluene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
ŀ	4-chlorotoluene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
ł	Bromobenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
latile Organic	Bromochloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Carbon	Bromodichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
ŀ	Bromoform	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
1	Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
ŀ	Carbon tetrachloride	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
}	Chlorodibromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
•	Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-	-	-	-	1
ł	Chloroform	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
1	Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
1	cis-1,2-dichloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
1	Dibromomethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
1	Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
1	Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
1	Isopropylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
1	n-butylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
1	n-propylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ľ	p-isopropyltoluene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ŗ	sec-butylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1	Trichloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1	tert-butylbenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ľ	Tetrachloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1	trans-1,2-dichloroethene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1	Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
,	Vinyl chloride	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
į	1,2,3-trichlorobenzene	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
latile Organic	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	-	- 1	-	-	-	-	-	-	-	-	- 1	-	-	-	-	1
Compounds /	1,2-dichlorobenzene	mg/kg	0.01	-	-	-	- 1	-	-	-	-	-	-	-	-	- 1	-	-	-	-	1
Semi Volatile	1,3-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-	-	-	-	1
Organic	1,4-dichlorobenzene	mg/kg	0.01	- 1	-	- 1	- 1	-	-	-	- 1	- 1	-	-	-		-	-	-	-	1
Compounds <sup>1</sup>	Chlorobenzene	ma/ka	0.05	-	-	-	· -	-	-	-	-	-	-	-	-	-	-	-	-	-	1



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tal	ole 1: Soil data (Enviros 2004, CH2M 2017c&	d, AEG 2018 and																			
	AEG 2021)			00	00:4	0 04	004	00:4	00:4	004	004	004	0014	0044	00	00:4-	004	00	0 0:4-	01.04	004
		Location		On-Site	Un-Site	On-Site	Un-Site	On-Site													
Chamical Croup	Compound	Location ID	Location	13	AT6	13BT10	135	3T11	138	BT12	13BT8	13BT9	13CB1	130	CT14	130	CT15	130	CT16	13CT17	14AT7
Chemical Group	Compound	Sample Depth	Sample Depth	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
		(in bgi)	(III Dyl) 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
	1 4-dinitrobenzene	mg/kg	Cample_Date			-				14/04/2004	-		21/04/2004							14/04/2004	21/04/2004
	Benzyl alcohol	mg/kg			_	<u> </u>	-	_	-	-	-		-	-	-	-		<u> </u>	_	<u> </u>	
	4-bromophenyl phenyl ether	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<u> </u> /	-
	4-nitroaniline	mg/kg	0.01	-	_		-	_	-	-				-	-	-		-	_	<u> </u> /	
	4-nitrophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	<u> </u>	-
	1 2-Dinitrobenzene	mg/kg			_		-	_		-					-	-		-	_	<u> </u> /	-
	1 3-Dinitrobenzene	mg/kg			-		-	-		-			-	-	-	-	-	-	-		-
	2.3.4.6-tetrachlorophenol	mg/kg			-	-	-	-		-		-	<u> </u>	-	-	-	-	-	-		-
	2 3 5 6-Tetrachlorophenol	mg/kg			-		-	-	<u> </u>	-			-		-		-	-	-		-
	2.4.5-trichlorophenol	mg/kg	0.01		-	-	-	-		-		-	<u> </u>	-	-	-	-	-	-		-
	2.4.6-trichlorophenol	ma/ka	0.01	<u> </u>	-		-	-	<u> </u>	-			-	-	-		-	-	-		-
	2 4-dichlorophenol	mg/kg	0.01		-		-	-		-			-	-	-		-	-	-		-
	2 4-dimethylphenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<u> </u>	-
	2 4-dinitrotoluene	mg/kg	0.01		_		-	_		-					-	-			_	<u> </u> /	
	2 6-dichlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	<u> </u>	-
	2 6-dinitrotoluene	mg/kg	0.01	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	<u> </u>	-
	2-chloronaphthalene	mg/kg	0.01	-	-	-	-	-		-				-	-	-	-	-	-		-
	2-chlorophenol	mg/kg	0.01	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	<u> </u>	-
	2-methylnaphthalene	mg/kg	0.01	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	<u> </u>	-
	2-methylphenol	mg/kg	0.01	-	-	-	-	-		-		-		-	-	-	-	-	-		-
	2-nitroaniline	mg/kg	0.01		-	-	-	-		-		-	<u> </u>	-	-	-	-	-	-		-
	2-nitrophenol	ma/ka	0.01	<u> </u>	-		-	-	<u> </u>	-			-	-	-		-	-	-		-
	3-nitroaniline	mg/kg	0.01		-	-	-	-	<u> </u>	-		-		-	-		-	-	-		-
Somi Valatila	4.6-Dinitro-2-methylphenol	ma/ka		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
Organic	4-chloro-3-methylphenol	ma/ka	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
Compounds	4-chloroaniline	ma/ka	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	1	-	-	-	-	-	- 1	-	- 1	- 1	- 1	-	-	- 1	-	-	-	· · ·	-
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-
	Butyl benzyl phthalate	mg/kg	0.1	-	-	-	-	-	- 1	-	- 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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Appendix I, Tab	le 1: Soil data (Enviros 2004, CH2M 2017c&d, A AFG 2021)	AEG 2018 and																			
		Location		On-Site																	
		Location ID	Location	13,	AT6	13BT10	13E	3T11	13	BT12	13BT8	13BT9	13CB1	13C	CT14	130	CT15	130	CT16	13CT17	14AT7
Chemical Group	Compound	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
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polychlorinated	PCB 180	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biphenyls (PCB)	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Not analysed -#



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ble 1: Soil data (Enviros 2004, CH2M 2017c&d,	AEG 2018 and																			
	AEG 2021)	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	On-Site	On-Site	On-Site
			Location			L E/I	RH01					LE/RH02			I F\	TP01				MS\F	RH02
Chemical Group	Compound	Sample Depth	Sample Depth																		01102
		(m bql)	(m bal)	0.3	0.5	2	4	28.1-28.1	28.65-28.95	0.3		8.7-8.9	18.4	24.9-24.9	0.3			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
	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
Metals	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
	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
	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	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
Inorganics	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
	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	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Other	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



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tal	ble 1: Soil data (Enviros 2004, CH2M 2017	/c&d, AEG 2018 and																			
	AEG 2021)	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	On-Site	On-Site	On-Site
		Location ID	Location			LF\{	BH01					LF\BH02			LF\	TP01	LF\TP02	LF\TP03		MS\I	BH02
Chemical Group	Compound	Sample Depth	Sample Depth	0.2	0.5			201201	29 65 29 05	0.2		0700	10 /	24 0 24 0	0.2				0202	2 25 2 7	10.2.10.4
		(m bgl)	(m bgl)	0.5	0.5		4	20.1-20.1	20.05-20.95	0.5		0.7-0.9	10.4	24.9-24.9	0.5			4	0.5-0.5	2.25-2.1	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
	>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 Petroleum	I otal >C5-C35 Aliphatics	mg/kg		-	-	-	-	-	-	-	-	<10	-	-	<10	<10	<10	<10	-	2400	<10
Hydrocarbons	>EC5-EC7 Aromatics	mg/kg		-	-	-	-	-	-	-	-	<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
	>EC8-EC10 Aromatics	mg/kg		-	-	-	-	-	-	-	-	<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
	>EC12-EC16 Aromatics	mg/kg		-	-	-	-	-	-	-	-	<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
	>EC21-EC35 Aromatics	mg/kg		-	-	-	-	-	-	-	-	<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
	TPH >C5-C35 Aliphatics/Aromatics	mg/kg		-	-	-	-	-	-	-	-	<10	-	-	<10	<10	<10	<10	-	2400	<10
	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum	EPH >C10-40	mg/kg		<10	<10	<10	<10	-	<10	<10	13	<10	-	-	<10	<10	<10	<10	<10	<10	<10
Hydrocarbons	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
_	Benzene	mg/kg	0.05	-	-	-	-	< 0.05	-	-	-	<0.01	-	< 0.05	< 0.01	< 0.01	<0.01	<0.01	-	<0.01	<0.01
Benzene,	Toluene	mg/kg	0.05	-	-	-	-	< 0.05	-	-	-	<0.01	-	< 0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
Fthylbenzene	Ethylbenzene	mg/kg	0.05	-	-	-	-	< 0.05	-	-	-	<0.01	-	< 0.05	< 0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
Xylenes, Methyl	Xylene (m & p)	mg/kg	0.1	-	-	-	-	<0.1	-	-	-	-	-	<0.1	< 0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
tertiary butyl	Xylene (o)	mg/kg	0.05		-	-	-	< 0.05	-	-	-	-	-	< 0.05	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01
ether	Xylene I otal	mg/kg		-	-	-	-	-	-	-	-	<0.01	-	-	<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
	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
		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
Polycyclic		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
Aromatic		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
Hydrocarbons	Benzo(b)fluorantnene	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,n)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,n,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
		mg/kg	ļ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	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	-	-	-	-	-	-	-
	Xylenois	mg/kg	ļ	-	-	-	-	-	-	-	<0.01		-	-	<0.01	<0.01	-			-	<0.01
Phenolics	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	<0.1	<0.01	<0.1	<0.1	-	<0.1	<0.1
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	<0.3



	AFG 2021)																				
		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	On-Site	On-Site	On-Site
		Location ID	Location			LF\B	H01					LF\BH02			LF\1	FP01	LF\TP02	LF\TP03		MS\I	BH02
Chemical Group	Compound	Sample Depth	Sample Depth	0.3	0.5	2	4	28.1-28.1	28.65-28.95	0.3		8.7-8.9	18.4	24.9-24.9	0.3			4	0.3-0.3	2.25-2.7	10.2-10.4
		(m bgl)	(m bgl) Sample, Date	23/06/2021	23/06/2021	23/06/2021	23/06/2021	23/06/2024	1 20/06/2021	24/06/2021	24/06/2021	25/06/2021	24/07/2024	1 08/07/2021	23/06/2021	23/06/2021	23/06/2021	24/06/2021	25/06/2021	28/06/2021	28/06/2021
	Styrene	ma/ka					_	<0.05	<u>-</u>	<u>-</u>	<u>-</u>	-	-	<0.05	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01
	cis-1.3-dichloropropene	ma/ka	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	0.04	0.03	<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
Volatile Organic	Bromobenzene	mg/kg	0.05	-	-	-	-	<0.05		-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
Carbon	Bromocnioromethane	mg/kg	0.05	-	-	-	-	<0.05		-	-	-	-	< 0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Bromodicnioromethane	mg/kg	0.05	-	-	-	-	<0.05		-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	< 0.01
	Bromomethana	mg/kg	0.05		-	-	-	<0.05		-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Carbon tetrachlarida	mg/kg	0.05	-	-	-	-	<0.05		-	-	-	-	<0.05	-	-			-		
	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	<0.01	<0.01	<0.01	<0.01	-	<0.01	~0.01
	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	<0.01			<0.01		<0.01	
	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	-	-	_	_	<0.00		_	-	-	-	<0.00	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
	Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	< 0.05		-	-	-	-	< 0.05	-	-	-	-	-	-	-
	Dichloromethane	ma/ka	0.05	-	-	-	-	< 0.05		-	-	-	-	< 0.05	-	-		-	-	-	-
	Isopropylbenzene	ma/ka	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
	1,2,3-trichlorobenzene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
Volatile Organic	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	-	-	<0.01	- 1	-	-	-	-	< 0.05	<0.1	<0.1	<0.1	<0.01	-	<0.1	<0.01
Compounds /	1,2-dichlorobenzene	mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	-	< 0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
Semi Volatile	1,3-dichlorobenzene	mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
Organic	1,4-dichlorobenzene	mg/kg	0.01	-	-	-		<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
Compounds	Chlorobenzene	mg/kg	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
1	Hexachlorobutadiene	mg/kg	0.01	-	-	-	-	<0.05	- ]	-		-		<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01



		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	On-Site	On-Site	On-Site
			Location			I F	RH01	Oll Ollo	Oli Olio			LE/BH02		Oli Olio						MS	BH02
hemical Group	Compound	Sample Depth	Sample Depth																		DITOZ
		(m bgl)	(m bgl)	0.3	0.5	2	4	28.1-28.1	28.65-28.95	0.3		8.7-8.9	18.4	24.9-24.9	0.3			4	0.3-0.3	2.25-2.7	10.2-1
		Unit	Sample_Date	23/06/2021	23/06/202	1 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	28/06/2
	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	<0.7
	4-nitroaniline	mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.
	4-nitrophenol	mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.
	1,2-Dinitrobenzene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.
	1,3-Dinitrobenzene	mg/kg		-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.
	2,3,4,6-tetrachlorophenol	mg/kg		-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.
	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.
	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	<0.0
	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	2,4-dinitrotoluene	mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-		<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.
	2,6-dichlorophenol	mg/kg		-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	<0.0
	2,6-dinitrotoluene	mg/kg	0.01	-	-	-	-	< 0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.
	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
	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
	2-nitrophenol	mg/kg	0.01	-	-	-	-	< 0.01	-	-	-	-	-	<0.01	-	-	-		-	-	
1	3-nitroaniline	mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg			-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0
Organic	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.
Compounds	4-chloroaniline	mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	-	
1	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.
	Aniline	mg/kg	0.04		-	-	-	-	-	-	-	-	-	-	<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.
	Bis(2-chloroethoxy) methane	mg/kg	0.01		-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1		<0.1	<0.
	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.
	Butyl benzyl phthalate	mg/kg	0.1	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.
	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.
		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.
	Di-n-octyl phthalate	mg/kg	0.1	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.
		mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	< <u>(0.</u>
		mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.
1		mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	<0.1	-	<0.1	
	Hexachloroethane	mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	-	<0.01		-				-	
1	Isophorone	mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-		-	-	
1	Nitropenzene	mg/kg	0.01	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-		-	-	-
1	N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	<0.01		-	-	-	-	<0.01		-	-	<u> </u>	-	-	



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		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	On-Site	On-Site	On-Site
		Location ID	Location			LF\8	3H01					LF\BH02			LF\	\TP01	LF\TP02	LF\TP03		MS\E	3H02
Chemical Group	Compound	Sample Depth (m bgl)	Sample Depth (m bgl)	0.3	0.5	2	4	28.1-28.1	28.65-28.95	0.3		8.7-8.9	18.4	24.9-24.9	0.3			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
	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
Polychlorinated	PCB 180	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01
Biphenyls (PCB)	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 -#



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA ole 1: Soil data (Enviros 2004, CH2M 2017c&d.	AFG 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
		Location ID	Location					MS\	BH03					MS\	BH04		MS	\BH05			
Chemical Group	Compound	Sample Depth	Sample Depth	11.2-11.4	0.5		2	3-3.3	9.5-9.8	11-11.2	11.2-11.2	23.4	0.3	0.5		22.3-22.3	4.4-4.4	17.3	0.35	1-2	2.7-4.2
		(m bgl)	(m bgl)	20/06/2021	22/06/2021	22/06/2021	22/06/2021	22/06/2021			22/06/2021		19/06/2021	19/06/2021	19/06/2021	22/06/2021	16/06/2021	17/06/2021	05/07/2021	05/07/2021	05/07/2021
	Aluminium	ma/ka	Sample_Date	20/00/2021	23/00/2021	23/00/2021		23/00/2021	-	_	23/00/2021	_	10/00/2021	10/00/2021	10/00/2021	23/00/2021	10/00/2021		03/07/2021	03/07/2021	
	Antimony	mg/kg		-	-		_	-	-				<u> </u>	-	-	-	-			-	_
	Arsenic	mg/kg		12	4	14	12	97	49	72		27	10	8.3	6.9	44	71	7.8	31	3.9	37
	Barium	ma/ka		-	· ·	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bervllium	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	ma/ka		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
	Chromium (hexavalent)	mg/kg		<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
Metals	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
	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
	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
	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
Inorganics	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
	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	-		-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-
Other	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



10035117-AUK-XX	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	le 1: Soil data (Enviros 2004, CH2M 2017c AEG 2021)	&d, AEG 2018 and																			
		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\E	3H04		MS\	BH05			
Chemical Group	Compound	Sample Depth	Sample Depth		0.5			222	0509	11 11 0	11 2 11 2	22.4	0.2	0.5		<u></u>		17.2	0.25	1.2	2742
		(m bgl)	(m bgl)	11.2-11.4	0.5		2	5-5.5	9.5-9.0	11-11.2	11.2-11.2	23.4	0.5	0.5		22.3-22.3	4.4-4.4	17.5	0.55	1-2	2.1-4.2
		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
	>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		<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	-	-	-
	>C16-C21 Aliphatics	mg/kg		<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	-	-	-
Total Petroleum	Total >C5-C35 Aliphatics	mg/kg		<10	-	<10	<10	-	-	<10	-	<10	<10	-	<10	-	-	<10	-	-	-
Hydrocarbons	>EC5-EC7 Aromatics	mg/kg		<0.01	-	<0.01	<0.01	-	-	<0.01	-	<0.01	<0.01	-	<0.01	-	-	<0.01	-	-	-
Working Group	>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		1.7		<0.6	<0.6	-	-	<0.6	-	<0.6	<0.6	-	<0.6	-	-	<0.6	-	-	
	>EC21-EC35 Aromatics	mg/kg	ļ	15	-	<1.4	<1.4	-	-	<1.4	-	<1.4	<1.4	-	<1.4	-	-	<1.4	-	-	-
	I otal >EC5-EC35 Aromatics	mg/kg		17		<10	<10	-	-	<10	-	<10	<10	-	<10	-		<10		-	-
	TPH >C5-C35 Aliphatics/Aromatics	mg/kg		17	-	<10	<10	-	-	<10	-	<10	<10	-	<10	-	-	<10	-	-	-
	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum	EPH >C10-40	mg/kg		34	14	<10	<10	<10	<10	<10	-	<10	<10	12	<10	<10	<10	<10	<10	<10	40
Hydrocarbons		mg/kg	ļ	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	
	TPH by GCFID (AR)	mg/kg	0.05	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dunana	Benzene	mg/kg	0.05	<0.01		<0.01	<0.01	-	-	<0.01	<0.05	<0.01	<0.01	-	<0.01	-		<0.01	-	-	
Toluene	I oluene	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	-	-	
Xylenes, Methyl	Xylene (m & p)	mg/kg	0.1			<0.01	<0.01	-	-	-	<0.1	-	<0.01	-	<0.01	-		-		-	-
tertiary butyl	Xylene (0)	mg/kg	0.05			<0.01	<0.01	-	-		<0.05	-	<0.01	-	<0.01	-				-	-
etner		mg/kg	0.05	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.05	<0.01	<0.01	-	<0.01	-	-	<0.01	-	-	
	Nanhthalene	mg/kg	0.03	<0.01	- 0.05	<0.01	0.01	-	<0.03	<0.01	<0.03	<0.01	<0.01		<0.01			<0.01	<0.03	-	-
		mg/kg	0.01	<0.03	<0.03	<0.03	<0.04	<0.03	<0.03	<0.03	<0.01	<0.03	<0.01	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
	Acenaphthene	mg/kg	0.01	<0.03	0.00	<0.03	<0.00	<0.00	<0.00	<0.03	<0.01	<0.00	<0.00	<0.04	<0.1	<0.00	<0.00	<0.03	<0.03	<0.03	<0.00
	Fluoranthene	mg/kg	0.01	<0.00	0.25	<0.00	<0.1	<0.00	<0.00	<0.00	<0.01	<0.00	0.1	0.00	<0.03	<0.00	<0.00	<0.00	0.07	0.36	<0.00
	Anthracene	mg/kg	0.01	<0.03	0.06	<0.03	0.05	<0.03	<0.00	<0.00	<0.01	<0.03	<0.03	<0.03	<0.00	<0.00	<0.03	<0.00	0.04	0.00	<0.00
	Phenanthrene	mg/kg	0.01	<0.03	0.00	<0.03	0.05	<0.03	<0.00	<0.00	<0.01	<0.03	<0.00	0.00	<0.03	<0.00	0.03	<0.00	0.03	0.12	<0.00
	Fluorene	ma/ka	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
	Chrvsene	ma/ka	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	0.04	0.17	0.03
Polycyclic	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	0.05	0.27	< 0.03
Aromatic	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	0.11	< 0.03
Hydrocarbons	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	0.69	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	-	-	-	-	-	-	-	-	-	-
	Xylenols	mg/kg		<0.01	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	<0.01	-	-	-
Dhanaliss	3-&4-methylphenol	mg/kg		-	-	<0.1	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-
Prienolics	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



Number of the second	10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Name         Name <th< th=""><th>Appendix I, Tab</th><th>Die 1: Soil data (Enviros 2004, CH2M 2017c&amp;d, A</th><th>AEG 2018 and</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></th<>	Appendix I, Tab	Die 1: Soil data (Enviros 2004, CH2M 2017c&d, A	AEG 2018 and																			
Partial         Image: base in the second secon			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- <u>Site</u>	On-Site	On-Site	On-Site	On-Site
base with the set of				Location					MS	RH03					MS	RH04		MS	3H05			
Number         Norm         <	Chemical Group	Compound	Sample Depth	Sample Depth						Billoo												
Image: biolog         Image: biolog        Image: biolog        Image: bi			(m bgl)	(m bgl)	11.2-11.4	0.5		2	3-3.3	9.5-9.8	11-11.2	11.2-11.2	23.4	0.3	0.5		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	05/07/202 <sup>-</sup>	05/07/2021
		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	-	-	-	-	-	-	-	-	-	-
11-3         1-3         1-0 <td></td> <td>trans-1,3-dichloropropene</td> <td>mg/kg</td> <td>0.05</td> <td>-</td> <td>-</td> <td>&lt;0.01</td> <td>&lt;0.01</td> <td>-</td> <td>-</td> <td>-</td> <td>&lt; 0.05</td> <td>-</td> <td>&lt; 0.01</td> <td>-</td> <td>&lt;0.01</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td>		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	-	-	-	-	-	-
Indersemme         mine		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	-	-	-	-	-	-
Image         mage         mage </td <td></td> <td>1,1-dichloropropene</td> <td>mg/kg</td> <td>0.05</td> <td>-</td> <td>-</td> <td>&lt; 0.01</td> <td>&lt;0.01</td> <td>-</td> <td>-</td> <td>-</td> <td>&lt; 0.05</td> <td>-</td> <td>&lt;0.01</td> <td>-</td> <td>&lt; 0.01</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td>		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	-	-	-	-	-	-
Image:         Image:        Image:        Image: <td></td> <td>1,2,4-trimethylbenzene</td> <td>mg/kg</td> <td>0.05</td> <td>-</td> <td>-</td> <td>&lt;0.01</td> <td>&lt;0.01</td> <td>-</td> <td>-</td> <td>-</td> <td>&lt; 0.05</td> <td>-</td> <td>&lt;0.01</td> <td>-</td> <td>&lt;0.01</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td>		1,2,4-trimethylbenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	< 0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Indimension         Indifferent mig         Indifferent mi		1,2-dibromo-3-chloropropane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	< 0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Indicional         Indicional <thindicional< th="">         Indicional         Indicion</thindicional<>		1,2-dibromoethane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	< 0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Inclusion         Inclusion <t< td=""><td></td><td>1,2-dichloroethane</td><td>mg/kg</td><td>0.05</td><td>-</td><td>-</td><td>&lt;0.01</td><td>&lt;0.01</td><td>-</td><td>-</td><td>-</td><td>&lt; 0.05</td><td>-</td><td>&lt;0.01</td><td>-</td><td>&lt;0.01</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></t<>		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	-	-	-	-	-	-
Number         Numer         Numer         Numer <td></td> <td>1,2-dichloropropane</td> <td>mg/kg</td> <td>0.05</td> <td>-</td> <td>-</td> <td>&lt;0.01</td> <td>&lt;0.01</td> <td>-</td> <td>-</td> <td>-</td> <td>&lt; 0.05</td> <td>-</td> <td>&lt;0.01</td> <td>-</td> <td>&lt;0.01</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td>		1,2-dichloropropane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	< 0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
1-3         1-3 <th1-3< th=""> <th1-3< th=""> <th1-3< th=""></th1-3<></th1-3<></th1-3<>		1,3,5-trimethylbenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Number         Numer         Numer         Numer <td></td> <td>1,3-dichloropropane</td> <td>mg/kg</td> <td>0.05</td> <td>-</td> <td>-</td> <td>&lt;0.01</td> <td>&lt;0.01</td> <td>-</td> <td>-</td> <td>-</td> <td>&lt; 0.05</td> <td>-</td> <td>&lt;0.01</td> <td>-</td> <td>&lt;0.01</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td>		1,3-dichloropropane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	< 0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Image:         Image:<		2,2-dichloropropane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	< 0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Advanciane         mgg         0.06         -        -         -        -         <		2-chlorotoluene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	< 0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Number         Bindmem         mglg         0.00         -        -     <		4-chlorotoluene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Value base         member         mple         0.00        0.00		Bromobenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	< 0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Bomode/incompleman         mg/g         0.06         -         -         0.01         -         -         0.01         -         0.01         -         0.01         -         0.01         -         0.01         -         0.01	Volatile Organic	Bromochloromethane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Biomedium         mgbg         0.00        0.00         0.00	Carbon	Bromodichloromethane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	< 0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Binomentanie         mg/sq         0.50 <t< td=""><td></td><td>Bromoform</td><td>mg/kg</td><td>0.05</td><td>-</td><td>-</td><td>&lt;0.01</td><td>&lt;0.01</td><td>-</td><td>-</td><td>-</td><td>&lt; 0.05</td><td>-</td><td>&lt; 0.01</td><td>-</td><td>&lt;0.01</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></t<>		Bromoform	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	< 0.05	-	< 0.01	-	<0.01	-	-	-	-	-	-
Carbon standarding         mg/m         0.00         0.0         0.01         0.00 <td></td> <td>Bromomethane</td> <td>mg/kg</td> <td>0.05</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>&lt;0.05</td> <td>-</td>		Bromomethane	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-
Index         Image         Image <th< td=""><td></td><td>Carbon tetrachloride</td><td>mg/kg</td><td>0.05</td><td>-</td><td>-</td><td>&lt;0.01</td><td>&lt;0.01</td><td>-</td><td>-</td><td>-</td><td>&lt;0.05</td><td>-</td><td>&lt;0.01</td><td>-</td><td>&lt;0.01</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></th<>		Carbon tetrachloride	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Chinomentiane         mg/gn         0.00         -        -		Chlorodibromomethane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Chiodemin         mgkg         0.05         0.0 <th< td=""><td></td><td>Chloroethane</td><td>mg/kg</td><td>0.05</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>&lt; 0.05</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></th<>		Chloroethane	mg/kg	0.05	-	-	-	-	-	-	-	< 0.05	-	-	-	-	-	-	-	-	-	-
Chiacomana         mg/ng         0.00		Chloroform	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
bit-12-dialtorostheme         mg/g         0.00         i         0.01 <td></td> <td>Chloromethane</td> <td>mg/kg</td> <td>0.05</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>0.166 -</td> <td>-</td>		Chloromethane	mg/kg	0.05	-	-	-	-	-	-	-	0.166 -	-	-	-	-	-	-	-	-	-	-
International         mg/g         0.05		cis-1,2-dichloroethene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Dehlorediharomethane         mg/kg         0.06 <td></td> <td>Dibromomethane</td> <td>mg/kg</td> <td>0.05</td> <td>-</td> <td>-</td> <td>&lt;0.01</td> <td>&lt;0.01</td> <td>-</td> <td>-</td> <td>-</td> <td>&lt; 0.05</td> <td>-</td> <td>&lt; 0.01</td> <td>-</td> <td>&lt;0.01</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td>		Dibromomethane	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	< 0.05	-	< 0.01	-	<0.01	-	-	-	-	-	-
black         mgkg         0.00		Dichlorodifluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	< 0.05	-	-	-	-	-	-	-	-	-	-
bip         bip         mg/g         0.6         .         .         0.01         .         0.01         .         0.01         .         0.01         .         0.01         .         0.01         .         0.01		Dichloromethane	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-
phenome         mg/g         0.06         -        - <t< td=""><td></td><td>Isopropylbenzene</td><td>mg/kg</td><td>0.05</td><td>-</td><td>-</td><td>&lt;0.01</td><td>&lt;0.01</td><td>-</td><td>-</td><td>-</td><td>&lt; 0.05</td><td>-</td><td>&lt;0.01</td><td>-</td><td>&lt;0.01</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></t<>		Isopropylbenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	< 0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
h-progribunce         mg/g         0.05         -         0.01         0.05         -         0.05         -         0.01         -         0.01         -         0.01         -         0.01         -         0.01         -         0.01		n-butylbenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	< 0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
pisopopulsuene         mg/kg         0.05          -        -		n-propylbenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
ke-bulybenzene         mg/kg         0.05         -        -		p-isopropyltoluene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Inderivation         mg/kg         0.05          -0.01          -0.01          -0.01		sec-butylbenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Interbuly		Trichloroethene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Index for the series of the		tert-butylbenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		Tetrachloroethene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		trans-1,2-dichloroethene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Vinded         mg/kg         0.05         -         -         0.0         -         0.0         -         0.0         -         0.0		Trichlorofluoromethane	mg/kg	0.05	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-
Volatile Organic Compounds         1,2,3-trichlorobenzene         mg/kg         0.05         -         <         <         <         <         <         <         <                  <         <		Vinyl chloride	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Volation Composition of Comp		1,2,3-trichlorobenzene	mg/kg	0.05	-	-	<0.01	<0.01	-	-	-	<0.05	-	<0.01	-	<0.01	-	-	-	-	-	-
Compounds / Semi Volatile         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         -         <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         <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         <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	Volatile Organic	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	<0.1	<0.1	-	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-
Semi Volatile Organic Composition         1,3-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         <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         <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         <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         <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         <0.01         <0.01         <0.01	Compounds /	1,2-dichlorobenzene	mg/kg	0.01	-	-	<0.01	<0.01	-	-	-	<0.01	-	<0.01	-	<0.01	-	-	-	-	-	-
Organic Compounds         1,4-dichlorobenzene         mg/kg         0.01         -         <0.01         -         <0.01         -         <0.01         -         -         -         -         -         -         -         -         -         0.01         -	Semi Volatile	1,3-dichlorobenzene	mg/kg	0.01	-	-	<0.01	<0.01	-	-	-	<0.01	-	<0.01	-	<0.01	-	-	-	-	-	-
Compounds         Chlorobenzene         mg/kg         0.05         -         <0.01         <0.01         -         <0.05         -         <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         -         <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         <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         <0.01         <0.01         <0.01	Organic	1,4-dichlorobenzene	mg/kg	0.01	-	-	<0.01	<0.01	-	-	-	<0.01	-	<0.01	-	<0.01	-	-	-	-	-	-
Hexachlorobutadiene       mg/kg       0.01       -       <0.01       -       -       <0.05       -       <0.01       -	Compounds	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	-	-	-	-	-	-



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tal	ble 1: 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
			Lesstion				on one	Me				on one		Me						on one	CH Cho
Chemical Group	Compound	Sample Donth	Location Sample Dopth														IVIO(I				
Chemical Creap	Compound	(m bal)	(m hal)	11.2-11.4	0.5		2	3-3.3	9.5-9.8	11-11.2	11.2-11.2	23.4	0.3	0.5		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	1 23/06/2021	23/06/2021	1 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
	1.4-dinitrobenzene	ma/ka			-	<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	- 1	<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	-	-	-	-	-	-
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg		-	-	<0.1	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-
Organic	4-chloro-3-methylphenol	mg/kg	0.01	<0.01	-	<0.1	< 0.01	-	-	-	<0.01	< 0.01	<0.01	-	<0.1	-	-	<0.01	-	-	-
Compounds	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	-	- 1	<0.1	<0.1	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	-	-	-
	Butyl benzyl phthalate	mg/kg	0.1	-	- 1	<0.1	<0.1	-	-	-	<0.1	- 1	<0.1	-	<0.1	-	-	-	-	-	-
	Carbazole	mg/kg	0.01	-	- 1	<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	-	- 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	-	- 1	<0.1	<0.1	-	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-
	Hexachlorocyclopentadiene	mg/kg	0.01	-	- 1	<0.1	<0.1	-	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-
	Hexachloroethane	mg/kg	0.01	-	- 1	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-
	Isophorone	mg/kg	0.01	-	- 1	-	-	-	-	-	<0.01	-	- 1	-	-	-	-	-	-	-	-
	Nitrobenzene	mg/kg	0.01	-	- 1	-	-	-	-	-	<0.01	-	- 1	-	-	-	-	-	-	-	-
	N-nitrosodi-n-propylamine	mg/kg	0.01	-	- 1	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-
	Pentachlorophenol	mg/kg	0.01	-	· ·	<0.1	<0.1	-	-	-	<0.01	-	<0.1	-	<0.1	-	-	-	-	-	-
	I	1				1	1	1	1	1	1	1		1	1	1		1	1	1	1



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tat	ble 1: 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
			Location					MS	\BH03					MS	BH04		MS	BH05			
Chemical Group	Compound	Sample Depth	Sample Depth																		
		(m bgl)	(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	23/06/202	1 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
	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	-	-	-	-	-	-	-	-	-
Polychlorinated	PCB 180	mg/kg		-	-	-	-	-	-	-	-	< 0.01	-	-	-	-	-	-	-	-	-
Biphenyls (PCB)	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Not analysed# Speciated poly



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA	AEC 2018 and																			
	AEG 2021)																				
		Location		On-Site																	
		Location ID	Location	MS\	BH07					MS\BH08				MS\/	BH09				MS\	BH10	
Chemical Group	Compound	Sample Depth	Sample Depth	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		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
	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
Metals	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
	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
Inorganics	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
	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	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	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



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tal	ble 1: Soil data (Enviros 2004, CH2M 2017	c&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
			Location	MS	RH07					MS/BHU8				MS/	RHUUD				MSI		
Chemical Group	Compound	Sample Depth	Sample Depth	NO(																	
		(m bgl)	(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		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	05/07/202	1 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
	>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 Petroleum	Total >C5-C35 Aliphatics	mg/kg		2000	<10	-	<10	-	<10	-	-	<10	-	-	-	-	-	<10	<10	-	<10
Hydrocarbons	>EC5-EC7 Aromatics	mg/kg		<0.01	<0.01	-	< 0.01	-	<0.01	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	<0.01
Working Group	>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
	TPH Band (C10 - C40)	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum	EPH >C10-40	mg/kg		7400	<10	-	<10	-	<10	18	<10	<10	<10	<10	-	-	-	<10	<10	<10	<10
Hydrocarbons	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	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
Benzene,	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
Toluene,	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
Ethylbenzene,	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
tertiary butyl	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
ether	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
	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	<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	<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	<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	<0.03
	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	<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	<0.1
	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	<0.1	<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	<0.1	0.04	<0.1
Polycyclic	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	<0.03
Aromatic	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	<0.1
Hydrocarbons	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	<0.1	<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	<0.1	<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	< 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	< 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	<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	<0.03
	PAH 16 Total	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PAHs (Sum of total)	mg/kg		1.5	<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	-	-	-	-	-
	Xylenols	mg/kg		<0.01	<0.01	-	-	-	<0.01	-	-	<0.01	-	-	-	-	-	-	<0.01	-	-
Phenolics	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



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA	AEC 2010																			
Appendix I, Tab	AFG 2021)	AEG 2018 and																			
		Location		On-Site     On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site									
		Location ID	Location	MS\F	3H07					MS\BH08				MS	BH09				MS	BH10	
Chemical Group	Compound	Sample Depth	Sample Depth	4.0.4.05	ACEE	457457	457450	22.4	0.20			0.5	0.00	A CE A OE	40.40.0	11.11	11 11 0				10.1
		(m bgl)	(m bgl)	4.2-4.00	4.00-0	10.7-10.7	15.7-15.9	22.4	0.30		0	0.5	2-2.3	4.00-4.60	13-13.2	14-14	14-14.2		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	05/07/202	05/07/2021	05/07/2021	05/07/2021	1 07/07/202 <sup>-</sup>	1 05/07/2021	08/06/2021	09/06/2021	15/06/2021	18/06/2021
	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
		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-tetrachioroethane	mg/kg	0.05	-	-	< 0.05	-			-	-	-	-	-	-	<0.05				-	
	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/ka	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	-	-	- 1	-	-	-	< 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	-	-	- 1	-	-	-	<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
Volatile Organic	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
Carbon	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
	Bromotorm	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-		-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01
	Bromometnane	mg/kg	0.05	-	-	<0.05	-			-	-		-	-	-	<0.05				-	-
		mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01
		mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	<0.01
	Chloroform	mg/kg	0.05	<0.01	<0.01	<0.00		<0.01	<0.01		-					<0.05	<0.01	<0.01	<0.01		<0.01
	Chloromethane	mg/kg	0.00	-0.01	-0.01	<0.00	-			-	-	-	-	-	-	<0.00			-0.01	-	
	cis-1.2-dichloroethene	ma/ka	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	-	-	- 1	-	-	-	<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
		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
		mg/kg	0.05	-	-	<0.05	-	-		-	-		-		-	<0.05	-		-	-	
	Viriyi Chionae	mg/kg	0.05	<0.01	<0.01	<0.05	-	<0.01	<0.01	-	-	-	-	-	-	<0.05	<0.01	<0.01	<0.01	-	
		mg/kg	0.03	<0.01	<0.01	<0.00	-	<0.01	<0.01	-	-		-		-	<0.05	<0.01	<0.01	<0.01	-	
Volatile Organic	1.2-dichlorobenzene	mg/kg	0.01	<0.1	<0.01	<0.01	-	<0.1	<0.01		-		-	-	-	<0.01	<0.01	<0.01	<0.1	-	<0.1
Compounds /	1.3-dichlorobenzene	mg/kg	0.01	<0.01	<0.01	<0.03	-	<0.01	<0.01	-				-	-	<0.01	<0.01	<0.01	<0.01		<0.01
Organic	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
Compounds	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	-	-	- 1	-	-	-	< 0.05	<0.01	<0.01	<0.01	-	<0.01
	I		· I	ı 1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tal	ble 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2021)	AEG 2018 and		On Site																	
		Location		UII-Sile	Un-Sile	UII-Sile	On-Sile	UII-Sile	UII-Sile	UII-Sile	UII-Sile	On-Sile	On-Sile								
Ob a sector of Oscilla	Ormanual	Location ID	Location	MS\E	3H07					MS\BH08				MS\	BH09				MS\	BH10	
Chemical Group	Compound	Sample Depth	Sample Depth	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		4	5	19.1
		(m bgi)	(m bgl)	05/07/2024	05/07/2024	05/07/2024	05/07/2024	00/07/2024	20105/2024	2010512021	20/05/2024	05/07/2024	05/07/2024	05/07/2024	05/07/2024	07/07/2024	05/07/2021	00/06/2024	00/06/2024	15/06/2022	19/06/2021
	1.4 dinitrahanzana		Sample_Date	-0.1	<0.1	05/07/2021	05/07/2021	<0.1	20/03/2021	20/00/2021	20/03/2021	05/07/2021	05/07/2021	05/07/2021	05/07/2021	07/07/2021	<0.1	<0.1	09/00/2021	15/00/202	10/00/2021
	Repaid alcohol	mg/kg		<0.1	<0.1	-	-	<0.1	<0.1	-	-		-	-	-	-	<0.1	<0.1	<0.1	-	<0.1
	4-bromonbenyl phenyl ether	mg/kg	0.01	<0.1	<0.1	<0.01		<0.1	<0.1							<0.01	<0.1	<0.1	<0.1	-	<0.1
		mg/kg	0.01	<0.1	<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	<0.1	<0.01	-	0.1	<0.1		-		-	-		<0.01	<0.1	<0.1	<0.1	-	<0.1
	1 2-Dinitrobenzene	mg/kg	0.01	<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	ma/ka	0.01	<0.1	<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	<0.1	<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	ma/ka	0.01	<0.1	<0.1	< 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	<0.1	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	< 0.01	<0.1	<0.1	<0.1	-	<0.1
	2-chloronaphthalene	mg/kg	0.01	<0.1	<0.1	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	< 0.01	<0.1	<0.1	<0.1	-	<0.1
	2-chlorophenol	mg/kg	0.01	<0.1	<0.1	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	< 0.01	<0.1	<0.1	<0.1	-	<0.1
	2-methylnaphthalene	mg/kg	0.01	<0.1	<0.1	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	< 0.01	<0.1	<0.1	<0.1	-	<0.1
	2-methylphenol	mg/kg	0.01	<0.1	<0.1	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	< 0.01	<0.1	<0.1	<0.1	-	<0.1
	2-nitroaniline	mg/kg	0.01	<0.1	<0.1	<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	<0.1	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg		<0.1	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	<0.1
Organic	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
Compounds	4-chloroaniline	mg/kg	0.01	-	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-
	4-chlorophenyl phenyl ether	mg/kg	0.01	<0.1	<0.1	<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
	Azobenzene	mg/kg	0.01	<0.1	<0.1	<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	<0.1	<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
	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	<0.1	<0.1	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	Dibenzofuran	mg/kg	0.01	<0.1	<0.1	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<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	<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
		mg/kg		<0.1	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	<0.1
		mg/kg	0.01	<0.1	<0.1	<0.01	-	<0.1	<0.1	-	-	-	-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
	Hexachlorocyclopentadiene	mg/kg	0.01	<0.1	<0.1	<0.01	-	<0.1	<0.1	-	-		-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1
		ing/kg	0.01	-	-	<0.01	-	-		-			-	-	-	<0.01	-		-	-	
		mg/Kg	0.01	-	-	<0.01	-	-		-			-	-	-	<0.01	-		-	-	
		mg/kg	0.01	-	-	<0.01	-	-		-	-		-	-	-	<0.01	-		-	-	
		mg/kg	0.01	-	-	<0.01	-	-	-	-	-		-	-	-	<0.01	-	-	-	-	-
	Pentachlorophenol	mg/kg	0.01	<0.1	<0.1	<0.01	-	<0.1	<0.1	-	-		-	-	-	<0.01	<0.1	<0.1	<0.1	-	<0.1



### 10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW\_DQRA

Appendix I, Tab	le 1: Soil data (Enviros 2004, CH2M 2017c&d, A	AEG 2018 and																			
	AEG 2021)	Location		On-Site																	
		Location ID	Location	MS\	BH07					MS\BH08				MS\I	3H09				MS\I	3H10	
Chemical Group	Compound	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		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
	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- (PCB 156)	mg/kg		<0.01	<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	-	<0.01
	Hexachlorobiphenyl, 2,3,4,4,5,5- (PCB 167)	mg/kg		<0.01	<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	-	<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
Polychlorinated	PCB 180	mg/kg		<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01
Biphenyls (PCB)	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 -#



10035117-AUK-X Appendix I, Tab	X-XX-RP-ZZ-0428-03-LWoW_DQRA ble 1: Soil data (Enviros 2004, CH2M 2017c&d,	, AEG 2018 and																			
	AEG 2021)	Location		On Sito	On Sito	On Site	On Sito	On Sito	On Site	On Sito	On Sito	On Sito	On Sito	On Site	On Sito	On Site	On Sito	On Sito	On Sito	On Sito	On Sito
			Loostion	OII-Sile	OII-OILE		On-Sile			On-Sile	On-Sile	OII-OILE		On-Sile	OII-Sile		On-Sile	OII-Sile		On-Sile	On-Sile
Chemical Group	Compound	Location ID Sample Dopth	Location Sample Dopth		1010			IVISI													
		(m bql)	(m bal)	0.5	4	5	13.2		2.7-3	0.5	3-3	3.6	10.2-10.4	11-11	11-11.2	0.3		4.2-4.4	4.5-4.8	14.2	17.5
		Unit	Sample_Date	03/06/2021	1 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	1 30/06/202	1 30/06/2021	02/07/2021	01/07/2021
	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
Metals	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		mg/kg		37	17	1400	47	1300	43	1300	-	14	30	-	49	1000	57	410	22	31	35
		mg/kg		4100	350	980	64	78	21	51	-	21	17	-	49	15	200	580	42	53	47
	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	0.2	<0.1	<0.1	<0.1
		mg/kg		0.1	0.1	0.3	<0.1	<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		-	- 10	-	-	-	-	-	-	-	-	-	-	-	- 0.75	-	-	-	-
	Nilfale (as NO3-)	mg/kg		0.4	700	1.2	1700	4.2	<i 600</i 	3.9	-	2.0	3.1	-	1500	0.9	10.000	0.0	700	9.4	2.0
inorganics		mg/kg		13,000	700	4000	1700	4800	600	4800	-	600	1100	-	1500	12,000	19,000	4600	700	900	1100
	Sulphide	mg/kg		-		- 1700	-	- 460	- 120	- 270	-	- 60	-	-	-	- 2000	-	- 240	-	-	-
		0/_		0.59	0.03	0.22	0.26	400	0.05	0.16	-	0.04	0.06	-	44	0.42	900	0.26	0.07	24	40
	Sulphur (free)	/0 ma/ka		22	21	<0.75	3.5	3.4	<0.05	6.6	-	10	11	-	<0.75	0.42	38	13	2.1	<0.04	<0.75
	Thiocyanate (as SCN)	mg/kg		2.8	<0.6	0.7	<0.6	<0.6	<0.75	<0.0	-	<0.6	<0.6	-	<0.75	<0.6	0.7	15	<0.6	<0.75	<0.75
		%		0.5	0.0	1.2	27	1.2	0.0	1.4	-	0.0	0.0	-	2	0.0	0.7	2.4	0.0	1.0	1
	Fraction Organic Carbon	-			- 0.2		-				-			-	-		-	- 2.4	- 0.0	-	-
Other	Moisture	%	0.1			-	-		-		25.9		-	25.9							-
	Moisture Content 105C	%	0.1	61	13	18	24	5.9	17	4.6	-	18	18	-	20	6	11	24	18	16	- 10
	pH (I ab)	pH Units		11.4	9.4	11.6	81	10.9	10.7	12.2	-	10.4	10.9	-	81	10.9	11	10.6	8.5	8.4	8.9
1	r·· \/	P''_O''''O	1	I	0.7			1 .0.0		1	1		.0.0			1 .0.0	1	10.0	0.0	<sup>U.T</sup>	0.0



