ARUP

Net Zero Teesside Power Limited

Environmental Permit Variation

Appendix B: Site Condition Report

Reference: EPR/PP3501LR

P2.0 | 10th March 2026



This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 308822

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List of Abbreviations

Abbreviation	Description
BGS	British Geological Survey
CCGT	Combined Cycle Gas Turbine
CCUS	Carbon Capture, Utilisation and Storage
COSHH	Control of Substances Hazardous to Health
EA	Environment Agency
EMS	Environmental Management System
EPR	Environmental Permitting (England and Wales) Regulations 2016 (as amended)
FEED	Front-End Engineering Design
GI	Ground Investigation
GIR	Ground Investigation Report
Ha	Hectares
HGV	Heavy Goods Vehicle
LEP	Local Enforcement Position
LWS	Local Wildlife Site
MEA	Monoethanolamine
MSDS	Material Safety Data Sheet
PCC	Post-combustion Carbon Capture Plant
RAMSAR	Ramsar Wetland of International Importance
RHS	Relevant Hazardous Substances
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
STDC	South Tees Development Corporation
WRP	Works Remediation Plan
NZT	Net Zero Teesside

1.0 SITE DETAILS	
Name of the applicant	Net Zero Teesside Power Limited
Activity address	The site address is: Net Zero Teesside Limited Net Zero Teesside Power Station and Carbon Capture Plant Redcar, Cleveland TS10 5QW
National grid reference	NZ 57000 25400

Document reference and dates for Site Condition Report at permit application and surrender	Annex A – AECOM (2025). Baseline Geology and Hydrogeology Report.

Document references for site plans (including location and boundaries)	Annex D - Figures

2.0 CONDITION OF THE LAND AT PERMIT ISSUE

Environmental setting including:

- geology
- hydrogeology
- surface waters

Overview

The Environmental Permit (EPR/PP3501LR) was originally issued to Net Zero Teesside Power Limited (NZT) in May 2024. A Site Condition Report was prepared and submitted with this application (which was produced in 2021).

At the time of the original Environmental Permit application for the Installation, the final detailed technology selection for the Combined Cycle Gas Turbine (CCGT) power plant and the post-combustion carbon capture (PCC) plant was still in progress. The application was therefore made on the basis of a generic high efficiency CCGT and a Monoethanolamine (MEA) based PCC plant. As the Installation enters construction, final design details are now available, and therefore an Environmental Permit variation is being made in order to align the permitted Installation with the updated design and specific plant details. As part of that variation there has been an amendment to the Installation Boundary. This Site Condition Report reflects the updated baseline to incorporate the land within the revised Installation Boundary.

Site Location & Setting

The Installation is being constructed within approximately 45 hectares (Ha) of land previously within the Redcar steelworks site, which shutdown in October 2015. Since the original application the Site has been remediated and a development platform created prior to construction commencing. The location of the Installation is shown on Figure 1, Annex D.

The Installation is located approximately 400 m to the south of the North Sea shoreline and the town of Dormanstown is located approximately 1.4 km to the southeast of the Installation, whilst Redcar is situated approximately 1.8 km to the east. There are no residential receptors within 500 m of the Site, and the closest residential property to the Site is Marsh

	House Farm in Warrenby, approximately 600 m to the east, and on Broadway West in Dormanstown, approximately 1.5 km to the south-east. Within 2km of the Installation boundary there are the following designated sites: • Teesmouth and Cleveland Coast (RAMSAR, SPA, SSSI) • Coatham Marsh (LWS) • Eston Pumping Station (LWS) **Geology, Hydrogeology, Hydrology and Land use** <u>Geology</u> Regional geology is summarised from British Geology Survey (BGS) online mapping and from BGS mapping[1] Sheet 34 Guisborough (1:50,000 solid and drift)[2]. The Site is underlain by Made Ground across its entire footprint, associated with historic steelworks operations. This material, which includes slag, brick, and other anthropogenic debris, extends to depths of approximately 7.75 m below ground level. Beneath the Made Ground are Tidal Flat Deposits comprising sand and clay layers, followed by Glacial Till. Bedrock consists primarily of the Redcar Mudstone Formation, with the Mercia Mudstone Group present in the northern part of the Site. No faults are mapped within 1 km. These conditions represent the baseline geological profile prior to construction. For further details on the geology see Section 2.3 of Annex A. <u>Hydrogeology</u> The Tidal Flat Deposits and Blown Sands beneath the Site are classified as Secondary A Aquifers. Glacial Till is considered Unproductive Strata, while the Redcar Mudstone Formation is a Secondary Undifferentiated Aquifer and the Mercia Mudstone Group is a Secondary B Aquifer. Made Ground is not designated as an aquifer. Groundwater monitoring indicates Made Ground and Tidal Flat Deposits are hydraulically connected and unconfined, with flow generally northeast toward the North Sea. The Redcar Mudstone Formation is confined and hydraulically separated from overlying deposits. No Source Protection Zones or licensed groundwater abstractions are present within 2 km. These conditions form the baseline hydrogeological setting. For further details on the hydrogeology see Section 2.4 of Annex A. <u>Hydrology</u> The Site lies close to the North Sea, approximately 0.4 km north at high tide, and is influenced by nearby surface water features including the River Tees (1.6 km west), The Fleet, and Dabholm Gut. Several ponds are present in surrounding reclaimed land and dunes, primarily rain-fed with limited tidal influence. The Fleet is a Water Framework Directive-designated water body currently failing to achieve Good Chemical Status. These features define the baseline hydrological context for the site. For further details on the hydrology see Section 2.5 of Annex A.
Pollution history including: • pollution incidents that may have affected land • historical land-uses and associated contaminants	The Site was historically part of the Redcar steelworks, which operated for iron and steel manufacture and associated processes. Large areas were covered with slag-rich Made Ground (a by-product of steel production), along with brick, concrete, and other anthropogenic materials. These historic activities are potential sources of hydrocarbons, metals, and other contaminants. Ground investigations identified visual and olfactory evidence of hydrocarbon contamination within Made Ground and Tidal Flat Deposits, particularly in clay layers where organic

[1] British Geological Survey. 2025. Geoindex (online) available at: https://mapapps2.bgs.ac.uk/geoindex/home.html

[2] British Geological Survey. 1998. Guisborough. England and Wales Sheet 34. Solid and Drift Edition. 1:50,000 Provisional Series. (online) available at: https://largeimages.bgs.ac.uk/iip/mapsportal.html?id=1001514

• any visual/olfactory evidence of existing contamination • evidence of damage to pollution prevention measures	material and hydrocarbon odours were present. Metallic slag and occasional deposits of solidified molten iron were also observed. No specific pollution incidents beyond those associated with historic steelworks operations were recorded, and there was no evidence of damage to pollution prevention measures. Prior to the construction, the land on which the Installation is being developed was subject to remediation by South Tees Development Corporation (STDC). This involved the excavation, processing, testing and redeposit of excavated waste at the Site under: • Planning approval R/2021/1048/FFM, with Remediation Verification Report submitted under R/2024/0817/CD; and • Local Enforcement Position (LEP) issued by the Environment Agency (EA) (ref. STDC/NZT/LEP, issued 19 June 2023). The remediation involved the following: • Demolition of existing structures within the Site: principally the former raw materials handling facility, sinter plant and conveyor systems; • Excavation of an agreed thickness of the made ground to remove unsuitable/ contaminated materials including removal and crushing of derelict underground structures and obstructions within that depth; • Targeted removal of deeper underground structures; • Crushing and grading of suitable material to form a geotechnical material compliant with requirements in the Highways Spec series 600; and • Testing followed by placement and compaction of suitable material to form appropriate platform levels for development. The STDC works associated with the LEP and Works Remediation Plan (WRP) were completed in October 2024 to create the development platform on which the Installation will be built.
Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	The Site Condition Report submitted at the time of the original Environmental Permit application included a desk study to identify land uses at the Site. As outlined in the above sections, the location of the Installation has been subject to extensive industrial development. Contaminative uses include iron and steel works, coking works, railways, tarmacadam/ slag works, brine works, cement manufacture, anhydrite mining, landfill and chemical works with associated buildings, plants, production facilities, pavements, services and waste storage and transfer areas. The BGS Durham and the Tees Valley Mineral Resources and Constraints Report indicated that "*the Billingham Anhydrite was extensively mined on Teesside between 1927 and 1971 as a source of sulphur for the manufacture of the fertiliser ammonium sulphate and sulphuric acid. It was reported that "the Boulby Halite formed the basis of the Teesside chemical industry and was still being worked by brine pumping in 2000*"[3]. Mining ceased due to the decline in use of ammonia sulphate fertiliser and because the anhydrite process of sulphuric acid production became uncompetitive compared to methods using elemental sulphur.