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ole 1: Soil data (Enviros 2004, CH2M 2017	c&d, AEG 2018 and																			
	AEG 2021)			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	0.0"	0.01	0.01
		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		
Chemical Group	Compound	Sample Depth	Sample Depth	0.5	4	5	13.2		2.7-3	0.5	3-3	3.6	10.2-10.4	11-11	11-11.2	0.3		4.2-4.4	4.5-4.8	14.2	17.5
		(m bgl)	(m bgl)																		
		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	1 30/06/2021	30/06/2021	02/07/2021	01/07/2021
	>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 Petroleum	Total >C5-C35 Aliphatics	mg/kg		-	<10	<10	-	<10	-	-	-	-	-	-	-	-	-	<10	-	<10	<10
Hydrocarbons	>EC5-EC7 Aromatics	mg/kg		-	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01
Working Group	>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
	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum	EPH >C10-40	mg/kg		110	<10	<10	<10	<10	<10	84	-	<10	<10	-	<10	<10	<10	<10	<10	<10	<10
Hydrocarbons	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzene	mg/kg	0.05	-	< 0.01	< 0.01	-	< 0.01	<0.01	-	< 0.05	-	-	<0.05	-	-	-	< 0.01	-	<0.01	<0.01
Benzene,	Toluene	mg/kg	0.05	-	< 0.01	< 0.01	-	<0.01	< 0.01	- ·	< 0.05	-	-	<0.05	-	-	-	< 0.01	-	<0.01	<0.01
Toluene,	Ethylbenzene	mg/kg	0.05	-	< 0.01	< 0.01	-	<0.01	< 0.01	-	< 0.05	-	-	<0.05	-	-	-	< 0.01	-	<0.01	<0.01
Ethylbenzene,	Xylene (m & p)	mg/kg	0.1	-	< 0.01	-	-	<0.01	< 0.01	-	<0.1	-	-	<0.1	-	-	-	< 0.01	-	-	-
Xylenes, Methyl	Xylene (o)	mg/kg	0.05	-	< 0.01	-	-	<0.01	< 0.01	-	< 0.05	-	-	<0.05	-	-	-	< 0.01	-	-	-
ether	Xylene Total	mg/kg		-	<0.01	< 0.01	-	< 0.01	-	-	-	-	-	-	-	-	-	< 0.01	-	<0.01	<0.01
	МТВЕ	ma/ka	0.05	-	< 0.01	< 0.01	-	< 0.01	< 0.01	-	< 0.05	-	-	<0.05	-	-	-	< 0.01	-	< 0.01	<0.01
	Naphthalene	ma/ka	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	ma/ka	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	ma/ka	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	ma/ka	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
Delvevelie	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
Aromatic	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
Hydrocarbons	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	0.0	<0.03	<0.00	<0.00	0.1	<0.00	0.17	<0.01	<0.03	<0.03	<0.01	<0.00	<0.03	<0.03	0.11	<0.03	<0.03	<0.00
	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	0.07	<0.03	<0.00	<0.00	<0.40	<0.00	0.03	<0.01	<0.00	<0.00	<0.01	<0.00	<0.00	<0.00	<0.03	<0.00	<0.00	<0.00
	Benzo(g h i)pervlene	mg/kg	0.01	0.00	<0.03	<0.03	<0.03	01-033	<0.03	0.00	<0.01	<0.03	<0.03	<0.01	<0.03	<0.00	<0.00	<0.1 - 0.11	<0.03	<0.03	<0.03
	Indeno(1 2 3-c d)pyrene	ma/ka	0.01	0.20	<0.00	<0.00	<0.00	<0.1_0.027	<0.00	0.10	<0.01	<0.00	<0.00	<0.01	<0.00	<0.00	<0.00	<0.1_0.00	<0.00	<0.00	<0.00
	PAH 16 Total	mg/kg	0.01		-0.00					-		-0.00					-0.00	-0.1 - 0.03			-0.00
	PAHs (Sum of total)	ma/ka		63	0.17	<0.1	<0.1	4	<0.1	3		<0.1	<0.1	-	<0.1	<0.1	<0.1	31	<0.1	<0.1	<0.1
	Renzo(h+k)fluoranthene	ma/ka	0.01	0.0	0.17	-0.1	-0.1		-0.1	5	0.023	-0.1		<0.01	-0.1	-0.1	-0.1	5.1		-0.1	1.0
	Xylenols	mg/kg	0.01		<0.01		-	<0.01		<u> </u>	0.023			-0.01	-	<u> </u>		<0.01	-	-	<0.01
	3-&4-methylphenol	mg/kg		-	20.01	-	-	20.01	0 1	-	-	-	-	-	-	-	-	20.01	-	-	-0.01
Phenolics		mg/kg	0.01		<	-	-	<0.1	<0.1		-	-	-	-	-		-	<	-	-	-
		mg/kg	0.01	-0.3	~0.1		-0.2	~0.01	>U.I	-0.2	~0.01	-0.2		~0.01				>0.1			
		Ind/kg		l <sup>∼0.3</sup>	L 20.3	L 20.3	L 20.3	~0.3	L 20.3	~0.3	· -	~0.3	0.3	-	L 20.3	~0.3	~0.3	<u>∖</u> 0.3	0.3	0.3	<u></u> ∿∪.3



Appendix I, Tat	Die 1: 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
			Location		MS/	RH11	On-Sile	MS	NRH12		OII-Sile	MS	RH13	On-Sile	UII-Sile	OII-Sile	On-Sile	On-Sile	MS\RH14	On-Sile	On-Sile
Chemical Group	Compound	Sample Depth	Sample Depth	0.5		-	40.0	4	0.7.0	0.5	0.0	0.0		44.44	44.44.0	0.0		40.44		44.0	17.5
		(m bgl)	(m bgl)	0.5	4	5	13.2		2.1-3	0.5	3-3	3.6	10.2-10.4	11-11	11-11.2	0.3		4.2-4.4	4.5-4.8	14.2	17.5
		Unit	Sample_Date	03/06/202	1 03/06/2021	03/06/2021	04/06/2021	04/06/202	1 04/06/2021	28/05/2021	28/06/202	1 28/05/2021	28/05/2021	28/06/202	1 28/05/2021	28/06/202	28/06/202	1 30/06/2021	30/06/2021	02/07/2021	01/07/2021
	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-letrachioroethane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-		-	<0.01	-	-	-
		mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	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	0.00	-	<0.01	-	-	<0.01	<0.01	-	<0.00	-	-	<0.00	-	-	-	<0.01	-	-	-
	1.1-dichloroethene	ma/ka	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	-	-	-
Volatile Organic	Bromobenzene	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
Carbon	Bromochloromethane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01		<0.05	-	-	<0.05	-		-	<0.01	-	-	
	Bromodicniorometnane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01	-	<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	Bromomethane	mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01		<0.05	-	-	<0.05	-	-	-	<0.01	-	-	-
	Carbon tetrachloride	mg/kg	0.05		<0.01			<0.01	<0.01		<0.00		-	<0.05				<0.01	-		
	Chlorodibromomethane	mg/kg	0.00	-	<0.01	-	-	<0.01	<0.01	-	<0.00	-	-	<0.00	-	-	-	<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	-	-	-
		mg/kg	0.05	-	<0.01	-	-	<0.01	<0.01		<0.05	-	-	<0.05	-		-	<0.01	-	-	-
		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				-				<0.03			<0.03		<u> </u>					
	Vinvl chloride	mg/kg	0.05		<0.01			<0.01	<0.01	<u> </u>	<0.00	+ -		<0.00	+ -	<u> </u>	-	<0.01			
	1.2.3-trichlorobenzene	ma/ka	0.05	-	<0.01	-	-	<0.01	<0.01		<0.05	-	-	<0.05	-	· ·	-	<0.01	-	-	-
	1.2.4-trichlorobenzene	ma/ka	0.01	-	<0.01	-	-	<0.1	<0.1	-	<0.05	-	-	<0.01	-	<u> </u>	-	<0.1	-	-	-
Volatile Organic	1,2-dichlorobenzene	mg/kg	0.01	-	< 0.01	-	-	<0.01	<0.01	-	< 0.01	-	-	< 0.05	-	-	-	<0.01	-	-	-
Semi Volatile	1,3-dichlorobenzene	mg/kg	0.01	-	< 0.01	-	-	<0.01	<0.01	-	< 0.05	-	-	< 0.01	-	- 1	-	<0.01	-	-	-
Organic	1,4-dichlorobenzene	mg/kg	0.01	-	<0.01	-	-	<0.01	<0.01	-	< 0.05	-	-	<0.01	-	- 1	-	<0.01	-	-	-
Compounds	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	-	-	-



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tal	ble 1: Soil data (Enviros 2004, CH2M 2017c& AEG 2021)	d, AEG 2018 and																			
		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		
Chemical Group	Compound	Sample Depth	Sample Depth	0.5	4	5	13.2		2.7-3	0.5	3-3	3.6	10.2-10.4	11-11	11-11.2	0.3		4.2-4.4	4.5-4.8	14.2	17.5
		(m bgl)	(m bgl) Sample Date	03/06/202	1 03/06/2021	03/06/2021	04/06/2021	04/06/202	1 04/06/2021	28/05/2021	28/06/202	1 28/05/2021	28/05/2021	28/06/2021	28/05/2021	28/06/2021	28/06/2021	30/06/2021	30/06/2021	02/07/2021	01/07/2021
	1 4 dinitrobenzene	ma/ka	Sample_Date	03/00/202	<0.1	03/00/2021	04/00/2021	<0.1	<0.1	20/03/2021	20/00/202	1 20/03/2021	20/03/2021	20/00/2021	20/03/2021	20/00/2021	20/00/2021	<0.1	30/00/202	02/01/2021	0110112021
	Benzyl alcohol	mg/kg			<0.1	-	-	<0.1	<0.1		-			-				<0.1			
	4-bromonhenyl 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	ma/ka		-	<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	-	-	-
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg		-	<0.1	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-
Organic	4-chloro-3-methylphenol	mg/kg	0.01	-	<0.1	-	-	<0.1	<0.1	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	<0.01
Compounds	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	-	-	
		mg/kg	0.1	-	<0.1	-	-	<0.1	<0.1		<0.1	-	-	<0.1	-		-	<0.1	-	-	
		mg/kg	0.04		<0.1	-	-	<0.1	<0.1		-	-	-	-	-		-	<0.1	-	-	
		mg/kg	0.01		<0.1	-	-	<0.1	<0.1		<0.01			<0.01		· ·	-	<0.1			
	nexachiorocyclopentadiene	mg/kg	0.01		<0.1	-		<0.1	<0.1		<0.01		-	<0.01	-		-	<0.1		-	
		mg/kg	0.01		-	-					<0.01		-	<0.01	-		-			-	
	Nitrobonzono	mg/kg	0.01	-	-	-	-		-		<0.01	-	-	<0.01	-		-	-	-	-	-
	N pitropodi p propulamino	mg/kg	0.01			-	-				<0.01		-	<0.01	-		-	-		-	
	Pontoobloronbonol	mg/kg	0.01		-	-	-	-	-		<u> </u>		-	<u> </u>			-		-	-	
	rentachiorophenol	mg/kg	0.01	- 1	<0.1	-	-	<0.1	<0.1	- 1	<0.01	-	-	<0.01	-		-	<0.1	-	-	-



		Location		On-Site	-----------------	---	-------------------------	-------------------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	----------
		Location ID	Location		MS\	BH11		MS\	BH12			MS\	BH13							
Chemical Group	Compound	Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	4	5	13.2		2.7-3	0.5	3-3	3.6	10.2-10.4	11-11	11-11.					
		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	28/05/20					
	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		-	-	-	-	-	-	-	-	-	-	-	-					
Polychlorinated	PCB 180	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-					
Biphenyls (PCB)	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	1	-	-	-	-	-	-	-	-	-	-	-	-					
	PCBs (Sum of total)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-					

Not analysed# Speciated poly

On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
			MS\BH14		
0.3		4.2-4.4	4.5-4.8	14.2	17.5
28/06/2021	28/06/2021	30/06/2021	30/06/2021	02/07/2021	01/07/2021
-	-	<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	-	<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	<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
-	-	<0.01	<0.01	-	<0.01
-	-	<0.01	<0.01	-	<0.01
-	-	-	-	-	-



10035117-AUK-XX-RP-ZZ-0428-03-LWoW_DQRA 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						
		Location ID	Location		MS\BH15									MS\BH16							
		Sample Depth	Sample Depth	·17.7		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
		(m bgi)	(M DGI) Samplo Dato	02/07/2021	05/07/2021	05/07/2021	05/07/2021	05/07/2021	06/07/2021	06/07/2021	02/07/2021	1 02/07/2021	02/07/2021	05/07/2021	02/07/2021	02/07/2021	05/07/2021	07/07/2021	1 07/07/2021	07/07/2021	07/07/2021
	Aluminium	ma/ka	Sample_Date	- -			-				-	-	<u>-</u>		02/01/2021	-		0110112021	<u> </u>	<u>0110112021</u>	-
	Antimony	ma/ka		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<u> </u>
	Arsenic	ma/ka		-	15	-	93	73	12	-	61	11	61	-	10	6.3	24	-	-	17	44
	Barium	ma/ka		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bervllium	ma/ka		-	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganics	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	-	-	-	-	-
	Organic Matter	%		-	1.9	-	1.1	1	0.8	-	0.6	2.8	1.6	-	2.4	0.2	-	-	-	-	-
	Fraction Organic Carbon	-		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	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	-	-	-	-	-



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ole 1: Soil data (Enviros 2004, CH2M 2017 AEG 2021)	c&d, AEG 2018 and		On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
		LUCALION		OII-Sile	On-Sile	OII-Oile	OII-Sile		OII-Oile	OII-OILE	On-Sile	OII-Oile	UII-Sile		OII-OILE	On-Sile	OII-Sile	On-Sile	OII-Sile	OII-Oile	OII-Site
Chamical Crown	Compound	Location ID	Location				MS\	BH15						MS\BH16							
Chemical Group	Compound	Sample Depth	Sample Depth	·17.7		2-2	2.7-2.9	4.4-4.6	12.45-13	17.15-17.15	5 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
		(III byi)	(III byl) Samplo, Dato	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
	>CE C6 Aliphatics	ma/ka	Sample_Date	02/01/2021	<0.01	03/01/2021	<0.01	03/01/2021	00/01/2021	00/01/2021	<0.01	<0.01		00/01/2021	<0.01	02/07/2021	03/01/2021	0110112021	0110112021	0110112021	0110112021
	>C6-C8 Aliphatics	mg/kg			<0.01	-	<0.01	-	-	-	<0.01	<0.01	<0.01	-	<0.01				-	-	-
		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		-	<1.0	-	<1.5	-	-	-	<1.5	<1.0	<1.0	-	<1.5	-	-		-	-	-
	>C16_C21 Aliphatics	mg/kg			<1.2		<1.2				1.8	<1.2	<1.2		<1.2						_
	>C21-C35 Aliphatics	mg/kg			<3.4		<3.4			-	1.0	<3.4	<3.4		<3.4						
	Total >C5-C35 Aliphatics	mg/kg			<10		<10		-		42	<10	<10		<10						-
I otal Petroleum	>EC5 EC7 Aromatics	mg/kg			<0.01		<0.01				<0.01	<0.01	<0.01		<0.01						_
Hydrocarbons Working Group	>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	ma/ka		<u> </u>	<0.01		<0.01			-	2 /	<0.01	<0.01		<0.01		<u> </u>				
	>EC12-EC16 Aromatics	mg/kg		<u> </u>	<0.9		<0.9				0.8	<0.9	<0.9		<0.9				-		-
	>EC16-EC21 Aromatics	ma/ka		<u> </u>	<0.0		<0.0			-	2.0	<0.0	<0.0		<0.0	<u> </u>	+	<u> </u>			
	>EC21-EC35 Aromatics	ma/kg		<u> </u>	<1 /		<1 /				2.1	<1.0	<1 /		<1 /						-
	Total >EC5-EC35 Aromatics	ma/ka			<10		<10			-	30	<10	<10		<10		-				
	TPH >C5 C35 Alighatics/Aromatics	mg/kg			<10		<10				83	<10	<10		<10						_
	TPH Band (C10 - C40)	mg/kg			<10	-	<10	-	-	-		<10		-	<10				-	-	-
Petroleum Hydrocarbons	EPH >C10-40	mg/kg			<10		<10	<10	<10		110	470	<10		<10	<10					
	GRO C5-C10	mg/kg					-	-					-		-						
		mg/kg									<u> </u>		-								-
		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	<0.01
Benzene		mg/kg	0.05	<0.00	<0.01	<0.00	<0.01			<0.05	<0.01	<0.01	<0.01	<0.05	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
Toluene.	Ethylbenzene	mg/kg	0.05	<0.00	<0.01	<0.00	<0.01			<0.05	<0.01	<0.01	<0.01	<0.05	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
Ethylbenzene, Xylenes, Methyl tertiary butyl ether	Xylene (m & n)	mg/kg	0.00	<0.00	<0.01	<0.00				<0.00		<0.01		<0.00			<0.01	<0.01	<0.01	<0.01	<0.01
		mg/kg	0.05	<0.1	<0.01	<0.1				<0.05		<0.01		<0.05	-		<0.01	<0.01	<0.01	<0.01	<0.01
	Xylene Total	mg/kg	0.00		<0.01		<0.01				<0.01	<0.01	<0.01		<0.01						
	MTRE	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	<0.01
	Naphthalene	mg/kg	0.03	<0.00	0.36	<0.05	<0.01	<0.03	<0.03	<0.03	0.07	<0.01	1.8	<0.03	0.33	<0.03	<0.01	<0.01	<0.01	0.6	<0.01
	Acenanhthene	mg/kg	0.01	<0.03	0.00	<0.03	<0.03	<0.03	<0.03	<0.01	<0.07	<0.1	0.34	<0.01	<0.00	<0.03	<0.01	<0.1	<0.1	0.0	<0.1
		mg/kg	0.01	<0.01	<0.03	<0.01	<0.00	<0.00	<0.00	<0.01	<0.00	<0.0	0.04	<0.01	<0.00	<0.00	<0.1	<0.1	<0.1	<0.2	<0.1
	Fluoranthene	mg/kg	0.01	<0.01	2	<0.01	0.03	0.03	<0.03	<0.01	0.00	0.00	11	0.01	<0.03	<0.03	<0.1	0.1	0.1	1.8	0.1
	Anthracene	mg/kg	0.01	<0.01	0.2	<0.01	<0.04	<0.00	<0.00	<0.01	0.20	<0.12	0.35	<0.004	<0.00	<0.00	<0.1	<0.1	<0.1	0.4	0.0
	Phenanthrene	mg/kg	0.01	<0.01	2.3	<0.01	0.03	0.00	<0.03	<0.01	0.00	0.09	3.8	0.03	0.03	<0.03	<0.1	<0.1	0.1	1.6	0.1
	Fluorene	mg/kg	0.01	<0.01	0.1	<0.01	<0.03	0.03	<0.03	<0.01	<0.03	<0.00	0.58	<0.00	<0.01	<0.03	<0.1	<0.1	<0.1	0.2	<0.0
Polycyclic Aromatic Hydrocarbons	Chrysene	ma/ka	0.01	<0.01	11	<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	0.3
	Pyrene	ma/ka	0.01	<0.01	0.92	<0.01	0.06	<0.03	<0.03	<0.01	0.10	0.09	0.68	0.029	<0.03	<0.03	<0.1	0.1	<0.1	1.8	0.4
	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	0.3
	Benzo(b)fluoranthene	ma/ka	0.01	<0.01	12	<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	0.2
	Benzo(k)fluoranthene	mg/kg	0.01	<0.01	0.2	<0.01	0.04	<0.03	<0.03	<0.01	0.1	<0.0	0.04	<0.024	<0.03	<0.03	<0.1	<0.1	<0.1	0.5	0.2
	Benzo(a)pyrene	ma/ka	0.01	<0.01	0.9	<0.01	<0.03	<0.03	<0.03	<0.01	0.14	<0.03	0.04	0.016	<0.03	<0.03	<0.1	<0.1	<0.1	0.7	0.2
	Dibenz(a,h)anthracene	ma/ka	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	<0.0
	Benzo(a.h.i)pervlene	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	0.2
	Indeno(1.2.3-c.d)pyrene	ma/ka	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	0.1
	PAH 16 Total	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PAHs (Sum of total)	ma/ka	-		7	-	0.22	0 16	<0.1	-	21	0.56	9.3	-	0.33	<0.1	-	-	-	-	-
	Renzo(b+k)fluoranthene	mg/kg	0.01	<0.01	<u> </u>	<0.01	-		-	<0.01			-	0.033	-		-	-			
	Xvlenols	ma/ka	0.01		<0.01		-	-	-	-0.01		<0.01	-	-	-		-	-	-	-	
	3-&4-methylphenol	mg/kg		-	<0.01	-	-	-	-	- ·	· ·	<0.01		<u> </u>	<u> </u>	· ·	<0.1	<0.1	<0.1	<0.1	<0.1
Phenolics	Phenol	ma/ka	0.01	<0.01	<0.1	<0.01	-	-	-	<0.01		<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
	Phenols Monobydric	ma/ka	0.01		<0.01		<0.3	<0.3	<0.3	-0.01	<0.3	<0.1	<0.3	-0.01	<0.3	<0.3					
		1	I	1	\0.5	-	.0.0		\0.5	1	\0.5	.0.0	.0.0	1	.0.0	.0.0		1	-	-	-


10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	Die 1: Soil data (Enviros 2004, CH2M 2017c&d,	AEG 2018 and																			
		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						
		Location ID	Location				MS	BH15						MS\BH16							
Chemical Group	Compound	Sample Depth	Sample Depth	47.7		0.0	0700	4440	40.45.40	47 45 47 45	0.5	0.0.0.5	4044			<b>F7F0</b>	40.4.40.0	4.4.0	2.2.0	2040	5.5.0
		(m bgl)	(m bgl)	.17.7		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	02/07/202	1 02/07/202	1 05/07/2021	07/07/2021	07/07/2021	07/07/2021	07/07/2021
	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
		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-dichioropropane	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	<0.00	<0.01	<0.05				<0.00		<0.01		<0.00			<0.01	<0.01	<0.01	<0.01	<0.01
	1.2-dibromo-3-chloropropane	mg/kg	0.05	<0.00	<0.01	<0.00	-	-	-	<0.00		<0.01		<0.00			<0.01	<0.01	<0.01	<0.01	<0.01
	1 2-dibromoethane	mg/kg	0.05	<0.05	<0.01	<0.00	-	-	-	<0.00	-	<0.01	-	<0.00	-	-	<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
Valatila Organia	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
Carbon	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
Carbon	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
		mg/kg	0.05	<0.05	-	<0.05	-	-	-	<0.05	-	-	-	<0.05	-	-	-	-	-	-	-
	Chlorom	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
	chiorometriane	mg/kg	0.05	0.12		0.119	-	-	-	<0.05	-		-	0.000	-	-	-			-	
	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	<0.00	-	<0.00	-	-	-	<0.00	-	-	-	<0.00	-	-	-	-	-	-	-
	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
	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	<0.01
Volatile Organic	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	<0.01
Compounds /	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	<0.01
Semi Volatile	1, 3-aichiorobenzene	mg/kg	0.01	<0.05	<0.01	<0.05	-	-	-	<0.01	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
Compounds	1,4-aichiorobenzene	mg/kg	0.01	< 0.05	<0.01	<0.05	-	-	-	<0.01	-	<0.01	-	<0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
		ing/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		Ind/kg	0.01	NU.U I	1 .0.01	CU.U2		· ·	· -	10.01	· ·	10.01	-	0.01	· ·	-	0.01	NU.U1	10.01	10.01	10.01



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tal	ble 1: 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
			Location				MS	RH15						MS\BH16							
Chemical Group	Compound	Sample Depth	Sample Depth																		
		(m bgl)	(m bgl)	-17.7		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	02/07/202	1 02/07/2021	1 02/07/2021	05/07/2021	02/07/2021	02/07/2021	05/07/2021	07/07/202	1 07/07/2021	07/07/2021	07/07/2021
	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	<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	<0.01	<0.1	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
	2,4,6-trichlorophenol	mg/kg	0.01	<0.01	<0.01	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<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	<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	<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	<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	<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	<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	<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	<0.1
	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	<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	<0.1
	2-nitrophenol	mg/kg	0.01	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-
		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
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg	0.01	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Organic	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	<0.1
Compounds	4-chioroaniline	mg/kg	0.01	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-
	4-chiorophenyi phenyi 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-methylphenol	mg/kg	0.01	<0.01	<0.01	<0.01	-	-	-	<0.01	-	<0.01	-	<0.01	-	-	-	-			
		mg/kg	0.01	-	<0.1		-	-	-		-	<0.1	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
	Ris(2 chloroothovy) mothono	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
	Bis(2-chloroethyl)ether	mg/kg	0.01	<0.01	<b>NO.1</b>	<0.01	-	-	-	<0.01	-	<b>NO.1</b>	-	<0.01	-	-	<b>NO.1</b>	<0.1	<b>NO.1</b>	<b>NO.1</b>	<0.1
	Bis(2 chloroisopropyl) ether	mg/kg	0.01	<b>NO.01</b>	<0.1	<b>NO.01</b>	-	-	-	<b>NO.01</b>	-	<0.1	-	<0.01	-	-	<0.1	<01	<0.1	<0.1	<0.1
	Bis(2-ethylbexyl) 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	<0.1
	Butyl benzyl phthalate	ma/ka	0.1	<0.1	<0.1	<0.1	-	-	-	<0.1		<0.1	-	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
	Carbazole	ma/ka	0.01	<0.01	0.2	<0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	0.2	<0.1
	Dibenzofuran	ma/ka	0.01	<0.01	0.3	< 0.01	-	-	-	<0.01	-	<0.1	-	<0.01	-	-	<0.1	<0.1	<0.1	0.2	<0.1
	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	<0.1
	Dimethyl phthalate	ma/ka	0.1	<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	<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	<0.1
	Diphenylamine	mg/kg	1	-	<0.1	-	-	-	-	-	-	<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	<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	<0.1
	Hexachloroethane	mg/kg	0.01	<0.01	- 1	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-
	Isophorone	mg/kg	0.01	<0.01	- 1	<0.01	-	-	-	<0.01	- 1	-	-	<0.01	-	-	-	- 1	-	-	-
	Nitrobenzene	mg/kg	0.01	<0.01	- 1	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-
	N-nitrosodi-n-propylamine	mg/kg	0.01	<0.01	- 1	<0.01	-	-	-	<0.01	- 1	-	-	<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	<0.1



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tal	ble 1: 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						
		Location ID	Location				MS	BH15						MS\BH16							
Chemical Group	Compound	Sample Depth (m bgl)	Sample Depth (m bgl)	·17.7		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
	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	-	-	-	-	-	-
Polychlorinated	PCB 180	mg/kg		-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	-	-	-	-	-	-
Biphenyls (PCB)	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 poly



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I Tab	le 1: Soil data (Enviros 2004, CH2M 2017c&d,	AEG 2018 and																			
	AEG 2021)	Location		On-Site																	
			Location		OII-OILC	On-One	On-One	Oli-Olic			OII-OILC							On-One			On-One
Chemical Group	Compound	Location ID	Location							MS\IPUI		MS\TP03	IVIS\	1904		10121	1905		IVIS		
enemical croup	Compound	(m bal)	(m hal)	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		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
	Aluminium	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-
	Antimony	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	· ·	- 1	-
	Chromium (Trivalent)	mg/kg		170	4.1	-	36	-	30	130	8	8.1	16	3.8	32	210	29	260	260	54	110
Metals	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	-	-	-	-	-	-	-	-	-	-	-	· ·	- 1	-
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	· ·	- 1	-
	Mercury	mg/kg		0.11	<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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-
	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
	Cyanide (Free)	mg/kg	1	-	-	-	-	-	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	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
Inorganics	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
	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	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	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



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tat	ble 1: Soil data (Enviros 2004, CH2M 2017)	c&d, AEG 2018 and																			
	AEG 2021)	Location		On-Site	On-Site	On-Site	On-Site	On- <u>Site</u>	On-Site												
			Location	MS\BH17						MS\TP01		MS\TP03	MS	TP04		MS	TP05		MS	TP06	
Chemical Group	Compound	Sample Depth	Sample Depth	WIC (DITT								1010111 00	IVIO						IVIO I		
		(m bgl)	(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		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
	>C5-C6 Aliphatics	mg/kg	Í .	-	-	-	-	-	-	-	<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 Petroleum	Total >C5-C35 Aliphatics	mg/kg		-	-	-	-	-	-	-	<10	-	-	<10	-	<10	<10	-	-	1500	-
Hydrocarbons	>EC5-EC7 Aromatics	mg/kg		-	-	-	-	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
Working Group	>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	-
	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum	EPH >C10-40	mg/kg		-	-	-	-	-	<10	38	<10	<10	<10	<10	<10	51	<10	<10	<10	6800	68
Hydrocarbons	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzene	mg/kg	0.05	-	-	< 0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
Benzene,	Toluene	mg/kg	0.05	-	-	< 0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
I oluene,	Ethylbenzene	mg/kg	0.05	-	-	< 0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
Xylenes, Methyl	Xylene (m & p)	mg/kg	0.1	-	-	<0.1	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
tertiary butyl	Xylene (o)	mg/kg	0.05	-	-	< 0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
ether	Xylene Total	mg/kg	ļ	-	-	-	-	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	МТВЕ	mg/kg	0.05	-	-	< 0.05	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	-
	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
		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	<0.02	< 0.03	< 0.03	<0.1	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	<0.3	< 0.03
	Dyrana	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	0.00	0.27	0.9/	0.12
Polycyclic	Renzo(a)anthracene	ma/ka	0.01	-	-	<0.01	-	<0.1	<0.03	1.4	<0.03	<0.03	<0.03	~0.1	<0.03	<0.02	0.Z	0.04	0.29	0.56	<0.07
Hydrocarbons	Benzo(b)fluoranthene	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	0.20	0.00	0.00
	Benzo(k)fluoranthene	mg/kg	0.01	-	-	<0.01	-	<0.1	<0.03	0.77	<0.0	<0.03	<0.03	<0.1	<0.03	0.01	<0.1	<0.03	0.40	<0.40	0.70
	Benzo(a)nyrene	mg/kg	0.01	-	-	<0.01	-	<0.1	<0.03	0.2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.00	<0.03	<0.03	0.19	<0.3	0.22
	Dibenz(a h)anthracene	ma/ka	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	0.20	<0.0	0.05
	Benzo(a h i)pervlene	mg/kg	0.01	<u> </u>	+ -	<0.01	-	<0.1	<0.03	0.00	<0.03	<0.03	<0.03	<0.03	<0.03	<0.00	<0.03	0.03	0.04	<0.3 - 0.2	0.00
	Indeno(1 2 3-c d)pyrene	ma/ka	0.01		+ -	<0.01	-	<0.1	<0.03	0.17	<0.03	<0.03	<0.03	<0.03	<0.00	<0.1 - 0.09	<0.03	0.04	0.13	<0.3 - 0.2	0.20
	PAH 16 Total	mg/kg	0.01		+ -		-			-	-0.00						-0.00			-0.0 - 0.2	
	PAHs (Sum of total)	ma/ka		-	+ -				<0.1	50	0.44	0.14	<0.1	<0.1	<0.1	0.81	<0.1	0.32	25	<14.01	29
	Renzo(h+k)fluoranthene	mg/kg	0.01			<0.01	-										-				-
	Xvlenols	ma/ka	0.01	-			-				-			<0.01		-		-		<0.01	
	3-&4-methylphenol	mg/kg			+ -		-	<0.1			<0.1			<0.01		<0.1	<0.1			<0.01	
Phenolics	Phenol	ma/ka	0.01	-		<0.01	-	<0.1			<0.1			<0.1		<0.1	<0.1			<0.1	
	Phenols Monobydric	mg/kg	0.01						<0.3	<0.3	<0.1	<0.3	<0.3	<0.1	<0.3	<0.1	<0.1	<0.3	<0.3	<0.01	<0.3
I		Ing/kg	1	I -	-	-	-	-	\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



		Location		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	
Chemical Group	Compound	Sample Depth	Sample Depth	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		2	3	0.5	3.8-3.8	0.5
		(m bgi)	(m bgl)	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	11/06/2021	15/06/2021	17/06/2021	1 17/06/2021	17/06/2021	17/06/2021	15/06/2021	22/06/2021	17/06/20
	Styrene	mg/kg		0110112021	-	<0.05	0110112021	<0.01	10/00/2021	10/00/2021	<0.01	14/00/2021	14/00/2021	<0.01	17/00/202	<0.01	<0.01	17/00/2021	13/00/2021	<0.01	17/00/20
	cis_1 3-dichloropropene	mg/kg	0.05		-	<0.05		<0.01		-	<0.01			~0.01			<0.01			<0.01	
	trans-1.3-dichloropropene	mg/kg	0.05	<u> </u>		<0.00		<0.01		-	<0.01			<0.01	-	<0.01	<0.01	-		<0.01	
	1 1 1 2-tetrachloroethane	mg/kg	0.05	<u> </u>	_	<0.00	_	<0.01		_	<0.01			<0.01		<0.01	<0.01	_	-	<0.01	
	1 1 1-trichloroethane	mg/kg	0.05	-	-	<0.00	-	<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	
	1.1.2.2-tetrachloroethane	ma/ka	0.05		-	< 0.05	-	-	<u> </u>	-	-		<u> </u>	-		-	-	-		-	-
	1.1.2-trichloroethane	ma/ka	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	ma/ka	0.05	-	-	< 0.05	-	< 0.01	-	-	< 0.01	-	-	< 0.01	-	< 0.01	< 0.01	-	-	< 0.01	-
	1.1-dichloropropene	ma/ka	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	ma/ka	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	ma/ka	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		-	-	-	-	< 0.01	-	-	< 0.01	-	-	< 0.01	-	< 0.01	<0.01	-	-	< 0.01	-
	1,2-dichloropropane	ma/ka	0.05	-	-	< 0.05	-	< 0.01	-	-	< 0.01	-	-	< 0.01	-	< 0.01	<0.01	-	-	< 0.01	-
	1.3.5-trimethylbenzene	ma/ka	0.05	-	-	< 0.05	-	< 0.01	-	-	< 0.01	-	-	< 0.01	-	< 0.01	<0.01	-	-	< 0.01	-
	1.3-dichloropropane	ma/ka	0.05	-	-	< 0.05	-	< 0.01	-	-	< 0.01	-	-	< 0.01	-	< 0.01	<0.01	-	-	< 0.01	-
	2.2-dichloropropane	ma/ka	0.05		-	< 0.05	-	< 0.01		-	< 0.01	-	<u> </u>	< 0.01		<0.01	<0.01	-		< 0.01	-
	2-chlorotoluene	ma/ka	0.05	-	-	<0.05	-	<0.01		-	< 0.01	-	<u> </u>	< 0.01		<0.01	<0.01	-	-	< 0.01	-
	4-chlorotoluene	ma/ka	0.05		-	< 0.05	-	< 0.01	<u> </u>	-	< 0.01		<u> </u>	< 0.01		<0.01	<0.01	-		< 0.01	-
	Bromobenzene	ma/ka	0.05		-	<0.05	-	<0.01	<u> </u>	-	<0.01	-		<0.01	-	<0.01	<0.01	-	-	<0.01	-
/olatile Organic	Bromochloromethane	ma/ka	0.05	-	-	< 0.05	-	< 0.01	<u> </u>	-	< 0.01	-	<u> </u>	< 0.01		< 0.01	<0.01	-		< 0.01	<u> </u>
Carbon	Bromodichloromethane	ma/ka	0.05		-	<0.05	-	<0.01	<u> </u>	-	<0.01		<u> </u>	<0.01		<0.01	<0.01	-		<0.01	<u> </u>
	Bromoform	ma/ka	0.05	-	-	<0.05	-	<0.01		-	< 0.01	-	<u> </u>	< 0.01		<0.01	<0.01	-	-	< 0.01	<u> </u>
	Bromomethane	ma/ka	0.05	-	-	<0.05	-	-	<u> </u>	-	-	-		-	-	-	-	-		-	<u> </u>
	Carbon tetrachloride	mg/kg	0.05		-	<0.05	-	<0.01	<u> </u>	-	<0.01		<u> </u>	<0.01		<0.01	<0.01	-		<0.01	-
	Chlorodibromomethane	ma/ka	0.05	-	-	<0.05	-	<0.01		-	< 0.01	-		< 0.01		<0.01	<0.01	-	-	< 0.01	<u> </u>
	Chloroethane	ma/ka	0.05	-	-	< 0.05	-	-		-	-	-		-	-	-	-	-	-	-	-
	Chloroform	ma/ka	0.05	-	-	< 0.05	-	< 0.01		-	< 0.01	-		< 0.01		<0.01	<0.01	-	-	< 0.01	-
	Chloromethane	ma/ka	0.05	-	-	0.269	-	-	<u> </u>	-	-	-		-	-	-	-	-	-	-	-
	cis-1 2-dichloroethene	ma/ka	0.05		-	<0.05	-	<0.01		-	<0.01	-		<0.01	-	<0.01	<0.01	-		<0.01	
	Dibromomethane	ma/ka	0.05	-	-	<0.05	-	<0.01		-	< 0.01	-	<u> </u>	<0.01		<0.01	<0.01	-	-	< 0.01	-
	Dichlorodifluoromethane	ma/ka	0.05	-	-	<0.05	-	-	<u> </u>	-	-	-		-	-	-	-	-	-	-	-
	Dichloromethane	ma/ka	0.05	-	-	<0.05	-	-		-	-	-		-	-		-	-		-	-
		ma/ka	0.05	-	-	<0.05	-	<0.01		-	< 0.01	-		<0.01		<0.01	< 0.01	-	-	< 0.01	-
	n-butvlbenzene	ma/ka	0.05	-	-	<0.05	-	<0.01	<u> </u>	-	< 0.01	-		<0.01		<0.01	<0.01	-		< 0.01	-
	n-propylbenzene	ma/ka	0.05		-	<0.05	-	<0.01	<u> </u>	-	<0.01	-		<0.01		<0.01	<0.01	-		<0.01	-
	p-isopropyltoluene	ma/ka	0.05	-	-	<0.05	-	<0.01		-	< 0.01	-		<0.01	-	<0.01	<0.01	-	-	< 0.01	<u> </u>
	sec-butylbenzene	ma/ka	0.05		-	<0.05	-	<0.01		-	<0.01	-		<0.01	-	<0.01	<0.01	-		<0.01	
	Trichloroethene	ma/ka	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	ma/ka	0.05	-	-	<0.05	-	<0.01		-	<0.01	-		<0.01	-	<0.01	<0.01	-	-	<0.01	-
	trans-1.2-dichloroethene	ma/ka	0.05	-	-	<0.05	-	<0.01		-	<0.01	-		<0.01	-	<0.01	<0.01	-	-	<0.01	-
	Trichlorofluoromethane	ma/ka	0.05	-	-	< 0.05	-	-		-	-	-	-	-	-	-	-	-	-	-	-
	Vinvl chloride	ma/ka	0.05	-	-	<0.05	-	<0.01	-	-	<0.01	-		<0.01	-	<0.01	<0.01	-	-	<0.01	-
	1 2 3-trichlorobenzene	ma/ka	0.05		-	<0.00	-	<0.01	-	-	<0.01		-	<0.01		<0.01	<0.01	-	-	<0.01	+
	1 2 4-trichlorobenzene	ma/ka	0.00	-	-	<0.00	-	<0.01		-	<0.01		<u> </u>	<0.01		<0.01	<0.01	-		<0.01	+
olatile Organic	1.2-dichlorobenzene	mg/kg	0.01	+		<0.00		<0.01	<u> </u>		<0.01	<u> </u>	<u> </u>	<0.1 <0.01	<u> </u>	<0.1	<0.01			<0.01	
Compounds /	1 3-dichlorobenzene	mg/kg	0.01	-	-	<0.05	-	<0.01		-	<0.01	-	-	<0.01	-	<0.01	<0.01		-	<0.01	
Organic		mg/kg	0.01		-	<0.00	-	<0.01		-	<0.01			<0.01		~0.01	<0.01	-		<0.01	
Compounds	Chlorobonzonc	mg/Kg	0.01	-	-	<0.01	-	<0.01	-	-	<0.01	-		<0.01	-	-0.01	<0.01	-	-	<0.01	
		ing/kg	c0.0			<0.05	-	<0.01		-	<0.01			×0.01	· ·	<0.01	×0.01	-		<0.01	



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tal	ble 1: Soil data (Enviros 2004, CH2M 2017c8	&d, AEG 2018 and																			
	AEG 2021)	L a satism		00:4-	00.	004	004	0014	0 0:4-	0 0:4-	00:4	004	00:4-	0- 0:4-	0014	0014	00	00:4-	004	0.5.0145	0014
		Location		On-Site	On-Site	Un-Site	Un-Site	Un-Site	On-Site	On-Site	Un-Site	Un-Site	Un-Site	On-Site	Un-Site	Un-Site		On-Site	On-Site	Un-Site	Un-Site
Ob and in all One one	O management	Location ID	Location	MS\BH17						MS\TP01		MS\TP03	MS\"	TP04		MS\	TP05		MS	ГР06	
Chemical Group	Compound	Sample Depth	Sample Depth	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		2	3	0.5	3.8-3.8	0.5
		(III DGI)	(m bgi)	07/07/2024	07/07/2024	07/07/2024	07/07/2024	07/07/2024	16/06/2021	16/06/2021	16/06/2021	11/06/2021	14/06/2021	15/06/2021	17/06/2021	17/06/2021	17/06/2021	17/06/2021	15/06/2021	22/06/2024	17/06/2021
	1.4 dinitrahanzana	Unit ma//ca	Sample_Date	07/07/2021	0110112021	07/07/2021	07/07/2021	<0.1	10/00/2021	10/00/2021	10/00/2021	14/00/2021	14/00/2021	15/06/2021	17/00/2021	<0.1	-0.1	17/00/2021	15/00/2021	22/00/2021	17/06/2021
	Papart alashal	mg/kg			-	-	-	<0.1	-	-	<0.1	-		<0.1	-	<0.1	<0.1	-	-	<0.1	
	A bromonhanul phonul other	mg/kg	0.01		-	-	-	<0.1		-	<0.1	-		<0.1	-	<0.1	<0.1	-	-	<0.1	
		mg/kg	0.01		-	<0.01	-	<0.1		-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	
	4-iiiii Oaliiiiile	mg/kg	0.01		-	<0.01	-	<0.1		-	<0.1	-		<0.1	-	<0.1	<0.1	-		<0.1	
		mg/kg	0.01		-	<b>NO.01</b>	-	<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	
		mg/kg			-	-	-	<0.1		-	<0.1	-		<0.1	-	<0.1	<0.1	-		<0.1	
	2,3,5,6-1 etrachiorophenol	mg/kg	0.01		-	-	-	<0.1		-	<0.1	-		<0.1	-	<0.1	<0.1	-	-	<0.1	
	2,4,5-trichlerenhenel	mg/kg	0.01		-	<0.01	-	<0.1		-	<0.1	-		<0.1		<0.1	<0.1	-		<0.1	
	2,4,6-tricriorophenoi	mg/kg	0.01		-	<0.01	-	<0.1		-	<0.1	-		<0.1	-	<0.1	<0.1	-		<0.01	
	2.4 dimethylphenel	mg/kg	0.01			<0.01	-	<0.1		-	<0.1			<0.01		<0.1	<0.1	-		<0.01	
	2.4 dinitratelyprieno	mg/kg	0.01	-	-	<0.01	-	>0.1		-	NU. 1	-		-0.1	-	>0.1	-0.1	-		-0.01	
	2,4-dimiroloidene	mg/kg	0.01		-	<0.01	-	<0.1	-	-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	
	2,6-dicition optienon	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-		<0.01	
		mg/kg	0.01	-	-	<0.01	-	<0.1		-	<0.1	-		<0.1	-	<0.1	<0.1	-		<0.1	
	2-chloronaphthaene	mg/kg	0.01	-	-	<0.01	-	<0.1		-	<0.1	-	-	<0.1	-	<0.1	<0.1	-	-	<0.1	
	2 mothylpaphthalono	mg/kg	0.01	-	-	<0.01	-	<0.1		-	<0.1	-		<0.1	-	<0.1	<0.1	-		<0.1	
	2 mothylnbonol	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	<u> </u>		<0.01				-	-						-			-	<u> </u>
	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	0.01	-		-	-	<0.1		-	<0.1	-		<0.1		<0.1	<0.1	-	-	<0.1	
Organic	4-chloro-3-methylphenol	mg/kg	0.01	<u> </u>		<0.01	-	<0.1		-	<0.1	-		<0.01		<0.1	<0.1	-		<0.01	
Compounds	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	ma/ka	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	-



Appendix I, Tab	AEG 2021)	AEG 2018 and																			
		Location		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	
Chemical Group	Compound	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		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	17/06/202	1 17/06/2021	15/06/2021	22/06/2021	17/06/2021
	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	-
Polychlorinated	PCB 180	mg/kg		-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	<0.01	-
Biphenyls (PCB)	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 -#



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tat	ble 1: 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
		Location ID	Location	MS\TP07		MS	TP09	MS		S1-	BH04	S1-BH05	S1-BH06	S1-F	3H07A	S1-BH12	S1-B	H13A	S1-BH14	S1-F	3H18
Chemical Group	Compound	Sample Depth	Sample Depth			inite initial						01-01100	01-01100			01-DITI2					
		(m bgl)	(m bgl)	2	4		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	1 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
	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	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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	-
	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	1.2	7.8	1.5	8.1	-	-	-	-	-	-	-	-	-	-	-	-
Inorganics	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	-	-	-	-	-	-	-	-	-	-	-	-
	I NIOCYANATE (AS SCN)	mg/kg		<0.6	<0.6	<0.6	<0.6	0.8		-	-	3.7	15	-	<0.6	1.3	-	1.1	<0.6	<0.6	-
	Urganic 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	-
		-		-	-	-	-	-	-	0.01	-	-	-	0	-	-	0	-	-	-	U
Other		<u>%</u>	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Moisture Content 105C	<u>%</u>		5.5	1.6	6.4	12	1/	19	-	-	-	-	-	-	-	-	-	-	-	-
	рн (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	- 1



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ole 1: Soil data (Enviros 2004, CH2M 2017c&d	l, 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
		Location ID	Location	MS\TP07		MS	TP09	MS	TP10	S1-	-BH04	S1-BH05	S1-BH06	S1-	BH07A	S1-BH12	S1-B	H13A	S1-BH14	S1-	BH18
Chemical Group	Compound	Sample Depth	Sample Depth						0.5		5050	4040	7070	0.5.0.5	5050		10.10	0.0.00			5050
		(m bgl)	(m bgl)		4			0.3	0.5	3.9-3.9	5.9-5.9	1.9-1.9	1.3-1.3	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	1 21/06/2021	16/10/2017	7 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
	>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	ļ	<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 Petroleum	I otal >C5-C35 Aliphatics	mg/kg		<10	-	<10	<10	<10	-		<10	<10	<10		<10	<10	-	<10	<10	<10	
Hydrocarbons	>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	-		3/	<10	<10		<10	<10	-	<10	<10	<10	
	EDH >C10 40	mg/kg			-										-			-			
Petroleum	CPO C5 C10	mg/kg		<10	<10	<10	<10	<10	<10		-	-	-	-	-	-	-	-	-	- <u>-</u>	
Tiydrocarbons		mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- <u>-</u>	
	Renzene	mg/kg	0.05	<0.01	-	<0.01	<0.01	<0.01	-	-	-	<0.01	-	-	<0.01	<0.01	-	-	-	<u> </u>	-
Benzene		mg/kg	0.05	<0.01	-	<0.01	<0.01	<0.01	-		-	<0.01		-	<0.01	<0.01		<0.01			-
Toluene.	Ethylbenzene	mg/kg	0.05	<0.01	-	<0.01	<0.01	<0.01		<u> </u>		<0.01			<0.01	<0.01		<0.01		<u> </u>	
Ethylbenzene,	Xylene (m & n)	mg/kg	0.00	<0.01			<0.01					<0.01			<0.01	<0.01		<0.01		<u> </u>	
Xylenes, Methyl		mg/kg	0.05	<0.01	-		<0.01		-			<0.01			<0.01	<0.01		<0.01	-	<u> </u>	
tertiary butyl	Xylene Total	mg/kg	0.00	<0.01	-	<0.01	<0.01	<0.01	-	<u> </u>			-							<u> </u>	
enier	MTBE	mg/kg	0.05	<0.01		<0.01	<0.01	<0.01				<0.01		-	<0.01	<0.01	-	<0.01	<u> </u>	<u> </u>	-
	Naphthalene	mg/kg	0.00	<0.1	<0.03	<0.03	<0.1	<0.03	<0.03		0.07	<0.01 - 0.24	<0.03	-	<0.01 -	<0.03 -	-	<0.01 - 0.8	< 0.03	<0.03	-
	Acenaphthene	ma/ka	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	ma/ka	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	- 1	0.34	<0.1 - 0.14	< 0.03	- 1	0.4 - 0.65	< 0.03	-	1.8 - 45	< 0.03	0.08	-
Polycyclic	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	-
Aromatic	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	-
Hydrocarbons	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Xylenols	mg/kg		-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenolics	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	-



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ble 1: 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 one	Me				011 0110				01 010			011 Onto			011 0110	
Chemical Group	Compound	Location ID	Location	MS\IP07		MS\	1909	Ma	S/IP10	51-6	BHU4	S1-BH05	S1-BH06	51-6	3HU/A	S1-BH12	S1-B	SHT3A	S1-BH14	51-1	BH18
Chemical Group	Compound	Sample Depth	Sample Depth	2	4		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
			Sample Date	17/06/2021	17/06/2021	16/06/2021	16/06/2021	21/06/202	1 21/06/2021	16/10/2017	16/10/2017	12/10/2017	06/10/2017	04/10/2017	04/10/2017	7 10/10/2017	04/10/2017	04/10/2017	06/10/2017	12/10/2017	13/10/2017
	Styrepe	ma/ka		<0.01	-	10/00/2021	<0.01	-	-	10/10/2011	-	<0.01	-	-	<0.01	<0.01	-	<0.01		-	10/10/2011
	cis-1 3-dichloropropene	mg/kg	0.00	-0.01								10.01			-0.01	-0.01		-0.01			
	trans-1 3-dichloropropene	mg/kg	0.00	<0.01			<0.01				-	<0.01			<0.01	<0.01		<0.01			
	1 1 1 2-tetrachloroethane	mg/kg	0.00	<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			
		mg/kg	0.05				-0.01					×0.01			-0.01			<b>VU.01</b>			
	1,1,2,2-tetrachioroethane	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	-	-	
		mg/kg	0.05	<0.01	-		<0.01	-	-		-	<0.01		-	<0.01	<0.01		<0.01	-		
		mg/kg	0.05	<0.01	-		<0.01	-	-		-	0.01		-	<0.01	<0.01		<0.01	-	-	
	1, 1-dichloropropane	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	0.01	<0.01	-	0.01	-	-	
	1.2.4 trimethylbenzono	ma/ka	0.05	<0.01	-		<0.01		-		-	<0.01			~0.01	~0.01		C0.01			
	1.2. dibromo 3. chloropropano	mg/kg	0.05	<0.01	-		<0.01		-		-	<0.01			<0.01	<0.01		<0.01			
	1.2 dibromoethano	mg/kg	0.05	<0.01	-		<0.01				-	<0.01			~0.01	<0.01		~0.01			
	1,2-cubiomoethano	mg/kg	0.05	<0.01	-	-	<0.01		-		-	<0.01			~0.01	<0.01		<0.01			-
		mg/kg	0.05	<0.01	-		<0.01	-	-		-	<0.01			<0.01	<0.01		<0.01			-
		mg/kg	0.05	<0.01	-	-	<0.01	-	-		-	<0.01	-	-	<0.01	<0.01		<0.01	-	-	
	1,2-dichioropropane	mg/kg	0.05	<0.01	-	-	<0.01	-	-		-	<0.01	-	-	<0.01	<0.01	-	<0.01	-		
	1,3,5-uimeunyidenzene	mg/kg	0.05	<0.01	-		<0.01		-	· ·	-	<0.01		-	<0.01	<0.01		<0.01			
		mg/kg	0.05	<0.01	-	-	<0.01	-	-		-	<0.01		-	<0.01	<0.01		<0.01			
	2,2-dichioropropane	mg/kg	0.05	<0.01	-		<0.01	-	-	· ·	-	<0.01			<0.01	<0.01		<0.01			
		mg/kg	0.05	<0.01	-		<0.01	-	-	· ·	-	<0.01			<0.01	<0.01	· ·	<0.01			
	4-chiorololuene	mg/kg	0.05	<0.01	-		<0.01		-		-	<0.01			<0.01	<0.01		<0.01			
Volatile Organic	Bromoshlaramethana	mg/kg	0.05	<0.01	-		<0.01	-	-	· ·	-	<0.01			<0.01	<0.01		<0.01			-
Carbon	Bromodiableremethere	mg/kg	0.05	<0.01	-	-	<0.01	-	-		-	<0.01		-	<0.01	<0.01		<0.01			
	Bromodichioromethane	mg/kg	0.05	<0.01	-		<0.01	-	-	· ·	-	<0.01		-	<0.01	<0.01		<0.01			-
	Bromomethene	mg/kg	0.05	<0.01	-		<0.01	-	-	· ·	-	<0.01			<0.01	<0.01	· ·	<0.01			
	Bromomethane	mg/kg	0.05	-	-				-		-	-		-				-			
	Calibon tetrachionde	mg/kg	0.05	<0.01	-	-	<0.01	-	-		-	<0.01		-	<0.01	<0.01		<0.01			
	Chloroothana	mg/kg	0.05	<0.01	-		<0.01		-	· ·	-	<0.01		-	<0.01	<0.01		<0.01			
	Chloroform	mg/kg	0.05		-	-		-	-	-	-		-	-			-	-	-	-	
	Chloromothana	mg/kg	0.05	<0.01	-	-	<0.01	-	-	· ·	-	<0.01		-	<0.01	<0.01		<0.01			
		mg/kg	0.05	-	-	-		-	-		-	-		-				-			
	Dibromomothono	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01		<0.01	-	-	
	Disblorediflueremethane	mg/kg	0.05	<0.01	-	-	<b>NO.01</b>	-	-	-	-	<b>NO.01</b>	-	-	<0.01	<u> </u>		<0.01	-	-	
	Dichloromathana	mg/kg	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
	Isopronvlbenzene	ma/ka	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	-	-	<0.01	<0.01	-	<0.01	-	-	
	n-hutvlbenzene	mg/kg	0.05	<0.01	-		<0.01	-	-		-	<0.01			<0.01	<0.01		<0.01			
	n-pronvlbenzene	ma/ka	0.05	<0.01			<0.01			<u> </u>		<0.01	<u> </u>	<u> </u>	<0.01	<0.01		<0.01		<u> </u>	
		ma/ka	0.05	<0.01			<0.01			<u> </u>		<0.01	<u> </u>	<u> </u>	<0.01	<0.01		<0.01		<u> </u>	
		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			<u> </u>	-	<0.01		<u> </u>	<0.01	<0.01		<0.01		<u> </u>	<u>-</u>
	tert-butylbenzene	mg/kg	0.00	<0.01			<0.01				-	<0.01		-	<0.01	<0.01		<0.01			
		mg/kg	0.00	<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					<u> </u>			-										
	Vinyl chloride	mg/kg	0.05	<0.01			<0.01	<u> </u>			-	<0.01			<0.01	<0.01		<0.01			
	1 2 3-trichlorobenzene	mg/kg	0.05	<0.01			<0.01				-	<0.01			<0.01	<0.01		<0.01			
	1.2.4-trichlorobenzene	ma/ka	0.03	<0.01			<0.01			<u> </u>	-	<0.01	<u> </u>		<0.01	<0.01		<0.01		<u> </u>	+ -
Volatile Organic	1 2-dichlorobenzene	mg/kg	0.01	<0.1	-		<0.01			<u> </u>	-	<0.01		<u> </u>	<0.01	<0.01		<0.01		<u> </u>	
Compounds /	1.3-dichlorobenzene	mg/kg	0.01	<0.01			<0.01				-	<0.01			<0.01	<0.01		<0.01			
Organic	1 4-dichlorobenzene	mg/kg	0.01	<0.01	-		<0.01			<u> </u>	-	<0.01	<u> </u>	<u> </u>	<0.01	<0.01		<0.01	<u> </u>	<u> </u>	-
Compounds	Chlorobenzene	mg/kg	0.01	<0.01			<0.01				-	<0.01			<0.01	<0.01		<0.01			
	Hexachlorobutadiene	mg/kg	0.03	<0.01		<u> </u>	<0.01			<u> </u>	-	<0.01	<u> </u>		<0.01	<0.01	<u> </u>	<0.01		<u> </u>	
		l'''g/kg	0.01	0.01	I -	1 -	\0.01	I -	-	I -		\0.01	1 -	1 -	0.01	0.01	1	0.01	1 -	1 -	I -



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I Tat	Die 1: Soli data (Enviros 2004, CH2M 2017) AFG 2021)	C&d, AEG 2018 and																			
		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-I	BH04	S1-BH05	S1-BH06	S1-6	BH07A	S1-BH12	S1-6	BH13A	S1-BH14	S1-E	3H18
Chemical Group	Compound	Sample Depth	Sample Depth					0.2	0.5	2020	5050	1010	7070	2525	E 2 E 2		4040	C O C O		2.2	FOFO
		(m bgl)	(m bgl)	2	4			0.3	0.0	3.9-3.9	5.9-5.9	1.9-1.9	1.3-1.3	2.0-2.0	0.0-0.0	0.0-0.0	4.9-4.9	0.0-0.0	0.0-0.0	১-১	0.0-0.0
		Unit	Sample_Date	17/06/2021	1 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	-	-	-
		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	-	-	-
		mg/kg		<0.1	-		<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-
		mg/kg		<0.1	-		<0.1		-		-	<0.1		-	<0.1	<0.1	-	<0.1		-	-
	2,3,5,6-1 etrachiorophenol	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	-			-	<0.1			<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	-	-	-
	2 4-dimethylphenol	mg/kg	0.01	<0.1			<0.1	<0.01	-		-	<0.1			<0.1	<		0.1		-	-
	2 4-dinitrotoluene	mg/kg	0.01	<0.1	-	-	<0.01	<b>NU.UI</b>	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1 <0.1	-	-	-
	2.6-dichlorophenol	mg/kg	0.01				<0.1	<0.01			-						-			-	
	2.6-dinitrotoluene	mg/kg	0.01	<0.1			<0.01					<0.1		-	<0.1	<0.1	-	<0.1			-
	2-chloronaphthalene	mg/kg	0.01	<0.1	-	<u> </u>	<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	ma/ka	0.01	<0.1	-		<0.1		-	<u> </u>	-	<0.1		-	<0.1	<0.1	-	1.2		-	-
	2-methylphenol	ma/ka	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	-	-	-
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg		<0.1	-	-	<0.1	-	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-
Organic	4-chloro-3-methylphenol	mg/kg	0.01	<0.1	-	-	<0.1	<0.01	-	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	-	-
Compounds	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	-	-	-
		mg/kg	0.04	<0.1	-		<0.1	-	-		-	<0.1		-	<0.1	<0.1	-	<0.1		-	-
		mg/kg	0.01	<0.1	-		<0.1	-	-		-	<0.1		-	<0.1	<0.1	-	<0.1		-	-
		ing/kg	0.01	<0.1		-	<0.1				-	<0.1			<0.1	<0.1		<0.1		-	
		mg/kg	0.01	-	-	-	-				-				-		-	-		-	-
	Nitrobenzene	mg/kg	0.01	-	-		-		-		-				-			-		-	-
	N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pontachloronhonol	mg/kg	0.01								-										-
	Fentachiorophenoi	ling/kg	0.01	<u></u> \0.1	-	-	\0.1	I -	<del>-</del>			\0.1	I -	I -	\0.1	\0.1	I -	\0.1		- 1	-



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ole 1: Soil data (Enviros 2004, CH2M 2017c&d, /	AEG 2018 and																			
	AEG 2021)	Location		On Site																	
		Lucation			OII-OILE																
Chemical Group	Compound	Location ID	Location	MS\TPU7		MS	1909	MS	TP10	51-	BH04	S1-BH05	S1-BH06	51-6	3HU7A	S1-BH12	51-6	SH13A	S1-BH14	51-1	8H18
	Compound	(m bgl)	(m bql)	2	4		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
	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	-	-	<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	-	-	-
Polychlorinated	PCB 180	mg/kg		<0.01	-	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	<0.01	-	<0.01	-	-	-
Biphenyls (PCB)	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- (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		-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	<0.01	-	<0.01	-	-	-

#### Notes

Not analysed# Speciated poly



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ole 1: Soil data (Enviros 2004, CH2M 2017c&d,	AEG 2018 and																			
	AEG 2021)	Location		On Cita	On Cita	On Cite	On Cita	On Oite	On Cito	On Cita	On Cite	On Oite	On Oite	On Cita	On Cita	On Oite	On Cita	On Cita	On Oite	On Oite	On Site
		Location		UII-Sile	OII-Sile			UII-Sile		UII-Sile		On-Sile	UII-Sile	OII-Sile	On-Sile	On-Sile	On-Sile	UII-Sile		On-Sile	
Chamical Group	Compound	Location ID	Location	S1-BH19	S1-BH20A	S1-TPA01	S1-TPA04A	<u>۸</u>	S1-TPA06		S1-TPA09	S1-TPA12	S1-I	PA14	S1-TPA15	S1-TPA17	S1-TPA20	S1-1	IPA22	S1-TPA25	S1-TPA26
Chemical Group	Compound	Sample Depth	Sample Depth	5.5-5.5	4.2-4.2	0.6		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
			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
	Aluminium	ma/ka	oumpic_bute	38,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<u> </u>	-	-
	Antimony	mg/kg		6.1	-	3.6	23	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	91	10
	Barium	mg/kg		160	-	200	160	120	-	-	-	200	340	440	-	-	-	-	-	300	160
	Bervllium	mg/kg		34	<u> </u>	32	4.6	0.7	-	-		6.9	3.9	74					-	72	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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	0.15	<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		-	-	- 1	-		-	-	-	-	-	-	-	-	-	-	-	-	-
	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
	Cyanide (Free)	mg/kg	1	<0.1	- 1	<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	0.2	<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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganics	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
	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	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	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



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ble 1: Soil data (Enviros 2004, CH2M 2017c AEG 2021)	&d, AEG 2018 and																			
		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	S1-1	FPA14	S1-TPA15	5 S1-TPA17	S1-TPA20	S1-T	PA22	S1-TPA25	S1-TPA26
Chemical Group	Compound	Sample Depth	Sample Depth	5 5-5 5	42-42	0.6		0.7	2	3.7	31	1.8	0.8	23	0.45	21	13	03	23	03	0.8
		(m bgl)	(m bgl)	0.0 0.0											0.40						
		Unit	Sample_Date	11/10/2017	30/10/2017	7 11/01/2017	12/01/2017	12/01/2017	7 12/01/2017	12/01/2017	10/01/2017	11/01/2017	10/01/2017	10/01/2017	7 10/01/201	7 11/01/2017	09/01/2017	15/12/2016	15/12/2016	14/12/2016	13/12/2016
	>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	<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	<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	<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	<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	<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	<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	<3.4
Total Petroleum	Total >C5-C35 Aliphatics	mg/kg		10	<10	<10	30	<10	<10	<10	<10	<10	<10	<10	<10	<10	59	<10	10	<10	<10
Hydrocarbons	>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	<0.01
Working Group	>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	<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	<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	<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	<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	<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	<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	<10
	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrocarbons	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-
Benzene,	Toluene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-
Toluene,	Ethylbenzene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-
Ethylbenzene,	Xylene (m & p)	mg/kg	0.1	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-
tertiary butyl	Xylene (o)	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-
ether	Xylene Total	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	МТВЕ	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-	<0.01	<0.01	-	-	<0.01	-
	Naphthalene	mg/kg	0.01	0.08	< 0.03	< 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	<0.03
	Acenaphthene	mg/kg	0.01	0.19	< 0.03	< 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	<0.03
	Acenaphthylene	mg/kg	0.01	<0.03	< 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	<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	0.15	0.03
	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	<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	0.09	<0.03
	Fluorene	mg/kg	0.01	0.18	< 0.03	< 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	< 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	0.15	< 0.03
Polycyclic	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	0.12	<0.03
Aromatic	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	0.07	<0.03
Hydrocarbons	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	0.1	< 0.03
	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	0.03	<0.03
	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	< 0.03	< 0.03
	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	< 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	< 0.03	< 0.03
	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	< 0.03	<0.03
	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	0.71	0.05
	PAHs (Sum of total)	mg/kg		8.1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Xylenols	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dhanalise	3-&4-methylphenol	mg/kg		-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
Prienolics	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	<0.3	0.4



		Location		On-Site											
		Location ID	Location	S1-BH19	S1-BH20A	S1-TPA01	S1-TPA04A		S1-TPA06		S1-TPA09	S1-TPA12	S1-T	PA14	S1-TPA15
Chemical Group	Compound	Sample Depth	Sample Depth	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
		(m bgl)	(m bgl)	44/40/2047	20/40/2047	44/04/2047	40/04/0047	40/04/0047	40/04/0047	40/04/0047	40/04/2047	44/04/2047	40/04/2047	40/04/2047	40/04/2047
	Stiropo	Unit ma/ka		11/10/2017	30/10/2017	11/01/2017	<0.01	12/01/2017	12/01/2017	<0.01	10/01/2017			10/01/2017	10/01/2017
		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	-	<u> </u>	-	<0.01	-	_	<0.01	-	<0.01	<0.01	_	-
	1.1.1-trichloroethane	ma/ka	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	-	-
Volatile Organic	Bromobenzene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-
Carbon		mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-
	Bromodicnioromethane	mg/kg	0.05	-		-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-
	Bromomothano	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-
		mg/kg	0.05	-	-	-		-	-	-	-	-0.01		-	-
		mg/kg	0.05	-		-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-
	Chloroethane	mg/kg	0.05	<u> </u>				<u> </u>	-						
	Chloroform	mg/kg	0.05	-	<u> </u>	-	<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	ma/ka	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	-	-
	1,2,3-trichlorobenzene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-
Volatile Organic	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	<0.1	-
Compounds /	1,2-dichlorobenzene	mg/kg	0.01	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-
Semi Volatile	1,3-dichlorobenzene	mg/kg	0.01	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-
Organic	1,4-dichlorobenzene	mg/kg	0.01	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-
Compounds	Chlorobenzene	mg/kg	0.05	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-
1	Hexachlorobutadiene	mg/kg	0.01	-	-	-	<0.01	-	-	<0.01	-	<0.01	<0.01	-	-





10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tat	ole 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2021)	AEG 2018 and																			
		Location		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-T	PA22	S1-TPA25	S1-TPA26
Chemical Group	Compound	Sample Depth	Sample Depth	5555	1212	0.6		0.7	2	2.7	2.1	1 0	0.9	2.2	0.45	2.1	12	0.2	2.2	0.2	0.9
		(m bgl)	(m bgl)	0.0-0.0	4.2-4.2	0.0		0.7	2	5.7	5.1	1.0	0.0	2.0	0.43	2.1	1.5	0.5	2.0	0.5	0.0
		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	7 10/01/2017	10/01/2017	11/01/2017	09/01/2017	15/12/2016	15/12/2016	14/12/2016	13/12/2016
	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	-
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg		-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
Organic	4-chloro-3-methylphenol	mg/kg	0.01	-	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-
Compounds	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	<u> </u>
	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	<u> </u>
	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 Tab	AEG 2021)	AEG 2018 and																			
		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-T	PA14	S1-TPA15	S1-TPA17	S1-TPA20	S1-T	PA22	S1-TPA25	S1-TPA26
Chemical Group	Compound	Sample Depth (m bgl)	Sample Depth (m bgl)	5.5-5.5	4.2-4.2	0.6		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	7 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
	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
	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
Polychlorinated	PCB 180	mg/kg		-	-	<0.01	-	<0.01	-	-	-	<0.01	-	-	-	-	<0.01	-	-	-	<0.01
Biphenyls (PCB)	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 -#



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA	AEG 2018 and																			
	AEG 2021)	, / 120 2010 and																			
		Location		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	S1-1	PB03	S1-TPB04	S1-TPB05	S1-T	PB06	S1-	TPB08	S1-TPB12	S1-TPH02	S1-T	PH04	S1-T
Chemical Group	Compound	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	7 18/01/2017	7 16/01/2017	14/02/2017	25/04/2017	25/04/2017	25/04/2017
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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	-	0.06	-	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	ļ	160	66	170	130	-	350	-	100	-	-	140	70	25	260	-	110	-	110
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganics	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	ļ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Thiocyanate (as SCN)	mg/kg	ļ	<0.6	<0.6	<0.6	<0.6	-	<0.6	-	-	-	-	<0.6	<0.6	-	0.6	-	<0.6	-	-
	Organic Matter	%	ļ	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
Other	Moisture	%	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	Moisture Content 105C	%	ļ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	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



10035117-AUK-XX	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	le 1: Soil data (Enviros 2004, CH2M 2017c AEG 2021)	&d, AEG 2018 and	-																		
		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	S1-1	PB03	S1-TPB04	S1-TPB05	S1-	TPB06	S1-T	PB08	S1-TPB12	S1-TPH02	S1-T	PH04	S1-T
Chemical Group	Compound	Sample Depth	Sample Depth	0.5	17	0.6	03	26	04	2.6	0.5	07	02	2.5	0.3	3	0.3	07	0.9	24	11
		(m bgl)	(m bgl)																		
		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	7 19/01/2017	18/01/2017	18/01/2017	16/01/2017	14/02/2017	25/04/2017	25/04/2017	25/04/2017
	>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 Petroleum	Total >C5-C35 Aliphatics	mg/kg		86	<10	<10	23	-	<0.01	-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	-	<10	-	<10
Hydrocarbons	>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
Working Group	>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
	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrocarbons	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	· ·	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	mg/kg		-	-	· ·	-	-	-	-	-	-	· ·	-	-	-	-	-	-	-	-
	Benzene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
Benzene,	Toluene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-		-	<0.01	-	-	-	-	-	-
Toluene,	Ethylbenzene	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
Ethylbenzene,	Xylene (m & p)	mg/kg	0.1	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
tertiary butyl	Xylene (o)	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-		-	<0.01	-	-	-	-	-	-
ether	Xylene Total	mg/kg		-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-
	MTBE	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
	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
Polycyclic	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
Aromatic	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
Hydrocarbons	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	ma/ka	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	ma/ka	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)pervlene	ma/ka	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)pvrene	ma/ka	0.01	0.18	< 0.03	< 0.03	0.04	-	0.1	-	< 0.03	-	<u> </u>	< 0.03	0.38	< 0.03	0.21	-	0.04	-	0.07
	PAH 16 Total	mg/kg		3.6	0.35	11	0.67		1.8	-	0.63	-	· ·	0.18	16	0.05	4.5	-	11	-	14
	PAHs (Sum of total)	mg/kg		-	-		-	-	-	-	-	-		-	-	-	-	-	-	-	
	Benzo(b+k)fluoranthene	ma/ka	0.01	-	<u> </u>	-	-		-	-	-	-		-	-	-	-	-	-	-	<u> </u>
	Xvlenols	ma/ka	0.01	-	-		-	-	-	-	-	-		-	-	-	-	-	-	-	-
	3-&4-methylphenol	mg/kg		<0.1		<u> </u>		-					· ·		<0.1		<u> </u>	<u> </u>	-		
Phenolics	Phenol	mg/kg	0.01	<pre>&gt;0.1</pre>	<u> </u>	<u> </u>		<u> </u>	<u> </u>		<u> </u>				<0.1			<u> </u>	-		
	Phenols Monohydric	mg/kg	0.01	<0.1 <0.2	<0.3	<0.3	<0.3	<u> </u>	<0.2		<0.2			<0.3	<0.1	<0.3	<0.3		- <0 3		<0.3
1		1	1	-0.0	-0.0	-0.0	-0.0		-0.0		-0.0			1 .0.0	-0.0	1 .0.0	- · · · ·		-0.0		U.U



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ble 1: Soil data (Enviros 2004, CH2M 2017c&d	I, AEG 2018 and																			
	ALO 2021)	Location		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	S1-1	FPB03	S1-TPB04	S1-TPB05	S1-T	PB06	S1-	TPB08	S1-TPB12	S1-TPH02	S1-	TPH04	S1-T
Chemical Group	Compound	Sample Depth	Sample Depth	01117120																	
		(m bgl)	(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		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	7 23/01/2017	19/01/2017	19/01/2017	18/01/2017	7 18/01/2017	16/01/2017	14/02/2017	25/04/2017	25/04/2017	25/04/2017
	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	-	-	-	-	-	
		mg/kg	0.05	-	<0.01	<0.01	-	-	-	-		-	-	-	<0.01	-	-	-	-	-	
		mg/kg	0.05	-	<0.01	<0.01	-	-		-			-	-	<0.01	-	-	-	-	-	
		mg/kg	0.05		<0.01	<0.01				-			· ·	-	<0.01	-				-	
	4-ciliolololuerie Bromohonzono	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	
Volatile Organic	Bromochloromethane	mg/kg	0.05	-	<0.01	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	
Carbon	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	-	-0.01		-		<u> </u>			<u> </u>		-	-0.01			-			-
	Carbon tetrachloride	ma/ka	0.05		<0.01	<0.01	-			-				-	<0.01	-	-	-		-	-
	Chlorodibromomethane	ma/ka	0.05		<0.01	<0.01			-	-	<u> </u>	-		-	< 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	- 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	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	-	-			-	
		mg/kg	0.05		-	-	-	-	-	-				-	-	-	-	-		-	
		mg/kg	0.05	-	< 0.01	<0.01	-	-	-	-			-	-	< 0.01	-	-	-	-	-	
	1,2,3-trichlorobenzene	mg/kg	0.05	-	0.02	<0.01		-	-	-		-		-	<0.01	-	-	-	-	-	
Volatile Organic	1,2,4-trichlorobenzene	mg/kg	0.01	<0.1	0.01	<0.01	-	-	-	-		-	-	-	<0.01	-	-	-	-	-	
Compounds /		mg/kg	0.01		<0.01	<0.01	-	-		-				-	<0.01	-	-	-		-	
Semi Volatile		mg/kg	0.01		<0.01	<0.01	-	-	-	-			-	-	<0.01	-	-	-		-	
Compounds		mg/kg	0.01		<0.01	<0.01	-			-				-	<0.01	-				-	
,	Uniorobenzene	mg/kg	0.05	· ·	<0.01	<0.01	· ·			-	· ·		· ·	-	<0.01						
	nexachioroputadiene	тд/кд	0.01	I -	0.02	<0.01	- 1		I -	-		I -		-	<0.01	-	I -	I -		-	



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I Tab	le 1: Soil data (Enviros 2004, CH2M 2017 AEG 2021)	c&d, AEG 2018 and																			
		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-T	PB03	S1-TPB04	S1-TPB05	S1-T	PB06	S1-1	TPB08	S1-TPB12	S1-TPH02	S1-	ГРН04	S1-T
Chemical Group	Compound	Sample Depth	Sample Depth	0.5	4.7	0.6	0.2	2.6	0.4	2.6	0.5	0.7	0.2	2.5	0.2	2	0.2	0.7	0.0	24	
		(m bgl)	(m bgl)	0.5		0.0	0.5	2.0	0.4	2.0	0.5	0.7	0.2	2.0	0.5	ى ا	0.5	0.7	0.9	2.4	
		Unit	Sample_Date	12/12/2016	6 09/12/2016	15/12/2016	13/12/2016	19/01/2017	23/01/2017	23/01/2017	19/01/2017	7 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
	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	-	-	-	-	-	-
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg		<0.1	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
Organic	4-chloro-3-methylphenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
Compounds	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	-	-	-	-	-	<u> </u>
	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	-	-	-	-	-	<u> </u>
	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	<b>&lt;</b> 0.1	I -	I -		· ·	- 1		I -	I -	I -		<0.1		I -	- 1	I -		I -



	AEG 2021)	AEG 2016 and																			
		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-T	PB06	S1-	TPB08	S1-TPB12	S1-TPH02	S1-T	PH04	S1-T
Chemical Group	Compound	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	23/01/201	7 23/01/2017	19/01/2017	23/01/2017	19/01/2017	19/01/2017	18/01/2017	7 18/01/2017	7 16/01/2017	14/02/2017	25/04/2017	25/04/2017	25/04/2017
	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	-	-
Polychlorinated	PCB 180	mg/kg		<0.01	<0.01	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-
Biphenyls (PCB)	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 -#



10035117-AUK-X Appendix I Tab	X-XX-RP-ZZ-0428-03-LWoW_DQRA lle 1: Soil data (Enviros 2004, CH2M 2017c&d, .	AEG 2018 and																			
	AEG 2021)	Location		On-Site     On-Site	On-Site	On-Site	On-Site														
			Location		Q1_		Q1_T										Q1	трира			
Chemical Group	Compound	Sample Depth	Sample Depth	-1100	01-		01-1	FIIU	31-1PH09	31-1PH10	31-1PH11	SI-IPHI3	SI-IPH14	SI-IPHI0	SI-IPHI/	31-1PH21			51-TPH24	31-17623	31-1PH2/
		(m bgl)	(m bql)	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	14/02/201	7 14/02/2017	7 14/02/2017	15/02/2017	01/01/2016
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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
	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	0.4
	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	0.4
	Magnesium	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate (as NO3-)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganics	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	<0.6
	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	0.5
	Fraction Organic Carbon	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other	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



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I Tab	ole 1: Soil data (Enviros 2004, CH2M 2017c AEG 2021)	&d, AEG 2018 and		On Site	On Site	On Site	On Site	On Site	On Site	On Site	On Sito	On Site	On Site	On Sito	On Site						
		Location			OII-Sile		OII-Sile							On-Sile					On-Site	On-Sile	
Chemical Group	Compound	Location ID	Location	PH05	51-	IPH06	51-	TPH07	S1-TPH09	S1-TPH10	S1-TPH11	S1-TPH13	S1-TPH14	S1-TPH16	S1-TPH1/	S1-TPH21	51-1	PH23	S1-TPH24	S1-TPH25	S1-TPH27
Chemical Group	Compound	Sample Deptn	Sample Depth	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
		(m bgr)	Sample Date	25/04/2017	7 25/04/201	7 25/04/2017	16/02/201	7 16/02/2017	7 14/02/2017	14/02/2017	01/01/2016	01/01/2016	01/01/2016	11/02/2017	11/02/2017	01/01/2016	14/02/2017	14/02/2017	7 11/02/2017	15/02/2017	01/01/2016
	>C5-C6 Aliphatics	ma/ka	Cample_Date	<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	0.07	<0.01	<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 Alighatics	mg/kg		<1.0	12	<1.0	<1.0	87	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0	<1.0	<1.0	210	<1.0	4.6
	>C16-C21 Aliphatics	mg/kg		<1.2	26	<1.2	<1.2	520	<1.2	<1.2	<1.2	13	<1.2	<1.2		<1.2	<1.2	<1.2	1100	<1.2	26
	>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	740	<3.4	73
	Total >C5-C35 Aliphatics	mg/kg		<10	390	<10	23	3600	<10	<10	<10	65	<10	<10	-	<10	<10	<10	2000	<10	100
Hydrocarbons	>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
Working Group	>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	ma/ka		<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	< 0.01
	>EC10-EC12 Aromatics	ma/ka		<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	<0.9
	>EC12-EC16 Aromatics	ma/ka		<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	8.3	56	<0.5	<0.5
	>EC16-EC21 Aromatics	ma/ka		<0.6	13	<0.6	<0.6	44	<0.6	<0.6	3.1	<0.6	<0.6	<0.6		5.8	<0.6	22	280	<0.6	12
	>EC21-EC35 Aromatics	ma/ka		<1.4	220	<1.4	<1.4	200	<1.4	<1.4	6.5	<1.4	<1.4	<1.4	-	23	<1.4	26	220	<1.4	34
	Total >EC5-EC35 Aromatics	ma/ka		-		-			-	-	-				<u> </u>	-	-	-		-	-
	TPH >C5-C35 Aliphatics/Aromatics	ma/ka		<10	630	<10	23	3800	<10	<10	<10	65	<10	<10	<u> </u>	29	<10	59	2600	<10	150
	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	· ·	-	-	-	-	-	-	-
Hydrocarbons	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	· ·	-	-	-	-	-	-	-
	Benzene	mg/kg	0.05	-	-	< 0.01	-	< 0.01	-	<0.01	< 0.01	· ·	· ·	· ·	· ·	-	<0.01	<0.01	< 0.01	< 0.01	-
Benzene,	Toluene	mg/kg	0.05	-	-	< 0.01	-	< 0.01	-	<0.01	< 0.01	· -	· ·	· ·	· -	-	<0.01	<0.01	< 0.01	<0.01	-
Toluene,	Ethylbenzene	mg/kg	0.05	-	-	< 0.01	-	< 0.01	-	<0.01	< 0.01	· -	· -	· ·	- ·	-	<0.01	<0.01	< 0.01	<0.01	-
Ethylbenzene,	Xylene (m & p)	mg/kg	0.1	-	-	< 0.01	-	< 0.01	-	<0.01	<0.01	-	-		-	-	<0.01	<0.01	<0.01	<0.01	-
tertiary butyl	Xylene (o)	mg/kg	0.05	-	-	< 0.01	-	<0.01	-	<0.01	<0.01	-	-		-	-	<0.01	<0.01	<0.01	<0.01	-
ether	Xylene Total	mg/kg		-	-	-	-	-	-	-	-	-	-		-		-	-	-	-	-
	МТВЕ	mg/kg	0.05	-	-	<0.1	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	-
	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	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	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	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	1
	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	0.2
	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	0.4
	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	0.8
	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	1.2
Polycyclic	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	1.7
Aromatic	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	1.1
Hydrocarbons	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	1.1
	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	0.7
	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	1.6
	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	0.6
	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	1.3
	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	0.9
		mg/kg		29	3.9	0.57	0.8	33	0.8	0.8	21	0.8	0.8	0.8	-	38	1.8	330	29	0.8	13
	PAHs (Sum of total)	mg/kg		-	-	-	-	-	-	-	-			-	-	-	-	-		-	-
	Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Ayienois	mg/kg		-	-	-	-	-	-	-	-						-	-	-	-	-
Phenolics	3-&4-methylphenol	mg/kg	0.04	-	-	<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	-
	Phenois Monohydric	mg/kg	1	<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



		Location		On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site									
		Location ID	Location	PH05	S1-	TPH06	S1-1	FPH07	S1-TPH09	S1-TPH10	S1-TPH11	S1-TPH13	S1-TPH14	S1-TPH16	S1-TPH17	S1-TPH21	S1-	TPH23	S1-TPH24	S1-TPH25	S1-TPH
nemical Group	Compound	Sample Depth	Sample Depth	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	6 01/01/2016	14/02/2017	14/02/2017	01/01/2016	6 14/02/201	7 14/02/2017	14/02/2017	15/02/2017	01/01/20
	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	-	- 1	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	- 1	<0.01	<0.01	<0.01	<0.01	-
	1,2-dibromoethane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	- 1	-	-	-	-	<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	-
latile Organic	Bromochloromethane	mg/kg	0.05	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	-	-	-	-	< 0.01	<0.01	<0.01	< 0.01	-
Carbon	Bromodichloromethane	mg/kg	0.05	-		< 0.01	-	<0.01	-	<0.01	<0.01	-	-	-	- 1		<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	-	- 1	< 0.01	- 1	<0.01	-	<0.01	<0.01	-	-	-	-	- 1	<0.01	<0.01	<0.01	<0.01	-
	1,2,3-trichlorobenzene	mg/kg	0.05	-	- 1	< 0.01	- 1	<0.01		<0.01	< 0.01	- 1	- 1	-	-	- 1	<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	-
atile Organic	1,2-dichlorobenzene	mg/kg	0.01	-	-	< 0.01	-	<0.01	-	< 0.01	< 0.01	-	-	-	-	-	< 0.01	< 0.01	< 0.01	< 0.01	<u> </u>
emi Volatile	1,3-dichlorobenzene	mg/kg	0.01	-	-	< 0.01	-	<0.01	-	<0.01	< 0.01	-	-	-	-	- 1	< 0.01	< 0.01	<0.01	< 0.01	<u> </u>
Organic	1,4-dichlorobenzene	mg/kg	0.01	-	-	< 0.01	-	< 0.01	-	< 0.01	< 0.01	-	-	-	-	-	< 0.01	< 0.01	< 0.01	< 0.01	· ·
Compounds	Chlorobenzene	ma/ka	0.05	-		< 0.01	-	< 0.01	-	< 0.01	< 0.01	-	-	-	-		<0.01	< 0.01	< 0.01	< 0.01	<u>+</u>
	Hexachlorobutadiene	ma/ka	0.01	<u> </u>	+ .	<0.01		<0.01	-	<0.01	<0.01	<u> </u>		<u> </u>	<u> </u>	+ .	<0.01	<0.01	<0.01	<0.01	



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ble 1: 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
			Location		S1. S1.		SI 01.0										Q1	тризз			
Chemical Group	Compound	Sample Depth	Sample Denth	1105	01-		01-1		31-17109	31-17110	31-IFIIII	31-IFIII3	31-17114	31-1FI110	31-1FIII <i>1</i>	31-1F1121	51	-111123	01-1F1124	31-TF1123	31-1F1127
		(m bgl)	(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	7 25/04/2017	16/02/2017	16/02/2017	14/02/2017	14/02/2017	01/01/2016	6 01/01/2016	01/01/2016	14/02/2017	/ 14/02/2017	01/01/2016	14/02/201	7 14/02/2017	7 14/02/2017	15/02/2017	01/01/2016
	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	- 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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-nitroaniline	mg/kg	0.01	-	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg		-	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	
Organic	4-chloro-3-methylphenol	mg/kg	0.01	-	-	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	
Compounds	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	<u> </u>
	Bis(2-ethylnexyl) phthalate	mg/kg	0.1	-		<0.1		<0.1		<0.1	<0.1		-	-		-	<0.1	<0.1	<0.1	<0.1	
		mg/kg	0.1			<0.1		<0.1		<0.1	<0.1						<0.1	<0.1	<0.1	<0.1	
		mg/kg	0.01	-		<0.1		<0.1		<0.1	<0.1						<0.1	0.5	<0.1	<0.1	
		mg/kg	0.01			<0.1		0.2		<0.1	<0.1						<0.1 <0.1	1.1	<0.1	<0.1	
	Directly phthalate	mg/kg	0.1	-	-	<0.1	-	<0.1	-	<0.1	<0.1		-	-	-		<0.1	<0.1	<0.1	<0.1	<u> </u>
		mg/kg	0.1	-	-	<	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	<0.1	>0.1	<0.1	~0.1	-
	Din octyl philaidle	mg/kg	0.1	-		NU.1		~0.1		-0.1	NU.1 20.1						-0.1	>0.1	-0.1	~0.1	
		mg/kg	0.1	-		<	-	<0.1	-	<0.1	-0.1	-	-	-		-	<0.1	<0.1	<0.1	~0.1	
	Hevachlorobenzepe	mg/kg	0.01	-	-	<	-	<0.1	-	<0.1	-0.1	-	-	-	-	-	<0.1	<0.1	<0.1	~0.1	
	Hevachlorocyclopentadiene	mg/kg	0.01	-		20.1	-	<0.1	-	<0.1	-0.1	-	-	-		-	<0.1	-0.1	<0.1	-0.1	
	Hexachloroethane	mg/kg	0.01				<u> </u>								<u> </u>		<b>NU.1</b>	<b>NU. 1</b>			+
	Isophorone	mg/kg	0.01	<u> </u>	+	+ -	<u> </u>			<u> </u>	+	+		<u> </u>	+					<u> </u>	+
	Nitrohenzene	mg/kg	0.01		+ -						<u> </u>	<u> </u>			+						+
	N-nitrosodi-n-propylamine	mg/kg	0.01		+ -	+ -				<u> </u>	<u> </u>	+			+ -						+
	Pentachlorophenol	ma/ka	0.01	<u> </u>		<0.1	-	<0.1		<0.1	<0.1		-	<u> </u>	<u> </u>		<0.1	<0.1	<0.1	<0.1	+
1		····9	0.01	I -	1		1		1		1	1	1	1	1	1	1	1.0-	1	1 .0.1	1



	AEG 2021)	REG 2010 and																			
		Location		On-Site     On-Site	On-Site	On-Site	On-Site														
		Location ID	Location	PH05	S1-T	PH06	S1-T	PH07	S1-TPH09	S1-TPH10	S1-TPH11	S1-TPH13	S1-TPH14	S1-TPH16	S1-TPH17	S1-TPH21	S1-	TPH23	S1-TPH24	S1-TPH25	S1-TPH27
Chemical Group	Compound	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	14/02/201	7 14/02/2017	14/02/2017	15/02/2017	01/01/2016
	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polychlorinated	PCB 180	mg/kg		<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biphenyls (PCB)	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ן ד ר ר ר ר	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 -#



Appendix I, Tab	X-XX-RP-ZZ-0428-03-LWoW_DQRA ole 1: 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
			Location	S1-TPH33	\$1_TPI01	S1-1	PI02	S1	TPI03	\$1_TPI04	\$1_TPI07	S1.		S1-1		S1_TPI11	S1	-TPI12	S1-TPI13	\$1_TPI1/	S1-T
Chemical Group	Compound	Sample Depth	Sample Depth	1						01-11104	01-11107										
		(m bgl)	(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	02/02/201	7 02/02/2017	02/02/2017	01/01/2016	25/01/2017	7 25/01/2017	25/01/2017	25/01/2017	01/01/2016	01/01/201	6 01/01/2016	6 02/02/2017	02/02/2017	02/02/2017
	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
	Chromium	mg/kg		420	17	23	29	40	44	160	550	19	-	-	240	57	-	200	61	43	310
	Chromium (Trivalent)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		mg/kg		1200	-	-	49	68	61	200	1400	48	-	-	450	-	-	870	150	-	750
		mg/kg		2100	220	51	87	100	180	170	1200	60	-	-	560	180	-	300	190	440	370
	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	0.6
	cyanides-complex	mg/kg		0.2	-	-	-	-	-	-	12	<0.2	-	-	0.3	-	-	0.9	-	-	-
	Magnesium	mg/kg			-	-	-	-	-	-	-	-	-	-	-	-		-		-	-
	Nitrate (as NO3-)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Inorganics		mg/kg			-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-
	Suprate as SO4	mg/kg				400	-	-	-		-	-	3700	600	-	4800	2900	-		-	-
		mg/kg			-	-	-	-	-		-	-	-	-	-	-	-	-		-	-
	Sulphur as S	%				0.02	-		-		-	-	0.26	0.03	-	0.18	0.09	-		-	-
		mg/kg		-		-	-	-	-	-	-	-	-		-	-		-	-	-	-
	I niocyanate (as SUN)			1.3	-	- 10	<0.0	<0.6	<0.6	<0.6	0.8	1.3	-		<0.0	-		<u.b< td=""><td>&lt;0.0</td><td>-</td><td>&lt;0.6</td></u.b<>	<0.0	-	<0.6
	Organic Matter	70		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	1.5
		-	0.1			-	-	-			-		-		-			-		-	
Other	Moisture	70	0.1			-	-		-		-	-	-		-			-		-	
		70			-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-
	рн (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./	10.2	9.7	11.3



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tat	ole 1: Soil data (Enviros 2004, CH2M 2017ci AEG 2021)	&d, AEG 2018 and	1			0- 04-		0.5.045	0- 04-	0- 04-	0- 04-		0.5.045	0- 04-	0	0- 04-	0- 04-	004	0- 04-	0- 04-	
		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
Chamical Group	Compound	Location ID	Location	S1-TPH33	S1-TPI01	S1-	rpi02	S1-	-TPI03	S1-TPI04	S1-TPI07	S1-	TPI08	S1-	TPI09	S1-TPI11	S1-	TPI12	S1-TPI13	S1-TPI14	S1-T
Chemical Group	Compound	Sample Depth	Sample Depth	2	0.8	0.2	4	0.3	4	3	1.3	0.2	3	0.2	3		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	02/02/201	7 02/02/2017	02/02/2017	01/01/2016	25/01/2017	7 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
	C5-C6 Aliphatics	ma/ka		<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	ma/ka	<u> </u>	<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	1.7	<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	-	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	-	-	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	-	-	46	47	-	39	120	53	190
Total Petroleum	Total >C5-C35 Aliphatics	mg/kg		240	<10	<10	23	<10	41	35	<10	<10	-	-	52	49	-	55	120	65	270
Hydrocarbons	>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
Working Group	>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		1.9	<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	-	-	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	-	-	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	-	-	190	49	-	55	180	84	420
	TPH Band (C10 - C40)	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrocarbons	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
Benzene,	Toluene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
Toluene,	Ethylbenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes, Methyl	Xylene (m & p)	mg/kg	0.1	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
tertiary butyl	Xylene (o)	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
ether	Xylene Total	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	МТВЕ	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	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
		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
	Fluerene	mg/kg	0.01	0.7	2.9	0.21	0.09	0.13	1.3	0.08	2.1	<0.03			0.42	0.11		14	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
	Byropo	mg/kg	0.01	0.4	1.0	0.00	0.03	0.00	1.2	0.07	2.0	<0.03	-	-	2.0	0.1	-	1.1	0.10	<0.03 0.04	1.2
Polycyclic	Pylelle Ronze(a)anthracana	mg/kg	0.01	0.5	4.2	0.23	0.07	0.23	0.57	0.15	2.9	<0.03	-	-	0.4	0.10	-	4	0.9	0.04	0.72
Hydrocarbons	Benzo(b)fluoranthene	mg/kg	0.01	0.0	1.0	0.03	<0.03	0.1	0.07	0.07	1 1	<0.03	-	-	2.5	0.03	-	1.0	0.21	<0.03	0.75
	Benzo(k)fluoranthene	mg/kg	0.01	0.4	0.55	0.12	<0.03	0.03	0.40	0.03	0.41	<0.03			1.5	0.15		0.30	<0.03	<0.03	0.34
	Benzo(a)nyrene	mg/kg	0.01	0.4	1 1	0.00	<0.00	0.05	0.2	0.00	0.41	<0.00			23	0.03		0.55	0.05	<0.00	0.50
	Dibenz(a h)anthracene	mg/kg	0.01	0.0	0.11	0.03	<0.03	<0.00	0.23	<0.00	0.04	<0.03			0.4	<0.07		0.01	<0.03	<0.03	0.00
	Benzo(g h i)pervlene	mg/kg	0.01	0.9	0.11	0.00	<0.00	<0.00	0.04	<0.00	0.12	<0.00	-	-	1.5	0.06	-	0.36	<0.00	<0.00	0.00
	Indeno(1.2.3-c.d)pyrene	ma/ka	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	ma/ka	0.01	8.6	21	1.5	0.00	11	7.3	0.74	14	0.05	-	-	34	11	-	30	6	0.05	8.2
	PAHs (Sum of total)	ma/ka		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(b+k)fluoranthene	mg/ka	0.01	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-
	Xylenols	mg/kg		-	-	-	-	-	-	-	-		-	-	-		-	-	-	-	-
	3-&4-methylphenol	mg/kg		<0.1	-	-	-	-	<0.1	-	-	· -	-	-	-	-	-	-	-	-	-
Phenolics	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	- 1	<0.3	<0.3	<0.3	<0.3



		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-	TP109	S1-TPI11	S1-T	PI12	S1-TPI13	S1-TPI14	
nemical Group	Compound	Sample Depth	Sample Depth	2	0.8	0.2	4	0.3	4	3	13	02	3	0.2	3		0.6	3.8	07	0.6	0.7
		(m bgl)	(m bgl)		0.0	0.2		0.0	, 00/00/00/7	00/00/0047	04/04/0040	0.2		0510410047	05/04/0047		0.0	0.0	00/00/0047	0.0	
	Streng	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/
	Styrene	mg/kg	0.05	< 0.01			-		<0.01				-		-			-		-	
	trans 1.3 dichloropropono	mg/kg	0.05	<0.01			-		<0.01		-	-	-		-			-	-	-	
		mg/kg	0.05	<0.01	-	-	-		<0.01	-	-	-	-	-	-	-	-	-	-	-	
		mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	
	1 1 2 2-tetrachloroethane	mg/kg	0.05	<0.01											-						
	1 1 2-trichloroethane	mg/kg	0.05	<0.01			-		<0.01												
	1 1-dichloroethane	mg/kg	0.00	<0.01		-			<0.01	-	-		-		_			-	-	-	
	1 1-dichloroethene	mg/kg	0.00	<0.01				· ·	<0.01		-		-					-	-	-	
	1 1-dichloropropene	mg/kg	0.00	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	ma/ka	0.05	< 0.01	-	-	-	· -	< 0.01	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-dichloroethane	mg/kg	0.05	< 0.01	-	-	-	-	< 0.01	-	-	-	-	-	-	-	-	-	-	-	
	1,3-Dichloropropene	mg/kg	1	- 1	-	- 1	-	- 1	-	- 1	-	-	-	-	-	-	-	-	-	-	
	1,2-dichloropropane	mg/kg	0.05	<0.01	-	-	-		<0.01	-	-	-	-	-	-	-	- ·	-	-	-	1
	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	-	-	-	-	-	-	-	-	-	-	-	
olatile Organic	Bromochloromethane	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	
Carbon	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		-	-	-	-	-	-		-	-	-	
		mg/kg	0.05	<0.01	-	-	-		<0.01		-	-	-	-	-	-	-	-	-	-	
	sec-butylbenzene	mg/kg	0.05	<0.01	-	-	-		<0.01	-	-	-	-	-	-	-	-	-	-	-	
		mg/kg	0.05	<0.01			-	· ·	<0.01				-		-			-	-	-	_
		mg/kg	0.05	<0.01			-		<0.01			-	-		-			-	-	-	
		mg/Kg	0.05	<0.01			-		<0.01			-	-		-			-	-	-	
		ing/kg	0.05	<0.01		· ·	-	· ·	<0.01	· ·	· ·						· ·	-			
	Vinyl chloride	mg/kg	0.05	-0.01		-	-		-0.01		-	-	-		-			-	-	-	
		mg/kg	0.05	<0.01	-	-	-		<0.01		-	-	-	-	-	-	-	-	-	-	
		ing/kg	0.05	<0.01			-		<0.01						-			-		-	
olatile Organic		ing/kg	0.01	<0.01			-	· ·	<0.01	· ·					-			-		-	
Compounds /		mg/Kg	0.01	<0.01	-		-		<0.01			-		-	-			-		-	
Organic		ing/kg	0.01	<0.01			-		<0.01						-			-		-	
Compounds		mg/Kg	0.01	<0.01			-		<0.01			-	-		-			-	-	-	
,		mg/Kg	0.05	<0.01					<0.01		-		-		-			-		-	