[3] British Geological Survey (2000), "Mineral resource information for development plans : phase one County Durham and the Tees Valley : resources and constraints". Available at: https://nora.nerc.ac.uk/id/eprint/535106/

	It is noted that the Site falls outside of a Coal Authority Mining Reporting Area[4] and CIRIA C758D indicates that it lies to the north of areas underlain by historic ironstone workings, these being located across the elevated topography of the North Yorkshire Moors. There are no quarrying entries that occur within the Installation boundary. One landfill site is located within 100 m of the Site, to the north. The historical landfill is named as the Warrenby Historical Landfill site (licence held by British Steel Plc.) and the waste deposited is recorded as inert and industrial waste. Aerial photography on Google Earth Pro indicates settling ponds were in use at the Site. According to Department of Environment Industry profiles, fume cleaning may generate between 10 to 15 kg of dust or slurry for each tonne of manufactured steel. Generally, these are contaminated with lead, zinc and other metals making them unsuitable for recycling and since the 1970's most steel industry slurry was lagooned on site or landfilled. Residues may be present at the location of the former settling ponds. **Previous Intrusive Investigations** The following Ground Investigations (GI) were undertaken at the Installation (note that the GI also covered land that is within the adjacent Net Zero Teesside High Pressure Compressor Station compressor site which is permitted under EPR/FP3143QN): • Allied Exploration & Geotechnics (2021) Preliminary Onshore Ground Investigation for Net Zero Teesside (as part of the former SSI steelworks assessment); • AECOM (2022) Net Zero Teesside Onshore Ground Investigation - Front End Engineering Design (FEED), Ground Investigation Factual Report. Additional data was also collected during a GI undertaken by AECOM between 22nd October and 7th November 2024. A summary of the findings for all three GIs is presented in the Baseline Geology and Hydrogeology Report in Annex A. The GIs involved drilling boreholes, excavating trial pits, and installing groundwater monitoring wells across Made Ground, superficial deposits, and bedrock. Soil samples were collected from various depths and subjected to geotechnical classification and chemical analysis. Groundwater samples were taken from monitoring wells and tested for a wide range of parameters, including hydrocarbons, phenols, cyanides, metals, and general water chemistry. In-situ tests such as slug tests and variable head permeability tests were also performed to determine hydraulic conductivity. Results confirmed the presence of slag-rich Made Ground overlying Tidal Flat Deposits (sand and clay), Glacial Till, and bedrock of the Redcar Mudstone Formation. Visual and olfactory evidence of hydrocarbon contamination was noted in Made Ground and clay deposits, along with metallic slag and occasional deposits of solidified molten iron. Laboratory analysis of groundwater indicated elevated concentrations of ammoniacal nitrogen, chloride, sulphate, and dissolved organic carbon, consistent with the industrial history of the Site. Hydrocarbon indicators were detected at low levels, and phenols were generally below detection limits. Heavy metals such as chromium, arsenic, and vanadium were present but typically within expected ranges for a remediated brownfield site.

[4] Coal Authority (2024) 'Coal Development High Risk Area'. Available at: https://www.data.gov.uk/dataset/b39be416-c1ca-41a0-ba0d-f32e6a1f6c31/coal-development-high-risk-area#:~:text=Summary,as%20the%20Development%20Referral%20Area.

	Groundwater monitoring was completed pre, during and post the 2023/ 2024 STDC Remediation. Groundwater monitoring is also being completed during the current construction.
Baseline soil and groundwater reference data	Baseline data is presented in Baseline Geology and Hydrogeology Report in Annex A.
Supporting information	• Baseline Geology and Hydrogeology Report in of Annex A.

3.0 PERMITTED ACTIVITIES	
Permitted activities	• Section 1.1 Part A(1) (a) - Burning of any fuel in an appliance with a rated thermal input of 50 MW or more. • Section 6.10 Part A(1): Capture of carbon dioxide streams from an installation for the purposes of geological storage
Non-permitted activities undertaken	The following Directly Associated Activities will be carried out at the Installation: • Storage of gas oil for use in emergency gas oil generators. • Water treatment – The pumping, filtering and chemical treatment of raw water from 3rd party supply for use in the cooling water circuit, capture plant and boiler (steam cycle). • Electric auxiliary boiler providing steam/ heat for use within the carbon capture plant. • Discharge to Tees Bay of cooling water blow-down, steam condensate, treated direct contact cooler effluent and surface water run-off. • Treatment of effluent from the direct contact cooler using reverse osmosis.
Document references for: • plan showing activity layout; and • environmental risk assessment.	• Figures 1 - 6, Annex D • Qualitative Risk Assessment, Appendix J of Main Supporting Document

4.0 CHANGES TO THE ACTIVITY	
Have there been any changes to the activity boundary?	As part of the 2025 Permit variation the permit boundary was updated during the construction phase of the development.
Have there been any changes to the permitted activities?	See Section 2 of Main Supporting Document.
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a	A Stage 1 – 3 Assessment for Hazardous Substances has been produced for the Environmental Permit Variation Application which is presented in Annex B. This outlines the hazardous substances that will be used at the Installation.

result of the permitted activities?	The Available Material Safety Data Sheets for the substances identified in The Stage 1 – 3 Assessment are presented in Annex C.
Checklist of supporting information	• Figure 1 Site Location and Existing Installation Boundary, Annex D • Figure 2 Revised Installation Boundary, Annex D • Figure 3 Site Layout and Emissions Points, Annex D • Figure 4 Installation Emissions Points, Annex D • Figure 5 Drainage Plan, Annex D • Figure 6 Drainage Plan Schematic, Annex D • The description of the changes to the permitted activities are outlined in Section 2.2 of the Main Supporting Document. • Stage 1 – 3 Assessment for Hazardous Substances in (Annex B) of this Site Condition Report.

5.0 MEASURES TAKEN TO PROTECT LAND	
N/A	
Checklist of supporting information	

6.0 POLLUTION INCIDENTS THAT MAY HAVE HAD AN IMPACT ON LAND, AND THEIR REMEDIATION	
N/A	
Checklist of supporting information	

7.0 SOIL GAS AND WATER QUALITY MONITORING (WHERE UNDERTAKEN)	
N/A	
Checklist of supporting information	• Description of soil gas and/or water monitoring undertaken • Monitoring results (including graphs)

8.0 DECOMMISSIONING AND REMOVAL OF POLLUTION RISK	
N/A	
Checklist of supporting information	• Site closure plan • List of potential sources of pollution risk • Investigation and remediation reports (where relevant)

9.0 REFERENCE DATA AND REMEDIATION (WHERE RELEVANT)	
N/A	
Checklist of supporting information	• Land and/or groundwater data collected at application (if collected) • Land and/or groundwater data collected at surrender (where needed) • Assessment of satisfactory state • Remediation and verification reports (where undertaken)

10.0 STATEMENT OF SITE CONDITION
N/A

Annex A

Baseline Geology and Hydrogeology Report

Net Zero Teesside

Baseline Geology and Hydrogeology Report

Net Zero Teesside Power Limited

Project Number: 60734449
Document Reference:

January 2025

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Quality information

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1. Introduction

1.1 Project Overview

Net Zero Teesside (NZT) is a proposed low carbon electricity generating station, which with Northern Endurance Partnership (NEP) form part a proposed Carbon Capture, Utilisation and Storage (CCUS) project located in Redcar, Teesside. It will be the UK's first commercial scale, full chain CCUS project and has recently (Feb 2024) been granted a Development Consent Order (DCO). It is a Nationally Significant Infrastructure Project which includes the construction and operation of a new gas-fired electricity generating station with post-combustion carbon capture (PCC) and CO_2 compression plant. It has a gross electrical output of up to 860 MWe and associated connections for natural gas, water, electricity and to a CO_2 pipeline network for the capture and offshore storage of CO_2.

Prior to the construction of the facility, the land on which the PCC installation will be developed was subject to remediation by South Tees Development Corporation (STDC). This involved the excavation, processing, testing and redeposit of excavated waste at the Site under:

- Planning approval R/2021/1048/FFM, with Remediation Verification Report submitted under R/2024/0817/CD; and
- Local Enforcement Position (LEP) issued by the Environment Agency (EA) (ref. STDC/NZT/LEP, issued 19 June 2023).

The STDC remediation involved the following works:

- demolition of existing structures within the site: principally the former raw materials handling facility, sinter plant and conveyor systems;
- excavation of an agreed thickness of the made ground to remove unsuitable / contaminated materials including removal and crushing of derelict underground structures and obstructions within that depth;
- targeted removal of deeper underground structures;
- crushing and grading of suitable material to form a geotechnical material compliant with requirements in the Highways Spec series 600; and
- testing followed by placement and compaction of suitable material to form appropriate platform levels for development.

The STDC works associated with this LEP and WRP were completed in October 2024 to create the development platform on which the PCC facility will be built.

The "Site" considered in the report includes the remediated PCC site, and adjacent construction laydown area. The construction laydown area was assessed by STDC in their DQRA report submitted to planning[1]. It stated that the risk to water resources and ecological receptors is not considered to be significant. It also stated that any risks to construction workers can be mitigated through best practice and employment of suitable mitigation measures which would be considered standard practice in brownfield site redevelopment.

1.2 Purpose and Basis of this Report

AECOM Limited (AECOM) has been commissioned by Net Zero Teesside Power Limited ('NZTPL'), to prepare a baseline report summarising the environmental setting of the Site with specific reference to the geology, hydrology and hydrogeology.

The Site boundary is outlined in Figure 1-1

[1] Arcadis, July 2022, Site Condition Report, Generic Quantitative Risk Assessment and Detailed Quantitative Risk Assessment REPORT NO: 10035117-AUK-XX-XX-RP-ZZ-0428-03-LWoW_DQRA

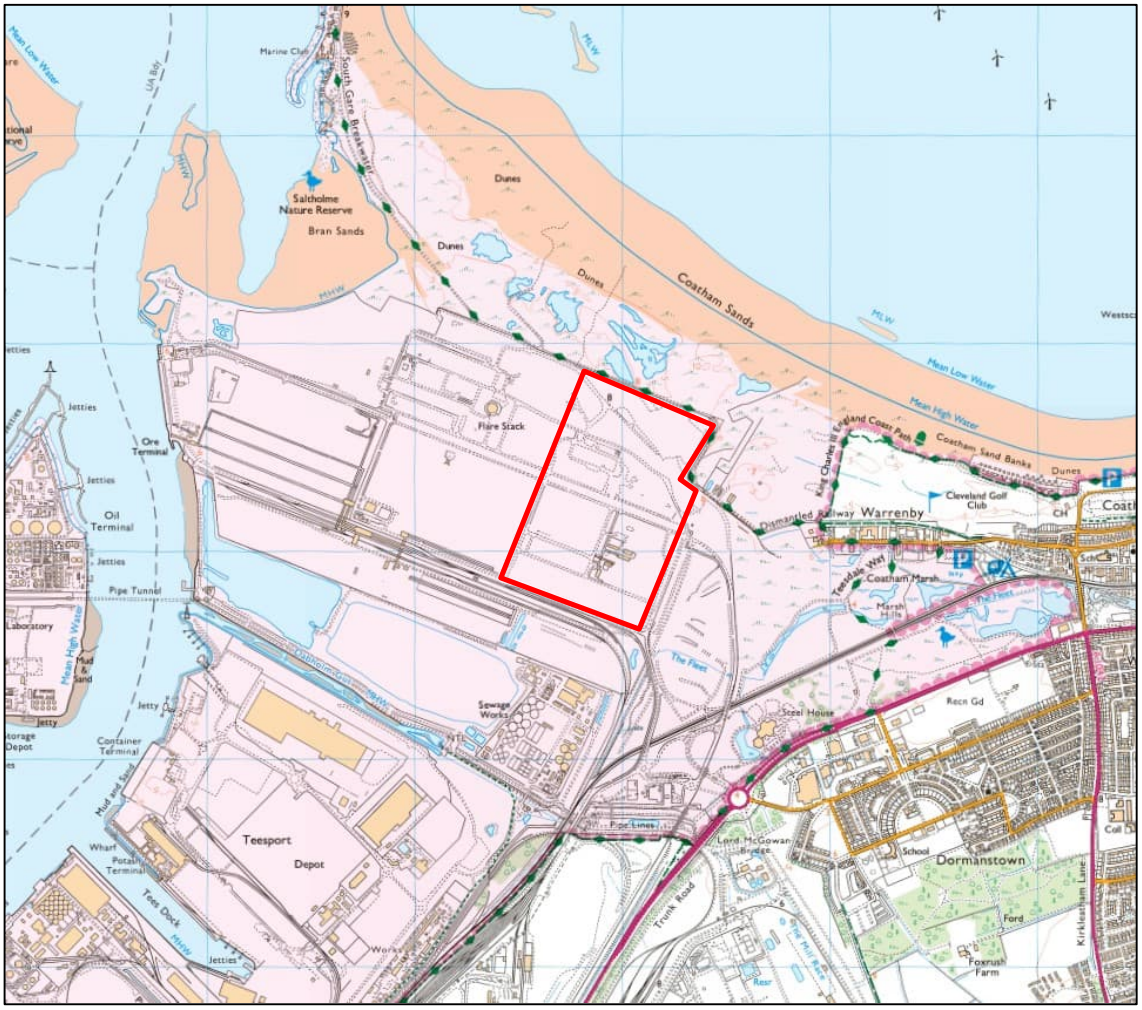


Figure 1-1. Site Location

Refer to Figure 1, appended, for full details.

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1.3 Limitations and Assumptions

This Report has been prepared by AECOM for the sole use of Net Zero Teesside Power Limited ('NZTPL'). This report shall not be relied upon or transferred to any other parties. If an unauthorised third party comes into possession of this report, they rely on its contents at their own risk. AECOM shall not be responsible and/or liable as a result of or in connection with any copying and/or amendment to this Report without AECOM's prior written consent and/or for any use of this Report for any purpose other than that for which it was prepared.

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This report has been prepared based on the ground investigations and laboratory results available at the time of writing. The sources of information used by AECOM in providing its services are outlined in this Report. The work described in this Report was undertaken between September 2024 and December 2024 and is based on the conditions encountered and the information available during the said period of time. The scope of this Report and the services are accordingly factually limited by these circumstances. AECOM shall not be liable for any change in the conditions after they were encountered by AECOM and/or any change in the information and/or assumptions based on which this Report was prepared. AECOM disclaim any undertaking or obligation to advise any person of any change in any matter affecting this Report, which may come or be brought to AECOM's attention after the date of this Report.

2. Environmental Setting

2.1 Site Description and History

The Site is part of the wider NZT/NEP project situated on the South Tees Development site on the former Redcar steelworks, Teesside.

The entirety of the Site is located on land reclaimed from mudflats and marshland of the Tees Estuary in the 19th and 20th centuries and is relatively flat. The land was specifically used for iron and steel manufacture, together with associated ancillary development. The former steelworks shut in October 2015 and the Site comprised generally large-scale redundant plant and buildings (such as the raw materials handling facility, the sinter plant and extensive conveyor systems), with large open land areas that were previously utilised for raw materials storage and processing.

Slag-rich Made Ground, which is a by-product of former production of iron and steel, was placed to re-develop and raise the Site and wider area (including on the dunes to the north) from the mudflats and marshland. The land surface prior to remediation in May 2023 was predominantly slag with some relict structures from the former steel works. The PCC Site was remediated by STDC which levelled and appropriately remediated the Site, under a LEP issued by the EA. This remediation has been completed and the current status of the Site at the time of reporting (December 2024) is of a relatively level development platform, which is at 7.3m above Ordnance Datum (AOD) elevation at the PCC Site.

2.2 Meteorology

There is no weather gauge on Site. The closest weather station to the Site is Hartburn Grange weather station, located in Stockton-on-Tees (National Grid Reference (NGR): NZ 43846 19831) which is approximately 14.5km south-west of the Site. The average annual rainfall for the period 1991 to 2020 is 596mm/year[2].

Loftus weather station located at NGR NZ 73619 19235, is approximately 17.3km south-east of the Site. The average annual rainfall for the period 1991 to 2020 is 633mm/year[3].

Table 2-1 provides average rainfall data for both Hartburn Grange and Loftus weather stations.

Table 2-1. Average Rainfall Data 1991 to 2020

Month	Hartburn Grange Rainfall (mm)	Loftus Rainfall (mm)
January	40.16	48.92
February	36.07	38.74
March	34.04	37.25
April	39.22	43.48
May	41.97	40.17
June	55.66	65.13
July	59.09	61.82
August	63.29	59.87
September	52.33	54.98
October	59.31	53.66
November	62.83	73.68
December	52.22	54.85
Annual	596.19	632.75

[2] Meteorological Office. UK climate averages. Stockton-on-Tees (online) available at: https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages/gcxn3ykru [accessed September 2024]
[3] Meteorological Office. UK climate averages. Loftus (SAMOS) (online) available at: https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages/gcxqkkgsd [accessed September 2024]
Sources [1] and [2] contain public sector information licensed under the Open Government Licence v3.0.

Whitby weather station at NGR: NZ 89251 10388, is located approximately 35km south-east of the Site and has more recent rainfall data. The annual rainfall for 2022 and 2023 recorded at Whitby weather station is 572mm/year and 849mm/year respectfully[4].

2.2.1 Climate Change

2.2.1.1 Precipitation

The Meteorological Office predict the following climate change by 2070 compared to UK climate in 1990[5]:

- Winters are between 1 and 4.5°C warmer.
- Winters are up to 30% wetter.
- Summers are between 1 and 6°C warmer.
- Summers are up to 60% drier, depending on the region.
- Hot summer days are between 4 and 7°C warmer.

Based on the meteorological winter (December, January, February), the meteorological summer (June, July, August) and the data available, an estimate of changes in precipitation in the region of the Site are detailed in Table 2-2.

Table 2-2. Climate Change Precipitation Estimation

Weather Station	Average monthly winter precipitation (mm)	Average monthly winter precipitation including 30% increase (mm)	Average monthly summer precipitation (mm)	Average monthly summer precipitation including 60% decrease (mm)
Hartburn Grange	42.82	55.66	59.35	23.74
Loftus	47.50	61.75	62.27	24.91

Applying the revised average monthly precipitation for December to February and June to August to Table 2-1 gives estimated annual rainfall figures of 527.9mm and 563.2mm for Hartburn Grange and Loftus respectively. These are slightly lower than the average annual rainfall presented in Table 2-1. Based on these results, climate change is not anticipated to have a large effect on average annual rainfall at the Site.