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ole 1: Soil data (Enviros 2004, CH2M 2017c&d	, AEG 2018 and																			
	AEG 2021)	Location		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
Chemical Group	Compound	Sample Depth	Sample Depth		0.0	0.0		0.0			4.0	0.0		0.0			0.0	2.0	0.7	0.0	0.7
		(m bgl)	(m bgl)	2	0.8	0.2	4	0.3	4	ى ا	1.3	0.2	<u>ہ</u>	0.2	<u>ہ</u>		0.0	3.0	0.7	0.0	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
	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	-	-	-	-	-	-	-	-	-	-	-	-
		mg/kg	0.01	<0.1	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
		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	-	-	-	-		-		-	-	-		-
		mg/kg		<0.1			-	-	<0.1	-	-		-		-		-	-	-		-
	2,5,5,6-1 ettachiorophenol	mg/kg	0.01	<0.1	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
	2,4,6 trichlorophenol	mg/kg	0.01	<0.1	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
	2.4 dichlorophonol	mg/kg	0.01	<0.1	-	-	-	-	<0.1	-	-	-	-		-	-	-	-	-	-	-
	2.4-dimethylphenol	mg/kg	0.01	<0.1	-		-	-	<0.1	-	-	-	-		-	-	-	-	-	-	-
	2.4 dinitratoluene	mg/kg	0.01	<0.1			-		<0.1		-	-	-		-		-	-			-
	2.6-dichlorophenol	mg/kg	0.01															-			
	2.6-dinitrotoluene	mg/kg	0.01	<0.1	<u> </u>	-	-		<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	ma/ka	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	-	-	-	-	-	-	-	-	-	-	-	-
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg		<0.1	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Organic	4-chloro-3-methylphenol	mg/kg	0.01	<0.1	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Compounds	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	-	-	-	-	-	-		-	-	-		-
		mg/kg	0.01	<0.1	-	-	-	-	<0.1	-	-	-	-	-	-	-		-	-	-	-
	Dibenzoturan	mg/kg	0.01	<0.1			-	-	<0.1	-	-	-	-		-		-	-	-	-	-
	Directly in the late	mg/kg	0.1	<0.1			-	-	<0.1	-	-		-		-			-	-		-
	Dimethyl phthalate	mg/kg	0.1	<0.1	-	-	-	-	<0.1	-	-	-	-		-		-	-	-		-
		mg/kg	0.1	<0.1			-		<0.1	-	-				-			-			-
		mg/kg	0.1	<0.1	<u> </u>				<0.1	-				<u> </u>			<u> </u>		<u> </u>	<u> </u>	
	Hexachlorobenzene	ma/ka	0.01	<0.1				-	<0.1	-				<u> </u>			<u> </u>		<u> </u>	<u> </u>	-
	Hexachlorocyclopentadiene	mg/kg	0.01	<0.1	-	-	-	-	<0.1	-	-	-	-		-	<u> </u>	-	-	<u> </u>	<u> </u>	-
	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/ka	0.01	<0.1	-	-	-	-	<0.1	-	-	-	-	- ·	-	-	-	-	- ·	-	-
1		1		1 2	1	1	1	1		1	I	1	1	1	1	1	1	1	1	1	1



		Location		On-Site									
		Location ID	Location	S1-TPH33	S1-TPI01	S1-	TPI02	S1-1	FPI03	S1-TPI04	S1-TPI07	S1-	TPI08
Chemical Group	Compound	Sample Depth (m bgl)	Sample Depth (m bgl)	2	0.8	0.2	4	0.3	4	3	1.3	0.2	3
		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	7 25/01/20
	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	-
	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	-
Polychlorinated	PCB 180	mg/kg		-	<0.01	-	<0.01	-	<0.01	-	<0.01	<0.01	-
Biphenyls (PCB)	PCB 28 + PCB 31	mg/kg		-	<0.01	-	<0.01	-	0.02	-	<0.01	<0.01	-
	PCB 52	mg/kg		-	<0.01	-	<0.01	-	0.02	-	<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		-	-	-	-	-	-	-	-	-	-

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#### Notes

-#

Speciated polycyclic aromatic hydrocarbon analysis undertaken but only available in pdf format

mg/kg

mg/kg

Total PCB 7 Congeners

PCBs (Sum of total)

Not analysed

On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
S1-TPI11	S1-T	PI12	S1-TPI13	S1-TPI14	S1-T
	0.6	3.8	0.7	0.6	0.7
01/01/2016	01/01/2016	01/01/2016	02/02/2017	02/02/2017	02/02/2017
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	<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
-	-	-	-	-	-
-	-	-	-	-	-
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10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ble 1: Soil data (Enviros 2004, CH2M 2017c&d,	, AEG 2018 and																			
	AEG 2021)	Location		On-Site																	
			l a satism		011-0110																
Chemical Group	Compound	Location ID	Location	PIIO	51-		51-1P119	51-1PI21	51-19122	51-1PI23	51-19124	51-1PI25	S1-1P120	51-19127	51-19128	51-19129	51-TPI30	51-TPI31	51-TPI32	51-19133	51-19134
Chernear Creap	Compound	(m bal)	(m hal)	4	0.2			0.9		2.2	1.5	3.7	2.6	1.3	3.5	0.6		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
	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
	Chromium	mg/kg		410	26	20	120	-	140	140	560	20	660	970	-	160	15	1300	360	130	-
	Chromium (Trivalent)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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	-
	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		0.5	<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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganics	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	1.6	<0.6	<0.6	<0.6	-
	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	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	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



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	le 1: Soil data (Enviros 2004, CH2M 2017)	c&d, AEG 2018 and																			
	AEG 2021)	L a satism		0- 04-	004.	004	00:4	0- 04-	0- 04-	004	00:4	004	004	00:4-	004	00:4.	00	00:4-	0014	00:4-	0- 04-
		Location		On-Site	Un-Site	Un-Site	Un-Site	On-Site	On-Site	On-Site	Un-Site	On-Site	Un-Site	On-Site	Un-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
Chemical Group	Compound	Sample Depth	Sample Depth	4	0.2			0.9		2.2	1.5	3.7	2.6	1.3	3.5	0.6		1.3	4.1	2.8	0.8
		(m bgl)	(m bgl)	00/00/00/1			0.1/0.1/00.10	0.1/0.1/00.10	0.1/0.1/00.10	0.1.10.1.10.0.1.0	00/00/00/77	00/00/00/7		00/00/00/7		00/00/00/77	00/04/0047	0.1.10.1.10.0.1.0	0.0000000	0.1/0.1/00.10	0.1/0.1/0.010
		Unit	Sample_Date	02/02/2017	/ 02/02/201	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
	>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 Petroleum	Total >C5-C35 Aliphatics	mg/kg		100	38	170	<10	-	<10	<10	<10	<10	30	<10	-	<10	120	<10	<10	<10	-
Hydrocarbons	>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	-
Working Group	>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	-
	TPH Band (C10 - C40)	mg/kg			-	-	-	-	-	-	-	-	-	· ·	-	-	-	-	-	-	-
Petroleum	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
Hydrocarbons	GRO C5-C10	ma/ka		-	-	-	-	-	-	-	-	-	-	· -	-	-	-	-	-	-	-
	TPH by GCFID (AR)	ma/ka		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzene	ma/ka	0.05	< 0.01	-	-	-	-	< 0.01	-	-	-	-	· -	-	-	-	-	-	-	<u> </u>
Benzene.	Toluene	ma/ka	0.05	< 0.01		-		-	< 0.01	-		-	-				-	-		-	-
Toluene,	Ethylbenzene	mg/kg	0.05	<0.01		-			<0.01					· ·	-	<u> </u>		-	-		-
Ethylbenzene,	Xvlene (m & p)	mg/kg	0.1	<0.01		-	<u> </u>		<0.01				· ·	<u> </u>		<u> </u>	<u> </u>		-	<u> </u>	-
Xylenes, Methyl	Xylene (o)	mg/kg	0.05	<0.01		-		-	<0.01	-		-				<u> </u>		-	-	-	<u> </u>
tertiary butyi	Xylene Total	mg/kg		-		-	-	-	-	-	-	-				-		-	-	-	
Circi	MTBE	mg/kg	0.05	<0.01			-	-	<0.01	-	-	-						-		-	<u> </u>
	Naphthalene	mg/kg	0.00	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	-
	Acenanhthene	mg/kg	0.01	<0.00	<0.00	<0.00	<0.00		0.04	<0.00	<0.00	<0.00	<0.00	<0.00		<0.00	<0.00	<0.00	<0.00	<0.00	
		mg/kg	0.01	<0.00	<0.00	<0.00	<0.00		0.06	<0.00	<0.00	<0.00	<0.00	<0.00		<0.00	<0.00	<0.00	<0.00	0.05	
	Fluoranthene	mg/kg	0.01	0.00	0.00	0.00	0.00		7	0.5	0.00	<0.00	1 1	0.00		0.00	<0.00	0.63	0.00	0.50	
	Anthracana	mg/kg	0.01	0.0	0.00	<0.02	<0.02		0.67	<0.02	0.74	<0.00	0.17	0.07		<0.07	<0.00	0.00	<0.07	0.11	
	Phenanthrene	mg/kg	0.01	0.00	0.04	0.03	0.05		27	0.03	0.1	<0.03	0.17	0.07		0.05	<0.03	0.04	<0.03	0.11	
	Fluorene	mg/kg	0.01	0.02	<0.03	<0.00	<0.00		0.23	<0.10	0.45	<0.03	<0.04	<0.20	-	<0.03	<0.03	<0.03	<0.03	0.47	-
		mg/kg	0.01	0.03	0.03	0.03	0.03	-	0.23	0.03	0.05	<0.03	0.05	0.03		0.05	<0.03	~0.03	0.05	0.00	
	Durano	mg/kg	0.01	0.29	0.12	0.00	0.00	-	2.0	0.10	0.40	<0.03	0.05	0.39		0.05	<0.03	0.2	0.00	0.20	-
Polycyclic		mg/kg	0.01	0.07	0.51	0.02	0.13	-	24	0.40	0.05	<0.03	0.02	0.00		0.00	<0.03	0.40	0.07	0.5	
Aromatic		mg/kg	0.01	0.20	0.15	0.03	0.07		5.4	0.12	0.45	<0.03	0.93	<0.03 0.60		0.04	<0.03	0.22	0.00	0.3	-
riyarocarbons	Benzo(b)huoranthene	mg/kg	0.01	0.33	0.10	0.00	0.00		0.4	0.15	0.09	<0.03	1.0	0.00		0.07	<0.03	0.19	0.11	0.33	-
		mg/kg	0.01	0.11	0.05	<ul><li>&lt;0.03</li><li><ul><li>0.02</li></ul></li></ul>	<0.03		2.2	0.05	0.10	<0.03	0.01	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,n)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	
		IIIg/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	-
		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	-
		mg/kg		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(b+k)fluoranthene	mg/kg	0.01	-		-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
	Xylenois	mg/kg		-		-	-	-	-	-					-	-	-		-	-	-
Phenolics	3-&4-methylphenol	mg/kg		<0.1		-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
	Phenol	mg/kg	0.01	<0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Phenols Monohydric	mg/kg	1	<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	-



10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA																					
Appendix I, Tab	ble 1: 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
			Location		011-0110 Q1																
Chemical Group	Compound	Sample Depth	Sample Depth	PIIO	01-		51-19119	51-1PI21	51-1P122	51-19125	51-1P124	51-19125	51-19120	51-1P12/	51-1P120	51-19129	51-19130	51-19131	51-19132	51-19133	51-19134
		(m bgl)	(m bal)		0.2			0.9		2.2	1.5	3.7	2.6	1.3	3.5	0.6		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
	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	ma/ka	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	ma/ka	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	-	-	-	-	-	-	-	-	-	-	-	-
Volatile Organic Carbon	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	-	-	-	-	-	-	-	-	-	- 1	-	-
	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	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	-	-	-	-	-	-	-	-	-	-	-	-
Organic	1,4-dichlorobenzene	mg/kg	0.01	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
Compounds	Chlorobenzene	mg/kg	0.05	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobutadiene	mg/kg	0.01	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-


10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tal	ole 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2021)	AEG 2018 and																			
		Location		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
Chemical Group	Compound	Sample Depth	Sample Depth	4	0.2			0.0		2.2	15	27	2.6	12	2.5	0.6		12	1.1	20	0.9
		(m bgl)	(m bgl)	4	0.2			0.9		2.2	1.0	3.1	2.0	1.0	3.5	0.0		1.0	4.1	2.0	0.0
		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
	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		mg/kg	0.01	<0.1		-	-	-		-	-	-		-	-	-	-	-	-	-	
		mg/kg	0.01	-		-		-							-					-	
		mg/kg	0.01	<0.1	· ·	-		-													
	2-chloronaphthalene	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-		-	-		-	-	-	-	
	2-critorophenol	mg/kg	0.01	<0.1	· ·	-		-				-									
		mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2-nitroaniline	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-nitrophenol	mg/kg	0.01			-		-													<u> </u>
	3-nitroaniline	mg/kg	0.01	<0.1																	
	4 6-Dinitro-2-methylphenol	mg/kg	0.01	<0.1	<u> </u>			-													
Semi Volatile	4-chloro-3-methylphenol	mg/kg	0.01	<0.1			-	-		-	-			-			-	-			<u> </u>
Compounds	4-chloroaniline	mg/kg	0.01	-0.1			-	-	-	-	-		-	-	-	-	-		-		-
· ·	4-chlorophenyl phenyl ether	mg/kg	0.01	<0.1		-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
	4-methylphenol	ma/ka	0.01	-		-		-	· ·				· ·		-					-	-
	Aniline	ma/ka		<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	1	<0.1	- 1	-	- 1	-	- 1	- 1	-	-		- 1	- 1	-	- 1	-	- 1	-	-
	Bis(2-ethylhexyl) phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Butyl benzyl phthalate	mg/kg	0.1	<0.1	-	-	-	-	-	-	-	-	-	- 1	-	-	-	-	- 1	- 1	-
	Carbazole	mg/kg	0.01	<0.1	-	-	-	- 1	-	-	-	-	-	- 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	-	-	-	-	-	-	-	-	-	-	<u> </u>	-	-	<u> </u>	<u> </u>	-	-	-
	Nitrobenzene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	N-nitrosodi-n-propylamine	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<u> </u>
	Pentachlorophenol	mg/kg	0.01	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Appendix I, Tab	ble 1: Soil data (Enviros 2004, CH2M 2017c&d,	AEG 2018 and																			
	AEG 2021)	Location		On Site																	
		Location		OII-Sile	On-Sile																
Chemical Group	Compound	Location ID	Location	PI16	51-		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
Chemical Group	Compound	Sample Depth (m bgl)	(m bgl)	1 4	0.2			0.9		2.2	1.5	3.7	2.6	1.3	3.5	0.6		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
	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	-	-	-	-	-	-	-
Polychlorinated	PCB 180	mg/kg		<0.01	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-
Biphenyls (PCB)	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 -#



10035117-AUK-X Appendix I Tab	X-XX-RP-ZZ-0428-03-LWoW_DQRA le 1: 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
			Location	S1_TPI35	S1-	TPIS6	S1_TPI37	S2_RHA04	S2-RHA06	S2-T		S2-T	PA37	S2-	TPA38	S2-TPA38A		S2-TPA39			S2-TPA40
Chemical Group	Compound	Sample Depth	Sample Depth	01-11100				02-DI 1A04	02-DI IA00	02-1		02-1		02-		52-11 A30A		02-11 703			
		(m bgl)	(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	6 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	7 04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	03/10/2017	03/10/2017
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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	-	-
		mg/kg	ļ	53	-	82	360	220	840	610	640	-	39	-	94	94	-	87	48	54	-
	Cyanide (Free)	mg/kg		<0.1	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	-	-	-	-	-
		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		-	-	-	-
	Nitroto (ap NO2 )	mg/kg		-		-	-	-	-	-	-		29,000	-	20,000	20,000		28,000	24,000	-	-
Incompation	Nillate (as NO3-)	mg/kg				-	-	-	-	-	-		-	-	-			-	-	-	-
inorganics		mg/kg		-	- 2400	-	-	- 00	- 120	- 1700	-	-	-	-	- 1700			-	- 1700	-	-
	Sulphide	mg/kg			2400	-	-	99	120	1700	-	-	1400	-	1700			710	1700	200	-
		nig/kg		-	- 0.14	-	-	-	-	- 0.12	-	-	-	-	-		-	-	-	-	-
	Sulphur (froo)	70 ma/ka		-	0.14	-	-	0.00020	0.00007	0.12	-	-	0.0040	-	0.0020	20	-	0.00096	-	-	-
		mg/kg			-	-	-		-			-	-	-	-	-	-	-	-	-	-
	Organia Mattar	111g/Kg		0.0	-	- 0.3	<u> </u>	0.0	-	~0.0	10	-	0.4	-	0.9	0.9	-	- 1	1.1	0.0	-
	Fraction Organic Carbon	/0		0.0	-	0.3	14	0.9	0.0	2.0	10	-	0.4	- 0.01			- 0.01			2.0	-
Other		-	0.1			-	-		-		-	~0	-	0.01			0.01	-	-	-	0.01
Other	Moisture Content 105C	/0	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				12	11.0	11.2	- 11.2	11.6	-	10.2	0.2		- 11		7 10 5	10.5		- 11	10.7	7.0	-
	hu (ran)		1	12	11.9	11.2	11.3	0.11	9	10.2	9.5	- 1	11	- 1	/ - 10.5	10.5		"	10.7	1.0	-



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tai	DIE 1: SOII data (Enviros 2004, CH2M 2017) AFG 2021)	c&d, AEG 2018 and																			
		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	S2-1	PA100	S2-	TPA37	S2-	TPA38	S2-TPA384		S2-TPA39			S2-TPA40
Chemical Group	Compound	Sample Depth	Sample Depth					5050		0.0.0.5		0.5.0.5		0.5.0.5							
		(m bgl)	(m bgl)	1.5	1.5	3.5		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	6 01/01/2016	01/01/2016	09/02/2017	26/10/2017	07/11/2017	04/05/2017	7 04/05/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	04/10/2017	7 04/10/2017	03/10/2017	03/10/2017
	>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 Petroleum	Total >C5-C35 Aliphatics	mg/kg		<10	-	<10	<10	30	<10	<10	<10	-	<10	-	<10	<10	-	<10	<10	-	-
Hydrocarbons	>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	-
Working Group	>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	-	-
	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	550	-
Petroleum	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrocarbons	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
Benzene,	Toluene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
Toluene,	Ethylbenzene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
Ethylpenzene, Xylenes Methyl	Xylene (m & p)	mg/kg	0.1	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
tertiary butyl	Xylene (o)	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
ether	Xylene Total	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	МТВЕ	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
	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	-
Polycyclic	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	-
Aromatic	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	-
Hydrocarbons	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Xylenols	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenolice	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	-



		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-TI	PA100	S2-T	PA37	S2-T	PA38	S2-TPA38A		S2-TPA39			S2-TP/
emical Group	Compound	Sample Depth	Sample Depth	1.5	1.5	3.5		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
		(m bgi)	(M Dgi) Sample Date	01/01/2016	01/01/2016	3 01/01/2016	09/02/2017	26/10/2017	07/11/2017	04/05/2017	04/05/2017	04/10/2017	04/10/2017	7 04/10/2017	04/10/2017	7 04/10/2017	04/10/2017	04/10/2017	04/10/2017	03/10/2017	7 03/10/
	Styrene	ma/ka	0.05	-	<u>-</u>	-	-	-	< 0.01	-	-	<u>-</u>	<u>-</u>	<u>-</u>	< 0.01	< 0.01	-	-	-	<u>-</u>	
	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	ma/ka	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
	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
	1,2-dibromoethane	mg/kg	0.05	-	-	-	- 1	-	<0.01	-	-	- 1	-	-	<0.01	<0.01	-	-	-	- 1	1
	1,2-dichloroethane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	1
	1,3-Dichloropropene	mg/kg		-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-	-	-	-	-	1
	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
	1,3-dichloropropane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	1
	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	-	- 1	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	1
	Bromobenzene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	
Carbon	Bromochloromethane	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	
Carbon	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	-	-	-	-	
	1,2,3-trichlorobenzene	mg/kg	0.05	-	-	-	-	-	0.02	-	-	-	-	-	<0.01	<0.01	-	-	-	-	
latile Organic	1,2,4-trichlorobenzene	mg/kg	0.01	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	
Compounds /	1,2-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	
emi Volatile	1,3-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	
Organic	1,4-dichlorobenzene	mg/kg	0.01	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	
compounds	Chlorobenzene	mg/kg	0.05	-	-	-	-	-	<0.01	-	-	-	-	-	<0.01	<0.01	-	-	-	-	
	Hexachlorobutadiene	mg/kg	0.01	-	-	-	-	-	< 0.01	-	-	-	-	-	< 0.01	< 0.01	-	-	-	-	



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA	Rd AEC 2018 and																			
	AEG 2021)	xu, AEG 2010 anu																			
		Location		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-T	PA100	S2-	TPA37	S2-	TPA38	S2-TPA38A		S2-TPA39			S2-TPA40
Chemical Group	Compound	Sample Depth	Sample Depth	1.5	1.5	3.5		58-58	4 5-4 5	0 2-0 5	4 1	0.5-0.5	1-1	0.5-0.5	15-15	1.5	0.5-0.5	1-1	3-3	0.3-0.3	22-22
		(m bgl)	(m bgl)	1.0	1.0	0.0		0.0-0.0	4.0-4.0	0.2-0.0	7.1	0.0-0.0	1-1	0.0-0.0	1.0-1.0	1.0	0.0-0.0	1-1	0-0	0.0-0.0	
		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	7 04/10/2017	04/10/2017	04/10/2017	04/10/2017	7 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 alconol	mg/kg	0.01	-	-	-	-	-	<0.1	-	-		-		<0.1	<0.1	-	-	-	-	-
	4-bromophenyi phenyi ether	mg/kg	0.01			-			<0.1		-		-		<0.1	<0.1		-	-		
	4-mitrophonol	mg/kg	0.01	-	-	-	-	-	<0.1	-	-		-		<0.1	<0.1	-	-	-	-	
		mg/kg	0.01	-	-	-	-	-	<0.1	-	-		-		<0.1	<0.1	-	-	-	-	
		mg/kg		-	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
	2 3 4 6-tetrachlorophenol	mg/kg							<0.1						<0.1	<0.1		-			
		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	ma/ka	0.01	-	-	-	-	-	<0.1	-	-	+ -	-	<u> </u>	<0.1	<0.1	-	-	-	-	-
	2.4-dinitrotoluene	ma/ka	0.01			-	· .		<0.1		-	+ -	-	· ·	<0.1	<0.1		-	-		-
	2.6-dichlorophenol	mg/kg	0.01		-	-	-	-	-	-			-		-	-	-	-	-	-	-
	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	-	-	-	-	-
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg		-	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
Organic	4-chloro-3-methylphenol	mg/kg	0.01	-	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-
Compounds	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	0.01		-	-	-	-	<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	-	-	-	-	-
	Hexachioroethane	mg/kg	0.01			-	-				-		-		-		-	-	-	-	
	Isophorone	mg/kg	0.01			-					-		-		-			-	-	-	
		mg/kg	0.01			-					-		-	· ·				-		-	
		mg/kg	0.01			-			-				-		-	-		-		-	
	Pentachiorophenoi	mg/kg	0.01	I -	I -	-		I -	<0.1			I -		I -	<0.1	<0.1	I -				-



Арренціх і тар	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							
		Location ID	Location	S1-TPI35	S1-1	FPI36	S1-TPI37	S2-BHA04	S2-BHA06	S2-T	PA100	S2-1	PA37	S2-1	PA38	S2-TPA38A		S2-TPA39			S2-TPA40
Chemical Group	Compound	Sample Depth (m bgl)	Sample Depth (m bgl)	1.5	1.5	3.5		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	7 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	03/10/2017	03/10/2017
	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	-	-	-	-	-
	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	-	-	-	-	-
Polychlorinated	PCB 180	mg/kg		-	-	-	<0.01	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-
Biphenyls (PCB)	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	-	-	-	-	-
	PCBs (Sum of total)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-

## Notes

Not analysed -#



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ole 1: Soil data (Enviros 2004, CH2M 2017c&d,	AEG 2018 and																			
	AEG 2021)	Location		On Sito	On Sito	On Site	On Sito	On Sito	On Sito	On Sito	On Sito	On Sito	On Sito	On Sito	On Site	On Sito					
		Location		OII-Oile																	
Chemical Group	Compound	Location ID	Location		S2-TPA45	S2-1PA46	52-	TPA48	S2-TPA49	52-	IPA50	S2-	TPA51	S2-TPA52	S2-TPA53	S2-1PA54	S2-TPA55	S2-TPA56	52-	PA58	S2-TPA59
Chemical Croup	Compound	(m bal)	(m bal)	2.5-2.5	0.6	2	0.8	4.2	2	0.7	1.4		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	7 12/05/2017	12/05/2017	17/05/2017	17/05/2017	17/05/2017	7 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
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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
	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	<0.1
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganics	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	-	-	-	0.22
	Sulphur (free)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Thiocyanate (as SCN)	mg/kg		-	-	1	<0.6	1	-	-	-	-	-	0.9	<0.6	1.9	-	-	-	-	<0.6
	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	5.3
	Fraction Organic Carbon	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	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



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ble 1: 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
		Location ID	Location		S2-TPA45	S2-TPA46		TPA48	S2-TPA49	S2-T	PA50	S2	-TPA51	S2-TPA52	S2-TPA53	S2-TPA54	S2-TPA55	S2-TPA56	S2-T	PA58	S2-TPA59
Chemical Group	Compound	Sample Depth	Sample Depth			02 117140			02 117140					02 117.02	02 117100		02 11 /100	02 117.00			02 11 /100
		(m bgl)	(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	7 12/05/2017	12/05/2017	7 12/05/2017	12/05/2017	17/05/2017	17/05/2017	17/05/201	7 17/05/2017	7 17/05/2017	/ 17/05/2017	12/05/2017	23/05/2017	12/05/2017	17/05/2017	17/05/2017	17/05/2017
	>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 Petroleum	Total >C5-C35 Aliphatics	mg/kg		<10	-	<10	5600	360	44	<10	<10	-	<10	<10	34,000	97	<10	<10	12,000	930	380
Hydrocarbons	>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
Working Group	>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	0.06	<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	ļ	<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	ļ	<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	ļ	<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
	TPH Band (C10 - C40)	mg/kg		<10		-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
Petroleum	EPH >C10-40	mg/kg		-			-	-	-		-	-	-	· ·			· ·	-	-	-	-
Hydrocarbons	GRO C5-C10	mg/kg		-		-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
	TPH by GCFID (AR)	mg/kg	0.05	-	-	-	-	-		-	-	-	-		-	-	-	-	-	-	-
	Benzene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-		<0.01	-	-	-	<0.01	-	<0.01
Benzene,	loluene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
Ethylbenzene,	Etnyibenzene	mg/kg	0.05	-	<0.01	-	<0.01	-		-	-	-	-	-	<0.01		-	-	<0.01	-	<0.01
Xylenes, Methyl	Xylene (m & p)	mg/kg	0.1	-	<0.01		<0.01	-		-	-	-	-		<0.01		-	-	<0.01	-	<0.01
tertiary butyl	Xylene (0)	mg/kg	0.05	-	<0.01		<0.01	-			-	-	-	· ·	<0.01		· ·	-	<0.01	-	<0.01
etner		mg/kg	0.05	-		-		-		-	-	-	-					-		-	-
	Naphthalana	mg/kg	0.03	-	0.01		0.01	- 0.06	- 0.1	-0.03	-	-			0.01		- 0.05	-0.03	0.01	-	<0.01
		mg/kg	0.01	<0.1	0.02	<0.03	0.55	0.00	<0.03	<0.03	<0.03		<0.03	<0.03	0.13	<0.03	<0.03	<0.03	0.15	<0.03	<0.03
		mg/kg	0.01	<0.1		<0.03	0.15	<0.00	<0.03	<0.03	<0.00		<0.00	<0.00	0.00	<0.00	<0.00	<0.00	0.15	<0.00	<0.00
	Fluoranthene	mg/kg	0.01	0.7		0.00	1.8	1.3	0.00	0.03	<0.03		0.03	0.03	2	<0.03	0.00	<0.03	0.13	0.03	0.54
	Anthracene	mg/kg	0.01	<0.1		<0.03	0.15	0.16	<0.03	<0.03	<0.03	-	<0.00	0.03	0.15	<0.03	0.07	<0.00	0.15	0.03	0.06
	Phenanthrene	mg/kg	0.01	0.2		0.11	22	0.96	0.28	0.08	<0.03	-	0.03	0.03	0.94	<0.03	0.28	<0.00	1	0.00	0.00
	Fluorene	ma/ka	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
	Chrvsene	ma/ka	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
Polycyclic	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
Aromatic	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
Hydrocarbons	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Xylenols	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenolice	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	<0.3



Appendix I, Tal	ole 1: Soil data (Enviros 2004, CH2M 2017c 	&d, AEG 2018 and																			
		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	S2-1	TPA50	S2-1	TPA51	S2-TPA52	2 S2-TPA53	S2-TPA54	S2-TPA55	S2-TPA56	S2-1	TPA58	S2-TPA59
Chemical Group	Compound	Sample Depth	Sample Depth	2.5-2.5	0.6	2	0.8	4.2	2	0.7	1.4		1.4	0.5	2.2	0.3	4.4	2.6	1.2	3.6	3
		(m bgl)	(m bgl)	02/40/2047	40/05/0047	40/05/0047	40/05/0047	7 40/05/0047	40/05/0047	47/05/0047	7 47/05/004	7 47/05/0047	47/05/0047	47/05/004	7 47/05/0047	40/05/0047	00/05/0047	40/05/0047	47/05/0047	47/05/0047	47/05/0047
	Styrene	ma/ka		03/10/2017	<0.01	12/05/2017	<0.01	12/05/2017	12/05/2017	17/05/2017	17/05/201	11/05/2017	17/05/2017	17/05/201	<0.01	12/05/2017	23/05/2017	12/05/2017	<0.01	17/05/2017	<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-dichloroethane	mg/kg	0.05	-	<0.01		<0.01	-	-	-	-	-	-	-	<0.01	-	-		<0.01	-	<0.01
	1.3-Dichloropropene	mg/kg	0.05	-							-	<u> </u>	-					-	<0.01	-	
	1 2-dichloropropane	mg/kg	0.05	-	<0.01		<0.01	-	<u> </u>						<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
Volatile Organic	Bromochloromethane	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	<0.01
Carbon	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
	Chloroetnane	mg/kg	0.05	-	-	-	-	-		-	-		-	-	-	-	-	-	-	-	-
	Chloromothano	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-		-	-	<0.01	-	-	-	<0.01	-	<0.01
		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	-	<0.01
	Dichlorodifluoromethane	mg/kg	0.05					-		-	-	· ·	-			-	-	-		-	-
	Dichloromethane	mg/kg	0.05	-	-			-	-	-	-		-	-		-	-	-	-	-	-
	Isopropylbenzene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	- 1	-	-	<0.01	-	-	-	<0.01	-	<0.01
	n-butylbenzene	mg/kg	0.05	- 1	<0.01	- 1	<0.01	-	- 1	- 1	-	1 -	-	- 1	<0.01	- 1	- 1	-	<0.01	-	<0.01
	n-propylbenzene	mg/kg	0.05	-	<0.01	-	<0.01	-	-	-	-	- 1	-	-	<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
		mg/kg	0.05	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-
		mg/kg	0.05		<0.01		<0.01	-			-	+ ·	-		<0.01				<0.01	-	<0.01
		mg/kg	0.00	-	<0.01		0.03	-		-	-		-		<0.01				<0.01	-	<0.01
Volatile Organic		ma/ka	0.01		<0.01		<0.01						-		<0.01			<u> </u>	<0.01	-	<0.01
Compounds /	1.3-dichlorobenzene	ma/ka	0.01	-	<0.01	<u> </u>	<0.01	-		-	-	+ -	-	-	<0.01		<u> </u>	<u> </u>	<0.01	-	<0.01
Organic	1.4-dichlorobenzene	ma/ka	0.01	-	<0.01		< 0.01	-	-	-	-		-	-	<0.01	-	-	-	< 0.01	-	<0.01
Compounds	Chlorobenzene	mg/kg	0.05	-	< 0.01	-	<0.01	-	-	-	-	+ -	-	-	<0.01	-	-	-	<0.01	-	<0.01
	Hexachlorobutadiene	mg/kg	0.01	-	< 0.01	-	<0.01	-	-	- 1	-	- I	-	-	<0.01	-	-	-	< 0.01	-	< 0.01
I		5.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	I	1



10035117-AUK-XX	<-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	le 1: Soil data (Enviros 2004, CH2M 2017c8	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
		Location ID	Location		S2-TPA45	S2-TPA46	S2-	TPA48	S2-TPA49	S2-T	PA50	S2-	TPA51	S2-TPA52	S2-TPA53	S2-TPA54	S2-TPA55	S2-TPA56	S2-T	PA58	S2-TPA59
Chemical Group	Compound	Sample Depth	Sample Depth			-															
		(m bgl)	(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	7 12/05/2017	12/05/2017	17/05/2017	17/05/2017	17/05/2017	7 17/05/2017	17/05/2017	17/05/2017	7 12/05/2017	23/05/2017	7 12/05/2017	17/05/2017	17/05/2017	17/05/2017
	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
		mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1
		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
		mg/kg	0.01	-	-	-	-	-		-	-		-		-			-	-	-	
		mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1
		mg/kg	0.01	-	<0.1	-	<0.1	-			-		-		<0.1			-	<0.1	-	<0.1
	2-methylnaphthalene	mg/kg	0.01		<0.1	-	<0.1							<u> </u>	<0.1				<0.1	_	<0.1
	2-methylphenol	mg/kg	0.01	-	<0.1	-	<0.1	-		-	-		-		<0.1		-	-	<0.1	-	<0.1
	2-nitroaniline	ma/ka	0.01	-	<0.1	-	<0.1	-		-	-		-		<0.1	-		-	<0.1	-	<0.1
	2-nitrophenol	mg/kg	0.01	-	-	-	-	-		-	-	- 1	-	- I	-	-		-	-	-	-
	3-nitroaniline	mg/kg	0.01	-	<0.1	-	<0.1	-	· ·	-	-	· ·	-	· ·	<0.1	-		-	<0.1	-	<0.1
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg		-	<0.1	-	<0.1	-		-	-	-	-	-	<0.1	-	-	-	<0.1	-	<0.1
Organic	4-chloro-3-methylphenol	mg/kg	0.01	-	<0.1	-	<0.1	-	-	-	-		-	-	<0.1	-	-	-	<0.1	-	<0.1
Compounds	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-ethylnexyl) phthalate	mg/kg	0.1	-	<0.1	-	<0.1	-		-	-		-		<0.1				<0.1	-	<0.1
		mg/kg	0.1		<0.1	-	<0.1			-	-		-		<0.1				<0.1	-	<0.1
		mg/kg	0.01	-	<0.1	-	<0.1	-		-	-	-	-	-	<0.1	-		-	<0.1	-	<0.1
		mg/kg	0.01	-	<0.1	-	<0.1	-		-	-		-		<0.1	-		-	<0.1	-	<0.1
		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	ma/ka	0.1	-	<0.1	-	<0.1	-	<u> </u>	-	-	-	-	-	<0.1	-	<u> </u>	-	<0.1	-	<0.1
	Diphenylamine	mg/kg		-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	<u> </u>	-	<0.1	-	<0.1
	Hexachlorobenzene	mg/kg	0.01	-	<0.1	-	<0.1	-	· ·	-	-	-	-	· ·	<0.1	- 1	· ·	-	<0.1	-	<0.1
	Hexachlorocyclopentadiene	mg/kg	0.01	-	<0.1	-	<0.1	-	- 1	-	-	- 1	-		<0.1	- 1	· ·		<0.1	-	<0.1
	Hexachloroethane	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Isophorone	mg/kg	0.01	-	-	-	-	-	- 1	- 1	-	- 1	-	- 1	-	-	- 1	-	-	-	-
	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



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ole 1: 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
			Location				C11 C110			Sh Sho		<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>		92 TDA52	C1 C10	22 TDA54	92 TDA55		CH Cho	DA58	
Chemical Group	Compound	Sample Depth	Sample Denth		32-1FA4J	32-1FA40			32-1FA49	- 32-				JZ-TFAJZ	32-1FA33	32-1FA34	32-1FA33	32-1FA30	02-1		32-1FA39
		(m bgl)	(m bgl)	2.5-2.5	0.6	2	0.8	4.2	2	0.7	1.4		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	12/05/201	7 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
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polychlorinated	PCB 180	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biphenyls (PCB)	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 -#



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Appendix I, Tab	ble 1: 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
			Location		он око со т					сл сло со т	DAGE					en ene					
Chemical Group	Compound	Sample Depth	Sample Donth	32-1PA00	32-1	FAUI	32-1PA02	32-1PA03	32-1PA04	32-1	FAUS	32-1PA00	32-1PA07	32-1PA00	32-1PA09	- 32-		32-1PA/1	32-1PA72	32-1PA73	32-1PA/4
		(m bal)	(m bal)	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
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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
	Cyanide (Free)	mg/kg		<0.1	-	-	-	-	-	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	-	-	<0.1	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	0.3
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganics	Sulphate	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphate as SO4	mg/kg		-	-	-	14,000	-	-	-	-	15,000	5900	-	5000	-	1200	13,000	15,000	9600	10,000
	Sulphide	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphur as S	%		-	-	-	0.55	-	-	-	-	0.71	0.62	-	0.06	-	0.05	0.34	0.85	0.5	0.46
	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	-
	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	0.2
	Fraction Organic Carbon	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	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	10.2



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ole 1: 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
			Location		011 0110																
Chemical Group	Compound	Location ID	Location Semple Depth	52-1PA00	32-	PAOT	52-1PA02	52-1PA03	52-1PA04	52-1	PA00	52-1PA00	52-1PA07	52-1PA00	52-1PA09	32-	IPAIU	52-1PA/1	SZ-TPATZ	52-1PA/3	52-1PA74
enemical croup	Compound	(m hal)	(m hal)	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	7 17/05/2017	17/05/2017	17/05/2017	17/05/2017	17/05/2017	18/05/2017	17/05/2017	22/05/2017	22/05/201	7 22/05/2017	10/05/2017	10/05/2017	18/05/2017
	>C5-C6 Aliphatics	ma/ka		<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	<1.5
	>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	<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	6.3
	>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	39
Total Petroleum	Total >C5-C35 Aliphatics	mg/kg		29	19	<10	-	<10	<10	<10	<10	<10	140	-	<10	<10	<10	<10	<10	<10	46
Hydrocarbons	>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
Working Group	>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	2.4	<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	4.7	<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	<0.6	-	<0.6	13	<0.6	<0.6	<0.6	1.3	3.6
	>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	6.9
	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	56
	TPH Band (C10 - C40)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum	EPH >C10-40	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrocarbons	GRO C5-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
_	Benzene	mg/kg	0.05	-	<0.01	-	-		-	-	-		-	<0.01	<0.01	-	-		<0.01	-	
Benzene,	loluene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-		<0.01	-	
Ethylbenzene,	Etnyibenzene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-		-	<0.01	<0.01	-	-	-	<0.01	-	
Xylenes, Methyl	Xylene (m & p)	mg/kg	0.1		<0.01	-	-	-		-	-		-	<0.01	<0.01	-	-		<0.01	-	
tertiary butyl	Xylene (0)	mg/kg	0.05		<0.01	-	-				-			<0.01	<0.01	-	-		<0.01	-	
etner		mg/kg	0.05	-		-	-	-	-	-	-		-			-	-		-0.01	-	
	Nanhthalene	mg/kg	0.03	<0.03	0.01	<0.03	-	<0.03	<0.03	<0.03	<0.03	0.03	- 0.14	0.01	<0.01	- 0.03	-	- 0.88	<0.01	-	<0.03
		mg/kg	0.01	<0.03	<0.04	<0.03		<0.03	<0.03	<0.03	<0.03	0.05	<0.14	0.01	<0.03	0.03	<0.03	<0.00	<0.03	0.05	<0.03
		mg/kg	0.01	<0.00	<0.00	<0.00		<0.00	<0.03	<0.00	<0.00	<0.03	<0.00	0.5	<0.00	<0.04	<0.00	<0.00	<0.00	0.00	<0.00
	Fluoranthene	mg/kg	0.01	<0.00	0.16	<0.00	-	0.08	0.12	<0.00	<0.00	0.16	0.86	0.0	0.11	2.3	<0.00	0.00	0.05	2	0.28
	Anthracene	mg/kg	0.01	<0.00	<0.03	<0.00	-	<0.00	<0.02	<0.03	<0.03	0.03	0.00	0.5	<0.03	0.49	<0.00	<0.03	<0.00	0 17	<0.03
	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	0.13
	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	0.05	<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	0.79	0.13
Polycyclic	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	1.6	0.22
Aromatic	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	0.86	0.12
Hydrocarbons	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	1.3	0.18
	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	0.46	0.07
	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	0.82	0.1
	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	0.13	< 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	0.55	0.09
	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	0.51	0.08
	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	10	1.4
	PAHs (Sum of total)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(b+k)fluoranthene	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Xylenols	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenolics	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	<0.3	<0.3



	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
		LUCATION																			
Chemical Group	Compound	Location ID	Location	S2-TPA60	52-	1PA61	S2-TPA62	S2-TPA63	S2-1PA64	52-1	PA65	S2-1PA66	S2-TPA67	S2-TPA68	S2-1PA69	52-	TPA70	S2-TPA/1	S2-1PA/2	S2-1PA73	S2-TPA
ononiour or oup		(m bgl)	(m bal)	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	7 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	7 22/05/2017	22/05/2017	10/05/2017	10/05/2017	18/05/20
	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	-	-	-	-	-	-	-
	1,1,2-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	<u> </u>	<0.01	-	-	-	-	<u> </u>	-	-	-	<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	-	-
Volatile Organic	Bromobenzene	mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	
Carbon	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	-	
		mg/kg	0.05	-	<0.01	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	
		mg/kg	0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	
		mg/kg	0.05		-	-			-	-	-	-			-	-	-	-		-	
	n but/banzana	mg/kg	0.05		<0.01			· ·		-	-			<0.01	<0.01				<0.01		
		mg/kg	0.05	-	<0.01	-	-		-	-	-	-		<0.01	<0.01	-	-	-	<0.01	-	
		mg/kg	0.05	-	<0.01	-			-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	
		mg/kg	0.05	-	<0.01	-			-	-	-	-		<0.01	<0.01	-	-	-	<0.01	-	
		mg/kg	0.05	-	<0.01	-		-	-	-	-	-	-	<0.01	<0.01	-	-	-	<0.01	-	
	tert but/benzene	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	ma/ka	0.05	<u> </u>	<0.01							<u> </u>		<0.01	<0.01	<u> </u>			<0.01		
	Trichlorofluoromethane	ma/ka	0.05	+			+ -	<u> </u>				<u> </u>									+
	Vinvl chloride	ma/ka	0.05	<u> </u>	<0.01		<u> </u>	<u> </u>			-			<0.01	<0.01				<0.01		
	1 2 3-trichlorobenzene	ma/ka	0.05	<u> </u>	<0.01			<u> </u>			-			<0.01	<0.01	<u> </u>			<0.01		+
	1 2 4-trichlorobenzene	ma/ka	0.03	<u> </u>	<0.01	+	+	+	<u> </u>			<u> </u>		<0.01	<0.01	<u> </u>			<0.01		
Volatile Organic	1 2-dichlorobenzene	ma/ka	0.01	<u> </u>	<0.01	<u> </u>	+	<u> </u>			-			<0.01	<0.01				<0.01		
Compounds /	1 3-dichlorobenzene	mg/kg	0.01	<u> </u>	<0.01		<u> </u>				-			<0.01	<0.01				<0.01		<u>+</u>
Organic	1 4-dichlorobenzene	ma/ka	0.01	<u>                                      </u>	<0.01		<u> </u>	<u> </u>			-			<0.01	<0.01				<0.01		
Compounds	Chlorobenzene	ma/ka	0.01	+	<0.01									<0.01	<0.01				<0.01		
-	Hoveshlarshutedians	mg/kg	0.03	-	<0.01	-		-	-	-	-	-	-	<0.01	<0.01	-		-	<0.01	-	



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ole 1: Soil data (Enviros 2004, CH2M 2017c&d, AEG 2021)	AEG 2018 and	_																		
		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-T	PA65	S2-TPA66	S2-TPA67	S2-TPA68	S2-TPA69	S2-1	PA70	S2-TPA71	S2-TPA72	S2-TPA73	S2-TPA74
Chemical Group	Compound	Sample Depth	Sample Depth	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	
		(m bgl)	(m bgl)	47/05/0047	4710510047	47/05/0047	47/05/0047	40/05/0047	47/05/0047	47/05/0047	47/05/0047	47/05/0047	4710510047	40/05/0047	47/05/0047	00/05/0047	00/05/00/17	00/05/0047	40/05/0047	40/05/0047	40/05/0047
	4.4 distant success	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
	1,4-dinitropenzene	mg/kg			<0.1	-	-	-		-	-		-	<0.1	<0.1		-	-	<0.1		
		mg/kg	0.01	-	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	
		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		<u> </u>
	1 2-Dinitrobenzene	mg/kg	0.01	-	<0.1		-				_		-	<0.1	<0.1	-			<0.1	-	<u> </u>
	1 3-Dinitrobenzene	mg/kg		-	<0.1	-	-	-	-	-	-		-	<0.1	<0.1	-	-	-	<0.1	-	
	2.3.4.6-tetrachlorophenol	ma/ka			<0.1	-	-	-		-	-			<0.1	<0.1	-	-		<0.1	-	-
	2.3.5.6-Tetrachlorophenol	ma/ka			<0.1	-	-	-	<u> </u>		-	<u> </u>	· ·	<0.1	<0.1		-	<u> </u>	<0.1		-
	2.4.5-trichlorophenol	ma/ka	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	-	-	-	- 1	-	-		-	<0.1	<0.1	- 1	-	· ·	<0.1	<u> </u>	-
	2,4-dinitrotoluene	mg/kg	0.01	-	<0.1	-	-	-	- 1	-	-	· ·	-	<0.1	<0.1	-	-	· ·	<0.1	- 1	-
	2,6-dichlorophenol	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,6-dinitrotoluene	mg/kg	0.01	-	<0.1	-	-	-	-	-	-	- 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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-nitroaniline	mg/kg	0.01	-	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg		-	<0.1	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-
Organic	4-chloro-3-methylphenol	mg/kg	0.01	-	<0.1	-	-	-	-	-	-		-	<0.1	<0.1	-	-	-	<0.1	-	-
Compounds	4-chloroaniline	mg/kg	0.01	-	-	-	-	-		-	-		-	-	-	-	-	-	-		
	4-chlorophenyl phenyl ether	mg/kg	0.01	-	<0.1	-	-	-	-	-	-		-	<0.1	<0.1	-	-	-	<0.1	-	
	4-metnyipnenoi	mg/kg	0.01		-	-	-	-		-	-			-	-	-	-			-	
	Aniline	mg/kg	0.01		<0.1	-	-				-			<0.1	<0.1		-		<0.1		
	Ric(2 chloroothoxy) mothano	mg/kg	0.01		<0.1	-	-	-	-	-	-		-	<0.1	<0.1	-	-	-	<0.1	-	
	Bis(2-chloroethyl)ether	mg/kg	0.01	-	<b>NO.1</b>	-	-	-	-	-	-	-	-	<b>NO.1</b>	<b>NO.1</b>	-	-	-	<b>NO.1</b>	-	
	Bis(2-chloroisonronyl) ether	mg/kg	0.01		<0.1				<u> </u>			+ -		<0.1	<0.1	<u> </u>		+	<0.1	<u>                                      </u>	<u> </u>
	Bis(2-ethylbexyl) ohthalate	ma/ka	0.1	-	<0.1	-	-	-		-	-		-	<0.1	<0.1		-		<0.1		
	Butyl benzyl phthalate	ma/ka	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	-	-	-	- 1	-	-	- 1	-	<0.1	<0.1	- 1	-	- 1	<0.1	- 1	-
	Di-n-octyl phthalate	mg/kg	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	-	-