2.2.1.2 Sea Level Rise

A report on sea level predictions was produced by the EA and other UK regulatory bodies in 2019[6]. For the North Sea, the following was concluded: "*The studies agree that the western and north-western sections of the North Sea will be characterised by reductions in the annual mean and extreme significant wave heights (SWHs) varying around 2–6%, or between 0.02–0.05m and 0.25–0.75m"* respectively.

The Environmental Statement[7] reports that for a future scenario resulting from climate change up to 2125 the PCC is at 'medium' risk of flooding from tidal sources where the current ground level is below 5.74m AOD during events that exceed the 0.1% Annual Exceedance Probability event (AEP; 1 in 1000 chance). It is at 'low' risk where the ground level is above 5.7 m. As the elevation of the PCC Site is planned to be raised to 7.3m AOD, it would sit above this level.

[4] Meteorological Office. Historic station data (online) available at: https://www.metoffice.gov.uk/research/climate/maps-and-data/historic-station-data [accessed September 2024]
[5] Meteorological Office. Climate Change in the UK (online) available at: https://www.metoffice.gov.uk/weather/climate-change/climate-change-in-the-uk [accessed October 2024]
Sources [4] and [5] contain public sector information licensed under the Open Government Licence v3.0.
[6] Environment Agency. 2019. Exploratory sea level projections for the UK to 2300. SC150009 (online) available at: https://assets.publishing.service.gov.uk/media/60378c448fa8f5048f78a5cf/Exploratory_sea_level_projections_for_the_UK_to_2300_-_report.pdf [accessed October 2024]
[7] AECOM prepared for Net Zero Teesside Power Ltd. and Net Zero North Sea Storage Ltd. 2022. DCO Environmental Statement: Volume 1. Chapter 9 Surface Water, Flood Risk and Water Resources. Document Reference: 6.2.

2.3 Geology

Regional geology is summarised from British Geology Survey online mapping[8] and from BGS mapping Sheet 34 Guisborough (1:50,000 solid and drift)[9].

The published information shows the entire Site to be located on Made Ground. Tidal Flat Deposits, consisting '*of unconsolidated sediment, mainly mud and/or sand'* are the predominant superficial deposits underlying the Site (see Figure 2). Blown Sand, '*sand that has been transported by wind, or sand consisting predominantly of wind-borne particles'* is mapped within the east of the Site.

The majority of the Site is underlain by bedrock of the Redcar Mudstone Formation (see Figure 3) described by the BGS as '*Grey, fossiliferous, fissile mudstones and siltstones with subordinate thin beds of shelly limestone in lower part, and fine-grained carbonate-cemented sandstone in upper part; argillaceous limestone concretions occur throughout'.* The Redcar Mudstone Formation is regionally up to approximately 283m in thickness however, less than 100m thickness within the Redcar area,[9] and rests with a sharp irregular contact on the underlying Penarth Group.

The Penarth Group (no named formation) outcrops in the north-west of the Site as a narrow band c.130m trending northeast-southwest. The Penarth Group is described by the BGS as '*Grey to black mudstones with subordinate limestones and sandstones; predominantly marine in origin*'. The Penarth Group is up to 12m in thickness and overlies, usually with an erosional contact, the Mercia Mudstone Group.

The Mercia Mudstone Group (no named formation) is mapped to the north-west of the Penarth Group and is described by the BGS as '*Dominantly red, less commonly green-grey, mudstones and subordinate siltstones with thick halite-bearing units in some basinal areas. Thin beds of gypsum / anhydrite are widespread; thin sandstones are also present.*' The thickness of the Mercia Mudstone Group varies considerably.

The Sherwood Sandstone underlies the Mercia Mudstone Group at depth. The depth to the Sherwood Sandstone is not known as it was not encountered in any exploratory location. The maximum depth of investigation was approximately 45m bgl (i.e. -38m AOD) well below any of the planed engineering structures associated with PCC development.

No mapped faults are present within 1km of the Site.

2.3.1 Site-specific Geology

A summary of the site-specific geology is provided below based on the following Ground Investigations undertaken by AECOM:

- 2021 GI as reported in the factual report [10];
- 2022 GI as reported in the NZT GI Factual Report[11].

The strata encountered at Site are presented in Table 2-3, and are discussed further in the following paragraphs. Figures F001 to F005 show cross sections of the Site.

Additional data was also collected during a GI undertaken by AECOM between 22nd October and 7th November 2024[12]. This has been reviewed and information from that GI is also included in the paragraphs below.

2.3.1.1 Made Ground

Made Ground is encountered across the entire Site. The data recorded in Table 2-3 is based on GI undertaken prior to the remediation of the Site, however, the cross sections presented on Figures F001 to F005 show the thickness of remediated and un-remediated Made Ground at the PCC Site. The remediated PCC Site level is at approximately 7.3m AOD.

[8] British Geological Survey. 2024. Geoindex (online) available at: https://mapapps2.bgs.ac.uk/geoindex/home.html [accessed September 2024]
[9] British Geological Survey. 1998. Guisborough. England and Wales Sheet 34. Solid and Drift Edition. 1:50,000 Provisional Series. (online) available at: https://largeimages.bgs.ac.uk/iip/mapsportal.html?id=1001514 [accessed September 2024]
[10] Allied Exploration & Geotechnics. 2021. Preliminary Onshore Ground Investigation for Net Zero Teesside (NZT) – South Tees Development Corporation (STDC) 'Main Site' and Onshore CO_2 Export Pipeline Corridor
[11] AECOM. 2022. Net Zero Teesside Onshore Ground Investigation - Front End Engineering Design (FEED), Ground Investigation Factual Report. (Document number: NS051-CV-REP-0A1-00012).
[12] AECOM. 2024. Net Zero Teesside Groundwater Monitoring Well Installation PCC (Post Remediation) and Tod Point – Factual Report.

The Made Ground, prior to remediation, was described as ‘dark brown-grey gravelly silty sand with some cobbles or sandy angular to subrounded gravel. The gravel and cobbles were typically composed of ferrous slag and other materials such as brick, chert, and concrete. The slag is mixed with various other anthropogenic and natural constituents including, but not limited to metal, plastic, brick, refractory brick, clinker, ash, limestone, and sandstone’. Visual records from site work also noted the existence of larger slag boulders present across the site that could be encountered within the ground. Also encountered outside the depth of remediation, in F-TP106, was a deposit of silver-coloured slag with high iron content composed of fine crystalline metallic minerals, likely to be a deposit of solidified molten iron. Visual and olfactory evidence of hydrocarbon contamination was also observed in Made Ground.

The remediated Made Ground (the reuse material) is described as granulated fill[13]. The remediation and processing of the Made Ground included the crushing of oversize materials, removal of fines and contaminants and was tested throughout the remediation process to assess compliance with the LEP.

2.3.1.2 Superficial Deposits

Four distinct superficial deposits were encountered below the Site: Tidal Flat Deposits – sand, Tidal Flat Deposits – clay (upper), Tidal Flat Deposits – clay (lower) and Glacial Till. Although Blown Sand was identified within the Site boundary at Site on published BGS mapping, it wasn’t specifically identified beneath the Site. This is possibly due to the difficulty in differentiating it from the granular material of the Tidal Flat Deposits-sands. A summary of the geology encountered at Site can be found in Table 2-3.

Tidal Flat Deposits – sand, were encountered beneath Site and were laterally continuous across the Site and predominantly comprised layers of medium dense yellow fine to coarse sand with occasional fragments of white bivalve shell. This deposit was typically located in areas of localised depression and was observed to contain organic material as well as visual and olfactory evidence of hydrocarbon contamination. Two clay horizons were encountered in the Tidal Flat Deposits, a thinner upper layer approximately 1.2m in thickness and a lower layer approximately 2.36m in thickness. The upper layer has a limited lateral extent. The upper clay deposit is described as ‘typically described as very soft to soft, rarely firm, dark grey sandy silty clay with the slight organic content and odour and occasional shell fragments. The sand within this deposit is typically fine to medium. The lower clay has a larger lateral extent. They are described similar to the upper clays however often with an abundance of organic material and occasional calcareous materials and shells.

Glacial Till was encountered across the whole Site and was distinguishable from the Tidal Flat Deposits – clay (lower) due to its firmer and stiffer nature as described in Table 2-3. The Glacial Till overlies the bedrock across the Site. Glaciolacustrine Deposits were not identified or distinguished during the AECOM 2022 GI.

2.3.1.3 Bedrock

Depth to bedrock varies between 15.75 and 22.02 m below ground level at the time of GI (approximately -10m AOD to -14m AOD) and consists of the Redcar Mudstone Formation and Mercia Mudstone Group, with the depth generally increasing towards the north. Although the Penarth Group was mapped within the Site Boundary, it was not encountered in the boreholes drilled as part of the AECOM 2021 or 2022 GI.