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tal	ble 1: Soil data (Enviros 2004, CH2M 2017c&d, ,	AEG 2018 and																			
	AEG 2021)	Location		On Site     On Site	On Site	On Site	On Site														
		Lucation	1																		
Chemical Group	Compound	Location ID	Location	S2-1PA60	52-1	PADI	S2-1PA62	S2-1PA63	S2-1PA64	52-1	I PA65	S2-TPA66	S2-1PA67	S2-1PA68	S2-1PA69	52-	IPA/U	S2-1PA/1	S2-1PA72	S2-1PA73	S2-1PA74
Chemical Group	Compound	(m bal)	(m bal)	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	22/05/201	7 22/05/2017	10/05/2017	10/05/2017	18/05/2017
	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	-	-
Polychlorinated	PCB 180	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-
Biphenyls (PCB)	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 poly



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ble 1: Soil data (Enviros 2004, CH2M 2017c&d,	AEG 2018 and																			
	AEG 2021)	Location		On-Site																	
			Location	92 TDA75	\$2 TDA76	C2 TDA79	s ss		C2 TDA90	C2 TDA91	C2 TDA22	C2 TDA92	C2 TDA94	5.1 S.1		C2 TDA 97	C2 TDA99	C2 TDA90	S2 TDA00	S2 T	
Chemical Group	Compound	Sample Depth	Sample Depth	32-1FA13	32-1FA10	32-1FA10			32-1FA00	32-1FA01	32-1FA02	32-1FA03	32-1FA04	02-1		32-1FA07	32-1FA00	32-1FA09	32-1FA90	02-1	7.92
		(m bql)	(m bal)	0.5	2.8	1.2	0.02		2.5	0.5	0.3	3	0.5	0.4	2.8	0.3		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
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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
	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
	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	0.7
	cyanides-complex	mg/kg		0.3	<0.2	-	-	0.4	0.7	<0.2	-	3.4	0.6	1.5	-	<0.2	-	-	-	0.5	0.5
	Magnesium	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate (as NO3-)	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganics	Sulphate	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sulphate as SO4	mg/kg		-	21,000	-	2800	2500	3700	700	-	-	2100	-	7500	10,000	5500	-	-	14,000	28,000
	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	1.1
	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	0.9
	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	<0.1
	Fraction Organic Carbon	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	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	10.3



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																				
Appendix I, Tab	ole 1: Soil data (Enviros 2004, CH2M 2017c AEG 2021)	c&d, AEG 2018 and	_																		
		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-T	PA92
Chemical Group	Compound	Sample Depth	Sample Depth	0.5	2.8	12	0.02		2.5	0.5	0.3	3	0.5	04	2.8	0.3		12	0.5	0.4	3.5
		(m bgl)	(m bgl)	0.0	2.0	1.2	0.02		2.0	0.0	0.0		0.0		2.0	0.0		1.2	0.0		0.0
		Unit	Sample_Date	18/05/2017	18/05/2017	09/05/2017	09/05/2017	7 01/01/2016	6 09/05/2017	01/01/2016	10/05/2017	22/05/2017	01/01/2016	08/05/201	7 08/05/201	7 01/01/2016	09/05/2017	04/05/2017	7 05/05/2017	08/05/2017	08/05/2017
	>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	ļ	<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	<1.5	<1.5	1.8
	>C12-C16 Aliphatics	mg/kg	ļ	<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	1.3
	>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	<1.5
	>C21-C35 Aliphatics	mg/kg	ļ	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	<3.4
Total Petroleum	Total >C5-C35 Aliphatics	mg/kg		20	<10	440	120	3500	<10	<10	<10	130	28	<10	-	<10	120	<10	<10	<10	<10
Hydrocarbons	>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
working Group	>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	<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	<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	<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	<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	<1.4
	I otal >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	<10
	TPH Band (C10 - C40)	mg/kg		-		-	-	-		· ·	-		-	-	-			-	-	-	-
Petroleum	EPH >C10-40	mg/kg					-	-		· ·	-	· ·	-	-	-			-		-	
Hydrocarbons	GRO C5-C10	mg/kg		-		-	-	-	-		-		-	-	-			-	-	-	-
	TPH by GCFID (AR)	mg/kg		-			-	-	-	-	-	-	-	-	-			-	-	-	-
	Benzene	mg/kg	0.05	< 0.01			<0.01	-		· ·	-	<0.01	<0.01	-	-			-		-	
Benzene,		mg/kg	0.05	<0.01		-	<0.01	-	-	· ·	-	<0.01	<0.01	-	-			-	-	-	-
Ethylbenzene	Ethylbenzene	mg/kg	0.05	< 0.01	· ·	-	< 0.01	-			-	<0.01	<0.01	-	-	· ·		-		-	
Xylenes, Methyl	Xylene (m & p)	mg/kg	0.1	< 0.01		-	<0.01	-	-		-	<0.01	<0.01	-	-			-	-	-	-
tertiary butyl	Xylene (o)	mg/kg	0.05	<0.01	-	-	<0.01	-		· ·	-	<0.01	<0.01	-	-			-		-	
ether	Xylene I otal	mg/kg	0.05	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	
	MIBE	mg/kg	0.05	< 0.01	-	-	<0.01	-	-	-	-	<0.01	< 0.01	-	-	-	-	-	-	-	-
	Naphthalene	mg/kg	0.01	0.17	<0.03	0.1/	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	<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	<0.03
		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	< 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	<0.03
	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	<0.03
		mg/kg	0.01	0.27	<0.03	2.4	30	0.75	0.07	0.03	2.8	110	3.4	1.4	-	<0.03	0.15	<0.03	0.05	< 0.03	<0.03
		mg/kg	0.01	<u> </u>	<0.03	~0.03	4.5	0.75	<0.03	<0.03	0.21	0.4	0.10	0.1		~0.03	NU.U3	<0.03	0.00	~0.03	<0.03
	Dyrene	mg/kg	0.01	0.09	<0.03	0.0	0.4	3.0	0.05	<u>     0.03</u>	5.3	07	5.7	2.4	-	0.03	0.10	<u> </u>	0.40	0.03	<0.03
Polycyclic	Renzo(a)anthracene	mg/kg	0.01	0.99	<0.03	4.0	80	20	<0.00 <0.03	<0.00	3.0	62	3.0	2.0	-	<0.03	0.24	<0.04 <0.03	0.9	0.04	<0.03
Hydrocarbons	Bonzo(b)fluoranthana	mg/kg	0.01	0.71	<0.03	5.2	10	0.2	<0.03	<0.03	1.0	60	5.5	2.5		<0.03	0.14	<0.03	0.03	0.05	<0.03
	Benzo(k)fluoranthene	mg/kg	0.01	0.02	<0.03	2	77	5.1	<0.03	<0.03	4.9	22	2	1.7	-	<0.03	0.25	<0.03	0.93	<0.03	<0.03
	Benzo(a)nvrene	mg/kg	0.01	0.23	<0.03	4.5	7.8	23	<0.03	<0.03	1.5	15	3.6	3.2		<0.00	0.1	<0.00	0.52	<0.00	<0.03
	Dihenz(a b)anthracene	mg/kg	0.01	0.44	<0.03	0.62	1.0	0.57	<0.03	<0.03	0.58	6.1	0.61	0.46		<0.03	0.14	<0.03	0.02	<0.03	<0.03
	Benzo(a h i)pen/lene	mg/kg	0.01	0.00	<0.00	2.7	4.3	21	<0.03	<0.03	2.5	21	23	21		<0.00	0.04	<0.00	0.05	<0.00	<0.00
	Indeno(1 2 3-c d)pyrepe	mg/kg	0.01	0.02	<0.03	2.1	3.5	1 /	<0.00	<0.00	2.5	10	2.5	1 7	+	<0.03	0.10	<0.03	0.47	<0.03	<0.03
	PAH 16 Total	ma/ka	0.01	6.4	0.05	3.8	150	<u><u> </u></u>	0.00	0.00	38	670	43	27		0.05	1.8	0.05	6.8	0.00	0.05
	PAHs (Sum of total)	ma/ka		- 0.4	0.00										+ -						
	Benzo(b+k)fluoranthene	mg/kg	0.01	<u> </u>	+		-		+	<u> </u>	<u> </u>		+				<u> </u>	<u> </u>	<u> </u>		
<u> </u>	Xvlenols	mg/kg	0.01		+	<u> </u>	-			<u> </u>			+ -		-						
	3-&4-methylphenol	mg/kg		<0.1	+	+	<0.1		+	<u> </u>	<u> </u>	<0.1	<0 1				<u> </u>	<u> </u>	+	<u> </u>	
Phenolics	Phenol	mg/kg	0.01	20.1		-	<0.1					<0.1	20.1	-			-	-		-	-
	Phenols Monobydric	mg/kg	0.01	<0.1	1 2		0.1	-	<0.2	<0.2		0.1	<0.1				<0.2	-	-	-	
1	Filenois monoriyaric	ling/kg	1	<sup>&lt;</sup> 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	<sup>۲0.3</sup>	<0.3



		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						
			Location	S2-TPA75	S2-TPA76	S2-TP478	S2-1		S2_TP480	S2-TPAR1	S2-TPA82	S2-TPA83	S2-TPARA	S2-T	PA86	S2-TPA87	S2-TPA88	S2-TPARG	S2-TPAQ0	S2-1	
Chemical Group	Compound	Sample Depth	Sample Depth		02-11 A10	4.0	0.00		0.5	02-11 A01	02-11 A02	02-11 A00	02-11 7.04	0.4		02-11 A07	4	4.0	02-11 400	0.4	0.5
		(m bgl)	(m bgl)	0.5	2.8	1.2	0.02		2.0	0.5	0.3	3	0.5	0.4	2.8	0.3		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	08/05/20
	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-tricnioroethane	mg/kg	0.05	<0.01		-	<0.01	-		-	-	<0.01	<0.01	-	-	-	-	-	-	-	
	1,1,2,2-tetrachioroethane	mg/kg	0.05	-		-	-	-	-			-	-		-				-		-
	1,1,2-thchloroethane	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-dichloropropopo	mg/kg	0.05	<0.01	-	-	<0.01	-	-		-	<0.01	<0.01	-	-	-	-	-	-	-	-
	1, 1-dichioropropene	mg/kg	0.05	<0.01		-	0.01	-	-	-	-	<0.01	<0.01	-	-	-		-	-	-	-
		mg/kg	0.05	<0.01	-	-	0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	
	1.2-dibromo-3-chloropropage	ma/ka	0.03	<0.01		-	<0.01	-				<0.01	<0.01		-						
	1.2-dibromoethane	mg/kg	0.03	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-		+
	1.2-dichloroethane	ma/ka	0.03	<0.01		-	<0.01	-				<0.01	<0.01		-						-
	1.3-Dichloropropene	mg/kg	0.05						<u> </u>	<u>                                      </u>				<u> </u>		+		<u> </u>	<u> </u>	<u> </u>	+
	1.2-dichloropropage	mg/kg	0.05	<0.01	<u> </u>		<0.01			<u> </u>	<u> </u>	<0.01	<0.01			+		<u> </u>	<u> </u>	<u> </u>	
	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	-		<u> </u>		<0.01	<0.01								+
	Bromohenzene	mg/kg	0.05	<0.01			<0.01	-				<0.01	<0.01								
Volatile Organic	Bromochloromethane	mg/kg	0.05	<0.01		-	<0.01	-	<u> </u>	<u> </u>		<0.01	<0.01								+
Carbon	Bromodichloromethane	mg/kg	0.00	<0.01	-	-	<0.01					<0.01	<0.01	-	-			-	-	-	
	Bromoform	mg/kg	0.00	<0.01	-	-	<0.01	-	-		-	<0.01	<0.01	-	_		-		-	-	-
	Bromomethane	ma/ka	0.05	-		-	-	-			-	-	-	-	-			-	-	-	-
	Carbon tetrachloride	ma/ka	0.05	<0.01		-	<0.01	-			-	<0.01	<0.01	-	-	-		-	-	-	-
	Chlorodibromomethane	ma/ka	0.05	<0.01	-	-	<0.01	-		-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
	Chloroethane	ma/ka	0.05	-		-	-	-				-	-		-			-		-	-
	Chloroform	ma/ka	0.05	<0.01	-	-	<0.01	-		-	-	<0.01	<0.01	-	-	-		-	-	-	-
	Chloromethane	ma/ka	0.05	-		-	-	-				-	-		-			-	-	-	-
	cis-1.2-dichloroethene	ma/ka	0.05	<0.01		-	<0.01	-	· .	<u> </u>		<0.01	<0.01	<u> </u>	-	<u> </u>		<u> </u>			<u>-</u>
	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	-	-	- 1	-	-	-	-	-
	n-butylbenzene	mg/kg	0.05	<0.01	- 1	-	<0.01	-	- 1	- 1	- 1	<0.01	<0.01	-	-	- 1	- 1	- 1	- 1	- 1	-
	n-propylbenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	- 1	- 1	-	<0.01	<0.01	-	-	- 1	-	-	- 1	- 1	-
	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	-	-	- 1	-	-	-	-	-
	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	-	-	-	-	-	-	-	-
	1,2,3-trichlorobenzene	mg/kg	0.05	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
Volatile Organic	1,2,4-trichlorobenzene	mg/kg	0.01	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
Compounds /	1,2-dichlorobenzene	mg/kg	0.01	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
Semi Volatile	1,3-dichlorobenzene	mg/kg	0.01	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
Organic	1,4-dichlorobenzene	mg/kg	0.01	<0.01	-	-	<0.01	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
Compounds	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	-	-	-	-	-	-	-	-



Appendix 1, Table 1: Soil data (Enviros 2004, CH2M 2017e8d, AEG 2018 and AEG 2021)           AEG 2021)           Chemical Group         Compound         Location         On-Site	On-Site         On-Site           90         S2-TPA92           0.4         3.5           17         08/05/2017         08/05/201           17         08/05/2017         08/05/201           17         08/05/2017         08/05/201           17         08/05/2017         08/05/201           17         08/05/2017         08/05/201           17         08/05/2017         08/05/201           17         -         -           1         -         -           1         -         -           1         -         -           1         -         -           1         -         -           1         -         -           1         -         -           1         -         -           1         -         -           1         -         -           1         -         -           1         -         -           1         -         -           1         -         -           1         -         -           1         -         -
Location         Desite         On-Site         <	On-Site         On-Site           90         S2-TPA92           0.4         3.5           17         08/05/2017         08/05/201           17         08/05/2017         08/05/201           17         08/05/2017         08/05/201           17         08/05/2017         08/05/201           17         08/05/2017         08/05/201           17         -         -           17         -         -           18         -         -           17         -         -           18         -         -           19         -         -           19         -         -           19         -         -           19         -         -           19         -         -           19         -         -           19         -         -           19         -         -           19         -         -           19         -         -           19         -         -           19         -         -           19         -         -
Lemical Group And Propertion         Location         S2-TPA75         S2-TPA81         S2-TPA83         S	90         S2-TPA92           0.4         3.5           17         08/05/2017         08/05/201           -         -         -
Chemical Group         Compound         Sample Depth (mby)         Sample Depth (mby) <th>0.4         3.5           17         08/05/2017         08/05/201           2         -         -           2         -         -           3         -         -           4         -         -           5         -         -           6         -         -           7         -         -           8         -         -           9         -         -           10         -         -           11         -         -           12         -         -           13         -         -           14         -         -           15         -         -           16         -         -           17         -         -           17         -         -           18         -         -           19         -         -           19         -         -           19         -         -           19         -         -           19         -         -           19         -</th>	0.4         3.5           17         08/05/2017         08/05/201           2         -         -           2         -         -           3         -         -           4         -         -           5         -         -           6         -         -           7         -         -           8         -         -           9         -         -           10         -         -           11         -         -           12         -         -           13         -         -           14         -         -           15         -         -           16         -         -           17         -         -           17         -         -           18         -         -           19         -         -           19         -         -           19         -         -           19         -         -           19         -         -           19         -
Image: mage:	0.4         0.3           17         08/05/2017         08/05/201           -         -         -
Unit         Sample_Date         18/05/2017         18/05/2017         09/05/2017         01/01/2016         01/01/2016         01/05/2017         01/01/2016         01/05/2017         01/01/2016         01/05/2017         01/01/2016         01/05/2017         01/01/2016 </th <th>17     08/05/2017     08/05/201       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -</th>	17     08/05/2017     08/05/201       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -
1.4-dinitrobenzene         mg/kg          <	
Benzyl alcohol         mg/kg         <	
4-bromophenyl phenyl ether         mg/kg         0.01         <0.1	
4-nitroanline         mg/kg         0.01         <0.1	
4-nitrophenol         mg/kg         0.01         <0.1	
1,2-Dintrobenzene         mg/kg <th></th>	
1,3-Dintrobenzene       mg/kg	
2,3,4,5-tetrachiorophenol       mg/kg   <	
2,3,5,6-1etrachlorophenol       mg/kg   <	
2,4,5-trichiorophenol       mg/kg       0.01       <0.1	
2,4,6-tricniorophenoi mg/kg 0.01 <0.1 <0.1	
$\frac{2,4-\text{dichiorophenoi}}{2,4-\text{dichiorophenoi}} \qquad \frac{\text{mg/kg}}{1,1} \qquad \frac{1}{\sqrt{1}} \qquad$	
2,4-dimetryphenol mg/kg 0.01 <0.1 <0.1 <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	
2,0-dichiorophenoi mg/kg	
$\frac{2,0-\text{dimitrational}}{2,0-\text{dimitrational}} = \frac{10,1}{2,0-1} = \frac{1}{2,0-1} = \frac{1}{$	
$\frac{2-\text{chioronaphinalene}}{2-\text{chioronaphinalene}} \qquad \frac{100}{100} \qquad \frac{1}{100} $	
$\frac{2-clilloiophenoi}{2} = \frac{100}{100} 1$	
$\frac{2 - 11 - 11 - 1}{2 - 11 - 1} = \frac{1}{2 - $	
$\frac{2 - 11 + 11 + 101}{2 + 11 + 101} \qquad \frac{11 + 101}{2 + 101} \qquad \frac{10 + 101}{2 + 101} \qquad 10 +$	
2-introhenol mg/kg 0.01 \0.1 \0.1 - \0.1 \0.1 - \0.1 \0.1 \0.1 \0.1 \0.1 \0.1 \0.1 \0.1 - \0.1 \0.1 \0.1 \0.1 \0.1 \0.1 \0.1 \0.1	
$\frac{2-11000}{100} = \frac{100}{100}	
$\frac{\text{Semi Volatile}}{\text{Organic}} = \frac{4-\text{chloro}-3-\text{methylphenol}}{\text{mg/kg}} = \frac{0.1}{10} = \frac{100}{10} = $	
Compounds 4-chloropaniline mg/kg 0.01	
$\frac{4 - chlorodnimic}{4 - chlorodnimic} mg/kg = 0.01 < 0.1 < 0.1 < 0.1 < 0.1 < 0.1 < 0.1$	
$\frac{4}{4} = \frac{1}{2} = \frac{1}$	
Azobenzene     mg/kg     0.01     <0.1	
Bis(2-chloroethoxy) methane     mg/kg     0.01     <0.1	
Bis(2-chloroethyl)ether ma/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 <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	
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 <0.1 <0.1 <0.1 <0.1 <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	



Арреник I, Так	AEG 2021)	AEG 2010 and																			
		Location		On-Site																	
		Location ID	Location	S2-TPA75	S2-TPA76	S2-TPA78	S2-1	FPA79	S2-TPA80	S2-TPA81	S2-TPA82	S2-TPA83	S2-TPA84	S2-T	PA86	S2-TPA87	S2-TPA88	S2-TPA89	S2-TPA90	S2-T	PA92
Chemical Group	Compound	Sample Depth (m bgl)	Sample Depth (m bgl)	0.5	2.8	1.2	0.02		2.5	0.5	0.3	3	0.5	0.4	2.8	0.3		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
	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	-	-	-	-	-
Polychlorinated	PCB 180	mg/kg		-	-	-	-	-	-	-	-	-	-	<0.01	-	<0.01	-	-	-	-	-
Biphenyls (PCB)	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 -#



		Location		On-Site	On-Site	On-Site	On-Site
		Location ID	Location	S2-TPA94	S2-T	PA97	TS2_AUK_TP
Chemical Group	Compound	Sample Depth	Sample Depth	0.05	0.5	4	2
		(m bgi) Unit	(m bgl) Sample Date	04/05/2017	04/05/2017	04/05/2017	21/09/2020
	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		-	-	-	-
Metals	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
	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		-	-	-	-
Inorganics	Sulphate	mg/kg		-	-	-	-
Ū	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
	Organic Matter	%		2.4	1.3	2.8	0.6
	Fraction Organic Carbon	-		-	-	-	-
Other	Moisture	%	0.1	-	-	-	-
	Moisture Content 105C	%		-	-	-	-
	nH (Lab)			11.6	40.7	44.0	10.4



10035117-AUK-X Appendix I Tab	X-XX-RP-ZZ-0428-03-LWoW_DQRA le 1: Soil data (Enviros 2004, CH2M 2017c&d, /	AEG 2018 and					
	ALG 2021)	Location		On-Site	On-Site	On-Site	On-Site
			Location	S2-TPA94	S2-T	PA97	TS2 AUK TP152
Chemical Group	Compound	Sample Depth (m bgl)	Sample Depth	0.05	0.5	4	2
		Unit	Sample_Date	04/05/2017	04/05/2017	04/05/2017	21/09/2020
	>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 Petroleum	Total >C5-C35 Aliphatics	mg/kg		82	<10	<10	<10
Hydrocarbons	>EC5-EC7 Aromatics	mg/kg		<0.01	<0.01	<0.01	<0.01
Working Group	>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
	TPH Band (C10 - C40)	mg/kg		-	-	-	-
Petroleum	EPH >C10-40	mg/kg		-	-	-	-
Hydrocarbons	GRO C5-C10	mg/kg		-	-	-	-
	TPH by GCFID (AR)	mg/kg		-	-	-	-
	Benzene	mg/kg	0.05	-	-	-	<0.01
Benzene,	Toluene	mg/kg	0.05	-	-	-	<0.01
Toluene,	Ethylbenzene	mg/kg	0.05	-	-	-	<0.01
Ethylbenzene,	Xylene (m & p)	mg/kg	0.1	-	-	-	<0.01
tertiary butyl	Xylene (o)	mg/kg	0.05	-	-	-	<0.01
ether	Xylene Total	mg/kg		-	-	-	-
	МТВЕ	mg/kg	0.05	-	-	-	<0.01
	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
Polycyclic	Pyrene	mg/kg	0.01	0.21	0.18	<0.03	0.09 - 0.1
Aromatic	Benzo(a)anthracene	mg/kg	0.01	0.12	0.08	<0.03	<0.1 - 0.04
Hydrocarbons	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	-	-	-	-
	Xylenols	mg/kg		-	-	-	-
Phonolics	3-&4-methylphenol	mg/kg		-	-	-	<0.1
I HEHUIUS	Phenol	mg/kg	0.01	-	-	-	<0.1
	Phenols Monohydric	mg/kg		<0.3	<0.3	<0.3	<0.3



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA						
Appendix I, Tab	ole 1: Soil data (Enviros 2004, CH2M 2017c&d, /	AEG 2018 and					
	AEG 2021)	Location		On-Site	On-Site	On-Site	On-Site
		Location ID	Location	S2-TPA94	S2-T	PA97	TS2 AUK TP152
Chemical Group	Compound	Sample Depth	Sample Depth	0.05	0.5		2
		(m bgl)	(m bgl)	0.05	0.5	4	
		Unit	Sample_Date	04/05/2017	04/05/2017	04/05/2017	21/09/2020
	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
	1,1,2,2-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
Volatile Organic	Bromobenzene	mg/kg	0.05	-	-	-	<0.01
Carbon	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
		mg/kg	0.05	-	-		-
	cis-1,2-dichloroethene	mg/kg	0.05	-	-	-	<0.01
		mg/kg	0.05	-	-		<0.01
		mg/kg	0.05	-	-	-	-
		mg/kg	0.05	-	-	-	-
		mg/kg	0.05	-	-		< 0.01
		mg/kg	0.05	-	-	-	<0.01
	n-propyidenzene	mg/kg	0.05	-	-	-	< 0.01
		mg/kg	0.05	-	-	-	<0.01
	Trichleraethana	mg/kg	0.05	-	-	-	<0.01
		mg/kg	0.05	-	-	-	<0.01
		mg/kg	0.05	-	-	-	<0.01
	trans 1.2 disbloroothono	mg/kg	0.05	-	-	-	<0.01
		mg/kg	0.05	-	-	-	-0.01
	Vinvl chloride	mg/kg	0.05	-	-	-	<0.01
	1.2.3. trichlorobenzene	mg/kg	0.03	-	-	-	
		mg/kg	0.03	-		-	
Volatile Organic	1.2.dichlorobenzene	mg/kg	0.01	-	-	-	<0.01
Compounds /	1 3-dichlorobenzene	mg/kg	0.01	-	-	-	<0.01
		mg/kg	0.01				-0.01
Compounds	Chlorobenzene	mg/kg	0.01	-	-		
	Hevechlorobutadiono	mg/kg	0.03		-		
		lindika	0.01	I	I -	· -	\I



		Location		On-Site	On-Site	On-Site	On-Site
		Location ID	Location	S2-TPA94	S2-T	PA97	TS2 AUK TP152
Chemical Group	Compound	Sample Depth (m bql)	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
	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
Semi Volatile	4,6-Dinitro-2-methylphenol	mg/kg		-	-	-	<0.1
Organic	4-chloro-3-methylphenol	mg/kg	0.01	-	-	-	<0.1
Compounds	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
	Dibenzoturan	mg/kg	0.01		-	-	<0.1
	Diethylphthalate	mg/kg	0.1	-	-	-	<0.1
	Dimethyl phthalate	mg/kg	0.1	-	-	-	<0.1
	Di-n-butyi phthalate	mg/kg	0.1	-	-	-	<0.1
	Di-n-octyl phthalate	mg/kg	0.1	-	-	-	<0.1
		mg/kg	0.04		-	-	<0.1
		mg/kg	0.01		-	-	<0.1
		mg/kg	0.01		-	-	<0.1
		mg/kg	0.01			-	-
	Nitrobonzono	mg/kg	0.01			-	-
		mg/kg	0.01			-	-
	Pontochlorophonol	mg/kg	0.01			-	
	Fendeniorophenol	Ing/Kg	0.01				I \0.1



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA						
Appendix I, Tal	ble 1: Soil data (Enviros 2004, CH2M 2017c&d, / AEG 2021)	AEG 2018 and					
		Location		On-Site	On-Site	On-Site	On-Site
		Location ID	Location	S2-TPA94	S2-T	PA97	TS2_AUK_TP152
Chemical Group	Compound	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
	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		-	-	-	-
Polychlorinated	PCB 180	mg/kg		-	-	-	-
Biphenyls (PCB)	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



Appendix I Table 2: Soil data (Enviros 2004, CH2M 2017c&d. AEG 2018 and AEG 2021)																													
Location	Off-Site	On-Site																											
Location ID		LF\BH01		LF\E	BH02	LF\1	TP01	LF\TP02	LF\TP03	MS\BH02		MS\BH03		MS\I	3H04	MS\BH07	MS\I	BH08	MS\E	3H09	MS\/	BH10	MS\E	3H11	MS\BH12	MS\BH14	MS\BH15		MS\BH16
Sample Depth (m bgl)	0.3	0.5		0.3		0.3				2.25-2.7	0.5			0.3	0.5	4.2-4.65	0.36		0.5	2-2.3			0.5			4.2-4.4		0.5	3.3-3.5
Sampled Date	23/06/2021	23/06/2021	23/06/2021	24/06/2021	24/06/2021	23/06/2021	23/06/2021	23/06/2021	24/06/2021	28/06/2021	23/06/2021	23/06/2021	23/06/2021	18/06/2021	18/06/2021	05/07/2021	28/05/2021	28/05/2021	05/07/2021	05/07/2021	08/06/2021	09/06/2021	03/06/2021	03/06/2021	04/06/2021	30/06/2021	05/07/2021	02/07/2021	02/07/2021

#### Chemical Groi Compound Unit

	Asbestos Containing Material	Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Detected#6	ND	ND	ND	Detected#6	Detected#6	ND	ND	Detected#7	ND	ND	Detected#6	ND	ND	ND
	Asbestos Fibres / Fibre Bundles	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Detected#4	ND	ND	ND	Detected#2	Detected#2	ND	ND	Detected#3	ND	ND	Detected# Detected	ND	ND	ND
Asbestos	Asbestos Quantification Total	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	<0.001	<0.001	-	-	<0.001	-	-	0.001	-	-	-
	Asbestos fibres	Detect	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	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



10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA																													
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\7	ГР10	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			2-2	4-4	0.5				0.5	3.8-3.8	0.5					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	16/06/202 <sup>2</sup>	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 Groi Compound Unit

	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	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	ND
Asbestos	Asbestos Quantification Total	%	-	-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Asbestos fibres	Detect	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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



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-TPA01	S1- TPA04A		S1-TPA06		S1-TPA09	S1-TPA12	S1-T	PA14	S1-TPA15	S1-TPA17	S1-TPA20	S1-T	PA22	S1-TPA25	S1-TPA26	S1-TPA28	S1-TPA29	S1-TPA31	S1-TPA34	S1-TPB02	S1-TF	PB03	S1-TPB04	S1-TPB05	S1-T	PB06	S1-TI	PB08
Sample Depth (m bgl)	0.6		0.7		3.7	3.1	1.8	0.8	2.3	0.45		1.3	0.3	2.3	0.3	0.8	0.5		0.6	0.3	2.6	0.4	2.6	0.5	0.7	0.2	2.5	0.3	3
Sampled Date	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /
Sampled Date	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017

#### Chemical Groi Compound Unit

	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	Detected#2	ND	ND	ND	ND	ND	ND	ND	ND	Detected#3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Asbestos	Asbestos Quantification Total	%	-	-	-	-	0.047	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Asbestos fibres	Detect	0	0	0	0	Detected#2	0	0	0	0	0	0	0	0	Detected#3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Asbestos Gravimetric Quantification	%	-	-	-	-	0.047	-	-	-	-	-	-	-	-	<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



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	Location       On-Site       On-Site															S1-TPH24	S1-TPH25	S1-TPH27											
Sample Depth (m bgl)	0.3	0.9	0.7	1.9	0.2		1.8	0.7	0.9	2.4		1.8	0.5		0.5		0.4	1.5		0.5		2.2	1.5	1.6	1.5	3.4	2.3	1.2	1.2
Sampled Date	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /
	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017

## Chemical Groi Compound

Unit

	1																														
	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	Detected#3	ND	ND	Detected#3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Asbestos	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	Detected#3	0	0	Detected#3	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



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-T	PI03	S1-TPI04	S1-TPI07	S1-T	PI08	S1-T	PI09	S1-TPI11	S1-T	PI12	S1-TPI13	S1-TPI14	S1-1	TPI16	S1-1	TPI17	S1-TPI19	S1-TPI21	S1-TPI22	S1-TPI23	S1-TPI24	S1-TPI25	S1-TPI26	S1-TPI27
Sample Depth (m bgl)		0.8	0.2		0.3			1.3	0.2		0.2			0.6	3.8	0.7	0.6	0.7		0.2			0.9		2.2	1.5	3.7	2.6	1.3
Sampled Date	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /
	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017

## Chemical Groi Compound

Unit

	1																														
	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 #3	ND	ND	ND	ND	ND	Detected#2	ND	ND	ND	ND	Detected#3	ND	ND	ND	ND	ND
Asbestos	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	Detected#5	Detected#2 #3	0	0	0	0	0	Detected#2	0	0	0	0	Detected#3	0	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



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-TPI28	S1-TPI29	S1-TPI30	S1-TPI31	S1-TPI32	S1-TPI33	S1-TPI34	S1-TPI35	S1-1	FPI36	S1-TPI37	S2-BHA04	S2-BHA06	S2-TF	PA100	S2-TPA37	S2-T	PA38	S2- TPA38A	S2-T	PA39	S2-T	PA40	S2-TPA45	S2-TPA46	S2-T	PA48	S2-TPA49	S2-T
Sample Depth (m bgl)	3.5	0.6		1.3	4.1	2.8	0.8	1.5	1.5	3.5		5.8-5.8	4.5-4.5	0.5	4.1		1.5-1.5	3.6	1.5		3-3	0.3-0.3	2.5-2.5	0.6		0.8	4.2		0.7
Sampled Date	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /
	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017

## Chemical Grou Compound

Unit

	Asbestos Containing Material	Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Detected#5	ND	ND	ND	ND	ND	ND	ND	ND	ND	Detected#6	ND
	Asbestos Fibres / Fibre Bundles	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Detected#2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Detected#3	ND	ND	ND	ND
Asbestos	Asbestos Quantification Total	%	-	-	-	-	-	-	-	-	-	-	-	-	-	0.008	-	-	-	0.038	-	-	-	-	-	-	<0.001	-	-	<0.001	-
	Asbestos fibres	Detect	0	0	0	0	0	0	0	0	0	0	0	0#5	0#5	Detected#2	0	0	<0#5	Detected#5	0	<0#5	<0#5	<0#5	<0#5	0	Detected#3	0	0	Detected#3	0
	Asbestos Gravimetric Quantification	%	-	-	-	-	-	-	-	-	-	-	-	-	-	0.008	-	-	-	0.038	-	-	-	-	-	-	<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



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	S2-1	PA51	S2-TPA52	S2-TPA53	S2-TPA54	S2-TPA55	S2-TPA56	S2-T	PA58	S2-TPA59	S2-TPA60	S2-T	PA61	S2-TPA62	S2-TPA63	S2-TPA64	S2-T	PA65	S2-TPA66	S2-TPA67	S2-TPA68	S2-TPA69	S2-T	PA70	S2-TPA71	S2-TPA72	S2-TPA73	S2-TPA74
Sample Depth (m bgl)	1.4		1.4	0.5	2.2	0.3	4.4	2.6	1.2	3.6			0.2	2.1	0.5	1.8	0.3		2.7	2.7	1.5	1.5		0.6	2.6		2.3	0.3	1
Sampled Date	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /	2016 /
Sampled Date	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017

#### Chemical Groi Compound Unit

	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	Asbestos Quantification Total	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos A A	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



opendix I, Table 2: Soil data (Enviros 2004, CH2M 117c&d. AEG 2018 and AEG 2021) 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-TPA88 S2-TPA89 S2-TPA90 S2-TP 

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#### Chemical Grou Compound Unit

	Asbestos Containing Material	Detect	ND	ND	ND	ND	ND	ND	ND	ND	Detected#5	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	
Asbestos	Asbestos Quantification Total	%	-	-	-	-	-	-	-	-	0.333	0.014	-	-	-	-	-	-	-	
	Asbestos fibres	Detect	0	0	0	0	0	0	0	0	Detected#5	Detected#2	0	0	0	0	0	0	0	
	Asbestos Gravimetric Quantification	%	-	-	-	-	-	-	-	-	0.333	0.014	-	-	-	-	-	-	-	

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

On-Site	On-Site	On-Site	On-Site
PA92	S2-TPA94	S2-T	PA97
3.7	0.05	0.5	
2016 / 2017	2016 / 2017	2016 / 2017	2016 / 2017
ND	ND	ND	ND
ND	ND	ND	ND
-	-	-	-
0	0	0	0
-	-	-	-



Appendix I, Ta 2018 and AEC	ble 3: Soil Leachate (CH2M 2017c&c	d, AEG																												
Location	, 2021)		Off-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	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	LF\TP02	MS\BH02	MS\BH07	MS\BH08	MS\BH09	MS\I	BH10	MS\BH11	MS\I	BH14	MS\BH15	MS\BH16	MS\TP06	MS\TP09	MS\TP10	S1-BH05	S1-BH07A	S1-BH13A	S1-TPA01	S1-TPA04A		S1-TPA06		S1-TPA12	S1-TF	PA14	S1-TPA15	S1-TPA17
Chemical Group	Compound	Depth (m		2.25-2.7	4.2-4.65	0.36	0.5	11.3	19.1		0.3			0.5	3.8-3.8		0.3	1.9	5.3	6.8	0.6		0.7		3.7	1.8	0.8	2.3	0.45	
		Sample Date	23/06/2021	28/06/2021	05/07/2021	28/05/2021	05/07/2021	16/06/2021	18/06/2021	03/06/2021	28/06/2021	28/06/2021	05/07/2021	02/07/2021	22/06/2021	16/06/2021	21/06/2021	13/10/2017	04/10/2017	04/10/2017	11/01/2017	12/01/2017	12/01/2016	12/01/2017	12/01/2017	11/01/2017	10/01/2017	10/01/2017	10/01/2017	11/01/2017
	Arsenic	µg/L	<0.16	0.77	0.53	0.32	4.9	0.87	6.1	0.88	2.8	0.72	1.1	1.5	1.2	0.58	0.3	0.83	5.6	1.3	2.2	0.66	2.7	0.83	3	1.8	5.1	0.23	1.1	2.7
	Barium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.3	2.3	3.1	-	10	45	32	-	-	13	7.3	7.5	18
	Beryllium	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	<12	30	25	22	18	12	88	24	20	37	13	38	65	14	<12	50	110	140	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	Cadmium Chromium (hexavalent)	µg/L	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	3.1	0.05	<0.03	<0.03	<0.03	<0.03	0.12	<0.03	<0.03	0.015	0.015	0.015	0.05	0.14	0.03	0.08	< 0.03	<0.03	< 0.03	0.56	<0.03	<0.03
	Chromium	ua/L	-	-	-	-	-	-	-		-	-	-	-	-	-	-	0 125	0.86	0.46	<0.25	16	0.25	<0.25	<0.25	<0.25	<0.25	0.41	<0.25	<0.25
	Chromium (Trivalent)	µg/L	<1	<1	6.5	<1	<1	<1	32	1.3	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-0.20	-0.20	-0.20	-0.20	-	-0.20	-0.20
Metals	Copper	µg/L	0.5	0.7	1	<0.4	2.8	1.7	33	1.9	2.6	1.1	2.3	3.2	1.9	1.3	0.6	0.2	1.2	1.3	<0.4	7	0.4	<0.4	<0.4	<0.4	0.5	2	<0.4	<0.4
	Iron	µg/L	14	<5.5	140	<5.5	81	22	180	15	<5.5	<5.5	6	39	7.8	<5.5	270	29	2.525	5.9	-	10	34	<5.5	-	-	5.9	<5.5	<5.5	<5.5
	Lead	µg/L	<0.09	<0.09	0.64	<0.09	2.3	0.22	26	0.6	2	0.19	<0.09	0.2	0.98	<0.09	0.34	0.045	0.045	0.13	<0.09	0.26	<0.09	<0.09	<0.09	<0.09	<0.09	0.18	<0.09	<0.09
	Manganese	µg/L	-	-	-	-	-	-	-	-		-	-	-	-	-	-	1.1	0.22	0.41	-	<0.22	1.7	12	-	-	1.3	<0.22	0.44	1.6
	Mercury	µg/L	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	0.16	0.02	0.25	0.03	0.02	0.05	0.03	<0.01	<0.01	0.005	0.005	0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Selenium	µg/L	0.5	<0.5	4.9	<0.5	<0.5	<0.5	35	0.7	<0.5	<0.5	<0.5	<0.5	2.7	<0.5	<0.5	0.25	0.25	0.25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Vanadium	ua/l			- 1.0			- 0.70				-	- 0.30					24	58	21		8	11	0.23	-0.23	- 0.25	22	7.8	1.9	<0.6
	Zinc	µg/L	3.1	2.2	1.4	2.8	4.6	<1.3	73	5.4	4.9	2.1	2.2	2.3	200	<1.3	1.8	2.7	0.65	3.5	7.2	<1.3	30	9.4	3.5	1.6	<1.3	<1.3	<1.3	<1.3
Inorganics	Total Hardness	mg/l	15.5	34.3	32.7	75.1	32.1	28.3	36.4	14.9	111	50.5	387	69.9	176	27.5	10.2	-	-	-	-	-	-	-	-	-	-	-	-	-
	Ammoniacal Nitrogen as N	mg/L	0.06	<0.015	<0.015	0.06	0.078	0.66	<0.015	0.06	<0.015	<0.015	<0.015	<0.015	0.02	<0.015	<0.015	0.0075	0.0075	0.0075	-	0.036	<0.015	0.027	-	-	0.069	0.056	0.055	0.024
	Ammoniacal Nitrogen as NH3	mg/L	0.073	<0.015	<0.015	0.073	0.095	0.8	<0.015	0.073	<0.015	<0.015	< 0.015	<0.015	0.024	<0.015	<0.015	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	2.2	1.5	-	-	1.2	1.7	1.9	1.7
	Cyanide (Free)	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				-	· ·	-	-	-		-	-	-	-
	Nitrate (as NO3-)	ma/l	12	21	<0.0	0.15	<0.1	0.1	57	18	0.1	0.75	1.9	<0.1	0.29	7.8	15							-	-		-	-	-	
	Nitrite (as NO2-)	ma/L	<0.1	2.8	0.61	<0.1	0.11	0.25	0.3	<0.1	0.34	6.8	<0.1	<0.1	<0.1	<0.1	<0.1				-	-		-	-		-	-	-	-
Other	pH (Lab)	pH_Units	-	-	-	-	-	7.1	-	-	-	-	-	-	-	-	-	9.8	10.5	10.6	7	12	7.1	6.7	6.7	7.6	7.7	11.9	8.4	8.1
	Total Organic Carbon	mg/l	<1	<1	7.9	1.1	<1	<1	<1	<1	2	<1	<1	<1	2.8	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
	>C5-C6 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	>C6-C8 Aliphatics	µg/L	-	-	-	-	-	-	-		-	-	-	-	-	· ·	-	· ·		-	-	-	-	-	-	· ·	-	-	-	
	>C8-C10 Aliphatics	µg/L	-	-		-	-	-	-	-		-	-	-	-	· ·	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>C10-C12 Aliphatics	µg/L	-	-					-			-	-	-					-	-	-	-	-	-	-	-	-	-	-	
Tatal	>C16-C21 Aliphatics	ua/L														<u> </u>	· ·								-		-	-		<u> </u>
Petroleum	>C21-C35 Aliphatics	µg/L	-	-	· ·	· ·	-	-	-	· ·	-	-	· ·	-	-	· ·	-	· ·	· ·	-	-	-	-	-	-	-	-	-	-	-
Hydrocarbon	Total >C5-C35 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	· ·	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Criteria	>EC5-EC7 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Working	>EC7-EC8 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Group	>EC8-EC10 Aromatics	µg/L	-	-	· ·	-	-	-	-	· ·	-	-	-	-	-	· ·	· ·	· ·	-	-	-	-	· ·	-	-	-	-	-	-	
	>EC10-EC12 Aromatics	µg/L	-						-	· ·		-		-	-						-	· ·	-	-	-		-	-	-	
	>FC16-FC21 Aromatics	µg/L ug/l	-	-	-		-	-	-			-		-	-		-			-	-		-	-	-		-	-	-	-
	>EC21-EC35 Aromatics	ua/L	-	-		· ·	· .	-	-	· .	-	-	-	-		· .	· ·	- ·	-	-	-	-	-	-	-	· ·	-	-	-	-
	TPH >C5-C35 Aliphatics/Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Naphthalene	µg/L	0.02	<0.02	<0.02	0.21	<0.02	<0.02	<0.02	< 0.02	0.04	0.04	0.05	<0.02	0.02	<0.02	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-
	Acenaphthene	µg/L	<0.02	<0.02	<0.02	0.72	<0.02	<0.02	<0.02	< 0.02	<0.02	< 0.02	0.04	<0.02	0.07	<0.02	1.59	-	-	-	-	-	-	-	-	-	-	-	-	
	Acenaphthylene	µg/L	< 0.02	< 0.02	<0.02	< 0.02	0.03	< 0.02	< 0.02	< 0.02	<0.02	< 0.02	<0.02	< 0.02	0.02	< 0.02	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	
	Fluoranthene	µg/L	<0.02	0.05	0.03	0.19	0.32	<0.02	<0.02	<0.02	<0.02	0.25	0.23	0.32	0.63	<0.02	0.13	· ·	· ·		-	· ·	· ·	-	-	· ·	-	-	-	<u> </u>
	Phenanthrope	µg/L	<0.02	<0.02 0.03	<0.02	0.05	0.04	<0.02	<0.02 0.02	<0.02	<0.02	<0.02 0.06	0.03	0.04	0.23	0.02	0.07	· ·	· ·					-	-		-	-	-	<u> </u>
	Fluorene	ua/L	<0.02	<0.03	0.02	0.47	0.03	<0.02	<0.02	<0.02	<0.02	<0.00	0.14	0.02	0.00	<0.02	0.62	<u> </u>	<u> </u>					-	-	<u> </u>	-			<u> </u>
Polycyclic	Chrysene	µg/L	<0.02	<0.02	<0.02	0.03	0.21	<0.02	<0.02	<0.02	<0.02	0.12	0.07	0.12	0.14	<0.02	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-
F Polycyclic C Aromatic F Hydrocarbons F	Pyrene	µg/L	<0.02	0.03	0.05	0.13	0.41	<0.02	<0.02	<0.02	<0.02	0.22	0.17	0.25	0.54	<0.02	0.06	- 1	- 1	-	- 1	-	-	-	-	- 1	-	-	-	-
Hydrocarbons	Benzo(a)anthracene	µg/L	<0.02	<0.02	<0.02	0.04	0.28	<0.02	<0.02	< 0.02	0.16	<0.02	0.1	0.17	0.16	<0.02	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-
1	Benzo(b)fluoranthene	µg/L	<0.02	<0.02	<0.02	0.06	0.66	<0.02	<0.02	< 0.02	<0.02	0.21	0.12	0.19	0.21	<0.02	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-
1	Benzo(k)fluoranthene	µg/L	< 0.02	<0.02	<0.02	0.02	0.25	< 0.02	< 0.02	< 0.02	<0.02	0.08	0.04	0.07	0.08	< 0.02	< 0.02	· ·			-	· ·	-	-	-	· ·	-	-	-	
1	Benzo(a)pyrene	µg/L	< 0.02	<0.02	<0.02	0.05	0.49	<0.02	< 0.02	<0.02	<0.02	0.15	0.09	0.13	0.14	<0.02	<0.02							-	-		-	-	-	<u> </u>
1	Dibenz(a,n)anthracene	µg/L	<0.02	<0.02	<0.02	<0.02	0.16	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	0.03	0.04	<0.02	<0.02							-	-		-	-	-	
	Indepo(1,2,3-c,d)pyrepe	µg/L	<0.02	<0.02	<0.02	0.03	0.51	<0.02	<0.02	<0.02	<0.02	0.1	0.05	0.09	0.11	<0.02	<0.02				-			-	-		-	-	-	-
1	PAHs (Sum of total)	ua/L	-0.02		-0.02		-		-0.02	-0.02	-0.02	-	-	-		-0.02		<u> </u>		<u> </u>				-	-	<u> </u>	-	-		<u> </u>
Phenolics	Phenols Monohydric	µg/L	-	-	-	-	-	-	-	· ·	- 1	-	- 1	-	· ·	· ·	-	· ·	- 1	-	· ·	· ·	-	-	-	-	-	-	-	-

Notes

- Not analaysed

m bgl metres below ground level


Appendix I Ta 2018 and AE	able 3: Soil Leachate (CH2M 2017c& G 2021)	d, AEG																						
Location			On-Site																					
		Location	S1 TDA20	S1 TDA22	S1 TDA25	S1 TDA26	S1 TDA28	S1 TDA20	S1 TDA31	S1 TDR06	S1 TDB08	S1 TDB12			S1 TDI02	S1 TDI04	S1 TDI08	S1 TDI00	S1 TDI12	\$1 TDI13	S1-1	PI16	S1 TDI10	S1 TDI22
Chemical	Compound	Sample Depth (m	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		1	1
Group		bal) Sample	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	02/02/2017	01/01/2016	01/01/2016
	Araania	Date	10	0.69	0.91	0.66	12	0.0	0.25	0.06	10	2.0	12	4	0.7	0.00	0.42	1.5	14	0.51	14	0.04	0.55	2.4
	Barium	ua/L	- 1.9	31	74	120	40	- 0.0	48	51	39	14	6.5	12	17	10	2.4	37	1.4	14	1.4	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
<b></b>	Chromium (Trivalent)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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		/./	<5.5	11	22	- 0.27	- 0.16	7.1	23	0.26	< 5.5	15	95	12	< 5.5	14	12
	Manganese	µg/L	<0.09	3.4	1	6.4	0.09	<0.09	0.09	3.3	1.3	77	0.27	23	4.4	0.09	5.1	0.09	0.12	35	1	0.09	0.09	2.3
	Mercury	ua/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	0.03	0.06	<0.01	< 0.01	< 0.01	0.05	0.03	0.04	0.01	0.06
	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
1	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
1	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	I otal 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
		mg/L	-	- 11	- 0.51	-			- 0.54	· ·	-		27	- 17			- 11	- 0.79	- 16	-		-		64
	Cvanide (Free)	ug/L	-					-	- 0.34					-	-	-		- 0.75		-	-	-		- 0.4
	Cvanide Total	ua/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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	>C5-C6 Aliphatics	µg/L	-	-	-	-		-	-	· ·	-		-	-	-	-	-	-	· ·	-	-	-	-	-
	>C6-C8 Aliphatics	µg/L	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	>C10-C12 Aliphatics	µg/L	-		-						-			-			-				-	-		
	>C12-C16 Aliphatics	ua/L	-	-	-	-		-		· .	-	· -		-	-	-	-	- ·	· ·	-	-	-	-	-
Total	>C16-C21 Aliphatics	µg/L	-	-	-	-	-	-	· ·	· ·	-	· ·	-	-	-	-	-	-	· ·	-	-	-	-	-
Petroleum	>C21-C35 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrocarbon	Total >C5-C35 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Criteria	>EC5-EC7 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Group	>EC7-EC8 Aromatics	µg/L	-	-	-	-	-	-	-	· ·	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	>EC8-EC10 Aromatics	µg/L	-	-	-	-		-	· ·	· ·	-	· ·		-	-	-	-	-	-		-	-	-	-
	>EC12-EC16 Aromatics	µg/L	-	-	-									-	-	-	-	-	- ·		-	-	-	
	>EC16-EC21 Aromatics	ua/L			-				- ·	<u> </u>	<u> </u>	- ·							· ·			-		
	>EC21-EC35 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH >C5-C35 Aliphatics/Aromatics	s µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Naphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	Acenaphthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Acenaphthylene	µg/L	-	-	-	-		-	-	· ·	-	-	· ·	-	-	-	-	-	-	-	-	-	-	-
	Fluoranthene	µg/L	-	-	-					· ·		· ·		-		-	-	-	· ·		-	-	-	
	Anthracene	µg/L	-		-	-								-	-	-				-	-	-	-	
1	Fluorene	µg/L ug/l			-	-														-	-	-	-	
Polycyclic	Chrysene	µg/L			-				- ·	· ·	<u> </u>	- ·	- ·						- ·			-		
Aromatic	Pyrene	μg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	· ·	-	-	-	-	-
Hydrocarbons	Benzo(a)anthracene	µg/L	-	-	-	-	-	-	· ·	· ·	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	Benzo(b)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	Benzo(k)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	Benzo(a)pyrene	µg/L	-	-	-	-	-	-	· ·				-	-	-	-	-	-		-	-	-	-	
1	Dibenz(a,h)anthracene	µg/L	-	-	-	-	-	-	-		-	· ·	-	-	-	-	-	-	-		-	-	-	-
1	Benzo(g,h,i)perylene	µg/L	-	-	-	-			· ·			· ·		-		-	-					-		
1	PAHs (Sum of total)	µg/L	-	-	-	-		-						-	-	-	-	-			-	-		
Phenolics	Phenols Monobydric	ua/L	-	-	-	-		-			-			-	-	-	-				-	-	-	

- Not analaysed

m bgl metres below ground level



Appendix I Tal 2018 and AEC	ble 3: Soil Leachate (CH2M 2017c&d	I, AEG																				
Location			On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site									
		Location				04 TDI20									ео т	0 1 4 0						
		Samplo	31-1F124	31-1F123	31-1FIZ7	31-1Fi29	31-1F130	51-1F155	31-17130	31-1713/	32-1FA30	52-1FA30A	32-1FA40	32-1FA40	02-1	F /140	32-1FA30	32-1FA32	32-1FA33	32-1FA34	32-1FA30	52-1FA39
Chemical	Compound	Depth (m	1.5	3.7	1.3	0.6	1.5	1.5	3.5		3.6	1.5	0.3-0.3		0.8	4.2	1.4	0.5	2.2	0.3	3.6	3
Group		bal)	00/00/0047	00/00/0047	00/00/0047	00/00/0047	00/04/0047	04/04/0040	04/04/0040	00/00/0047	04/00/0047	04/40/0047	00/40/0047	40/05/0047	40/05/0047	40/05/0047	47/05/0047	47/05/0047	47/05/0047	40/05/0047	47/05/0047	47/05/0047
		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	12/05/2017	17/05/2017	17/05/2017	17/05/2017	12/05/2017	17/05/2017	17/05/2017
	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
	Boron	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	220	<0.1 50	<0.1	<0.1	- 160	<0.1	<0.1	<0.1	200	<0.1	<0.1 240	<0.1 280	<0.1	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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
	Lead	µg/L	<0.0	2.4	<0.0	<0.0	- 0.69	<0.0	<0.00	13	<0.0	<0.0 0.58	- 17	<0.0 <0.00	- 12	- 0.4	- 0.18	0.20	- 0.5	- 0.10	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	0.7	5.6	0.7	0.9
	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
	Zinc	µg/L	24	37	31	8.6 5.4	7 /	14 <1 3	0.9	9.7	<0.6	25	- 3	1.5	<0.6	1.3	<0.6	0.9	0.9	<0.6 7.8	0.8	<0.6 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	-	-	-	-	-	-		-	-	-	-	· ·	-	-	-		-	-	-	
	Nitrate (as NO3-)	ma/l					-	-					- 40		-	-			-		-	
	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
L	Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-	-	-	-	· ·	-	-	-	-	-	-	-	-
	>C5-C6 Aliphatics	µg/L			· ·			-	· ·			-	<0.1	· ·	-	-	-		-		-	
	>C8-C10 Aliphatics	ua/L			<u> </u>	- ·							<0.1			-					-	
	>C10-C12 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	<1	· ·	-	-	-	-	-	-	-	-
	>C12-C16 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Total	>C16-C21 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Petroleum	>C21-C35 Aliphatics	µg/L	-				-	-				-	<1	· ·	-	-	-	-	-	-	-	-
Criteria	>FC5-FC7 Aromatics	ua/L											<0.1		-	-					-	
Working	>EC7-EC8 Aromatics	µg/L	-	-	· ·	· ·	-	-	-	· ·	-	-	<0.1	· ·	-	-	-	-	-	-	-	-
Group	>EC8-EC10 Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-
	>EC10-EC12 Aromatics	µg/L	-	-	· ·	· ·	-	-	-	· ·	-	-	<1	· ·	-	-	-	-	-	-	-	-
	>EC12-EC16 Aromatics	µg/L			· ·	· ·				· ·	· ·		<1	·	-	-			-	- ·	-	· ·
	>EC21-EC35 Aromatics	µg/L ug/L	-	-	-		-	-	-	-	-	-	1.2		-	-	-	-	-	-	-	
	TPH >C5-C35 Aliphatics/Aromatics	µg/L	-	-	-	-	-	-	-	-	-	-	14	· ·	-	-	-	-	-	-	-	-
	Naphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-
	Acenaphthene	µg/L	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-
	Acenaphthylene	µg/L	-	-	-	-	-	-	-	-	-	-	0.03	-	-	-	-	-	-	-	-	-
	Apthracepe	µg/L	-	-		-	-	-	-		-	-	1.4	· ·	-	-	-	-	-	-	-	-
	Phenanthrene	ua/L			<u> </u>	- ·				<u> </u>			0.00			-			-		-	
	Fluorene	µg/L	-	-	· ·	· ·	-	-	-	-	-	-	<0.01	· ·	-	-	-	-	-	-	-	-
Polycyclic	Chrysene	µg/L	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	-	-
Aromatic	Pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	1.7		-	-	-	-	-	-	-	-
Hydrocarbons	Benzo(a)anthracene	µg/L	-	-	-		-	-	-	-	-	-	1.1	<u> </u>	-	-			-		-	-
	Benzo(b)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	13		-	-	-	-	-	-	-	-
	Benzo(a)pyrene	ua/L	-						-			-	2		-	-		-	-		-	
	Dibenz(a,h)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	0.33	- I	-	-	-	-	-	-	-	-
	Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-
	Indeno(1,2,3-c,d)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	1.6		-	-	-		-	-	-	-
Dhanaliss	PAHs (Sum of total)	µg/L	-	-			-	-	-	-	-	-	15	<u> </u>	-	-		-	-		-	-
Phenolics	Prienois Mononydric	µg/L	-			-		-		· ·		-	1./		-	-		-	-	-	-	

- Not analaysed

m bgl metres below ground level



10035117-AU	K-XX-XX-RP-ZZ-0428-03-LWoW_D	QRA																			
Appendix I, Ta	able 3: Soil Leachate (CH2M 2017c&	d, AEG																			
Location	5 2021)		On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	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	S2-TPA60	S2-T	PA65	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	S2-1	PA92	TS2_AUK_
Chemical	Compound	Sample	0		0.7	0.7	0.0	0.0	0.0	4	0.0	4	0.5	0.5	02 117100	0.5	0.0	1.0	0.4	0.7	TP152
Group		bal) Sample	2 17/05/2017	2	2.7	17/05/2017	2.0	2.3	10/05/2017	18/05/2017	2.0	01/01/2016	2.5	0.5	22/05/2017	0.5	0.5	04/05/2017	0.4	08/05/2017	21/09/2020
	Amonio	Date	4.0	0.72	2.6	2.6	1.1	0.45	<0.16	2.6	7	1.0	0.65	0.72	0.0	0.7	1.0	1.1	<0.16	<0.10	0.50
	Arsenic	µg/L	1.0	6.4	2.0	2.0	7.4	0.45	5.5	2.0	00	1.3	1.8	0.75	0.9	2/	33	1.1	5.6	18	0.00
	Bervllium	ug/L			-		<0.1	<0.1	<0.0		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1
	Boron	ua/L	<100	<100	100	100	160	<100	<100	<100	190	110	<100	<100	320	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	1.3
	Chromium (Trivalent)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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	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	<0.5	5.3	1.3	1.1	<0.5	0.9	1.5	<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
		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	I otal Hardness	mg/I		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Ammoniacal Nitrogen as N	mg/L	-	0.020	-	0.027	<0.015	0.069	0.027	-	<0.015	<0.015	<0.015	<0.015	0.07	<0.015	<0.015	-	0.16	0.053	<0.015
	Chloride	mg/L	-	16	-	- 15	23		- 11	-	3.4		33	-	- 11	-		-	2	- 0.85	- 2.8
	Cvanide (Free)	ug/L		1.0	-	1.5	2.5	0.5		-			0.0	-		-				0.00	2.0
	Cvanide Total	ug/L			-																<40
	Nitrate (as NO3-)	mg/L	· .		-	· .			-	-				-	-	-		-	- ·	-	
	Nitrite (as NO2-)	ma/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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	>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
Total	>C16-C21 Aliphatics	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	· ·	-	<1
Petroleum	>C21-C35 Aliphatics	µg/L	-	-	-		-	-	-	-	-	-	-	-	-	-		-	-	-	<1
Hydrocarbon	Total >C5-C35 Aliphatics	µg/L			-				-	-				-	-	-		-	-	-	<10
Working	>EC5-EC7 Aromatics	µg/L			-		-	-	-	-	-	-	-	-	-	-		-	· ·	-	<0.1
Group	>EC7-EC8 Aromatics	µg/L	-		-		-	-	-	-	-	-	-	-	-	-		-	-	-	<0.1
loroup	>EC0-EC10 Aromatics	µg/L	-	-	-				-					-	-			-		-	<0.1
	>EC12-EC16 Aromatics	µg/L								-				-	-	-		-		-	<1
	>EC16-EC21 Aromatics	ug/L	· .		-	· .			-	-	-			-	-	-		-	- ·	-	<1
	>EC21-EC35 Aromatics	ua/L		-	-	· ·	-	-	-		-	-		-		-	-	-	· .	-	<1
	TPH >C5-C35 Aliphatics/Aromatics	i µg/L	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10
	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
Polycyclic	Chrysene	µg/L		-	-	· ·		-	-	-	-	-	-	-	-	-	-	-	· ·	-	< 0.01
Aromatic	Pyrene	µg/L		-	-	· ·	-	-	-	-	-	-	-	-	-	-	-	-	· ·	-	<1 - 0.02
Hydrocarbons	Benzo(a)anthracene	µg/L	· ·	-	-	· ·				-				-	-	-				-	<0.01
	Benzo(b)fluoranthene	µg/L			-	· ·	· ·	-	-	-	-	-	-	-	-	-		-		-	<1 - 0.02
	Benzo(K)fluoranthene	µg/L		-	-	· ·	· ·	-	-	-	-		-	-	-	-		-		-	<0.01
	Den20(a)pyrene	µg/L	· ·	-	-	· ·		· ·		-				-	-	-				-	<0.01
		µg/L	· ·		-	· ·	· ·													-	<0.01
	Indepo(1.2.3.c.d)pyropo	µg/∟	<u> </u>	<u> </u>		· ·	<u> </u>	· ·		· ·	· ·	· ·	· ·			· ·	<u> </u>		- ·		<0.01
	PAHs (Sum of total)	µg/L µg/l		-	-									-						-	<0.01
Phenolics	Phenols Monohydric	ug/L			-									-				-			<10.2
													-	-				-	-		

- Not analaysed

m bgl metres below ground level



10035117-AUK-X	A-XX-RP-ZZ-0428-03-LW0W_DQRF																		
Appendix I, Table	4: Groundwater data (Enviros 2004,	AEG 2018 and A	AEG 2022)																
	Location		Onsite	Onsite	Onsite		On	site			On	site				On	isite		
Chem_Group		Location ID	12AB2	12BB1	13CB1		MS\E	3H03			MS\E	3H04				MS\I	BH05		
	Compound	Well	A	A	A	D	S	D	S	D	S	D	S	D	S	D	S	D	S
	Antimony (Filtered)	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
	Anumony (Filtered)	µg/L	3	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Arsenic (Filtered)	µg/L		10		2.8	<u> </u>	2	12	10	2.6	13		2.6	11	9.0	7.4	61	6.8
	Barium (Filtered)		-			-	-	-		-	- 2.0			-	-	-	-	-	-
	Bervllium (Filtered)	ua/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	ua/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	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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
		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
	Moroun(	µg/L	-	- 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury (Filtered)	µg/L	0.5	0.1	<b>NO. 1</b>	-	- 0.07	- 0.00	- 0.07			- 0.01		- 0.72	- 0.02	- 0.05	-	- 0.05	-
	Nickel	µg/L	3	2	4	0.05	0.07	0.03	0.07			0.01		0.72	0.02	0.05	0.03	0.05	0.02
	Nickel (Filtered)		-	-	-	22	1	0.8	<0.5	0.9	0.6	1.6	0.7	1	29	4.5	4.3	22	37
	Selenium	ua/L	3	5	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Selenium (Filtered)	ua/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
	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	-	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-
	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 Cyanide Total (Filtered)	µg/L	<100	1000	<100			0.5	0.4			0.0	1.0		- 42	19	20	0	0.9
	cvanides-complex	µg/L										-				-		-	-
	Magnesium	ma/L	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-
Inorganics	Magnesium (Filtered)	mg/L	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-
	Nitrate (as N)	ma/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	-	-	-	-
	Total Dissolved Solids	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	I otal Dissolved Solids (Filtered)	mg/L	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PH (Lab)	pH_Units	1.5	10.3	1.1	12.2	8.6	/.1	8.2	8.2	1.1	8.2	1.1	10.3	9.2	9.5	9.5	9.6	9.6
	I otal Organic Carbon	mg/I	-	-	-	<1	43	-	-	30	15	-	-	2.2	12	-	-	-	-



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																		
Appendix I, Table	4: Groundwater data (Enviros 2004, A	AEG 2018 and	AEG 2022)																
	Location		Onsite	Onsite	Onsite		On	site			On	site				Or	nsite		
Chem Group			12482	12881	13CB1		MQ\E	202			MS					MS	RH05		
Onem_Oroup	Compound	Woll	Δ		Δ	D	S NICIL		9		S 10101		9	D	9			<b>D</b>	9
	Compound	Sampled	20/04/2004	28/04/2004	20/04/2004	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
	Nanhthalene		<10	<10	<10	0.31	<1	10/11/2021	<1	0.46	<1	<1	<1	0.28	<1	12/10/2021	<1	<1	10/11/2021
		µg/L	<10	<10	<10	<0.01	0.01	-	0.01	0.40	<1	<1	<1	0.20	<1	-	<1	<1	-
		µg/L	<10	<10	<10	<0.01	<0.01	-	<0.01	<0.03	<1	<1	<1	<0.01	<0.01	-	<1	<1	-
	Fluoranthene		<10	<10	<10	<0.01	<0.01		<0.01	0.02	<0.01	<1	<1	0.01	<0.01		<1	<1	
	Anthracene		<10	<10	<10	<0.01	<1		<1	<0.02	<0.01	<1	<1	<0.02	<0.01	-	<1	<1	-
	Phenanthrene		<10	<10	<10	0.01	<0.01		<0.01	0.01	<1	<1	<1	0.03	<1	-	<1	<1	
	Fluorene		<10	<10	<10	0.08	0.01	-	0.01	0.04	<1	<1	<1	0.03	0.02	-	<1	<1	-
	Chrysene		<10	<10	<10	<0.00	<0.01	-	<0.01	<0.01	<1	<1	<1	<0.00	<0.02	-	<1	<1	-
Polycyclic	Pyrene		<10	<10	<10	0.02	<0.01	-	<0.01	0.02	<0.01	<1	<1	0.02	<1	-	<1	<1	-
Aromatic	Benzo(a)anthracene	ug/L	<10	<10	<10	<0.02	<1	-	<1	<0.02	<0.01	<1	<1	<0.02	<0.01	-	<1	<1	-
Hydrocarbons	Benzo(b)fluoranthene	ua/L	<10	<10	<10	< 0.01	<1	-	<1	< 0.01	< 0.01	<1	<1	< 0.01	<0.01	-	<1	<1	-
	Benzo(k)fluoranthene	ua/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	<0.01	<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	< 0.01	<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	< 0.01	<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	-	-	-	-
	>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	<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	<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	<0.1
	>C10-C12 Aliphatics	µg/L	-	-	-	<1	<1	<1	<1	<1	14	<1	<1	6	<1	30	4.8	<1	<1
	>C12-C16 Aliphatics	µg/L	-	-	-	<1	<1	<1	<1	<1	5.4	<1	<1	13	<1	5.5	4	<1	<1
	>C16-C21 Aliphatics	µg/L	-	-	-	<1	<1	<1	<1	<1	8.2	14	<1	13	<1	21	120	<1	<1
Total Petroleum	>C21-C35 Aliphatics	µg/L	-	-	-	<1	<1	<1	<1	<1	1.5	9.9	<1	14	<1	1.4	70	<1	<1
Hvdrocarbon	Total >C5-C35 Aliphatics	µg/L	-	-	-	340	<10	<10	<10	<10	30	<10	<10	46	<10	58	200	<10	<10
Criteria Working	>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	<0.1
Group	>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	<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	<0.1
	>EC10-EC12 Aromatics	µg/L	-	-	-	<1	<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	<1
	>EC16-EC21 Aromatics	µg/L	-	-	-	<	<	<	<	<1	<1	<1	<	<	<	<	59	<	<
	Total > EC2 FC25 Aromatica	µg/L	-	-	-	220	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	25	<10	<10
	TPH >C5 C25 Alighting /Aromatics	µg/L	-	-	-	670	<10	<10	<10	<10	20	24	<10	47	<10	59	92	<10	<10
	EPH >C10_40		-	-	-	3500	170	1100	140	<10	<10	03	64	1000	370		290	<10	<10
Petroleum	GRO C5-C10		<100	<100	<100		-	-	-	-	-		-	-				-	-
Hydrocarbon	TPH by GCEID (AR)		260	310	<100	-		_	_		-		-	-	-	-	-	-	-
	Benzene		<5	<5	<5	58	<1	<1	<1	<1	<1	<1	<1	<1	52	<1	<1-2	<1-5	<1
Benzene,	Toluene	ug/L	<5	<5	<5	20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene,	Ethylbenzene	ua/L	<5	<5	<5	210	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene,	Xylene (m & p)	µg/L	-	-	-	-	<2	<2	-	-	<2	<2	<2	-	<2	-	<2	<2	-
Xylenes and	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	<1
ether	MTBE	µg/L	-	-	-	<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	-	<1	<1	-
Phenolics	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	<100



10035117-AUK-X	x-XX-RP-ZZ-0428-03-LWoW_DQR	A																	
Appendix I, Table	4: Groundwater data (Enviros 2004	, AEG 2018 and	AEG 2022)																
	Location		Onsite	Onsite	Onsite		On	site			On	site				Or	nsite		
Chem Group			12482	12881	13CB1		MS	BH03			MS	RH04				MS	RH05		
Gleni_Gloup	Compound	Woll	Δ	Δ			9				9								
	Compound	Sampled	20/04/2004	28/04/2004	20/04/2004	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
	Sturopo		23/04/2004	20/04/2004	23/04/2004	12/00/2021	<1	10/11/2021	<1	12/00/2021	~1		<2	12/00/2021	<1	12/10/2021	<	<1	13/11/2021
	cis 1.3 dichloropropene	µg/L	-	-	-	-		-		-			~2	-	~1	-	<1	<1	-
	trans 1.3 dichloropropene	µg/L	-	-	-	-		-		-				-		-	<1	<1	-
		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		-				<1		<1		<1	<1	<1		1	-	2	1	
	1 1-dichloroethene		-			-	<1		<1		<1	<1	<1		<1	-	<1	<1	
	1 1-dichloropropene		-				<1		<1		<1	<1	<1		<1	-	<1	<1	
	1 2 3-trichloropropane		-				<1		<1		<1	<1	<1		<1	-	<1	<1	
	1 2 4-trimethylbenzene		-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1 2-dibromo-3-chloropropane		-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1 2-dibromoethane		-	-	-	-	<1	-	<1	_	<1	<1	<1	-	<1	-	<1	<1	-
	1.2-dichloroethane	ua/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1.3-Dichloropropene	ua/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	· ·	-	-
	1.2-dichloropropane	ua/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1.3.5-trimethylbenzene	ua/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1.3-dichloropropane	ua/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	-
Valatila Organia	Bromobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Bromochloromethane	µg/L	-	-	-	-	<4	-	<4	-	<4	<4	<4	-	<4	-	<4	<4	-
Compounds	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	-	-	-	-	<2/	-	<2/	-	<27	<27	<27	-	<27	-	<27	<27	-
		µg/L	-	-	-	-	< ]	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
		µg/L	-	-	-	-		-		-				-		-	<1	<   	-
		µg/L	-	-	-	-		-		-				-		-			-
		µg/L	-	-	-	-	<	-		-			>1	-		-			-
	Trichloroethene		-	-	-	-	<1	-	<1	_	<1	<1	<1	-	<1	-	<1	<1	-
	tert-butylbenzene	µg/L					<1		<1		<1	<1	<1	-	<1	-	<1	<1	-
	Tetrachloroethene		-	-	-	-	<1	-	<1		<1	<1	<1	-	<1	-	<1	<1	-
	trans-1 2-dichloroethene	µg/L					<1		<1		<1	<1	<1	-	<1	-	<1	<1	-
	Trichlorofluoromethane	ua/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Vinvl chloride	ua/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	1,2,3-trichlorobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
Semi Volatile	1,2,4-trichlorobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
Organic	1,2-dichlorobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
Compounds /	1,3-dichlorobenzene	µg/L	-	-	-	-	<2	-	<2	-	<2	<2	<2	-	<2	-	<2	<2	-
Volatile Organic	1,4-dichlorobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
Compounds	Chlorobenzene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Hexachlorobutadiene	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-



10035117-AUK->	X-XX-RP-ZZ-0428-03-LWoW_DQ	RA																	
Appendix I, Table	4: Groundwater data (Enviros 200	04, AEG 2018 and	AEG 2022)																
	Location		Onsite	Onsite	Onsite		On	site			On	site				0	nsite		
Chem Group		Location ID	12AB2	12BB1	13CB1		MS	3H03			MS	3H04				MS	BH05		
onem_oreap	Compound	Well	A	A	A	D	S	D	S	D	S	D	S	D	S	D	S	D	S
		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
	1.4-dinitrobenzene	ua/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	-
		µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
Semi volatile	2-nitroaniline	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	
Compoundo	3-nitroaniline	µg/L	-	-	-	-	<	-	<	-	<	<1	<	-	<1	-	<1	<	-
Compounds	4-chioro-3-methylphenol	µg/L	-	-	-	-	<	-	<	-	<	<	<	-	<1	-	<1	<	
		µg/L	-	-	-	-	<1	-	<1	-		<1	<1	-	<1	-			
		µg/L	-	-	-	-	<1	-	<1	-		<1	<1	-	<1	-	<1		
	Bis(2 chloroethoxy) methane	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1		
	Bis(2-chloroisopropyl) ether	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Bis(2-ethylbeyyl) phthalate	µg/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Bis(2-ethylhexyl)ester	µg/L			-		-		-	-	-	-	-		-		<1	<1	
	Butyl benzyl phthalate	µg/L			-		<1		<1	-	<1	<1	<1		<1		<1	<1	
	Carbazole	ug/L	-	-	_	_	<1	_	<1	-	<1	<1	<1	_	<1	_	<1	<1	
	Di(2-ethylbexyl)adipate	ug/L	-	-	_	-	<1	-		-	<1	-		_	<1	-	-		-
	Dibenzofuran	ug/l	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Diethylphthalate	ua/L	-	-	-	-	<1	-	<1	-	<1	1.1	<1	-	<1	-	<1	<1	-
	Dimethyl phthalate	ug/l	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Di-n-butyl phthalate	ua/L	-	-	-	-	<1	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	-
	Di-n-octyl phthalate	ua/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	-
		11-3-		1	1											1			



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																		
Appendix I, Table	4: Groundwater data (Enviros 2004, A	AEG 2018 and	AEG 2022)																
	Location		Onsite	Onsite	Onsite		On	isite			On	site				Or	nsite		
Chem_Group		Location ID	12AB2	12BB1	13CB1		MS\I	BH03			MS\E	3H04				MS	BH05		
	Compound	Well	A	A	A	D		D		D		D		D		D		D	
		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
	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	-	-	-	-	-	-	-	-	-	-
Polychlorinated	PCB 180	µg/L	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-
Biphenyls	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	A-XX-RP-ZZ-0428-03-LW0W_DQRA 4 <sup>.</sup> Groundwater data (Enviros 2004_A	FG 2018 and A	1													
	Location			On	site			Onsite			On	site			Onsite	
Chem Group		Location ID		MS\E	3H07			MS\BH08			MS\	3H09			MS\BH11	
	Compound	Well	D		D	D	D	D	D					D		D
		Sampled	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
	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
	Bervllium (Filtered)		<0.1	<0.1	- <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		-	-	-	-	-	-	-	-	-	-		-	-	-
	Boron (Filtered)	ua/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
Matala		µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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 (Filtered)	µg/L	- 26	- 11	- 39	- 340	- 14	- 85	- 37	- 16	- 19	- 64	- 56	- 20	- 12	- 130
	Lead	µg/L	- 20	-			-			- 10	-	- 04		- 20	12	
	Lead (Filtered)		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)	ua/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 Zing (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Zinc (Fillered)	mg/L	5.1 607	3.7	647	<1.3 760	1.8	<1.3 552	577	4.4	106	128	2.1	1.8	725	3.4
	Alkalinity (total) as CaCO3	mg/l		945	- 047	709		- 552			100	120	100	95.4	725	120
	Ammoniacal Nitrogen as N	mg/L	12	0.47	0.91	1.5	12	1.9	2.5	1.9	5.4	52	52	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inorganics		mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	Nitroto (ap. N)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrate (as N)	mg/L	0.20	0.22	1.5	-	0.17	-	-	-	-	-	-	0.15	0.20	-
	Nitrite (as N)	mg/L	<0.035	<0.035	-		<0.035	-	-		-		-	<0.035	<0.035	-
	Nitrite (as NO2-) (Filtered)	mg/L		-0.000	-	-		-	-	<0.1	-	<0.1	-		-0.000	-
	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	-	-
	Total Dissolved Solids	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	I otal Dissolved Solids (Filtered)	mg/L	-	-	-	-	-	-	-	- 07	-	-	-	-	-	-
	PH (Lab)	pH_Units	8.3	8	8	8.1	/.8	8.3	8.3	9.7	9.2	9.2	9.3	8.4	/.9	8.7
	i otal Organic Carbon	mg/I	13	্রপ্র	-	-	32	-	-	36	-	-	-	39	<u> </u> 31	



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA															
Appendix I, Table	4: Groundwater data (Enviros 2004, A	EG 2018 and <i>J</i>														
	Location			Ong	site			Onsite			On	site			Onsite	
Ohanna Onavin		Lesstien ID			01107						NAC/I					
Cnem_Group	Companyed	Location ID		MS\E	SHU7			M2/BH08			MS\	3H09			MS/BHT1	
	Compound	VVell	U	5	D	U A FIA A 1000A	D	D	U AFIAA/0004	5	5	5	5	D	5	U
		Sampled	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
	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
Polycyclic	Chrysene	µg/L	<0.01	<0.01	<5	-	<1	<1	-	<1	<1	<1	<1	<0.01	0.01	<1
Aromatic	Pyrene	µg/L	<0.01	0.02	<5	-	<1	<1	-	<0.01	<1	<1	<1	0.01	<1	<1
Hydrocarbone	Benzo(a)anthracene	µg/L	<1	<1	<5	-	<1	<1	-	< 0.01	<1	<1	<1	< 0.01	<1	<1
Trydrocarbons	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)	ua/L	0.38	0.36	-	-	0.52	-	-	0.23	-	-	-	0.22	0.5	-
	>C5-C6 Aliphatics	ua/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	ua/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	ua/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	ug/l	<1	<1	<1	<1	33	<1	<1	2.8	6.4	<1	<1	45	110	<1
	>C12-C16 Aliphatics	ug/l	<1	<1	<1	<1	8.6	<1	<1	1.5	6.7	<1	<1	18	10	<1
	>C16-C21 Aliphatics	ua/L	<1	<1	<1	<1	8.2	<1	<1	30	160	<1	<1	24	4.9	<1
	>C21-C35 Aliphatics	ua/L	<1	<1	<1	<1	<1	<1	<1	<1	220	<1	<1	12	1.1	<1
Total Petroleum	Total >C5-C35 Aliphatics	ug/l	<10	<10	<10	<10	51	<10	<10	35	390	<10	<10	99	120	<10
Hydrocarbon	>EC5-EC7 Aromatics	ug/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
Criteria Working	>EC7-EC8 Aromatics	ug/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
Group	>EC8-EC10 Aromatics	ug/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	ug/l	<1	<1	3.9	<1	<1	21	<1	<1	22	<1	<1	<1	<1	<1
	>EC12-EC16 Aromatics	ug/L	<1	<1	11	<1	<1	4.1	<1	<1	8.4	<1	<1	<1	<1	2.5
	>EC16-EC21 Aromatics	ug/L	<1	<1	74	<1	<1	43	<1	<1	110	<1	<1	<1	<1	2.0
	>EC21-EC35 Aromatics		<1	<1	23	<1	<1	15	<1	<1	110	<1	<1	<1	<1	15
	Total >EC5-EC35 Aromatics	µg/L	<10	<10	110	<10	<10	64	<10	<10	240	<10	<10	<10	<10	20
	TPH >C5-C35 Alightics/Aromatics	µg/L	<10	<10	110	<10	51	64	<10	36	630	<10	<10	00	120	20
		µg/L	120	280	110	\$10	54	04	\$10	150	000	72	\$10	<10	780	23
Petroleum		µg/L	120	200	-	-	34	-	-	130	-	12	-	<10	700	-
Hydrocarbon		µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene,	Benzene	µg/L	<	<	<	<1	<	<	<	<	<   - 4	<   - 4	<1-4	<1	<	<
Toluene,		µg/L	<1	<1	<1	<1	< 1	<1	<1	<1	<1	<1	<1	< ]	<1	<1
Ethylbenzene,		µg/L	<1	<i 1</i 	<1	<1		<1	<1	<1	<1	<1	<1	<']	<1 	<1
Xylenes and	Xylene (m & p)	µg/L	<2	<2	<2	-	<2	<2	-	<2	<2	<2	<2	-	<2	<2
Methyl tert butyl	Xylene (o)	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
ether	Xylene I otal	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
		µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	3-&4-methylphenol	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
Phenolics	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



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQR/	4														
Appendix I, Table	4: Groundwater data (Enviros 2004,	AEG 2018 and														
	Location			On	site			Onsite			On	isite			Onsite	
Chem Group		Location ID		MS\F	3H07			MS\BH08			MS	BH09			MS\BH11	
enem_ereap	Compound	Well	D	S	D	D	D	D	D	S	S	S	S	D	S	D
		Sampled	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
	Styrene	ug/l	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	cis-1 3-dichloropropene	ug/l		-	<1	-	-	<1	-	-	<1	<1	<1	-	-	<1
	trans-1.3-dichloropropene	ua/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	1.1.1.2-tetrachloroethane	ua/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
Volatile Organic	Bromobenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
Compounds	Bromochloromethane	µg/L	<4	<4	<4	-	<4	<4	-	<4	<4	<4	<4	-	<4	<4
	Bromodichioromethane	µg/L	<4	<4	<4	-	<4	<4	-	<4	<4	<4	<4	-	<4	<4
	Bromomothana	µg/L	<1	<1	<1	-	<1	<1	-				<1	-	<1	<1
	Carbon tetrachloride	µg/L	<1	<1	<1	-	<1	<1	-	<1			<1	-	<1	<1
	Chlorodibromomethane		<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Chloroethane		<1	<1	<1		<1	<1		<1	<1	<1	<1		<1	<1
	Chloroform		<1	<1	<1	_	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Chloromethane	ug/L	2	2	<1	-	3	<1	-	<1	<1	<1	<1	-	2	<1
	cis-1.2-dichloroethene	ug/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Dibromomethane	ua/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
	1,2,3-trichlorobenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
Semi Volatile	1,2,4-trichlorobenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
Organic Companyata (	1,∠-dicnioropenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
Volatile Organia	1,3-dichlorobenzene	µg/L	<2	<2	<2	-	<2	<2	-	<2	<2	<2	<2	-	<2	<2
	1,4-dichiorobenzene	µg/L	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
Compounds		µg/L	< 1	<1	< 1	-	< ]	<1	-	<1	<1	<'	< 1	-	<1	< ]
	Hexachioroputadiene	∣µg/∟	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQR	RA														
Appendix I, Table	4: Groundwater data (Enviros 2004	1, AEG 2018 and														
	Location			On	site			Onsite			On	site			Onsite	
Chem_Group		Location ID		MS\I	3H07			MS\BH08			MS\E	3H09			MS\BH11	
	Compound	Well	D		D	D	D	D	D					D		D
		Sampled	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
	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-nitropnenoi	µg/L		<1	<0	-	<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	ug/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-chiorophenol	µg/L		<1	<0	-	<1	<1	-	<1	<1		<1	-	<1	<1
	2-methylphenol	µg/L	<1	<1	<5		<1	<1		<1	<1	<1	<1	-	<1	<1
Semi Volatile	2-nitroaniline	ua/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
Organic	3-nitroaniline	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
Compounds	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-ethylnexyl) phinalale	µg/L	<1	<1	13	-	<1	<1	-	<1	<1	<1	2.9	-	<1	<1
	Butyl benzyl obthalate	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	Carbazole	ua/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
	Pentachlorocyclopentadiene	µg/L	<1	<1	<5	-	<1	<1	-	<1	<1	<1	<1	-	<1	<1
	remachiorophenol	µg/L	< 1	<']	<5	-	<1	<1	-	<1	<1	<']	< 1	-	<1	<u> </u>



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA															
Appendix I, Table	4: Groundwater data (Enviros 2004, A	EG 2018 and a	1													
	Location			On	site			Onsite			On	site			Onsite	
Chem_Group		Location ID		MS\E	3H07			MS\BH08			MS\E	3H09			MS\BH11	
	Compound	Well	D		D	D	D	D	D					D		D
		Sampled	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
	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	-	-	-	-	-	-	-	-	-	-	-	-
Polychlorinated	PCB 180	µg/L	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
Biphenyls	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA	AEC 2018 and															F
	Location				Or	site					On	site				Onsite	
Chem Group		Location ID			MS	BH12					MS\E	3H13				MS\BH14	
enem_eremp	Compound	Well	D		D		D		D		D		D				
		Sampled	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	
	Antimony (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Arsenic	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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	H
	Barium (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	H
	Beron	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 (Filtered)	µg/L	180	300	700	- 180	- 550	- 36		360	- 590	- 630	- 650	620	- 17	-	-
	Cadmium	ug/L	- 100		-	-	-	-	-	-		-	-	-	-	-	
	Cadmium (Filtered)	ua/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	Ē
	Chromium (hexavalent)	µg/L	11	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	Ē
	Chromium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ē
	Chromium (Filtered)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ē
	Chromium (Trivalent) (Filtered)	µg/L	<1	<1	2.2	6.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Copper	µg/L	-	-	-	-	-	-	-	-	-	-	-	-			
Metals	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	L
	Iron	µg/L			-	-	-	-	-	-	-	-	-	-			H
	Iron (Filtered)	µg/L	11	16	4500	23	2700	15	1200	91	7.6	350	83	890	16	16	H
	Lead (Filtered)	µg/L	- 0.40	-	-	-	-	-			-	-	-	-	- 0.10	-	-
	Manganese (Filtered)	µg/L	0.49	<0.09	1.1	0.23	<0.09	<0.09	<0.09	<0.09	2.5	<0.09	0.09	0.1	0.19	0.57	-
	Mercury	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury (Filtered)		<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	
	Nickel	ua/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ē
	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	Γ
	Selenium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	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	Ē
	Vanadium (Filtered)	µg/L	0.9	54	2.2	4.8	0.6	3	-	-	<0.6	1.3	<0.6	2	63	6.6	
	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	
	Total Hardness	mg/l	437	142	1780	349	1650	1740	3390	370	6550	416	6140	433	593	437	-
	Alkalinity (total) as CaCO3	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Ammoniacal Nitrogen as N	mg/L	0.13	0.66	0.5	4.1	5.0	4.1	2.6	2	4.8	4.5	5.3	5.3	0.79	4.7	-
			0.10	0.0	7.9	4.9	0.0	5	3.2	2.4	0.0	5.4	0.4	0.4	0.90	5.7	-
	Calboliate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cvanide (Free)		<20	<20	<0.1	1.8	<0.1	0.5	-	-	0.7	5.6	0.9	<0.1	<20	0.2	Ē
	Cvanide Total	ua/L	-	-	0.3	9.9	0.6	5.5	-	-	2.2	39	0.9	<0.1	-	5.2	Ē
	Cyanide Total (Filtered)	µg/L	<40	<40	-	-	-	-	-	-	-	-	-	-	<40	-	Ē
	cyanides-complex	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Inorganics	Magnesium	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
morganios	Magnesium (Filtered)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-		1
	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	-	-	L
	Nitrate (as NO3-) (Filtered)	mg/L	-	<0.1	-	-	-	-	-	-	-	-	-	-	0.28	<0.1	H
	Nitrite (as N)	mg/L	<0.035	-	<0.035	-	<0.035	<0.035	< 0.035	< 0.035	-	-	<0.035	<0.035	-	-	H
	Sulphate (Eiltered)	mg/L	- 130	160	-	-	-	-	- 1300	- 280	-	-	-	-	540	<0.1	-
	Sulphide (Filtered)		- 130		-	-	-	-	-	- 200	-	-	-	-	J40 -	-	
	Sulphate as SO4	ma/L	-	-	210	380	170	1100	-	-	3000	1100	2600	350	-	420	Ē
	Sulphur as S	mg/L	37	-	-	-	-	-	570	-	-	-	-	-	180	-	
	Thiocyanate (as SCN)	µg/L	-	-	32	25	<20	<20	-	-	42	9300	<20	7400	-	230	-
	Thiocyanate (as SCN) (Filtered)	µg/L	<20	<20	-	-	-	-	-	-	-	-	-	-	170	-	Ē
	Total Dissolved Solids	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	- 1		
Other	Total Dissolved Solids (Filtered)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ē
Caler	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	Ļ
	Total Organic Carbon	mg/l		-	-	-	-	-	3.9	8.2	-	-	-	-	7.6		

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10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA																
Appendix I, Table	4: Groundwater data (Enviros 2004, A	EG 2018 and															
	Location				On	site					On	site				Onsite	
Chem Group		Location ID			MS\E	3H12					MS\E	3H13				MS\BH14	
	Compound	Well	D	S	D	S	D	S	D	S	D	S	D	S			
		Sampled	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	
	Naphthalene	µg/L	<1 - 0.08	0.5	<1	-	<1	<1	0.24	0.1	-	<1	-	<1	0.65	-	Т
	Acenaphthene	µg/L	<0.01	0.08	<1	-	<1	<1	0.08	0.06	-	<1	-	<1	2.3	-	t
	Acenaphthylene	ua/L	<1 - 0.01	0.01	<1	-	<1	<1	<0.01	< 0.01	-	<1	-	<1	0.02	-	t
	Fluoranthene	µg/L	<1 - 0.01	0.04	<1	-	<1	<1	0.02	< 0.01	-	<1	-	<1	0.24	-	t
	Anthracene	µg/L	< 0.01	<0.01	<1	-	<1	<1	<0.01	< 0.01	-	<1	-	<1	0.19	-	t
	Phenanthrene	µg/L	<1 - 0.03	0.05	<1	-	<1	<1	0.01	< 0.01	-	<1	-	<1	2.6	-	t
	Fluorene	µg/L	<1 - 0.06	0.04	<1	-	<1	<1	0.02	0.02	-	<1	-	<1	0.52	-	T
	Chrysene	µg/L	< 0.01	<0.01	<1	-	<1	<1	<0.01	< 0.01	-	<1	-	<1	0.02	-	t
Polycyclic	Pyrene	µg/L	<1 - 0.01	0.03	<1	-	<1	<1	0.02	0.01	-	<1	-	<1	0.14	-	t
Aromatic	Benzo(a)anthracene	µg/L	< 0.01	<0.01	<1	-	<1	<1	<0.01	< 0.01	-	<1	-	<1	0.02	-	t
Hydrocarbons	Benzo(b)fluoranthene	µg/L	< 0.01	<0.01	<1	-	<1	<1	<0.01	< 0.01	-	<1	-	<1	< 0.01	-	t
	Benzo(k)fluoranthene	µg/L	< 0.01	<0.01	<1	-	<1	<1	<0.01	< 0.01	-	<1	-	<1	< 0.01	-	t
	Benzo(a)pyrene	µg/L	< 0.01	<0.01	<1	-	<1	<1	<0.01	< 0.01	-	<1	-	<1	< 0.01	-	t
	Dibenz(a,h)anthracene	µg/L	< 0.01	<0.01	<1	-	<1	<1	<0.01	< 0.01	-	<1	-	<1	0.01	-	t
	Benzo(g,h,i)perylene	µg/L	< 0.01	<0.01	<1	-	<1	<1	<0.01	< 0.01	-	<1	-	<1	0.01	-	t
	Indeno(1,2,3-c,d)pyrene	µg/L	< 0.01	<0.01	<1	-	<1	<1	<0.01	<0.01	-	<1	-	<1	<0.01	-	t
	PAH 16 Total	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	t
	PAHs (Sum of total)	µg/L	0.21	0.76	-	-	-	-	0.39	0.2	-	-	-	-	6.8	-	t
	>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	t
	>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	t
	>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	t
	>C10-C12 Aliphatics	µg/L	<1	34	<1	<1	<1	<1	<1	<1	6.1	10	<1	<1	<1	<1	t
	>C12-C16 Aliphatics	µg/L	1.3	12	<1	<1	<1	<1	<1	<1	4.3	15	<1	<1	<1	<1	t
	>C16-C21 Aliphatics	µg/L	5.1	19	<1	<1	<1	<1	<1	<1	79	80	<1	<1	<1	<1	T
Tatal Datualauma	>C21-C35 Aliphatics	µg/L	<1	5.8	<1	<1	<1	<1	<1	<1	20	49	<1	<1	<1	<1	T
	Total >C5-C35 Aliphatics	µg/L	<10	71	<10	<10	<10	<10	<10	<10	110	150	<10	<10	<10	<10	Γ
	>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	Γ
Group	>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	Γ
Gloup	>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	Γ
	>EC10-EC12 Aromatics	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	3.1	2.7	<1	<1	<1	<1	Г
	>EC12-EC16 Aromatics	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	9.2	7.1	<1	<1	<1	<1	Γ
	>EC16-EC21 Aromatics	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	42	33	<1	<1	<1	<1	Г
	>EC21-EC35 Aromatics	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	6.2	7.5	<1	<1	<1	<1	Γ
	Total >EC5-EC35 Aromatics	µg/L	36	<10	<10	<10	<10	36	<10	<10	61	50	<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	
Petroleum	EPH >C10-40	µg/L	200	33	-	-	-	-	<10	440	-	-	-	-	53	120	
Hydrocarbon	GRO C5-C10	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TPH by GCFID (AR)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-		
Benzene	Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Toluene	Toluene	µg/L	<1 - 22	<1	<1	<1	<1	<1 - 13	<1	<1	<1	<1	<1	<1	<1	<1	
Ethylbenzene	Ethylbenzene	µg/L	<1 - 14	<1	<1	<1	<1	<1 - 23	<1	<1	<1	<1	<1	<1	<1	<1	
Xvlenes and	Xylene (m & p)	µg/L	<2	-	<2	-	<2	<2	-	-	-	<2	-	<2	-	/	$\downarrow$
Methyl tert butyl	Xylene (o)	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-		
ether	Xylene Total	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	$\downarrow$
	МТВЕ	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Ļ
	3-&4-methylphenol	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-		1
Phenolics	Phenol	µg/L	<1	-	3.5	-	<1	<1	-	-	-	<1	-	<1	-	-	$\downarrow$
	Phenols Monohydric	µg/L	<100	<100	610	<100	510	<100	<100	<100	2000	160	1200	170	<100	<100	L