Redcar Mudstone Formation is the dominant bedrock underlying the Site and is described as extremely weak to weak grey mudstone (Table 2-3). In the north of the Site, the Mercia Mudstone Group was encountered and described as weak to medium strong, locally weak, horizontal thinly laminated red mudstone with occasional pale grey bands.

[13] Arcadis. November 2024. LWW Remediation Verification Report

Table 2-3. Generalised Strata Succession for Site

Strata	Depth (m bgl)		Level (m AOD)		Thickness			Typical Strata Description
	From	To	From	To	Min.	Max.	Mean.	
Made Ground	0.00	7.75	+9.20	+4.43	0.50	7.75	4.3	Comprised dark brown-grey gravelly silty sand with some cobbles or sandy angular to subrounded gravel. The gravel and cobbles were typically composed of ferrous slag and other materials such as brick, chert, and concrete. The slag is mixed with various other anthropogenic and natural constituents including, but not limited to metal, plastic, brick, refractory brick, clinker, ash, limestone, and sandstone.
Tidal Flat Deposits- Sand	1.80	7.75	+5.46	-0.19	4.25	11.59	7.73	Layers of medium dense yellow fine to coarse sand occasional fragments of white bivalve shell. The deposits are also commonly observed as being slightly gravelly with organic content.
Tidal Flat Deposits- Clay (Upper)	4.50	10.92	+1.89	-3.45	0.15	3.20	1.18	Very soft to soft, rarely firm, dark grey sandy silty clay with the slight organic content and odour and occasional shell fragments. The sand within this deposit is typically fine to medium.
Tidal Flat Deposits- Clay (Lower)	9.00	18.10	-1.69	-9.39	0.16	5.95	2.36	Very soft to soft, dark brown slightly gravelly sandy clay, often with an abundance of organic material and occasional calcareous materials and shells.
Glacial Till Deposits	11.06	20.00	-5.25	-10.92	2.43	9.16	5.60	Firm to stiff reddish brown mottled dark grey slightly gravelly sandy silty clay. The gravel is often fine to coarse mudstone, sandstone, and limestone. The sand is fine to coarse.
Redcar Mudstone Formation	15.75	26.22	-10.10	-20.08	Not proved			Extremely weak to weak fractured thinly laminated dark grey mudstone with laminations and fracture sets undulating rough, partly open, clean, or infilled with grey clay. The weathered clay layers are typically stiff dark bluish grey gravelly clay with the gravel being fine to coarse very weak mudstone.
Mercia Mudstone Group	22.02	36.3	-14.14	-28.77	Not proved			Weak to medium strong locally weak horizontal thin laminated red mudstone with occasional pale grey bands.

Source: FEED Onshore Ground Investigation for Net Zero Teesside. Ground Investigation Factual Report
bgl: below ground level

2.4 Hydrogeology

Tidal Flat Deposits and the Blown Sands underlying and within close vicinity to the Site are designated as Secondary A Aquifers by the EA, see Figure 4. Approximately 0.95km to the west of the Site and 1.5km to the east, the Tidal Flat Deposits and the Blown Sands are designated as Secondary Undifferentiated Aquifers. The Glaciolacustrine Deposits and Glacial Till are designated as Unproductive Strata.

The Redcar Mudstone Formation and the Penarth Group are designated as Secondary Undifferentiated Aquifers while the Mercia Mudstone Group is designed a Secondary B Aquifer see Figure 5.

Made Ground is not designated as an aquifer.

The Site is not located within a Source Protection Zone (SPZ), the closest SPZ (SPZ3) is over 9km to the north-west of the Site. The Site is also not located in a Nitrate Vulnerability Zone (NVZ), a drinking water protection zone; nor a groundwater or surface water safeguard zone.

No licensed groundwater abstractions or private water supplies were identified within 2km of the Site.

2.4.1 Site-specific Hydrogeology

2.4.1.1 Hydraulic properties

No aquifer testing was undertaken on Site as part of the AECOM 2022 GI. In-situ permeability tests, slug tests and variable head tests, were carried out as part of the AECOM 2021 GI, the results have been summarised from Preliminary Onshore Ground Investigation for NZT[14] and presented in Table 2-4 and are consistent with the literature values for the individual units. Note, two variable head test were undertaken in the Made Ground, however, the results were reported to be unreliable due to instrument error[14] and have not been included in the table below.

Table 2-4. Hydraulic Conductivity from 2021 GI

Geology	Slug Test (m/sec)			Variable Head Test (m/sec)		
	Number of tests	Minimum	Maximum	Number of tests	Minimum	Maximum
Tidal Flat Deposits – Sand	8	$9.75x10^{-04}$	$4.09x10^{-03}$	0	n/a	n/a
Redcar Mudstone Formation	4	$1.97x10^{-06}$	$6.17x10^{-05}$	1	$1.58x10^{-07}$	$1.72x10^{-07}$

Source: AECOM. 2022. Preliminary Onshore Ground Investigation for Net Zero Teesside. Factual Report[14]

2.4.1.2 Groundwater Elevations and Flows

Long term monitoring of groundwater elevations has been undertaken by AECOM at the Site. Groundwater elevations in the Made Ground, Tidal Flat Deposits, Glacial Till and mudstone bedrock have been monitored at Site since July 2021. Monitoring data are presented in Table 2-5 and graphically in Appendix A. A contour plot for the Site area is also found in Appendix A.

Groundwater levels in the Made Ground and Tidal Flat Deposits typically show an upward trend (rising groundwater levels) since monitoring below the site began in 2021 (Appendix A). This trend is evident before remediation commenced in May 2023. The response to precipitation and groundwater level fluctuations are mirrored in the Made Ground and Tidal Flat Deposits indicating they are in hydraulic continuity and unconfined. Groundwater flow within these two strata at the Site is to the north-east toward the North Sea via intergranular flow. Groundwater movement is likely to be influenced by the presence of the upper and lower clay bands within the Tidal Flat Deposits.

[14] AECOM. 2022. Preliminary Onshore Ground Investigation for Net Zero Teesside. Factual Report

The Glacial Till has been monitored underlying the Site. Groundwater elevations in the Glacial Till, like in the Made Ground and Tidal Flat Deposits, also show a rising trend since 2022. The groundwater elevations are steady and show little fluctuation. Groundwater flow will be restricted within the low permeability stiff clay however, groundwater movement can occur in local higher permeability lenses such as sands and gravels within the glacial deposit. Groundwater elevations within the two boreholes monitored indicate groundwater flow to the north-east toward the North Sea.

Groundwater elevations have been monitored in both the Redcar Mudstone Formation and the Merica Mudstone Group, see Table 2-5 and Appendix A. Groundwater elevations within the Mercia Mudstone Group appear to be more stable than those in the Redcar Mudstone Formation. Unlike the other aquifers, a rising groundwater trend is not observed in the data indicating that the Redcar Mudstone Formation is not in hydraulic continuity and is separated from the overlying aquifers by the Glacial Till. The groundwater elevations indicate that the Redcar Mudstone Formation aquifer is confined.

Groundwater level fluctuations due to tidal influences were not observed in the groundwater level data, see Appendix A.

Table 2-5. Groundwater Elevation

Strata	Monitoring period (mm/yyyy)	Number of boreholes	Monitoring approach	Minimum (m AOD)	Average (m AOD)	Maximum (m AOD)	Range (m)
Site							
Made Ground	04/2022 to 01/2024	6*	Continuous and MMD	2.68	4.34	6.32	3.46
Tidal Flat Deposits	07/2021 to 07/2024	13	Continuous and MMD	1.07	3.36	4.61	3.54
Glacial Till	04/2022 to 07/2024	2	Continuous and MMD	2.49	2.86	3.39	0.89
Redcar Mudstone Formation	09/2022 to 07/2024	6	Continuous and MMD	1.02	3.54	7.37	6.35
Mercia Mudstone Group	09/2022 to 07/2024	2	Continuous and MMD	1	1.91	2.70	1.70

Notes: MMD = monthly manual dips

* Although six boreholes were monitored, there is only continuous logger data for one borehole, see Appendix A. The data presented in the table accounts for groundwater levels from all six boreholes.

2.4.1.3 Groundwater Quality

Groundwater quality monitoring has been undertaken in the Made Ground, Tidal Flat Deposits and mudstone bedrock by Arcadis since 2018 and by AECOM since 2022. Tables presenting laboratory results for groundwater quality monitoring up until November 2024 undertaken by AECOM are presented in Appendix B. Groundwater data collected by Arcadis is also presented in Appendix B, although is it noted that the NZT project only has reliance on data collected by AECOM.

Salinity data indicates that the groundwater in the Made Ground and superficial deposits is within the brackish range. Groundwater within the mudstone bedrock is largely brackish approaching saline particularly in MS/BH13D.

2.4.2 Groundwater Abstractions

No licensed groundwater abstractions or private water supplies were identified within 2km of the Site within the Environmental Statement[15]. Due to the location of the Site (close to the sea) and the nature of the bedrock, it is unlikely groundwater abstractions will be present. No Source Protection Zones (SPZ) are present within the vicinity of the Site, the closest SPZ is located over 8km north-west in Hartlepool.

2.5 Hydrology

The North Sea, at high tide, is located approximately 0.45km to the north of the northern boundary of the Site and at low tide, approximately 0.67km north[16].

The River Tees, classified as a Main River by the EA, flows to the north-east / north to enter the North Sea at Tees Mouth approximately 1.6 km west of the Site (see Figure 2-1).

Several watercourses are present within the vicinity of the Site. The Fleet, is a watercourse which flows south-westerly from Coatham Marsh Nature Reserve to discharge to Dabholm Gut. It is partially culverted as it flows to the south-west. The Fleet is a Water Framework Directive (WFD) designated surface water body and is currently failing to meet Good Chemical Status[17]. Dabholm Gut is an artificial drainage channel located approximately 0.94km south of Site and discharges westwards to the River Tees. Two other watercourses discharge to Dabholm Gut, The Mill Race and Dabholm Beck, located approximately 1.15km to the south and 1.0km to the south of the Site respectively. No surface water abstractions were identified from these water courses downstream of the Site[16].

There are a number of mapped ponds and watercourses in the vicinity of the Site[16]. To the north of Site, north of S Gare Road, are several large ponds located in the sand dunes/ reclaimed land. Smaller ponds are mapped approximately 0.07km to the south-east of Site, 0.38km north-west and 1km north-west. The site walkover reported in Environmental Statement noted that the ponds within Coatham Dunes appeared to be predominantly rainwater fed, with little influence from tidal variation or groundwater and had mostly become fully vegetated wetlands[15].

[15] AECOM prepared for Net Zero Teesside Power Ltd. and Net Zero North Sea Storage Ltd. 2022. DCO Environmental Statement: Volume 1. Chapter 9 Surface Water, Flood Risk and Water Resources. Document Reference: 6.2.
[16] Ordnance Survey mapping (online). Available at: https://www.bing.com/maps/?cp=54.62754%7E-1.120595&lvl=15.7&style=h [accessed September 2024]
[17] Environment Agency Catchment Explorer. Available at Tees Estuary (S Bank) | Catchment Data Explorer | Catchment Data Explorer [accessed December 2024].

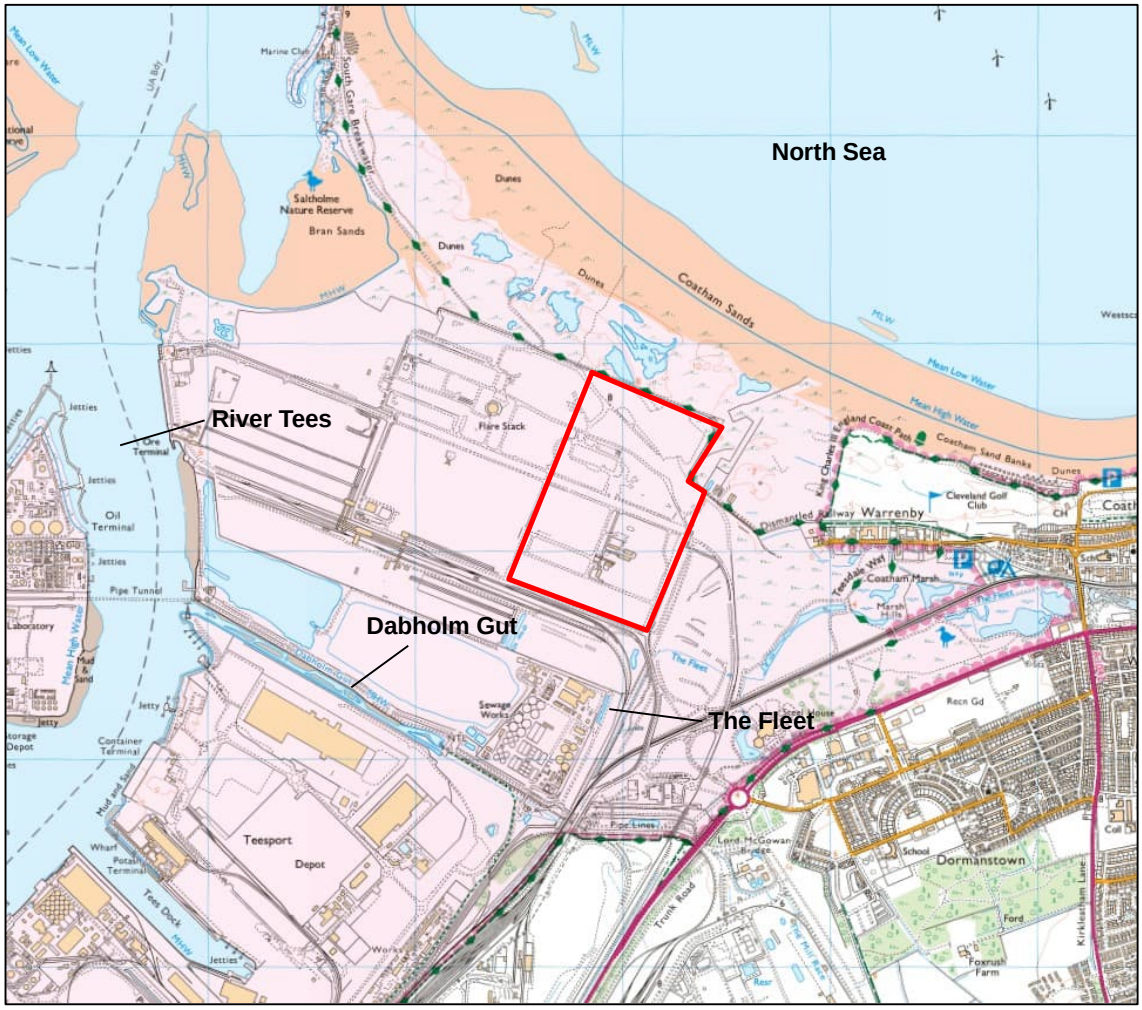


Figure 2-1. Hydrology

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2.6 Ecology

There are several ecologically protected sites within the vicinity of the Site, namely Teesmouth and Cleveland Coast Site of Special Scientific Interest (SSSI)[18] and Teesmouth and Cleveland Coast Ramsar Site and Teesmouth and Cleveland Coast Special Protection Area[18].

The SSSI borders the northern boundary of Site and wraps around the coastline including: Coatham Marsh to the east; Coatham Sands to the north; and Bran Sands, River Tees and Tees Mouth to the west. The SSSI is comprised of 33 units of 'unfavourable declining' or 'unfavourable recovering' condition. Site 28 (South Gare and Coatham Dunes), 29 (Coatham Quarries and Lagoons) and 30 (Cleveland Golf Course) border the northern and north-eastern boundary of Site. The SSSI has been designated for many reasons including: Jurassic Geology, Quaternary Geology, sand dunes, saltmarshes, breeding harbour seals and a variety of breeding birds.

Teesmouth and Cleveland Coast Ramsar Site borders the northern boundary of Site.

[18] DEFRA Magic Map Application (online) available at: https://magic.defra.gov.uk/MagicMap.aspx [accessed September 2024]

3. Summary

The PCC Site has been subject to remediation by South Tees Development Corporation (STDC) involving the excavation, processing, testing and redeposit of excavated waste. The works were completed in October 2024 and created a development platform on which the PCC facility will be built. Remediation has not been completed on the construction laydown area, following assessment for STDC which did not identify risks requiring remediation for construction laydown use.

Ground investigations undertaken at the Site have confirmed the underlying geology to comprise Made Ground (both remediated and un-remediated) to depths of up to 7.75m bgl, overlying Tidal Flat Deposits. The Tidal Flat Deposits (TFD) were encountered as three distinct superficial deposits; TFD – sand which was encountered beneath the Site and was laterally continuous across the Site and predominantly comprised layers of medium dense yellow fine to coarse sand; TFD – clay (upper); and TFD – clay (lower). The TFD were encountered to depths of up to 18.10m bgl. Underlying the TFD across the whole Site were deposits of Glacial Till to depths of up to 20.00m bgl. Bedrock across the majority of the Site comprised the Redcar Mudstone Formation described as extremely weak to weak grey mudstone, with the Mercia Mudstone Group encountered underlying the superficial deposits in the north of the site and described as a weak to medium strong, locally weak, horizontal thinly laminated red mudstone with occasional pale grey bands.

The Tidal Flat Deposits underlying the Site are designated as Secondary A Aquifers by the EA. The Redcar Mudstone Formation is designated as a Secondary Undifferentiated Aquifer while the Mercia Mudstone Group is designed a Secondary B Aquifer. The Glacial Till is designated as Unproductive Strata, and the Made Ground is not designated as an aquifer.

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

Groundwater monitoring has identified that the Made Ground and Tidal Flat Deposits are in hydraulic continuity and are unconfined. Groundwater flow within these two strata at the Site is to the north-east toward the North Sea via intergranular flow.