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Appendix I, Table	4: Groundwater data (Enviros 2004	1, AEG 2018 and															
	Location				On	site					Or	nsite				Onsite	
Chem Group		Location ID			MS	2012					MS	RH13					
Chem_Gloup	Compound	Well				91112										WIS/DITI4	
	Compound	Sampled	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	
	Styrene		<1	11/00/2021	<1	12/10/2021	<1	<1	12/00/2021	12/00/2021	12/10/2021	<1	10/11/2021	<1	10/00/2021	10/11/2021	٣
	cis-1 3-dichloropropene	µg/L		-	<1	-	<1	<1	-	-	-	<1	-	<1		-	╀
	trans-1 3-dichloropropene		<1		<1		<1	<1	-	-		<1		<1			┢
	1 1 1 2-tetrachloroethane		<1	-	<1		<1	<1	_	-	-	<1	-	<1			t
	1 1 1-trichloroethane	ug/l	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	t
	1 1 2 2-tetrachloroethane	ua/l	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	t
	1.1.2-trichloroethane	ua/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	t
	1.1-dichloroethane	ua/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	t
	1,1-dichloroethene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	t
	1,1-dichloropropene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	t
	1,2,3-trichloropropane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	T
	1,2,4-trimethylbenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	Γ
	1,2-dibromo-3-chloropropane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	Γ
	1,2-dibromoethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	Γ
	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	-	-	$\downarrow$
	2-chlorotoluene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1		-	Ļ
	4-chlorotoluene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	╞
Volatile Organic	Bromobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	╞
Compounds	Bromochloromethane	µg/L	<4	-	<4	-	<4	<4	-	-	-	<4	-	<4		-	╞
	Bromodichloromethane	µg/L	<4	-	<4	-	<4	<4	-	-	-	<4	-	<4		-	╞
	Bromotorm	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1		-	╀
	Bromomethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1		-	╞
	Carbon tetrachioride	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	╞
	Chlorootbromometnane	µg/L	<1	-	<1	-	<	<1	-	-	-	<	-	<	-	-	╞
	Chloroform	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	╀
	Chloromothana	µg/L		-		-	<1	<1	-	-	-	<1	-	<1			╀
		µg/L		-		-	<1	<1	-	-	-	<1	-	<1		-	┝
	Dibromomethane	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1		-	┝
	Dichlorodifluoromethane		<1		<1		<1	<1	-	-	-	<1		<1		-	┢
	Dichloromethane		<27	-	<27		<27	<27	-	-	-	<27	-	<27		_	t
	Isopropylbenzene	ug/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	t
	n-butylbenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1		-	t
	n-propylbenzene	ua/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	t
	p-isopropyltoluene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	t
	sec-butylbenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	t
	Trichloroethene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	t
	tert-butylbenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	T
	Tetrachloroethene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	Γ
	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	-	-	
	1,2,3-trichlorobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	Γ
Semi Volatile	1,2,4-trichlorobenzene	μg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	ſ
Organic	1,2-dichlorobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	
Compounds /	1,3-dichlorobenzene	µg/L	<2	-	<2	-	<2	<2	-	-	-	<2	-	<2	-	-	L
Volatile Organic	1,4-dichlorobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	L
Compounds	Chlorobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	L
	Hexachlorobutadiene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	-	-	

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10035117-AUK->	X-XX-RP-ZZ-0428-03-LWoW_DQF	RA														
Appendix I, Table	e 4: Groundwater data (Enviros 200-	4, AEG 2018 and														
	Location				On	isite					On	site				Onsite
Chem Group		Location ID			MS\I	BH12					MS\E	3H13				MS\BH14
	Compound	Well	D		D		D		D		D		D			
		Sampled	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
	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	<i>!</i>	
	1,3-Dinitrobenzene	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1		
	2.2.4.6 tetrapherenhanel	µg/L		-	<1	-	<1	<1	-	-	-	<1	-	<1		
	2,3,4,0-tetrachlorophenol	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1		-
	2.4.5-trichlorophenol		<1	-	<1	-	<1	<1				<1		<1		
	2.4.6-trichlorophenol	ug/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		
Semi volatile	2-nitroaniline	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1		
Compounds	3-nitroaniline	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1		
Compounds	4-chlorophenyl phenyl ether	µg/L		-	<1	-	<1	<1	-	-	-	<1	-	<1		
	Aniline	ug/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1		
	Azobenzene	ua/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	- 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	-	-	-	-	-	-	-	-	-	-	-	!	
	Dibenzoturan	µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1	<i>!</i>	
		µg/L	<1	-	<1	-	<1	<1	-	-	-	<1	-	<1		
	Dinetnyi phthalate	µg/L		-		-			-	-	-	2	-	12		
	Di-n-octyl phthalate		<1	-	<1	-	<1	<1	-	-	-	<1	-	<1		
	Diphenylamine		<1	-	<1	-	<1	<1		-	-	<1		<1		-
	Hexachlorobenzene	ug/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	-	-
		1°''''''''''''''''''''''''''''''''''''		1		1			1	1	1		1			

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10035117-AUK-X	-XX-RP-ZZ-0428-03-LWoW_DQRA																
Appendix I, Table	4: Groundwater data (Enviros 2004, A	EG 2018 and .															
	Location				On	site					On	site				Onsite	
Chem_Group		Location ID			MS\I	3H12					MS\E	H13				MS\BH14	
	Compound	Well	D		D		D		D		D		D				
		Sampled	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
	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polychlorinated	PCB 180	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biphenyls	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



10035117-AUK->	<pre><x-xx-rp-zz-0428-03-lwow_dqra< pre=""></x-xx-rp-zz-0428-03-lwow_dqra<></pre>	A Contraction of the second se																				
Appendix I. Table	e 4: Groundwater data (Enviros 2004.	AEG 2018 and																				
	Location			On	site		On	isite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite							
	Ecodion	IID																				
Cnem_Group	Companyed	Location ID		MS\E	BH15		MS/I	BH17	MS\TP06	S1-BH04	S1-BH05	S1-BH05	S1-BH00	S1-BH00	S1-BH07A	S1-BH12	51-BH13A	51-BH13A	S1-BH14	S1-BH18	21-BH18	S1-BH19
	Compound	well	D	5	D	5	D	D	00/00/0004	00/04/0040	00/04/0040	00/00/0040	00/04/0040	00/00/0040	00/04/0040	00/04/0040	00/04/0040	00/00/0040	00/04/0040	00/04/0040	00/00/0040	00/04/0040
	Austine and (Filtered)	Sampled	13/08/2021	13/08/2021	16/11/2021	16/11/2021	10/08/2021	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
	Antimony (Filtered)	µg/L	-	-	-	-	-	-	-	2	0.64	-	0.94	-	1.1	1.2	0.52	-	0.47	0.59	-	1.1
	Arsenic (Filtered)	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	1.2	7.1	6.2	12
	Barium (Filtered)	µg/L	-	-	-	-	-	-	-	60	20	-	47	-	73	150	100	-	140	50	-	49
	Bergillulli (Fillered)	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<pre>&lt;0.1</pre>	<u> </u>	-	<0.1 120 100	<0.1	-	<0.1 260
	Boron (Filtered)	µg/L	- 76	-	-	-	-	-	- 420	<100	<100	<100	440	1000	<100	170-270	130 - 230	<100	130 - 190	220	<100	200
	Codmium	µg/L	70	00	04	50	<1Z	<1Z	420	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cadmium (Filtorod)	µg/L				-0.02			-		-	-	-	-	-		-0.02	-		-	-	-
	Chromium (Fillered)	µg/L	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.32	<0.03	0.05	0.04	0.00	0.05	0.00	<0.03	<0.03	0.03	<0.03	0.00	0.04	0.07
	Chromium	µg/L	<u></u>	~1	~/	<u> </u>	~/	~/	~/	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium (Filtered)	µg/L	-	-	-	-	-	-	-			-		-	- 15			- 0.20		-	-	-
	Chromium (Filtered)	µg/L	-	-	-	-	-	-	-	<0.25	<0.25	1.0	<0.25	1.4	1.5	<0.25	<0.25	0.29	<0.25	0.94	0.03	0.5
	Connor	µg/L	<u> </u>	<li>&lt;1</li>			~1		~1	-	-	-	-	-	-	-	-	-	-	-	-	-
Metale	Copper (Filtered)	µg/L	<0.4	-	<0.4	0.6	0.8	1.6	17	37	0.8	62	0.8	1.6	-	0.8	-	-	-	- 1.5	-	67
wietais		µg/L	~0.4	0.0	>0.4	0.0	0.0	1.0	1./	25	0.0	0.2	220	1.0	57	120	160	1.1	180	24	<u></u> ∿∪.4	0.7
	Iron (Filtered)			- 1/	- 11	22	22	81	1800	25	49	-	220	-	57	130	160	-	180	24	-	93
		µg/L	0.0	14		22	22	01	1000	23	43	-	220	-	57	150	100	-	100	24	-	33
	Leau Lead (Filtered)		<0.09	0.19	- <0.09	<0.09	0.1	0.49	- 10	- 0.53	0.28	- 11	- 0.31	3.4	0.24	- 0.19	0.13	- 0.54	- 0.16	- 0 11	- 0.24	- 0.4
	Manganese (Filtered)		<0.03	0.15	<0.09	<0.03	0.1	0.49	10	230	1.3	1.1	25		1.7	2.0	0.13	0.34	0.10	26	0.24	4.5
	Mercury									200	1.5		20		-	2.5	0.50		0.35	- 20	_	4.5
	Mercury (Filtered)		01	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		-	-	-	-	-		-		0.00	-0.01	-		0.00	-0.01		-0.01	-0.01	-		0.00
	Nickel (Filtered)		0.7	0.9	0.6	0.9	22	<0.5	7.5	3.9	47	4 1	51	9.7	35	29	1.8	21	22	16	13	3
	Selenium		-	-	-	-	-		-			-	-	-		- 2.0	-	-	-	-	-	-
	Selenium (Filtered)		92	6.5	2	52	47	0.43	5.3	17	14		38	_	13	25	13	_	12	19	_	34
	Vanadium (Filtered)	ug/L	11	93	0.6	96	59	1.6	1.6	6.5	150	20	43	19	280	47	40	15	45	87	24	95
	Zinc	ug/L		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Zinc (Filtered)	ug/L	44	9.2	<1.3	<1.3	<1.3	<1.3	130	32	<1.3	3.9	<1.3	7	13	7.5	11	2.8	10	17	31	3.5
	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	ua/L	-	-	-	-	-	-	-	150.000	220.000	-	170.000	-	82.000	91.000	110.000	-	110.000	48.000	-	81.000
	Chloride	ma/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
	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
Inorganica	Magnesium	mg/L	-	-	-	-	-	-	-	14	0.05	-	6.6	-	1.9	0.53	0.33	-	0.49	1.2	-	0.95
inorganics	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	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total Dissolved Solids	mg/L	-	-	-	-	-	-	-	420	850	-	2300	-	790	780	950	-	930	2000	-	1200
Other	Total Dissolved Solids (Filtered)	mg/L	-	-	-	-	-	-	-	420	850	-	2300	-	790	780	950	-	930	2000	-	1200
Calor	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	-	-	-	-	-	-	-	-	-	-	-	-	-



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQF	RA																				
Appendix I, Table	4: Groundwater data (Enviros 2004	4, AEG 2018 and																				
	Location			On	site		On	site	Onsite													
Chem Group		Location ID		MS	BH15		MS\F	3H17	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
onon_oroup	Compound	Well	D	S	D	S	D	D														
		Sampled	13/08/2021	13/08/2021	16/11/2021	16/11/2021	10/08/2021	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
	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
Polycyclic	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
Aromatic	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
Hydrocarbons	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	5.0	1.5	-	-	0.42	-	-	2.9	9.6	5.3	0.22	0.4	2.4	19	62	92	1.1	7.0	14	3.5
	>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	<0.1
	>C9 C10 Aliphotics	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
	>C10 C12 Aliphatics	µg/L	24	5	<0.1	<0.1	<0.1	<0.1	1000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	>C12 C16 Aliphatics	µg/L	2.4	 	<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	17	<1	<1	<1	<1	<1	89	<1	<1	7.5	<1	<1	<1
	>C21-C35 Aliphatics		<1	1.8	<1	<1	<1	<1	44 000	7.1	<1	<1	<1	<1	<1	59	<1	<1	6.7	<1	<1	<1
Total Petroleum	Total >C5-C35 Aliphatics	ug/l	32	20	<10	<10	<10	<10	250 000	<10	<10	<10	<10	<10	<10	69	<10	<10	14	<10	<10	<10
Hydrocarbon	>EC5-EC7 Aromatics	ua/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
Criteria Working	>EC7-EC8 Aromatics	ua/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
Group	>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	<0.1
	>EC10-EC12 Aromatics	µg/L	<1	<1	<1	<1	<1	<1	7000	<1	3.5	2.9	<1	<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	1.9
	>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	<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	<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	<10
	TPH >C5-C35 Aliphatics/Aromatic	cs µg/L	32	20	<10	<10	<10	<10	430,000	<10	11	21	<10	<10	<10	93	14	45	14	<10	<10	<10
Petroleum	EPH >C10-40	µg/L	130	120	-	-	<10	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrocarbon	GRO C5-C10	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TPH by GCFID (AR)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	1	1	<1	<1	<1	<1	<1
Toluene	Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes and	Xylene (m & p)	µg/L	-	<2	-	<2	-	<2	<2	<2	<2	-	<2	-	<2	<2	<2	-	<2	<2	-	<2
Methyl tert butvl	Xylene (o)	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
ether	Xylene Total	µg/L	<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	-	<1	<1	-	<1
Dha "	3-&4-methylphenol	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	1.8	1.1	-	<1	<1	-	<1
Phenolics	Phenol	µg/L	-	3.8	-	<1	-	<1	<100	<1	<1	-	<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	< 0.5	<100 - 4.3



10035117-AUK-XX	(-XX-RP-ZZ-0428-03-LWoW_DQR)	A																				
Appendix I. Table	4: Groundwater data (Enviros 2004	. AEG 2018 and <i>J</i>																				
·				On	sito		On	cito	Oncito	Onsite	Oncito	Oncito	Onsite	Onsite	Oncito	Onsite	Onsite	Oncito	Oncito	Onsite	Onsite	Onsite
	Location			On	Sile		UII	SILE	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	Onsite						
Chem_Group		Location ID		MS\E	3H15		MS\E	3H17	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
	Compound	Well	D		D		D	D														
		Sampled	13/08/2021	13/08/2021	16/11/2021	16/11/2021	10/08/2021	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
	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-dichloroethene	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	ua/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	1.3.5-trimethylbenzene	ua/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	_	<1	<1	-	<1
	1 3-dichloropropane	ua/I	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	2 2-dichloropropane		-	<2	-	<2	_	<2	<2	<2	<2	-	<2	-	<2	<2	<2	-	<2	<2	-	<2
	2-chlorotoluene		-	<1	-	<1	_	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	4-chlorotoluene		-	<1	-	<1		<1	<1	<1	<1		<1	-	<1	<1	<1		<1	<1	-	<1
	Bromobenzene		-	<1	-	<1		<1	<1	<1	<1		<1	-	<1	<1	<1		<1	<1	-	<1
Volatile Organic	Bromochloromethane	µg/L		<4		<4		<4	<4	<4	<4		<4	-	<4	<4	<4	_	<4	<4		<4
Compounds	Bromodichloromethane	µg/L		<1		<1		<1	<1	<1	<1		<1		<1	<1	<1		<1	<1		<1
	Bromoform	µg/L		<1		<1		<1	<1	<1	<1		<1	-	<1	<1	<1		<1	<1	_	<1
	Bromomethane		_	<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
	Chlorodibromomothano	µg/L	-	<1	-	<1	-	<1	<1	<1		-	<1	-		<1		-	<1	<1	-	<1
	Chloroothono	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	<1	-	<1
	Chloromothana	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	1	<1	<1	-	<1	<1	-	<1
		µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
		µg/L	-	<u> </u>	-		-	<1 <1				-		-				-	~1		-	×1
	Dibromomethane	µg/L	-	<	-	<	-	<	<	<	<	-	<	-	<	<	<	-	<	<	-	<
	Dichlorodifiuoromethane	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
		µg/L	-	<u>~21</u>	-	<21	-	<21	<21	<21	<21	-	<21	-	< <u>&lt;</u> 21	<21	<u>&lt;21</u>	-	<21	<u>~21</u>	-	<u>~21</u>
		µg/L	-	<1	-	<1	-	<1	<	<1	<1	-	<1	-	<1	<1	<1	-	< ]	<1	-	<1 
		µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	< ]	<1	-	<1 <1
	n-propyidenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	p-isopropyitoluene	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
	Irichloroethene	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
	letrachloroethene	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
	Irichlorofluoromethane	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
	1,2,3-trichlorobenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
Semi Volatile	1,2,4-trichlorobenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
Organic	1,2-dichlorobenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
Compounds /	1,3-dichlorobenzene	µg/L	-	<2	-	<2	-	<2	<2	<2	<2	-	<2	-	<2	<2	<2	-	<2	<2	-	<2
Volatile Organic	1,4-dichlorobenzene	µg/L	-	<1	-	<1	-	<1	<1	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
Compounds	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



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQR/	A																				
Appendix I, Table	4: Groundwater data (Enviros 2004	, AEG 2018 and <i>J</i>																				
	Location			On	nsite		On	isite	Onsite													
Chem Group		Location ID		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
onem_oreap	Compound	Well	D	S	D	S	D	D											0.0			0.00
		Sampled	13/08/2021	13/08/2021	16/11/2021	16/11/2021	10/08/2021	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
	1.4-dinitrobenzene	ua/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
	2,3,5,6-1 etrachiorophenol	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	2,4,5-trichlorophenol	µg/L	-	<1	-		-		<100	<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	ua/l	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	4	15	-	<1	<1	-	15
	2.4-dinitrotoluene	ua/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
Semi Volatile	2-nitroaniline	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
Organic	3-nitroaniline	µg/L	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
Compounds	4-chloro-3-methylphenol	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	ua/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 Diathula https://www.com	µg/L	-	<1	-	<1	-	<1	310	<1	<1	-	<1	-	<1	<1	3	-	<1	<1	-	<1
	Directly phthalate	µg/L	-	<1	-	<1	-		<100		<1	-		-		<1		-	<1	<1	-	<1
	Dineury primate Di-p-butyl phthalate	µg/L	-	<1		<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Di-n-octyl phthalate	ug/l	-	<1	-	<1	-	<1	<100	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1
	Diphenvlamine	ua/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



10035117-AUK-X	K-XX-RP-ZZ-0428-03-LWoW_DQRA																					
Appendix I, Table	4: Groundwater data (Enviros 2004, A	AEG 2018 and																				
	Location			Or	site		On	nsite	Onsite													
Chem_Group		Location ID		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
	Compound	Well	D		D		D	D														
		Sampled	13/08/2021	13/08/2021	16/11/2021	16/11/2021	10/08/2021	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
	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
Polychlorinated	PCB 180	µg/L	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	<0.2	-	-	<0.2	-	<0.2
Biphenyls	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



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA													
Appendix I, Table	hdix I, Table 4: Groundwater data (Enviros 2004, AEG 2018 Location em_Group Locatior Compound Well													
	Location			Onsite		Onsite	On	site			Off	site		
Chem Group		Location ID		S2-BHA04		S2-BHA05	\$2-B	НАЛА			I E\B			
Onem_Oroup	Compound	Well	D	S	S	02-011400	02-0		D	S	D	S	D	s
	Compound	Sampled	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
	Antimony (Filtered)	ua/l	2.5	1 4		0.42	0.59	-	-	-	-	-	-	-
	Arsenic	ua/l	-	-	-	-	-	-	-	-	-	-	-	-
	Arsenic (Filtered)	ua/l	11	83	11	64	34	37	83	7	51	97	91	11
	Barium (Filtered)	ua/l	110	93	-	62	66	-	-	-	-	-	-	-
	Bervllium (Filtered)	ua/L	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Boron	ua/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	-	-	-	-	-	-	-	-	-	-	-	-
Metals	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
	I otal Hardness	mg/l	-	-	-	-	-	-	518	//2	/23	1050	837	991
	Alkalinity (total) as CaCO3	mg/L	/3	280	-	/8	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	-	-	-	-	-	-	-
	Chioride (Free)	mg/L	740	330	-	1800	91	-	-	-	-	-	-	-
	Cyanida Total	µg/L	4600	< <u>20</u>	130	<20	<20	- 12	<20	<20	0.0	0.2	0.3	0.3
	Cyanide Total (Filtered)	µg/L	4000	7000	9900	<b>\4</b> 0	<b>\4</b> 0	43	<u>\40</u>	<b>\4</b> 0	4.0	0.5	5.2	5.7
	cyanides-complex	µg/L	4600	7000	9700	<10	<10	-	-	-	-	-		-
	Magnesium	mg/L	11	1	3700	99	66		-	_	_			-
Inorganics	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)	ma/l	-	-	-	-	-	-	0.052	<0.035	<0.035	<0.035	<0.035	-
	Nitrite (as NO2-) (Filtered)	mg/L	-	-	-	-	-	-	-	-	-	-	-	<0.1
	Sulphate (Filtered)	ma/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	-	-	-	-
	Total Dissolved Solids	mg/L	2400	1100	-	5400	2200	-	-	-	-	-	-	-
Other	Total Dissolved Solids (Filtered)	mg/L	2400	1100	-	5400	2200	-	-	-	-	-	-	-
Oulei	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	-	-	-	-



10035117-AUK-X	35117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA													
Appendix I, Table	4: Groundwater data (Enviros 2004, A	AEG 2018 and a												
	Location			Onsite		Onsite	On	site			Off	site		
Chem Group		Location ID		S2-BHA04		S2-BHA05	S2-B	HA06			LF\B	H01		
	Compound	Well	D						D		D		D	
		Sampled	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
	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
Polycyclic	Chrysene	µg/L	<0.01	< 0.01	0.05	< 0.01	<0.01	0.06	<1	<0.01	-	<1	<1	<1
Aromatic	Pyrene	µg/L	0.02	<1 - 0.04	0.34	< 0.01	<1 - 0.01	0.13	<1	<1	-	<1	<1	<1
Hydrocarbons	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)fluorantnene	µg/L	<0.01	<0.01	0.03	<0.01	<0.01	0.07	<1	<1	-	<1	<1	<1
	Benzo(k)iluoraninene	µg/L	<0.01	<0.01	<0.01	< 0.01	<0.01	0.04	<0.01	<0.01	-	<1	<	<1
	Dibonz(a,b)onthrocono	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	-	<1	<1	<1
	Benzo(a h i)pen/lene	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)nyrene	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	-	<1	<1	<1
	PAH 16 Total	ua/l	-					-	-		-	-	-	-
	PAHs (Sum of total)	ua/l	0.13	0.25	3	0.05	0.08	0.94	<0.2	0.26	-	-	-	-
	>C5-C6 Aliphatics	ua/l	<0.1	<0.1	<0.1	<0.00	<0.00	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Be Inc PA PA >C >C >C >C >C >C >C	>C6-C8 Aliphatics	ua/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
	>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
	>C10-C12 Aliphatics	µg/L	<1	<1	<1	<1	<1	<1	6.4	<1	<1	<1	<1	<1
	>C12-C16 Aliphatics	µg/L	<1	1	<1	<1	<1	<1	4.6	<1	<1	<1	<1	<1
	>C16-C21 Aliphatics	µg/L	<1	2.5	<1	<1	<1	<1	20	<1	<1	<1	<1	<1
Total Patroloum	>C21-C35 Aliphatics	µg/L	<1	18	<1	<1	<1	<1	5.9	<1	<1	<1	<1	<1
Hydrocarbon	Total >C5-C35 Aliphatics	µg/L	<10	22	<10	<10	<10	<10	37	<10	<10	<10	<10	<10
Criteria Working	>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
Group	>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
	>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
	>EC10-EC12 Aromatics	µg/L	<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	<1
	>EC16-EC21 Aromatics	µg/L	<1	<1	<1	<1	6.4	<1	<1	<1	<1	<1	<1	<1
	>EC21-EC35 Aromatics	µg/L	<10	<1	<1	<1	14	<1	<1	<1	<1	<1	<1	<1
	TDU > CE C2E Alighetics (Aromatics	µg/L	<10	<10	<10	<10	21	<10	<10	<10	<10	<10	<10	<10
	EPH >C10.40	µg/L	<10	22	<10	<10	21	<10	37	210	<10 97	100	120	150
Petroleum	GPO C5 C10	µg/L	-	-	-	-	-	-	200	210	07	190	130	150
Hydrocarbon		µg/L	-	-	-	-	-	-	-	-	-	-	-	-
	Benzene	ug/L			-	-	- <1	- <1	-	-	-	-	-	-
Benzene,	Toluene	ua/l	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene,	Ethylbenzene	ug/L	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene,	Xvlene (m & p)	ua/L	-	<2	-	<2	<2	-	<2	<2	-	<2	<2	<2
Xylenes and	Xylene (o)	ua/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
ivietnyi tert butyl	Xylene Total	µg/L	-	-	<1	-	-	<1	<1	<1	<1	<1	<1	<1
einer	MTBE	µg/L	-	<1	-	<1	<1	-	<1	<1	<1	<1	<1	<1
Petroleum     PAH       >C5     >C6       >C8     >C1       >C1     >C1       Petroleum     PEC       Petroleum     PEP       Hydrocarbon     Tota       Tota     Tota  Toluene, <td< td=""><td>3-&amp;4-methylphenol</td><td>µg/L</td><td>-</td><td>&lt;1</td><td>-</td><td>&lt;1</td><td>&lt;1</td><td>-</td><td>&lt;1</td><td>&lt;1</td><td>-</td><td>&lt;1</td><td>&lt;1</td><td>&lt;1</td></td<>	3-&4-methylphenol	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
Polycyclic Aromatic Hydrocarbons Fluct Phe Fluct Phe Ben Ben Ben Ben Ben Ben Ben PAH PAH PAH PAH PAH PAH PAH PAH PAH PAH	Phenol	µg/L	-	<1	-	<1	<1	-	4.4	7.9	-	1.9	1.3	<1
	Phenols Monohydric	µg/L	3.7	19	7.4	2.7	3.6	< 0.5	<100	<100	<100	<100	<100	<100



10035117-AUK-X>	35117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA													
Appendix I. Table	4: Groundwater data (Enviros 2004.	. AEG 2018 and												
	Location			Onsite		Onsite	On	site			Off	site		
		Leasting ID										104		
Chem_Group	Compound			52-BHA04		SZ-BHAUS	52-BI	HAUD	<b></b>			HUI		
	Compound	Sempled	D	00/01/2010	02/02/2010	00/01/2019	00/01/2019	22/02/2010	U 12/09/2021	12/00/2024	U 19/10/2021	30/10/2021	U 17/11/2021	3
	Otherson	Sampled	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
	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-dicnioropropene	µg/L	-	<1	-	<1	<1	-	< ]	< ]	-	<1	<1	<1
	1,2,3-tricnioropropane	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
Volatile Organic	Bromobenzene	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
Volatile Organic Compounds	Bromocnioromethane	µg/L	-	<4	-	<4	<4	-	<4	<4	-	<4	<4	<4
	Bromodicniorometnane	µg/L	-	<4	-	<4	<4	-	<4	<4	-	<4	<4	<4
	Bromotorm	µg/L	-	<1	-	<1	<1	-	< ]	< ]	-	<1	<1	<1
	Bromometnane	µg/L	-	<1	-	<1	<1	-	< ]	< ]	-	<1	<1	<1
	Carbon tetrachioride	µg/L	-	<1	-	<1	<1	-	< ]	< ]	-	<1	<1	<1
	Chlorodibromomethane	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Chloroform	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Chloromothana	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
		µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Dibromomothono	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Diplomometrarie	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Dichleremethene	µg/L	-	<1	-	< 27	<1	-	<1	<1	-	< 1	<1	<1
		µg/L	-	<21	-	<21	< <u></u>	-	< <u>&lt;</u> <21	<21	-	< <u></u>	<21	< <u>&lt;</u> 1
		µg/L	-		-	<1	<1	-	<1	<1	-	<1		<1
		µg/L	-		-			-		<	-	~1		
		µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1		<1
		µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1		<1
	Trichleroothono	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1		<1
	tert butulbenzene	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		-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Trichlorofluoromethane		-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Vinyl chloride		-	<1		<1	<1	-	<1	<1	-	<1	<1	<1
	1 2 3-trichlorobenzene		-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
Semi Volatile	1 2 4-trichlorobenzene		-	<1		<1	<1	-	<1	<1	-	<1	<1	<1
Organic	1 2-dichlorobenzene		-	<1		<1	<1	-	<1	<1	-	<1	<1	<1
Compounds /	1 3-dichlorobenzene		-	<2		<2	<2	-	<2	</td <td>-</td> <td><?</td><td>&lt;2</td><td>&lt;2</td></td>	-	</td <td>&lt;2</td> <td>&lt;2</td>	<2	<2
Volatile Organic	1 4-dichlorobenzene		-	<1		<1	<1	-	<1	<1	-	<1	<1	<1
Compounds	Chlorobenzene		-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
Compoundo	Hevachlorobutadiene		-	21	-	21	~1	-	21	21	-	<1	<1	21
		Pg/L	-	1 1	-	1 1	- 1	-	1 1		-	51	1 1	- 1



10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQF	RA												
Appendix I, Table	4: Groundwater data (Enviros 200	4, AEG 2018 and .												
	Location			Onsite		Onsite	On	site			Off	site		
Chem Group		Location ID		S2-BHA04		S2-BHA05	S2-BI	HA06			LF\B	H01		
	Compound	Well	D						D		D		D	
		Sampled	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
		µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2,3,4,6-letrachiorophenol	µg/L	-	<1	-	<1	<	-	<	<	-	<1	<1	<1
	2,5,5,6-Tetrachiorophenol	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2,4,5-trichlorophenol		-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2 4-dichlorophenol			<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2 4-dimethylphenol	ug/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	2.4-dinitrotoluene	ua/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	2-nitroaniline	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
Organic	3-nitroaniline	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
Compounds	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 Ria(2 ablaraathaww) mathana	µg/L	-	<1	-	<1	<	-	<	<	-	<1	<1	<1
	Bis(2 chloroisopropyl) ether	µg/L	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
	Bis(2-ethylbexyl) phthalate		-	21	-	3	<1	-	<1	<1	-	5	<1	<1
	Bis(2-ethylhexyl)ester	ug/L	-	<1	-	<1	<1	-	-	-	-	<1	<1	<1
	Butyl benzyl phthalate	ug/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-X	X-XX-RP-ZZ-0428-03-LWoW_DQRA													
Appendix I, Table	4: Groundwater data (Enviros 2004, A	EG 2018 and												
	Location			Onsite		Onsite	On	site			Off	isite		
Chem_Group		Location ID		S2-BHA04		S2-BHA05	S2-B	HA06			LF\E	3H01		
	Compound	Well	D						D		D		D	
		Sampled	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
	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	-	-	-	-	-	-	-
Polychlorinated	PCB 180	µg/L	-	<0.2	-	<0.2	<0.2	-	-	-	-	-	-	-
Biphenyls	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	-	-	-	-	-	-	-



Appendix G5: Visua	al and Olfactory Evider	nce of Contamination Summary	
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]
∕IS\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]
VIS\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	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 bol	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 bal	AEG [2017]
S1-BH14	Made Ground	Slight hydrocarbon odour. Engineer notes reworked gravel has contaminated black sand between 4.0 and 8.9 m bol	AEG [2017]
	Made Ground	Eaint hydrocarbon from 3.5 m bol	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 bal	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 bol	CH2M [2017a]
	Made Ground	Slight ammonia odour below 2 m bgl	CH2M [2017a]
	Made Ground	Ammonia odour below 2 m bgi	CH2M [2017a]
	Made Ground	Fuidence of oil on bricks between 0.2 and 2.1 m bal	
	Made Ground	Clight hydrocarbon adour towards base of trial pit (2.1 m bgl)	CH2M [2017a]
	Made Ground	Slight hydrocarbon odour towards base of that pit (2.1 m bg)	
	Made Ground	Slight hydrocarbon odour between 0.5 to 5.5 m bgi	
	Made Ground	Right hudrocarbon odour between 3.5 and 3.6 m bgi	
	Made Ground	Slight hydrocarbon odour between 1.6 and 2.7 m bgi	
51-TPH25	Made Ground	Hydrocarbon odour at 1 m bgi	
51-1PH33	Made Ground	Slight hydrocarbon odour from 2 m bgl	
51-TPI03	Made Ground	Hydrocarbon odour from 3.0 m bgl	CH2M [2017a]
61-TPI12 61-TPI12	Made Ground	Hydrocarbon (creosote?) odour from 2.0 m bgl Wood fragments, some soaked in creosote, hydrocarbon odour between 3.0 and 4.6 m	CH2M [2017a] CH2M [2017a]
52-1PA45	Made Ground	Slight hydrocarbon odour between 0.1 and 0.7 m bgl	CH2M [2017b]
52-TPA48	Made Ground	Slight hydrocarbon odour between 0.5 and 3.3 m bgl	CH2M [2017b]
52-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]
62-TPA61	Made Ground	Possible rare small lumps of coal tar between 0 and 1.2 m bgl	CH2M [2017b]
32-TPA62	Made Ground	Slight oil sheen at water level	CH2M [2017b]
32-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 bol	CH2M [2017b]

OF III/100	made ereand	engine hydrobal both outball both outball both outball both outball both outball both outball both outball both	
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]

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

10035117-AUK-X	XX-XX-RP-ZZ-0428-03-LWoW	_DQRA	( Contominante	of Concern in	Coil with Llumon								
Appendix J: Cor	mparison of Measured Conc	entrations o	t Contaminants	of Concern in	Soil with Human	Health GAC	Maximum	Number of	Number of	Maximum	Number of		Maximum
Compound	Compound*	Unit	Generic	Source	Samples	Number of Detection -	Measured	Samples	Detections -	Measured	Samples	Number of Detections -	Measured
Group			Assessment Criteria		Analysed - Made Ground	Made Ground	Concentration - Made Ground	Analysed - Superficial	Superficial Deposits	Concentration - Superficial	Analysed - bedrock	Bedrock	Concentration - Bedrock
	Aluminium	mg/kg			10	10	73000	0	0	<mdl< td=""><td>0</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	0	0	<mdl< td=""></mdl<>
	Antimony	mg/kg	470	US EPA	96	70	16	7	3	2.7	0	0	<mdl< td=""></mdl<>
	Barium	mg/kg mg/kg	19.000	Arcadis	96	96	1200	42	42	130	0	0	9.2 <mdl< td=""></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< td=""></mdl<>
	Chromium	mg/kg	8600	S4UL	189	189	2580.4	14	14	60	0	0	<mdl< td=""></mdl<>
	Copper	mg/kg	86001	S4UL	56	55	990	28	28	760	1	1	29
Metals	Iron	mg/kg	68000	540L	55	55	2700	42	42	57000	0	1	32 <mdi< td=""></mdi<>
	Lead	mg/kg	2300	C4SL	216	214	2030	41	41	520	1	1	8.4
	Manganese	mg/kg			10	10	9300	0	0	<mdl< td=""><td>0</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	0	0	<mdl< td=""></mdl<>
	Mercury <sup>#1</sup>	mg/kg	1100	S4UL	244	67	8.4	42	5	2.5	1	0	<mdl< td=""></mdl<>
	Molybdenum	mg/kg			96	91	36	6	5	2.1	0	0	<mdl< td=""></mdl<>
	Nickel	mg/kg	980	S4UL	244	240	300	42	42	50	1	1	46
	Silicon	mg/kg	12000	Arcadis	105	96	14	31	7	5.1	1	0	<mdl< td=""></mdl<>
	Vanadium	mg/kg	9000	S4UI	151	151	3000	35	35	1400	1	1	35
	Zinc	mg/kg	730000	S4UL	244	244	7200	42	42	980	1	1	47
	Cyanide (Free)	mg/kg	66	DQRA	208	15	2	30	0	<mdl< td=""><td>1</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	1	0	<mdl< td=""></mdl<>
	Cyanide Total	mg/kg			235	156	160	38	10	30	1	0	<mdl< td=""></mdl<>
	Cyanide Complex	mg/kg			100	60	59	3	1	0.3	0	0	<mdl< td=""></mdl<>
	Magnesium	mg/kg			10	10	38000	0	0	<mdl< td=""><td>0</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	0	0	<mdl< td=""></mdl<>
	Sulphate	mg/kg			53	44	21	24	21	16	1	1	2.5
Inorganics	Sulphate as SO4	mg/kg			62	61	53000	24	24	1200	0	0	<mdi< td=""></mdi<>
	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< td=""></mdl<>
	pH (Lab)	pH_Units			258	257	13	38	38	12.5	1	1	8.9
	>C5-C6 Aliphatics	mg/kg	3200	S4UL	167	1	0.04	22	0	<mdl< td=""><td>1</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	1	0	<mdl< td=""></mdl<>
	>C8-C10 Aliphatics	mg/kg	2000	S4UL	167	0	0.04	22	1	<nidl 0.22</nidl 	1	0	<mdi< td=""></mdi<>
	>C10-C12 Aliphatics	mg/kg	9700	S4UL	166	11	530	22	0	<mdl< td=""><td>1</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	1	0	<mdl< td=""></mdl<>
	>C12-C16 Aliphatics	mg/kg	59000	S4UL	166	32	880	22	0	0	1	0	<mdl< td=""></mdl<>
Petroleum	>C16-C21 Aliphatics	mg/kg	800000	S4UL	166	47	4900	22	1	2.8	1	0	<mdl< td=""></mdl<>
Hydrocarbons	>C21-C35 Aliphatics	mg/kg	800000	S4UL	166	57	27000	22	1	27	1	0	<mdl< td=""></mdl<>
	>EC8-EC10 Aromatics	mg/kg	3500	S4UL	167	4	0.28	22	1	0.02	1	0	<mdl< td=""></mdl<>
	>EC10-EC12 Aromatics	mg/kg	16000	S4UL	166	13	4.1	22	3	10	1	0	<mdl< td=""></mdl<>
	>EC16-EC21 Aromatics	mg/kg	36000	S4UL	166	54	200	22	2	6.5	1	0	<mdl< td=""></mdl<>
	>EC21-EC35 Aromatics	mg/kg	28000	S4UL	166	55	14000	22	5	59	1	0	<mdl< td=""></mdl<>
	Naphthalene	mg/kg	1900	Wood	201	66	1.8	43	2	0.07	4	0	<mdl< td=""></mdl<>
	Acenaphthene	mg/kg	84000	S4UL	200	51	12	43	1	0.17	4	0	<mdl< td=""></mdl<>
	Acenaphthylene	mg/kg	83000	S4UL	200	42	3	43	1	0.12	4	0	<mdl< td=""></mdl<>
	Fluoranthene	mg/kg	23000	S4UL	200	156	160	43	4	1.2	4	0	<mdl< td=""></mdl<>
	Anthracene	mg/kg	520000	S4UL	200	81	30	43	3	0.27	4	0	<mdl< td=""></mdl<>
	Fluorene	mg/kg	22000	S4UL	200	143	140	43	5	1.2	4	0	<mdl< td=""></mdl<>
Polycyclic	Chrysene	mg/kg	350	S4UL S4UI	200	140	55	43	5	0.20	4	1	0.03
Aromatic	Pyrene	mg/kg	54000	S4UL	200	152	110	43	5	0.92	4	0	<mdl< td=""></mdl<>
riyarooanoono	Benzo(a)anthracene	mg/kg	170	S4UL	200	134	62	43	4	0.39	4	0	<mdl< td=""></mdl<>
	Benzo(b)fluoranthene	mg/kg	44	S4UL	200	141	60	43	5	0.4	4	0	<mdl< td=""></mdl<>
	Benzo(k)fluoranthene	mg/kg	1200	S4UL	200	118	22	43	3	0.15	4	0	<mdl< td=""></mdl<>
	Benzo(a)pyrene	mg/kg	77	Wood	200	118	45	43	3	0.21	4	0	<mdl< td=""></mdl<>
	Benzo(g,h,i)pervlene	mg/kg	3.5	S4UL	200	70	6.6	43	0	<mdl< td=""><td>4</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	4	0	<mdl< td=""></mdl<>
	Indeno(1,2,3-c,d)pyrene	mg/kg	500	S40L	200	110	19	43	1	0.12	4	0	<mdi< td=""></mdi<>
	3-&4-methylphenol <sup>#2</sup>	mg/kg	9310	Arcadis	62	1	0.2	10	0	<mdl< td=""><td>2</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	2	0	<mdl< td=""></mdl<>
	Phenol	mg/kg	760	S4UL	116	6	5.1	22	0	<mdl< td=""><td>4</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	4	0	<mdl< td=""></mdl<>
	Phenols Monohydric	mg/kg	760	S4UL	192	12	1.2	35	0	<mdl< td=""><td>1</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	1	0	<mdl< td=""></mdl<>
	1,1-dichloropropene	mg/kg			67	17	0.01	16	0	<mdl< td=""><td>3</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	3	0	<mdl< td=""></mdl<>
	1,2,3-trichloropropane	mg/kg	9.37	Arcadis	67	2	0.1	16	1	0.11	3	0	<mdl< td=""></mdl<>
	1,2,4-trimethylbenzene	mg/kg	0.001		67	3	0.02	16	0	<mdl< td=""><td>3</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	3	0	<mdl< td=""></mdl<>
	1,3,5-trimethylbenzene	mg/kg	0.004	US EPA	67	1	0.01	16	0	<mdi< td=""><td>3</td><td>0</td><td><mdi< td=""></mdi<></td></mdi<>	3	0	<mdi< td=""></mdi<>
	Chloromethane	ma/ka	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< td=""><td>3</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	3	0	<mdl< td=""></mdl<>
Volatile Organic Compounds / Semi	i p-isopropyltoluene	mg/kg			67	1	0.01	16	0	<mdl< td=""><td>3</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	3	0	<mdl< td=""></mdl<>
Volatile Organic Compounds	1,2,3-trichlorobenzene	mg/kg	102	S4UL	67	4	0.03	16	1	0.02	3	0	<mdl< td=""></mdl<>
Jempouruo	1,2,4-trichlorobenzene	mg/kg	220	S4UL	70	2	0.03	16	0	<mdl< td=""><td>3</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	3	0	<mdl< td=""></mdl<>
	Hexachlorobutadiene	mg/kg	31	S4UL	67	2	0.04	16	0	<mdl< td=""><td>3</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	3	0	<mdl< td=""></mdl<>
	4-nitrophenol	mg/kg	110	US EPA	65	2	1.1	16	0	<mdl< td=""><td>3</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	3	0	<mdl< td=""></mdl<>
	2,4-dimethylphenol	mg/kg	24,900	Arcadie	67	2	0.1	10	0	<ividl <mdi< td=""><td>3 4</td><td>0</td><td><mdi< td=""></mdi<></td></mdi<></ividl 	3 4	0	<mdi< td=""></mdi<>
	2-methylnaphthalene	mg/kg	2.,000	,	65	9	1.2	16	0	0	3	0	<mdl< td=""></mdl<>
	4-chlorophenyl phenyl ether	mg/kg			65	1	0.2	16	0	<mdl< td=""><td>3</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	3	0	<mdl< td=""></mdl<>
	Azobenzene	mg/kg	26	US EPA	65	1	0.2	16	0	<mdl< td=""><td>3</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	3	0	<mdl< td=""></mdl<>
	Carbazole	mg/kg	943	Arcadis	65	10	12	16	0	<mdl< td=""><td>3</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	3	0	<mdl< td=""></mdl<>
Polyablas's to '	Dibenzoturan	mg/kg	1580	Arcadis	65	10	7.9	16	0	<mdl< td=""><td>3</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	3	0	<mdl< td=""></mdl<>
Biphenyls	Total PCB 7 Congeners#3	mg/kg	9	Arcadis	42	2	0.18	5	0	<mdl< td=""><td>1</td><td>0</td><td><mdl< td=""></mdl<></td></mdl<>	1	0	<mdl< td=""></mdl<>
Asbestos	Asbestos	%	NA	NA	220	23	0.333	6	0	NA	0	0	NA

- 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 Polycholorinated Biphenyls data was analysed from wards. It is noted that while the 2004 Enviros 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 for 2 multiphapeng which is the laws of the categories data for the table to the nature of the structure  #1
- #2
- 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 Total PCB 7 Congeners presented rather than the individual cogeners detected (PCB 101, PCB 28 + PCB 31 and PCB 52), given that the GAC is derived for total PCBs rather than the individual cogeners. #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 derived generic assessment criteria, using CLEA v1.07, and adopting the model set up for the S4ULs DEFRA Category 4 Screening Levels (C4SL) (DEFRA, 2014) Arcadis
- C4SL
- 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
- USEPA Regional Screening Levels (RSLs) (US EPA, November 2021) US EPA

No criteria readily available

10 Maximum measured concentration exceeds the human health GAC



Notes \*

## **Appendix K**

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

10035117-AUK-X	X-XX-RP-ZZ-0428-03-LWoW_DQ	RA											
Appendix K- Ta On-Site	ble 1: Comparison of Measured	Concent	rations of Contar	ninants of Conce	ern in Groundwa	ter with GAC							
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
	Antimony	ua/l		5		13	13	2	2.5	<mdi< td=""><td>-</td><td>-</td><td>0</td></mdi<>	-	-	0
	Arsenic	ug/L	NIVP	10	25	71	71	25	24	9.6	0	0	14
	Barium	ug/L	NVP	1300		13	13	150	110	<mdi< td=""><td>0</td><td>-</td><td>0</td></mdi<>	0	-	0
	Boron	ug/l	NVP	1000	7000	72	62	1000	700	700	0	0	0
	Cadmium	ug/l	NVP	5	0.2	72	24	0.39	0.18	0.2	0	3	0
	Chromium (hexavalent)	µg/=	NVP	50	0.6	50	3	<mdl< td=""><td><mdl< td=""><td>120</td><td>0</td><td>3</td><td>1</td></mdl<></td></mdl<>	<mdl< td=""><td>120</td><td>0</td><td>3</td><td>1</td></mdl<>	120	0	3	1
	Chromium <sup>#1</sup>	ug/l	NVP	50	0.0	22	13	11	<mdi< td=""><td><mdi< td=""><td>0</td><td>-</td><td>0</td></mdi<></td></mdi<>	<mdi< td=""><td>0</td><td>-</td><td>0</td></mdi<>	0	-	0
	Chromium (Trivalent)	ug/L	NVP	50		50	4	43	6.1	22	0		0
Metals	Copper	μ <u>α</u> /Ι	NVP	2000	3.76	72	37	56	3.9	2.2	0	7	0
	Iron	ug/L		2000	1000	63	63	3600	2700	4500	-	7	16
	Lead	μ <u>α</u> /Ι	NIVP	10	1.3	72	46	10	0.64	2.5	0	5	0
	Manganese	μg/L	INVE	50	1.5	13	13	1400	10	0	-	-	3
	Mercuny	µg/L	2801	1	0.07	72	10	0.33	0.41	0.72	-	- 10	0
	Nickol	µg/L		20	8.6	72	49 60	14	5.9	0.72	0	6	1
	Selenium	μg/L		10	0.0	66	62	38	28	22	0	0	13
	Vanadium	µg/L		10	100	66	52	280	100	50	0	-	13
	Zino	μg/L	NIV/D	3000	7.0	72	50	200	11	39	-	15	0
	Ammonicoal Nitrogon og N	μ <u>g</u> /L		3000	0.021	62	63	440	10	12	0	15	0
		mg/L			0.021	<u> </u>	<b>5</b> 0	9.0	19	15	-	02	0
		mg/L	10,000	50	0.021	50	50	1.0	23	15	-	49	0
	Cyanide (Free)	µg/L	18,000	50	1	67	27	130	5.0	1.0	0	8	2
		µg/L		50	1	69	42	9900	4600	76	-	38	11
	Nitrate (as NO2.)	mg/L		50		23	17	0.35	1.5	0.65	-	-	0
Inorganics	Nitrate (as NO3-)	mg/L		50		27	13	0.34	0.82	140	-	-	1
	Nitrite (as N)	mg/L		0.5		20	2	0.27		0.25	-	-	0
	Nitrite (as NO2-)	mg/L		0.5		30	15	1.7	44	440	-	-	13
		mg/L		250		69	69	1600	2700	3000	-	-	44
	Sulphur as S	mg/L			0	12	12	400	380	570	-	-	0
		pH Uni		0505	9	63	44	85,000	9300	3900	-	44	0
	pH (Lab)		2801	6.5-9.5	6-8.5	72	12	11.9	11.8	12.2	-	0	0
	>C6-C8 Aliphatics	ug/L	>SOL	See TPH	See TPH	69	1	<mdl< td=""><td><mdl< td=""><td>120</td><td>0</td><td>1</td><td>1</td></mdl<></td></mdl<>	<mdl< td=""><td>120</td><td>0</td><td>1</td><td>1</td></mdl<>	120	0	1	1
	>C8-C10 Aliphatics	ug/L	>SOI	See TPH	See TPH	60	2			210	0	0	1
	>C10-C12 Aliphatics	ua/L	>SOL	See TPH	See TPH	69	15	1900	1	30	0	2	7
	>C12-C16 Aliphatics	ua/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< td=""><td>5.2</td><td>58</td><td>0</td><td>1</td><td>1</td></mdl<>	5.2	58	0	1	1
	>EC7-EC8 Aromatics	μg/L	>SOL	See TPH	See TPH	69	3	<mdl< td=""><td>13</td><td>22</td><td>0</td><td>0</td><td>3</td></mdl<>	13	22	0	0	3
Petroleum	>EC8-EC10 Aromatics	µg/L	>SOL	See TPH	See TPH	69	3	<mdl< td=""><td>23</td><td>250</td><td>0</td><td>1</td><td>3</td></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< td=""><td><mdl< td=""><td>20</td><td>0</td><td>0</td><td>0</td></mdl<></td></mdl<>	<mdl< td=""><td>20</td><td>0</td><td>0</td><td>0</td></mdl<>	20	0	0	0
	Ethylbenzene	µg/L	>SOL	300	20	71	1	<mdl< td=""><td><mdl< td=""><td>210</td><td>0</td><td>1</td><td>0</td></mdl<></td></mdl<>	<mdl< td=""><td>210</td><td>0</td><td>1</td><td>0</td></mdl<>	210	0	1	0

Notes

#1

\*\* See Appendix F for source of adopted DWS and EQS

EQS Environmental Quality Standard

DWS Drinking Water Standard

GAC Generic Assessment Criteria

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 is groundwater remaining 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



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.