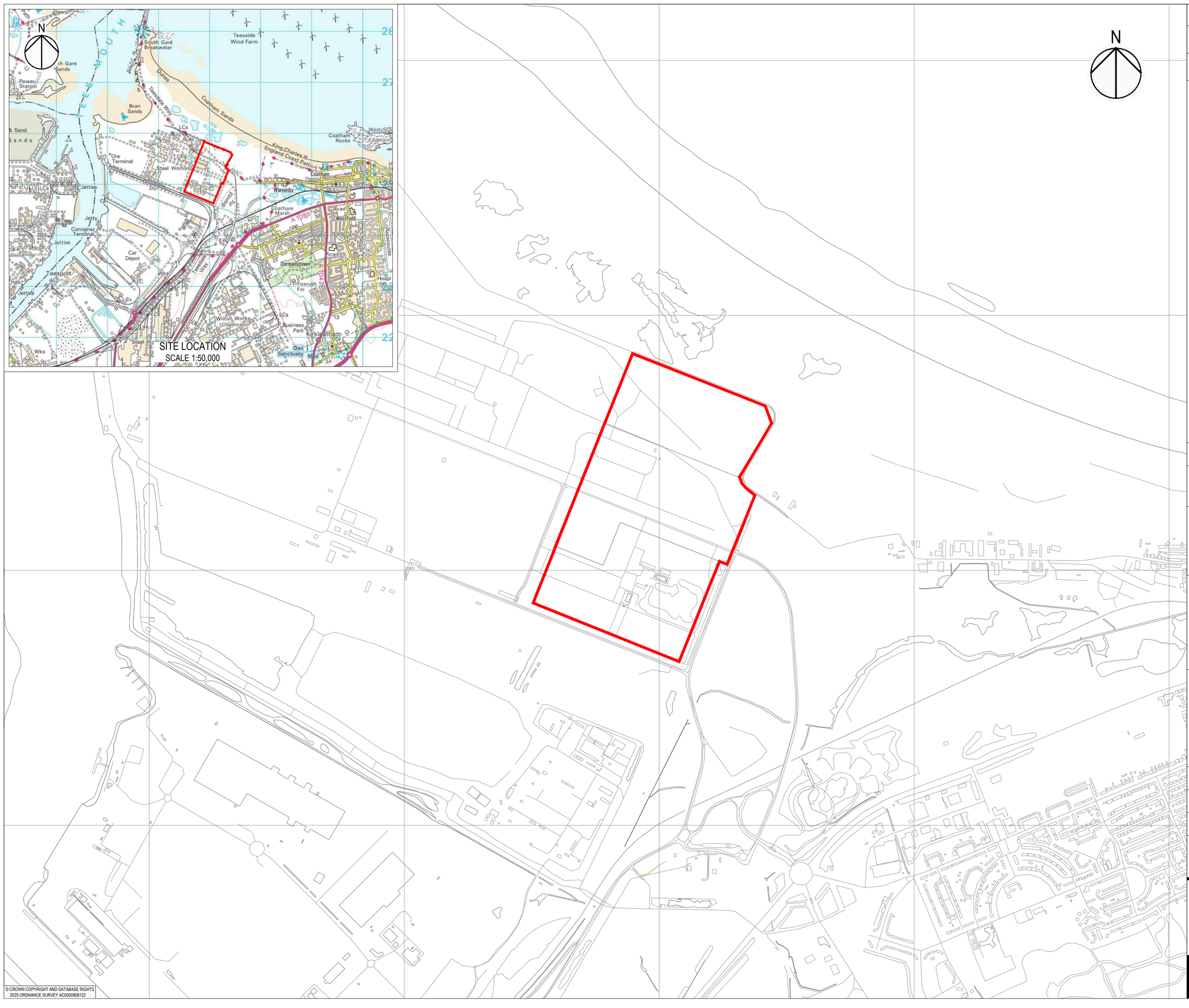
Groundwater flow within the Glacial Till will be restricted within the low permeability stiff clay however, groundwater movement can occur in local higher permeability lenses such as sands and gravels within the glacial deposit, with groundwater flow indicated to be to the north-east toward the North Sea.

Groundwater elevations have been monitored in both the Redcar Mudstone Formation and the Merica Mudstone Group. The data indicates that the Redcar Mudstone Formation is confined and is not in hydraulic continuity and is separated from the overlying aquifers by the Glacial Till.

No licensed groundwater abstractions or private water supplies were identified within 2km of the Site.

A number of surface watercourses of varying sizes are located in the vicinity of the Site including the River Tees, The Fleet, Dabholm Gut, Dabholm Race and The Mill Race some of which are culverted along some sections.

Figures



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KEY

SITE BOUNDARY

Revision Details	By / Check	Date	Suffix

Purpose of issue

FOR INFORMATION

Client

NZT Power Limited

Project Title

NET ZERO TEESSIDE

Drawing Title

SITE BOUNDARY

Designed	Drawn	Checked	Approved	Date
-	AO	DT	DT	01/25

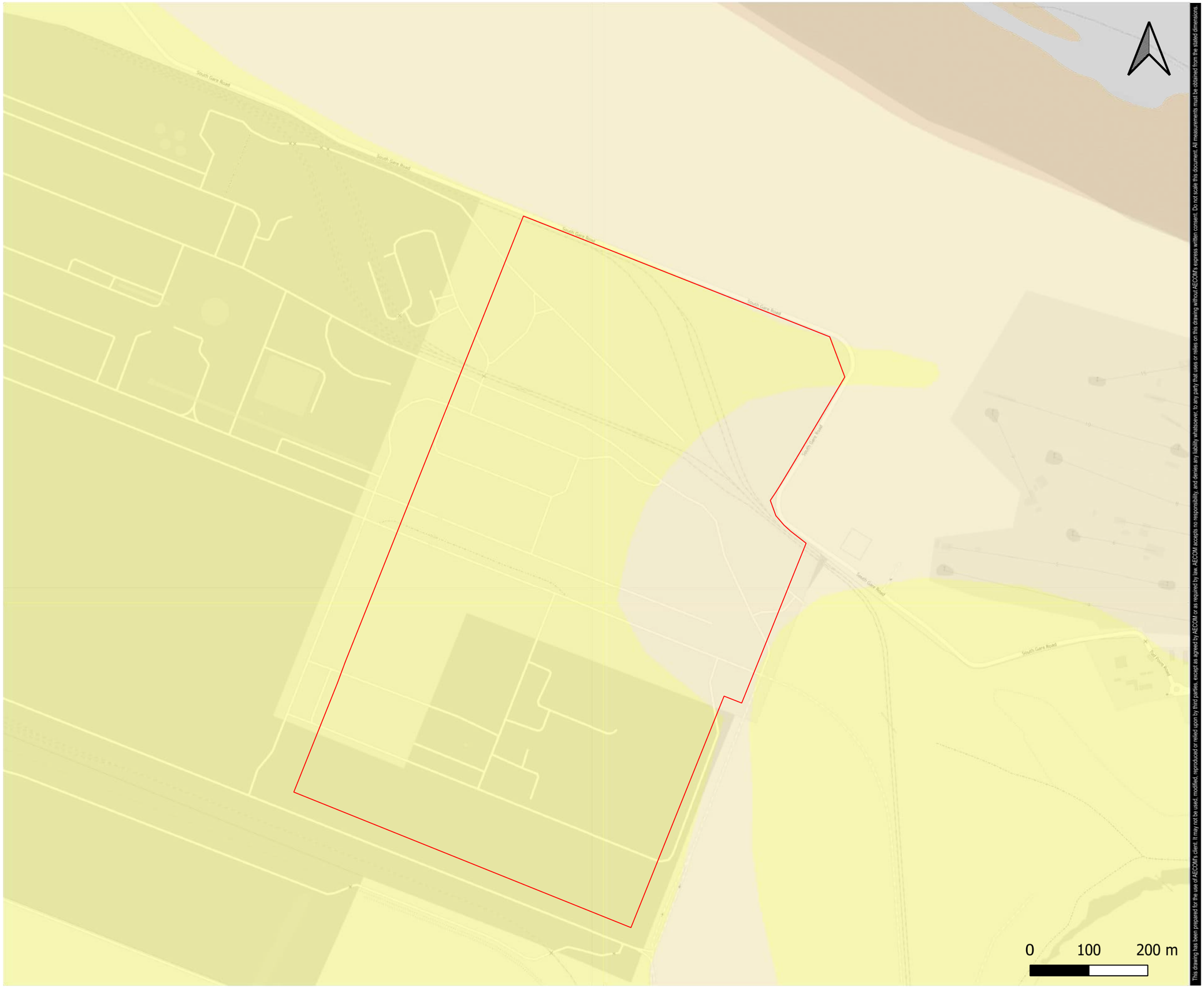
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CONSULTANT

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LEGEND

Installation Boundary

Superficial Deposits 1:50,000

- Glaciolacustrine Deposits, Devensian
- Tidal Flat Deposits - Sand and silt
- Blown Sand - Sand