10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA														
Appendix K- Tal On-Site	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	
	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	-	-	
Polycyclic	Chrysene	µg/L	>SOL			58	16	460	0.02	0	0	-	-	
Hydrocarbons	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	
	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 <sup>#2</sup>	5800 <sup>#2</sup>	7.7 <sup>#2</sup>	69	24	21	910	2000	0	0	0	
	1,1-dichloroethane	µg/L	1600000	2.8		41	1	0	1	0	0	-	0	
Valatila Organia	Chloroform	µg/L	820000	25	2.5	41	1	1	0	0	0	0	0	
Compounds /	Chloromethane	µg/L				41	7	2	3	0	-	-	-	
Semi Volatile	Benzyl alcohol	µg/L				41	1	0	1.6	0	-	-	-	
Organic	1-Methylnaphthalene	µg/L				41	1	1.7	0	0	-	-	-	
Semperado	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/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 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.
**	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 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 forTPH, 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. Further consideration of the risk to water resources required - see Appendix E Table 3
	No criteria readily available



### 10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW\_DQRA

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
	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
Motolo	Iron	µg/L		200	1000	6	6	30	56	-	0	0
Wetais	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
	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	-	-	-
Inorganics	Nitrate (as NO3-)	mg/L		50		2	2	0.31	17	-	-	0
	Nitrite (as N)	mg/L				5	1	<mdl< td=""><td>0.052</td><td>-</td><td>-</td><td>-</td></mdl<>	0.052	-	-	-
	Sulphate	mg/L		250		6	6	900	820	-	-	8
	Sulphur as S	mg/L				1	1	<mdl< td=""><td>150</td><td>-</td><td>-</td><td>-</td></mdl<>	150	-	-	-
	Thiocyanate (as SCN)	µg/L			9	6	4	100	46	-	4	-
	pH (Lab)	pH_Uni ts		6.5-9.5	6-8.5	6	6	11	11.4	-	0	-
	>C10-C12 Aliphatics	µg/L	>SOL	See TPH	See TPH	6	1	<mdl< td=""><td>6.4</td><td>0</td><td>-</td><td>-</td></mdl<>	6.4	0	-	-
	>C12-C16 Aliphatics	µg/L	>SOL	See TPH	See TPH	6	1	<mdl< td=""><td>4.6</td><td>0</td><td>-</td><td>-</td></mdl<>	4.6	0	-	-
Petroleum	>C16-C21 Aliphatics	µg/L	NR	See TPH	See TPH	6	1	<mdl< td=""><td>20</td><td>0</td><td>-</td><td>-</td></mdl<>	20	0	-	-
Hydrocarbons	>C21-C35 Aliphatics	µg/L	NR	See TPH	See TPH	6	1	<mdl< td=""><td>5.9</td><td>0</td><td>-</td><td>-</td></mdl<>	5.9	0	-	-
	TPH >C5-C35 Aliphatics/Aromatics	µg/L	na	10	50	6	1	<mdl< td=""><td>37</td><td>-</td><td>0</td><td>1</td></mdl<>	37	-	0	1
Polycyclic	Acenaphthene	µg/L	>SOL			5	1	<mdl< td=""><td>0.05</td><td>0</td><td>-</td><td>-</td></mdl<>	0.05	0	-	-
Aromatic	Fluoranthene	µg/L	>SOL		0.0063	5	1	0.01	<mdl< td=""><td>0</td><td>1</td><td>-</td></mdl<>	0	1	-
riyurocarbons	Fluorene	µg/L	>SOL			5	1	<mdl< td=""><td>0.02</td><td>0</td><td>-</td><td>-</td></mdl<>	0.02	0	-	-
Volatile Organic	Phenol	µg/L	>SOL	5800	7.7	5	4	7.9	4.4	0	1	0
Compounds / Semi Volatile	Benzyl alcohol	µg/L				5	4	2.2	1.7	-	-	-
Organic	Bis(2-ethylhexyl) phthalate	µg/L			1.3	5	1	5	<mdl< td=""><td>-</td><td>1</td><td>-</td></mdl<>	-	1	-
Compounds	Pentachlorophenol	µg/L			0.4	5	1	1.4	<mdl< td=""><td>-</td><td>1</td><td>-</td></mdl<>	-	1	-

### **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 measured above the laboratory Method Detection Limit during groundwater monitoring of dual installed off-Site monitoring well LF\BH01 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 LF\BH01 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 Sup	ply 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 avaialble



10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA																
Appendix K- Table 3: Comparison of Measured Concentrations of Contaminants of Concern in Groundwater with																
GAOn-Site																
			Human Health						Maximum Measured							
Compound			Generic	Adopted	Adopted	Soil Testing:	Testing:	Number of	Number of	Concentration - well	Maximum Measured	Measured	Number of	Number of	Consider	
Group	Compound*	Unit	Criteria	Drinking Water	coastal waters	Measured	Maximum	Samples	Detects	Ground / Made	Well Screens	Concentration -	Exceeding	Samples Exceeding of	Further?	Rationale
			(Commercial	Standards	EQS	Concentration	Measured Concentration	Analysed		Ground & Tidal Flat	Superficial Deposits	Bedrock	EQS	DWS		
			worker)							Deposits						
	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
	Lood	µg/L	NIV/D	10	13	38,000,000	4400	72	03	10	2700	4500	5	10	No	2
Metals	Manganese	ug/L	INVE	50	1.0	7 300 000	190	13	13	1400	10	< <u>MDI</u>	-	3	Yes	3
	Mercury	ua/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
	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
Inorganics	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	15	0.27		0.25	-	12	NO	4
	Sulphate	mg/L		250		49,000	2900	69	69	1.7	2700	3000	-	44	Ves	3
	Thiocyanate (as SCN)	ug/L		200	9	15,000	-	63	44	85.000	9300	3900	44	-	Yes	3
	TPH >C5-C35	µg/L		10	50	51,000,000	14	70	20	430,000	620	670	16	22	Voc**	2
Petroleum	Aliphatics/Aromatics**	µg/L	57000	10	30	51,000,000	14	74	52	430,000	50	570	10	32	Ne	5
Hydrocarbons	Benzene	µg/L	57000	300	8	<mdl< td=""><td>-</td><td>71</td><td>5</td><td>1</td><td>5.2</td><td>58</td><td>1</td><td>2</td><td>No</td><td>5</td></mdl<>	-	71	5	1	5.2	58	1	2	No	5
	Naphthalene	ug/L	>SOL	300	20	1800	0.55	58	33	25	4 9	0.31	7	-	Yes	3
	Acenaphthene	ua/L	>SOL		_	12.000	1.59	58	30	150	2.3	0.12	-	-	Yes <sup>(ii)</sup>	6
	Acenaphthylene	µg/L	>SOL			3000	0.03	58	18	0.38	0.02	0.02	-	-	Yes <sup>(ii)</sup>	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 <sup>(ii)</sup>	6
	Fluorene	µg/L	>SOL			18,000	0.61	58	29	12	0.52	0.08	-	-	Yes <sup>(ii)</sup>	6
Polycyclic Aromatic	Chrysene	µg/L	>SOL			55,000	1.1	58	16	460	0.02	<mdl< td=""><td>-</td><td>-</td><td>Yes<sup>(ii)</sup></td><td>6</td></mdl<>	-	-	Yes <sup>(ii)</sup>	6
Hydrocarbons	Pyrene	µg/L	>SOL			110,000	1.7	58	32	5400	0.14	0.03	-	-	Yes <sup>(ii)</sup>	6
	Benzo(a)anthracene	µg/L	>SOL			62,000	1.1	58	14	660	0.02	<mdl< td=""><td>-</td><td>-</td><td>Yes(iii)</td><td>6</td></mdl<>	-	-	Yes(iii)	6
	Benzo(b)fluoranthene	µg/L	>SOL	0.025	See BaP	60,000	3	58	13	140	<mdl< td=""><td><mdl< td=""><td>-</td><td>13</td><td>Yes</td><td>3</td></mdl<></td></mdl<>	<mdl< td=""><td>-</td><td>13</td><td>Yes</td><td>3</td></mdl<>	-	13	Yes	3
	Benzo(k)fluoranthene	µg/L	>SOL	0.025	See BaP	22,000	1.3	58	10	0.38	<mdl< td=""><td><mdl< td=""><td>-</td><td>7</td><td>Yes</td><td>3</td></mdl<></td></mdl<>	<mdl< td=""><td>-</td><td>7</td><td>Yes</td><td>3</td></mdl<>	-	7	Yes	3
	Benzo(a)pyrene	µg/L	>SOL	0.01	0.00017	45,000	2	58	9	0.88	<mdl< td=""><td></td><td>9</td><td>9</td><td>Yes</td><td>3</td></mdl<>		9	9	Yes	3
	Benzo(a h i)nervlene	µg/L	>SOL	0.025	See BaP	22,000	1.5	58	4	0.36	0.01	<mdl< td=""><td>-</td><td>- 7</td><td>Ves</td><td>3</td></mdl<>	-	- 7	Ves	3
	Indeno(1,2,3-c,d)pyrene	ug/L	>SOL	0.025	See BaP	21,000	1.6	58	8	0.33	<mdl< td=""><td><mdl< td=""><td>-</td><td>8</td><td>Yes</td><td>3</td></mdl<></td></mdl<>	<mdl< td=""><td>-</td><td>8</td><td>Yes</td><td>3</td></mdl<>	-	8	Yes	3
	3-&4-methylphenol	µg/L				200	-	41	2	1.8	<mdl< td=""><td><mdl< td=""><td>-</td><td>-</td><td>No</td><td>7</td></mdl<></td></mdl<>	<mdl< td=""><td>-</td><td>-</td><td>No</td><td>7</td></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< td=""><td>-</td><td>-</td><td>No</td><td>7</td></mdl<>	-	-	No	7
Volatile Organic	Benzyl alcohol	µg/L				<mdl< td=""><td>-</td><td>41</td><td>1</td><td><mdl< td=""><td>1.6</td><td><mdl< td=""><td>-</td><td>-</td><td>No</td><td>7</td></mdl<></td></mdl<></td></mdl<>	-	41	1	<mdl< td=""><td>1.6</td><td><mdl< td=""><td>-</td><td>-</td><td>No</td><td>7</td></mdl<></td></mdl<>	1.6	<mdl< td=""><td>-</td><td>-</td><td>No</td><td>7</td></mdl<>	-	-	No	7
Compounds /	1-Methylnaphthalene	µg/L				-	-	41	1	1.7	<mdl< td=""><td><mdl< td=""><td>-</td><td>-</td><td>Yes<sup>(ii)</sup></td><td>6</td></mdl<></td></mdl<>	<mdl< td=""><td>-</td><td>-</td><td>Yes<sup>(ii)</sup></td><td>6</td></mdl<>	-	-	Yes <sup>(ii)</sup>	6
Organic	2,4-dimethylphenol	µg/L				<mdl< td=""><td>-</td><td>41</td><td>3</td><td>4</td><td><mdl< td=""><td><mdl< td=""><td>-</td><td>-</td><td>No</td><td>7</td></mdl<></td></mdl<></td></mdl<>	-	41	3	4	<mdl< td=""><td><mdl< td=""><td>-</td><td>-</td><td>No</td><td>7</td></mdl<></td></mdl<>	<mdl< td=""><td>-</td><td>-</td><td>No</td><td>7</td></mdl<>	-	-	No	7
Compounds	2-methylnaphthalene	µg/L				1200	-	41	1	1.8	<mdl< td=""><td><mdl< td=""><td>-</td><td>-</td><td>Yes<sup>(ii)</sup></td><td>6</td></mdl<></td></mdl<>	<mdl< td=""><td>-</td><td>-</td><td>Yes<sup>(ii)</sup></td><td>6</td></mdl<>	-	-	Yes <sup>(ii)</sup>	6
	Bis(2-ethylhexyl) phthalate	µg/L			1.3	<mdl< td=""><td></td><td>41</td><td>3</td><td>20</td><td><mdl< td=""><td><mdl< td=""><td>3</td><td>-</td><td>No</td><td>9</td></mdl<></td></mdl<></td></mdl<>		41	3	20	<mdl< td=""><td><mdl< td=""><td>3</td><td>-</td><td>No</td><td>9</td></mdl<></td></mdl<>	<mdl< td=""><td>3</td><td>-</td><td>No</td><td>9</td></mdl<>	3	-	No	9
	Carbazole	µg/L				12,000	-	41	1	3.3	<mdl< td=""><td><mdl< td=""><td>-</td><td>-</td><td>Yes<sup>(ii)</sup></td><td>6</td></mdl<></td></mdl<>	<mdl< td=""><td>-</td><td>-</td><td>Yes<sup>(ii)</sup></td><td>6</td></mdl<>	-	-	Yes <sup>(ii)</sup>	6
	Dibenzofuran	µg/L				7900	-	41	2	310	<mdl< td=""><td><mdl< td=""><td>-</td><td>-</td><td>Yes<sup>(ii)</sup></td><td>6</td></mdl<></td></mdl<>	<mdl< td=""><td>-</td><td>-</td><td>Yes<sup>(ii)</sup></td><td>6</td></mdl<>	-	-	Yes <sup>(ii)</sup>	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  $NO_2$  and  $NO_3$  adjusted based on species reported as N.

WQS Water Quality Standard

EQS Environmental Quality Standard

DWS Drinking Water Standard

GAC Generic Assessment Criteria

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 nur 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 and that there were no exceedances of the EQS. 1 marginal DWS exceedances were observed

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.

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.

Further consideration of initiate 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 NO<sub>3</sub>). While the concentrations 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 (colourmetric 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 N). Via the IC method, (as V). Via the IC method, (as V). Via the IC method, (as V). Via the IC method (as N). Nintereas was measured in those access the site. Site of a moniacal nitrogen tends to concentrations were similar to note retained to the selectations were similar to note the above, nitrite was neasured in those access the site. Site 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 is evaluates the risk from nitrogen species. Ammoniacal nitrogen to concentrations and is consistently present across the site above the EQS.

Benzene was detected in 5 of 72 samples analysed (including on-Site wells and off-Site well LFiBH01) with the highest concentration of 58µg/l measured in groundwater collected from MSiBH03D (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 MSiBH03D at 210µg/l. The source of BTEX measured within MSiBH03D at terp 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 to novide 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.

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 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 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 indicating that they were typically identified in the same location and at similar concentrations.

- 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, Authroisation 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), ohloromethane, benzyl alcohol and 2,4-dimethylphenol, respectively, while PNECs of 10µg/l (-&4-methylphenol), 20µg/l (chloromethane) and benzyl alcohol (100µg/l) were presented for 2-&4-methylphenol. 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.
- 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 bave been measured in excess of the EQS for phenol bave bear is not clear what is driving the elevated concentrations of monohydric phenol with concentrations of bear hetlylphenols, chlorophenols and phenol below the EQS for phenol and in the majority of cases, below the laboratory fluctuations where the highest concentrations of monohydric phenol in MOSIBH3D were less than MDL in August 2021 and during the two subsequent monitoring visitently elevated for example, concentrations of monohydric phenol in MSIBH3D were less of the above, further consideration of 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 monohydric phenols is not been undertaken at this stage.
- 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-ethyhexyl)phthalate is a plasticizer, with no significant source identified in association with the Site. On this basis, and that the 9 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 wate
- 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.
  - mpound considered to require further consideration Yes

Both total and free cyanide were measured above the MDL. Measured total cyanide concentrations are generally one of 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 disassociation 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 witin 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<sup>(i</sup>

Compounds associated with Polycylic 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. Yes<sup>(ii)</sup>


Water Quality Standard Sources



# 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  $10\mu g/I$  (Private Water Supply Regulations 1991, removed from the 2009 regulations) to  $50\mu g/I-1000\mu g/I$  (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  $90\mu g/I$  to  $15,000\mu g/I$  for individual TPH fractions. In the absence of suitable criteria, Arcadis adopts a value of  $10 \mu g/I$  split between the TPH fractions for the more sensitive locations (e.g. Principal Aquifer, drinking water abstraction), and a value of  $50\mu g/I$  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.

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Appendix L: Wate	r 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	
	Antimony	µg/L		5 <sup>#1</sup>	
	Arsenic	µg/L	25 <sup>#2</sup>	10 <sup>#1</sup>	
	Barium	µg/L		1300 <sup>#3</sup>	
	Boron	µg/L	7000 <sup>#2</sup>	1000 <sup>#1</sup>	
	Cadmium	µg/L	0.2 <sup>#2</sup>	5 <sup>#1</sup>	
	Chromium (hexavalent)	µg/L	0.6 <sup>#2</sup>		
	Chromium	µg/L		50 <sup>#1</sup>	
	Chromium (Trivalent)	µg/L			
Metals	Copper	µg/L	3.76 <sup>#2</sup>	2000 <sup>#1</sup>	
	Iron	µg/L	1000 <sup>#2</sup>	200 <sup>#1</sup>	
	Lead	µg/L	1.3 <sup>#2</sup>	10 <sup>#1</sup>	
	Manganese	µg/L		50 <sup>#1</sup>	
	Mercury	µg/L	0.07 <sup>#2</sup>	1 <sup>#1</sup>	
	Nickel	µg/L	8.6 <sup>#2</sup>	20 <sup>#1</sup>	
	Selenium	µg/L		10 <sup>#1</sup>	
	Vanadium	µg/L	100 <sup>#2</sup>		
	Zinc	µg/L	7.9 <sup>#2</sup>	3000 <sup>#5</sup>	
	Ammoniacal Nitrogen as N	mg/L	0.021 <sup>#2</sup>		
	Cyanide (Free)	µg/L		50 <sup>#1</sup>	
	Cyanide Total	µg/L	1 <sup>#2</sup>	50 <sup>#1</sup>	
Inorganics	Nitrate (as NO3-)	mg/L		50(NO3) <sup>#6</sup>	
	Nitrite (as NO2-)	mg/L		0.5(NO2) <sup>#7</sup>	
	Sulphate as SO4	mg/L		250 <sup>#4</sup>	
	Thiocyanate (as SCN)	µg/L	9 <sup>#8</sup>		
Other	pH (Lab)	pH_Unit		6.5-9.5 <sup>#1</sup>	
	TPH >C5-C35 Aliphatics/Aromatics	µg/L	50 <sup>#9</sup>	10 <sup>#9</sup>	
Petroleum	Benzene	µg/L	8 <sup>#2</sup>	1 <sup>#1</sup>	
Hydrocarbons	Toluene	µg/L	74 <sup>#2</sup>	700 <sup>#3</sup>	
	Ethylbenzene	µg/L	20 <sup>#2</sup>	300 <sup>#3</sup>	
	Naphthalene	µg/L	2 <sup>#2</sup>		
	Fluoranthene	µg/L	0.0063 <sup>#2</sup>		
	Anthracene	µg/L	0.1 <sup>#2</sup>		
Polycyclic	Benzo(b)fluoranthene	µg/L	See BaP	0.025 <sup>#10</sup>	
Hydrocarbons	Benzo(k)fluoranthene	µg/L	See BaP	0.025 <sup>#10</sup>	
	Benzo(a)pyrene	µg/L	0.00017 <sup>#2</sup>	0.01 <sup>#1</sup>	
	Benzo(g,h,i)perylene	µg/L	See BaP	0.025 <sup>#10</sup>	
	Indeno(1,2,3-c,d)pyrene	µg/L	See BaP	0.025 <sup>#10</sup>	
Volatile Organic	Phenol	µg/L	7.7 <sup>#2</sup>	5800 <sup>#11</sup>	
Compounds and	1,1-dichloroethane	µg/L		2.8 <sup>#11</sup>	
Organic	Chloroform	µg/L	2.5 <sup>#2</sup>	25 <sup>#12</sup>	
Compounds	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/uksi/2016/614/pdfs/uksi\_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 50µg/l-1000µg/l (Surface Waters (Abstraction for Drinking Water) Regulations 1989).

#10:Water Supply (Water Quality) Regulations 2016. Value of 0.1µg/l for PAH split between four individual PAH. Requires summation of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghiperylene and indeno(123cd)pyrene to use 0.1µg/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 100µg/l for sum trihalomethanes split between individual compounds.
Requires summation of chloroform, chlorodibromomethane and bromodichloromethanes to use 100µg/l value.



# **Appendix M**

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

10035117-AUK Appendix M <sup>.</sup> (	-XX-XX-RP-ZZ-0428-02-LWoW_D	QRA	Contaminants of (	Concern in Soil Le	achate with G	AC			
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
	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 <sup>#1</sup>	µg/L	50		74	43	16	0	0
	Chromium (Trivalent)	µg/L			15	4	32	-	-
Metals	Copper	µg/L	2000	3.76	88	71	33	9	0
INICIAIS	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
	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
Inorganics &	Cyanide (Free)	µg/L	50	1	15	2	0.1	0	0
Other	Cyanide Total	µg/L	50	1	21	3	1.5	1	0
Other	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
	Total Organic Carbon	mg/l			15	5	7.9	-	-
Petroleum Hydrocarbons	TPH >C5-C35 Aliphatics/Aromatics <sup>#2</sup>	μg/L	10	50	2	2	14	0	1
	Naphthalene	ug/L		2	16	8	0.55	0	-
	Acenaphthene	ua/L			16	4	1.59	-	-
	Acenaphthylene	ug/L			16	3	0.03	-	-
	Fluoranthene	ug/L		0.0063	16	11	1.4	10	-
	Anthracene	ug/L		0.1	16	7	0.23	1	-
	Phenanthrene	ua/L			16	12	0.82	-	-
	Fluorene	ua/L			16	7	0.61	-	-
Polycyclic	Chrysene	ug/L			16	7	1.1	-	-
Aromatic	Pyrene	ug/L			16	11	1.7	-	-
Hydrocarbons	Benzo(a)anthracene	ug/L			16	7	1.1	-	-
	Benzo(b)fluoranthene	ug/L	0.025	See BaP	16	8	3	0	7
	Benzo(k)fluoranthene	ua/L	0.025	See BaP	16	7	1.3	0	6
	Benzo(a)pyrene	ua/L	0.01	0.00017	16	7	2	7	7
	Dibenz(a,h)anthracene	ug/L			16	5	0.33	-	-
	Benzo(g,h,i)pervlene	ug/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 Monohvdric	µg/L		7.7	2	1	<100	0	-
								-	

Notes

#1

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 Enviros 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

Criteria protecive 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 avaiable



**Chemical Input Parameter Values** 



# **Chemical Input Parameter Values**

10035117-AUK-XX-RP-ZZ-0428-03-LWoW_DQRA						
Appendix N: Chemical input Parameter Values						
Contaminant						
Symbol		Nd				
Units	і/кд	і/кд				
I otal Petroleum Hydrocarbons	700	[1]	1			
	/90		1			
Aliphatic > $C_6$ - $C_8$	4 000		1			
Aliphatic > $C_8$ - $C_{10}$	32 000		1			
Aliphatic > $C_{10}$ - $C_{12}$	250 000	NA [1]	1			
Aliphatic > $C_{12}$ - $C_{16}$	5 x 10°	NA [1]	1			
Aliphatic > $C_{16}$ - $C_{35}$	1 x 10°	NA [1]	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				
Aromatic > $C_{16}$ - $C_{21}$	16 000	NA				
Aromatic > $C_{21}$ - $C_{35}$	130 000	NA	_			
Polycyclic Aromatic Hydrocarbons						
Naphthalene	646	NA <sup>[2]</sup>	1			
Fluoranthene	18197	NA <sup>[2]</sup>	1			
Anthracene	5012	NA <sup>[3]</sup>	1			
Benzo[b]fluoranthene	1.05 x 10 <sup>5</sup>	NA <sup>[2]</sup>	1			
Benzo[k]fluoranthene	1.48 x 10 <sup>5</sup>	NA <sup>[2]</sup>	1			
Benzo(a)pyrene	1.29 x 10 <sup>5</sup>	NA <sup>[2]</sup>	1			
Benzo(g,h,i)perylene	4.17 x 10 <sup>5</sup>	NA <sup>[2]</sup>	1			
Indeno[123-cd]pyrene	87096	NA <sup>[2]</sup>	Γ			
Metals & Inorganics						
Copper	NA	316 [4]	1			
Iron	NA	220 [5]	1			
Manganese	NA	50 [5]	1			
Mercury	NA	500 [6]	1			
Nickel	NA	500 [7]	1			
Zinc	NA	501 [4]	ī			
Ammoniacal Nitrogen as N	NA	0.4* [8]	Ī			
Cyanide Total	NA	5.0 [9]	ī			
Thiocyanate	NA	5.0** [9]	1			
Sulphate	NA	0.43*** [10	]			

#### Notes

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Sources

The partitioning coefficient, kd, 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 Kd adopted in the absence of a readily available Kd for thiocyanate The partitioning coefficient, kd, 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.

- <sup>1</sup> TPH CWG 1997
- $_{\rm 2}$  EA 2008. Compilation of data for priority organic pollutants for derivation of Soil Guideline Values.  $^{\rm 2}$  Science Report SC050021/SR7
- $^{\rm 3}$  Estimated by linear regression from log Kow (Montgomery 2007)
- $^{\rm 4}$  US EPA 2005. Partition coefficients for metals in surface water, soil and waste. Table 3.
- <sup>5</sup> ConSim 2000
- <sup>6</sup> EA 2009. Soil Gudieline Values for mercury in soil. Science Report SC050021/Mercury SGV
- 7 EA 2009. Soil Gudieline Values for nickel in soil. Science Report SC050021/Nickel SGV
- <sub>8</sub> Buss, S. R. et al., 2004. A Review of Ammonium Attenuation in Soil and Groundwater, Quarterly Journal of Engineering Geology and Hydrogeology.
- US EPA 2005a. Partition coefficients for metals in surface water, soil and waste No, EPA/600/R-  $^{9}$  05/074
- 10 EA 2005b. Development of the partition coefficient (Kd) test method for use in environmental risk assessments. Science Report SC020039/4.



10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA						
Appendix N:	Appendix N: Chemical Input Parameter Values					
Contaminant	Half Life*	Degradation Coefficient				
Symbol	t <sub>1/2</sub>					
Units	days	days⁻¹				
Total Petroleum Hydrocarbons						
Aliphatic >C <sub>5</sub> -C <sub>6</sub>	360	1.93 x 10 <sup>-3</sup> <sup>[2]</sup>				
Aliphatic >C <sub>6</sub> -C <sub>8</sub>	360	1.93 x 10 <sup>-3</sup> <sup>[2]</sup>				
Aliphatic >C <sub>8</sub> -C <sub>10</sub>	712	9.74 x 10 <sup>-4</sup> <sup>[3]</sup>				
Aliphatic >C <sub>10</sub> -C <sub>12</sub>	1750	3.96 x 10 <sup>-4 [3]</sup>				
Aliphatic >C <sub>12</sub> -C <sub>16</sub>	1750	3.96 x 10 <sup>-4 [3]</sup>				
Aliphatic >C <sub>16</sub> -C <sub>35</sub>	1750	3.96 x 10 <sup>-4</sup> <sup>[3]</sup>				
Aromatic >C <sub>8</sub> -C <sub>10</sub>	200	3.47 x 10 <sup>-3 [1]</sup>				
Aromatic > $C_{10}$ - $C_{12}$	300	2.31 x 10 <sup>-3 [2]</sup>				
Aromatic >C <sub>12</sub> -C <sub>16</sub>	204	3.40 x 10 <sup>-3 [2]</sup>				
Aromatic >C <sub>16</sub> -C <sub>21</sub>	1000	6.93 x 10 <sup>-4 [2]</sup>				
Aromatic > $C_{21}$ - $C_{35}$	2000	3.47 x 10 <sup>-4 [2]</sup>				
Polycyclic Aromatic Hydrocarbons						
Naphthalene	300	2.31 x 10 <sup>-3</sup> <sup>[1]</sup>				
Fluoranthene	880	7.88 x 10 <sup>-4</sup> <sup>[2]</sup>				
Anthracene	920	7.53 x 10 <sup>-4</sup> <sup>[2]</sup>				
Benzo[b]fluoranthene	1220	5.68 x 10 <sup>-4</sup> <sup>[2]</sup>				
Benzo[k]fluoranthene	4280	1.62 x 10 <sup>-4</sup> <sup>[2]</sup>				
Benzo(a)pyrene	1060	6.54 x 10 <sup>-4</sup> <sup>[2]</sup>				
Benzo(g,h,i)perylene	1300	5.33 x 10 <sup>-4</sup> <sup>[2]</sup>				
Indeno[123-cd]pyrene	1460	4.75 x 10 <sup>-4</sup> <sup>[2]</sup>				
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<sup>[3]</sup>, 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.

\*



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.





arameter	Italige	Dula ocuroo
Aquifer Fraction of Organic Carbon (-)	0.001 - 0.016	The aquifer Fraction of Organic Carbon (FOC) was based granular Tidal Flat Deposits indicated a range from 0.2 to contamination was identified (samples containing sum P/ to FOC, which indicated a range in FOC of 0.001 to 0.016 0.016 was selected for sensitivity testing. It is noted that while aquifer FOC appears to be an insense
Aquifer Fraction of Organic Carbon (-)	Level 3 Groundwater	250.0000
Groundwater	SSAC (µg/I)	245.0000
0.001	231	1 € 40.0000
0.003	231	] <u>\$</u> 35.0000
0.005	231	30.0000 کې ا
0.01	231	225.0000
0.01	231	<sup>9</sup> 220 0000
0.012	231	
0.014	231	
0.016	231	<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>
		2205.0000 200.0000
		0.0009         0.0029         0.0049         0.0069           Fraction of C         Fraction of C
		Selected value highlighted green 0.005





Parameter       Range       Data Source       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/cm³), a sand (1.37 to 1.81g/cm3) and silt (1.82 to 2.15g/cm³) while Tomlinson reported values for a fine and silty sand of 1.75 to 2.15g/cm³ and 1.6 to 2.0g/cm³ for a gravel As such, a range of values between 1.6 g/cm³ and 1.8g/cm³ was adopted for sensitivity testing.       Parameter       Range       The average groundwater elevation within the AEG 2021 data) and LF\BH02 (based on the v with AECOM 2021) were combined with the or values between 1.6 g/cm³ and 1.8g/cm³ was adopted for sensitivity testing.       Saturated Aquifer Thickness (m)       10.4 - 12.7       The average groundwater elevation within the or ACO and -8.4m AOD, respectively) to define the of 11.5 to 11.6m. The average of the two thick ±10% (i.e. 10.4 to 12.7).         Aguifer Bulk Density       250.000       Sensitivity Testing - Aquifer Bulk Density       Saturated Aquifer       Level 3 Groundwater       250	
Parameter       Range       Data Source         Aquifer Bulk Density (g/cm³)       A range of values for bulk density were defined based on values reported by ConSim (2000) for a gravel values for a fine and silty sand of 1.75 to 2.19g/cm³), a sand (1.37 to 1.81g/cm3) and silt (1.82 to 2.15g/cm³) while Tomlinson reported values for a fine and silty sand of 1.75 to 2.15g/cm³ and 1.6 to 2.0g/cm³ for a gravel As such, a range of values between 1.6 g/cm³ and 1.8g/cm³ was adopted for sensitivity testing.       Parameter       Range       Data Source         Aquifer Bulk Density       1.6 - 1.8       A range of values for bulk density were defined based on values reported by ConSim (2000) for a gravel values for a fine and silty sand of 1.75 to 2.15g/cm³ and 1.6 to 2.0g/cm³ for a gravel As such, a range of values between 1.6 g/cm³ and 1.8g/cm³ was adopted for sensitivity testing.       Parameter       Saturated Aquifer       10.4 - 12.7       The average groundwater elevation within the or ACG 2021 data) and LF\BHO2 (based on the v within AECOM 2021) were combined with the or AOD and -8.4m AOD, respectively) to define the of 11.5 to 11.6m. The average of the two thick ±10% (i.e. 10.4 to 12.7).         Aquifer Bulk Density       Level 3       Sensitivity Testing - Aquifer Bulk Density       Sensitivity	
Aquifer Bulk Density (g/cm <sup>3</sup> )       1.6 - 1.8       A range of values for bulk density were defined based on values reported by ConSim (2000) for a gravel values for a fine and silty sand of 1.75 to 2.19g/cm <sup>3</sup> ), a sand (1.37 to 1.81g/cm <sup>3</sup> ) and silt (1.82 to 2.15g/cm <sup>3</sup> ) while Tomlinson reported values for a fine and silty sand of 1.75 to 2.15g/cm <sup>3</sup> and 1.6 to 2.0g/cm <sup>3</sup> for a gravel As such, a range of values between 1.6 g/cm <sup>3</sup> and 1.8g/cm <sup>3</sup> was adopted for sensitivity testing.       Saturated Aquifer Thickness (m)       10.4 - 12.7       The average groundwater elevation within the AEG 2021 data) and LF\BH02 (based on the v within AECOM 2021) were combined with the of AOD and -8.4m AOD, respectively) to define the of 11.5 to 11.6m. The average of the two thick ±10% (i.e. 10.4 to 12.7).         Aquifer Bulk Density       Level 3       Sensitivity Testing - Aquifer Bulk Density       Saturated Aquifer       Saturated Aquifer	
Sensitivity Testing - Aquifer Bulk Density     Sensitivity     Sensitivity       Aquifer Bulk Density     250.000     Sensitivity	off-Site we vibrating win depth to ba the saturate kness' was
Aquifer Bulk Density Level 3 250.000	vity Testing -
(g/cm <sup>3</sup> ) Groundwater SSAC (µg/l) 245.000 245.000 245 Groundwater SSAC (µg/l) 245.000 245 358 (µg/l) 245 358 (µ	
1.7 231 <u>5</u> 235.000 11.0 231 <u>5</u> 235	
Ē210.000	
₹205.000 g 205	
	) 1
Bulk Density (g/cm <sup>3</sup> )	Saturated A
	outuration /
Selected value highlighted green 1.7 Selected value highlighted green	11.55





Physical Input Parameter Values



# **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 <sup>3</sup> /cm <sup>3</sup> )	0.25					
Hydraulic conductivity (m/day)	2.75	-				
Hydraulic gradient (m/m)	0.0015	- See Annendix M (consitivity testing)				
Saturated Aquifer Thickness (m)	11.55					
Fraction of organic carbon (g oc/g soil)	0.005	-				
Soil bulk density (g/cm <sup>3</sup> )	1.70	-				
Plume thickness	11.55	Assumed to be equal to the saturated aquifer thickness				



**Risk Assessment Methodology** 



**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.

TPH Breakthrough Times



10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA					
Appendix R: TPH Breakthrough Times					
Contaminant of Concern	BreakthroughTime (years) at 50m Compliance Point	Group	Adopted Compliance Criteria (μg/l)		
TPH Aliphatic					
Aliphatic C5-C6	30	А	16.6		
Aliphatic >C6-C8	120	В	25		
Aliphatic >C8-C10	1000	С	25		
Aliphatic >C10-C12	>1000				
Aliphatic >C12-C16	>1000				
Aliphatic >C16-C35	>1000				
TPH Aromatic					
Aromatic >EC8-EC10	50	А	16.6		
Aromatic >EC10-EC12	80	А	16.6		
Aromatic >EC12-EC16	140	В	25		
Aromatic >EC16-EC21	510	С	25		
Aromatic >EC21-EC35	>1000				

#### Notes:

The environmental quality standard for sum TPH of 50  $\mu$ 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

С

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.



Example RTW Output Sheet



LAND WEST OF WARRENBY, TEESWORKS, REDCAR Contaminated Land Generic Quantitative Risk Assessment and Detailed Quantitative Risk Assessment REPORT NO: 10035117-AUK-XX-XX-RP-ZZ-0428-04-LWoW\_DQRA

10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA								
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 50	m compliance point - no signficant ris	k is considered to be present	Yes			
Aliphatic >C12-C16	*	*No significant breakthrough at 50	m compliance point - no signficant ris	k is considered to be present	Yes			
Aliphatic >C16-C35	*	*No significant breakthrough at 50	m compliance point - no signficant ris	k 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							
Benzo(a)pyrene	*	*No significant breakthrough at 50	)m compliance point - no signficant ris	k 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 50	0n 3.76E+00		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 50	)m compliance point - no signficant ris	k is considered to be present	Yes			
Benzo(k)fluoranthene	*	*No significant breakthrough at 50	)m compliance point - no signficant ris	k is considered to be present	Yes			
Benzo(ghi)perylene	*	*No significant breakthrough at 50	m compliance point - no signficant ris	k is considered to be present	Yes			
Indeno(123-c,d)pyrene	*	*No significant breakthrough at 50	)m compliance point - no signficant ris	k is considered to be present	Yes			
Iron	*	*No significant breakthrough at 50	m compliance point - no signficant ris	k is considered to be present	Yes			
Manganese	50 [2]	1.00E+00	5.00E+01		No			
Mercury	*	*No significant breakthrough at 50	m compliance point - no signficant ris	k is considered to be present	Yes			
Nickel	*	*No significant breakthrough at 50	)m compliance point - no signficant ris	k is considered to be present	Yes			
Zinc	*	*No significant breakthrough at 50	m compliance point - no signficant ris	k 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.

<sup>[2]</sup> 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.



10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA										
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 20	0m compliance point - no signficant r	sk is considered to be present	Yes				
Aliphatic >C10-C12	*		*No significant breakthrough at 50	m compliance point - no signficant ris	k is considered to be present	Yes				
Aliphatic >C12-C16	*		*No significant breakthrough at 50	m compliance point - no signficant ris	k is considered to be present	Yes				
Aliphatic >C16-C35	*		*No significant breakthrough at 50	m compliance point - no signficant ris	k 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 20	0m compliance point - no signficant r	sk is considered to be present	Yes				
Aromatic >EC21-EC35	*		*No significant breakthrough at 50	m compliance point - no signficant ris	k is considered to be present	Yes				
Benzo(a)pyrene	*		*No significant breakthrough at 50	m compliance point - no signficant ris	k 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 50	m compliance point - no signficant ris	k is considered to be present	Yes				
Fluoranthene	*		*No significant breakthrough at 20	0m compliance point - no signficant r	sk is considered to be present	Yes				
Anthracene	0.1		3.26E+02	3.26E+01		No				
Benzo(b)fluoranthene	*		*No significant breakthrough at 50	m compliance point - no signficant ris	k is considered to be present	Yes				
Benzo(k)fluoranthene	*		*No significant breakthrough at 50	m compliance point - no signficant ris	k is considered to be present	Yes				
Benzo(ghi)perylene	*		*No significant breakthrough at 50	m compliance point - no signficant ris	k is considered to be present	Yes				
Indeno(123-c,d)pyrene	*		*No significant breakthrough at 50	m compliance point - no signficant ris	k is considered to be present	Yes				
Iron	*		*No significant breakthrough at 50	m compliance point - no signficant ris	k is considered to be present	Yes				
Manganese	*		*No significant breakthrough at 20	0m compliance point - no signficant r	sk is considered to be present	Yes				
Mercury	*		*No significant breakthrough at 50	m compliance point - no signficant ris	k is considered to be present	Yes				
Nickel	*		*No significant breakthrough at 50	m compliance point - no signficant ris	k is considered to be present	Yes				
Zinc	*		*No significant breakthrough at 50	m compliance point - no signficant ris	k 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 See Note



Redcar NetZero Laura Garland

ed by:

Input Parameters (using pull down menu)	Variable	Value	Unit	Source	Select Method for deriving Partitio	n Co-ef	ficient (using pu	II down menu)			
					Calculate for non-pola	ar organ	ic chemicals		1.2E+00	Calculated (	concentrations for
Contaminant		Naphthalene		from Level 1				-		distance-co	ncentration graph
Target Concentration	CT	2.00E-03	mg/l	from Level 1	Entry if specify partition coefficient (option	on)			1.0E+00 -		
					Soil water partition coefficient	Kd		l/kg		Ogata Banks	
					Entry for non-polar organic chemicals (o	ption)		7	5 8.0E-01	From calcula	tion sheet
Select analytical solution (click on brown cell below, the	n on pu	III-down menu)			Fraction of organic carbon in aquifer	foc	5.00E-03	fraction		Distance	Concentration
		Ogata Banks		Equations in HRA publication	Organic carbon partition coefficient	Koc	6.46E+02	l/kg	5 6.0E-01		ma/l
L		- 3			Entry for ionic organic chemicals (option	)				0	1 0E+00
Approach for simulating vertical dispersion:		Simulate v	ertical di	spersion in 1 direction	Sorption coefficient for related species	, K		l/kg	5 9 40E-01 -	2.5	7.89E-01
· · · · · · · · · · · · · · · · · · ·					Sorption coefficient for ionised species	K		l/kg		5.0	6.22E-01
Select nature of decay rate (click on brown cell below, th	nen on r	oull-down menu)			pH value	pH			3 20501	7.5	4.91E-01
Approach for simulating degradation of pollutants:	Apply de	egradation rate to	dissolve	d pollutants only	acid dissociation constant	pKa			3	10.0	3.87E-01
				Source of parameter value	Fraction of organic carbon in aquifer	foc		fraction		12.5	3.05E-01
Initial contaminant concentration in groundwater at plume core	C <sub>0</sub>	1.00E+00	mg/l					-	0.0E+00 0 10 20 30 40 50 60	15.0	2.41E-01
Half life for degradation of contaminant in water	t <sub>1/2</sub>	3.00E+02	days		Soil water partition coefficient	Kd	3.23E+00	l/kg	Distance (m)	17.5	1.90E-01
Calculated decay rate	λ	2.31E-03	days <sup>-1</sup>							20.0	1.50E-01
Width of plume in aquifer at source (perpendicular to flow)	Sz	6.50E+02	m							22.5	1.18E-01
Plume thickness at source	Sy	1.16E+01	m						Note graph assumes plume disperses vertically in one direction only. An alternative	25.0	9.31E-02
Saturated aquifer thickness	da	1.16E+01	m		Define dispersivity (click brown cell and u	use pull d	lown list)	_	solution assuming the centre of the plume is located at the mid-depth of the aquifer is	27.5	7.34E-02
Bulk density of aquifer materials	ρ	1.70E+00	g/cm <sup>3</sup>		User defined value	s for dis	persivity		presented in the calculation sheets.	30.0	5.79E-02
Effective porosity of aquifer	n	2.50E-01	fraction							32.5	4.57E-02
Hydraulic gradient	i	1.50E-03	fraction				Enter value	Calc value Xu & Eckstein m		35.0	3.60E-02
Hydraulic conductivity of aquifer	к	2.75E+00	m/d		Longitudinal dispersivity	ax	5.00E+00	5.00E+00 2.98E+00 m	Note	37.5	2.84E-02
Distance to compliance point	х	5.00E+01	m		Transverse dispersivity	az	5.00E-01	5.00E-01 2.98E-01 m		40.0	2.24E-02
Distance (lateral) to compliance point perpendicular to flow direction	z	0.00E+00	m		Vertical dispersivity	ay	1.00E-99	5.00E-02 2.98E-02	This sheet calculates the Level 3 remedial target for groundwater, based on the distance	42.5	1.77E-02
Distance (depth) to compliance point perpendicular to flow direction	У	0.00E+00	m		Note values of dispersivity must be > 0				to the receptor or compliance located down hydraulic gradient of the source Three	45.0	1.39E-02
Time since pollutant entered groundwater	t	9.00E+99	days	time variant options only	For calculated value, assumes ax = 0.1 *x, az	z = 0.01 * x	x, ay = 0.001 * x		solution methods are included, the preferred option is Ogata Banks.	47.5	1.10E-02
Parameters values determined from options					Xu & Eckstein (1995) report ax = 0.83(log <sub>10</sub> x)	) <sup>2,414</sup> ; az =	: ax/10, ay = ax/100 a	re assumed	By setting a long travel time it will give the steady state solution, which should be used to	50.0	8.67E-03
Partition coefficient	Kd	3.23E+00	l/kg	see options					calculate remedial targets.		
Longitudinal dispersivity	ax	5.00E+00	m	see options					The measured groundwater concentration should be compared		
Transverse dispersivity	az	5.00E-01	m	see options					with the Level 3 remedial target to determine the need for further action.		
Vertical dispersivity	ay	1.00E-99	m	see options					Note if contaminant is not subject to first order degradation, then set half life as 9.0E+99.		
Calculated Parameters	Variable								This worksheet should be used if pollutant transport and degradation is best described by		
									a first order reaction. If degradation is best desribed by an electron limited degradation		
Groundwater flow velocity	v	1.65E-02	m/d						such as oxidation by O2, NO3, SO4 etc than an alternative solution should be used		
Retardation factor	Rf	2.30E+01	fraction								
Decay rate used	λ	1.01E-04	d <sup>-1</sup>								
Rate of contaminant flow due to retardation	u	7.19E-04	m/d								
aminant concentration at distance x, assuming one-way vertical dispersion	CED	8.67E-03	mg/l								

Attenuation factor (one way vertical dispersion, CO/CED)	AF	1.15E+02
Contaminant concentration at distance x, assuming one-way vertical dispersion	C <sub>ED</sub>	8.67E-03
Rate of contaminant flow due to retardation	u	7.19E-04
Decay rate used	λ	1.01E-04
Retardation factor	RI	2.30E+01

Level 3 - Groundwater

#### **Remedial Targets**

Remedial Target		2.31E-01	mg/l	For comparison with measured groundwater concentration.
Ogata Banks				
Distance to compliance point		50	m	
Concentration of contaminant at compliance point	C <sub>ED</sub> /C <sub>0</sub>	8.67E-03	mg/l	Ogata Banks
after		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.

#### Appendix S - Table 4: RTW Results and Example RTW Output Sheets for Naphthalene - 200m





after Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target

m

davs

mg/I Ogata Banks

3.85E-06

9.0E+99

The recommended value for time when calculating the remedial target is 9.9E+99.

Concentration of contaminant at compliance point  $C_{ED}/C_0$ 



Arcadis (UK) Limited

1 Whitehall Riverside Leeds LS1 4BN United Kingdom T: +44 (0)113 284 5300

arcadis.com