NOTES

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ISSUE PURPOSE

FIRST ISSUE

PROJECT NUMBER

60675787

FIGURE TITLE

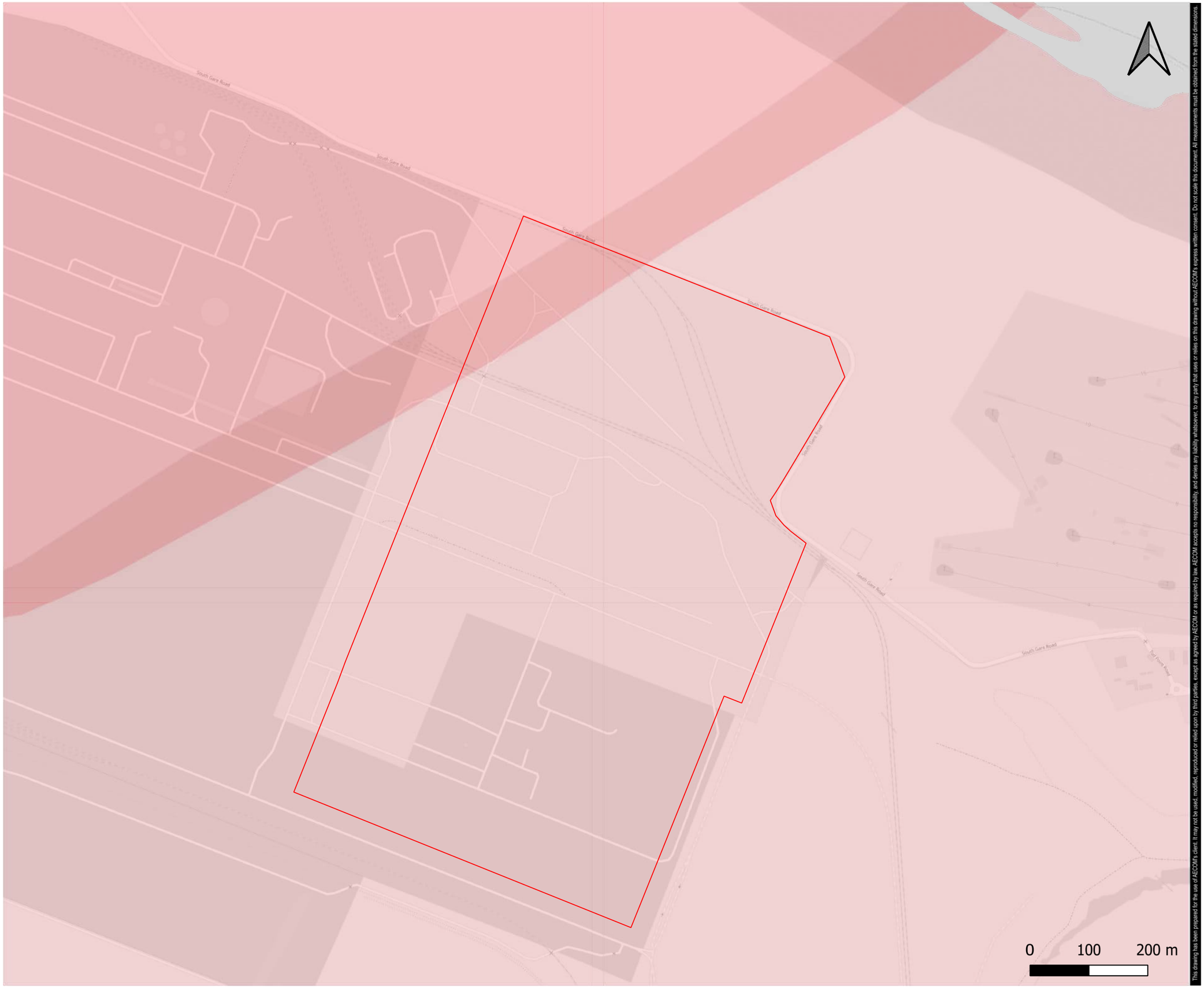
Superficial Geology

FIGURE NUMBER

Figure 5

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LEGEND

Installation Boundary

Bedrock Geology 1:50,000

- Redcar Mudstone Formation
- Penarth Group - Mudstone
- Mercia Mudstone Group - mudstone

NOTES

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60675787

FIGURE TITLE

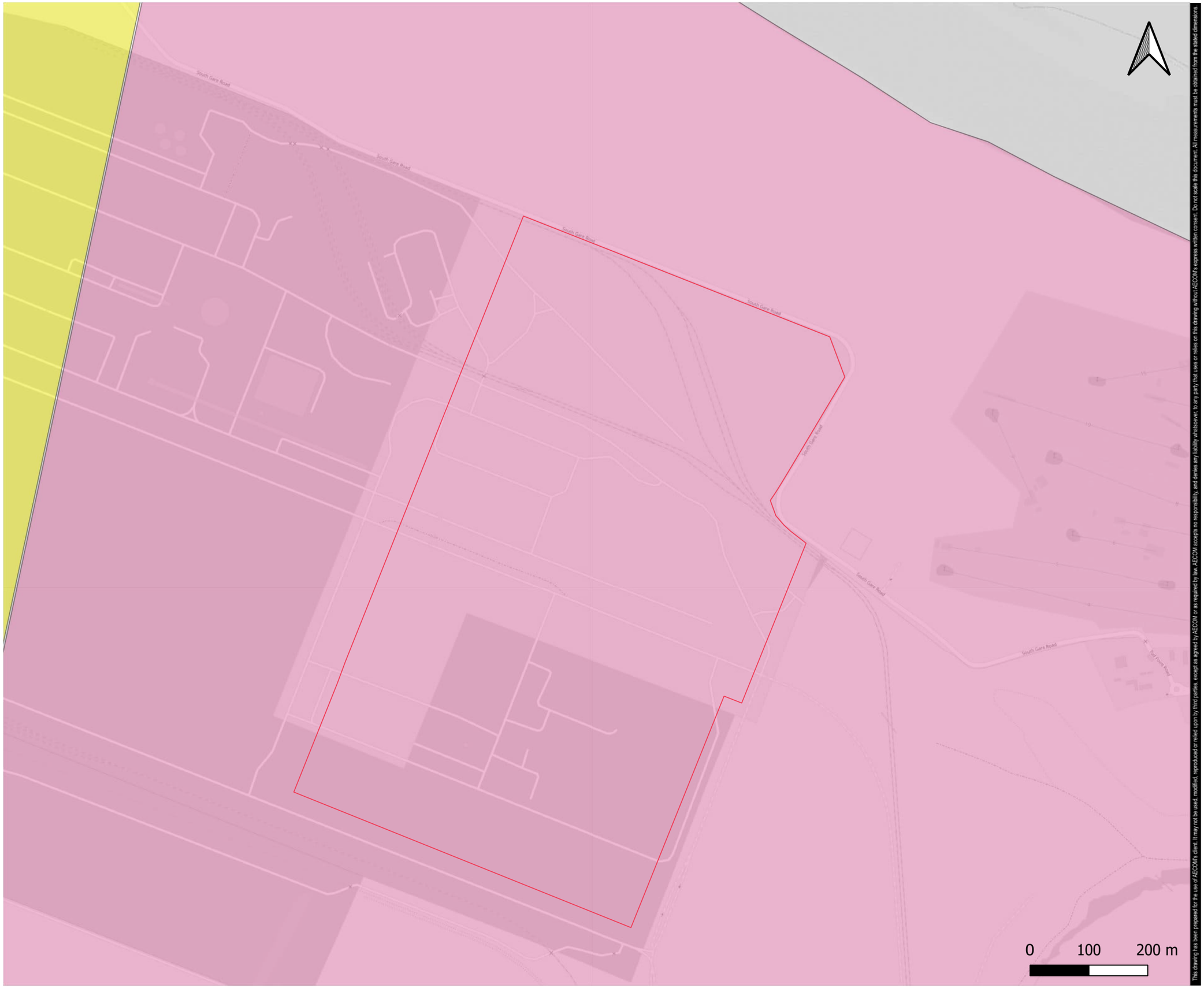
Bedrock Geology

FIGURE NUMBER

Figure 3

Filename: C:\Users\DoranA\Documents\ArcGIS\Projects\NZT.qgz

Revision: 0 Drawn: HH Checked: XX Approved: XX Date: 2025-01-21



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Colmore Row
Birmingham B4 6AT
www.aecom.com

LEGEND

Installation Boundary

Aquifer Designation (Superficial Drift) 1:50,000

Secondary A Aquifer

Secondary (Undifferentiated) Aquifer

NOTES

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ISSUE PURPOSE

FIRST ISSUE

PROJECT NUMBER

60675787

FIGURE TITLE

Aquifer Designation Map (Superficial Drift)

FIGURE NUMBER

Figure 4

Filename: C:\Users\DoranA\Documents\ArcGIS\Projects\NZT.ggz

Revision: 0 Drawn: HH Checked: XX Approved: XX Date: 2025-01-21



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LEGEND

- Installation Boundary

Aquifer Designation (Bedrock) 1:50,000

- Secondary B Aquifer
- Secondary (Undifferentiated) Aquifer

NOTES

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ISSUE PURPOSE

FIRST ISSUE

PROJECT NUMBER

60675787

FIGURE TITLE

Aquifer Designation Map (Superficial Drift)

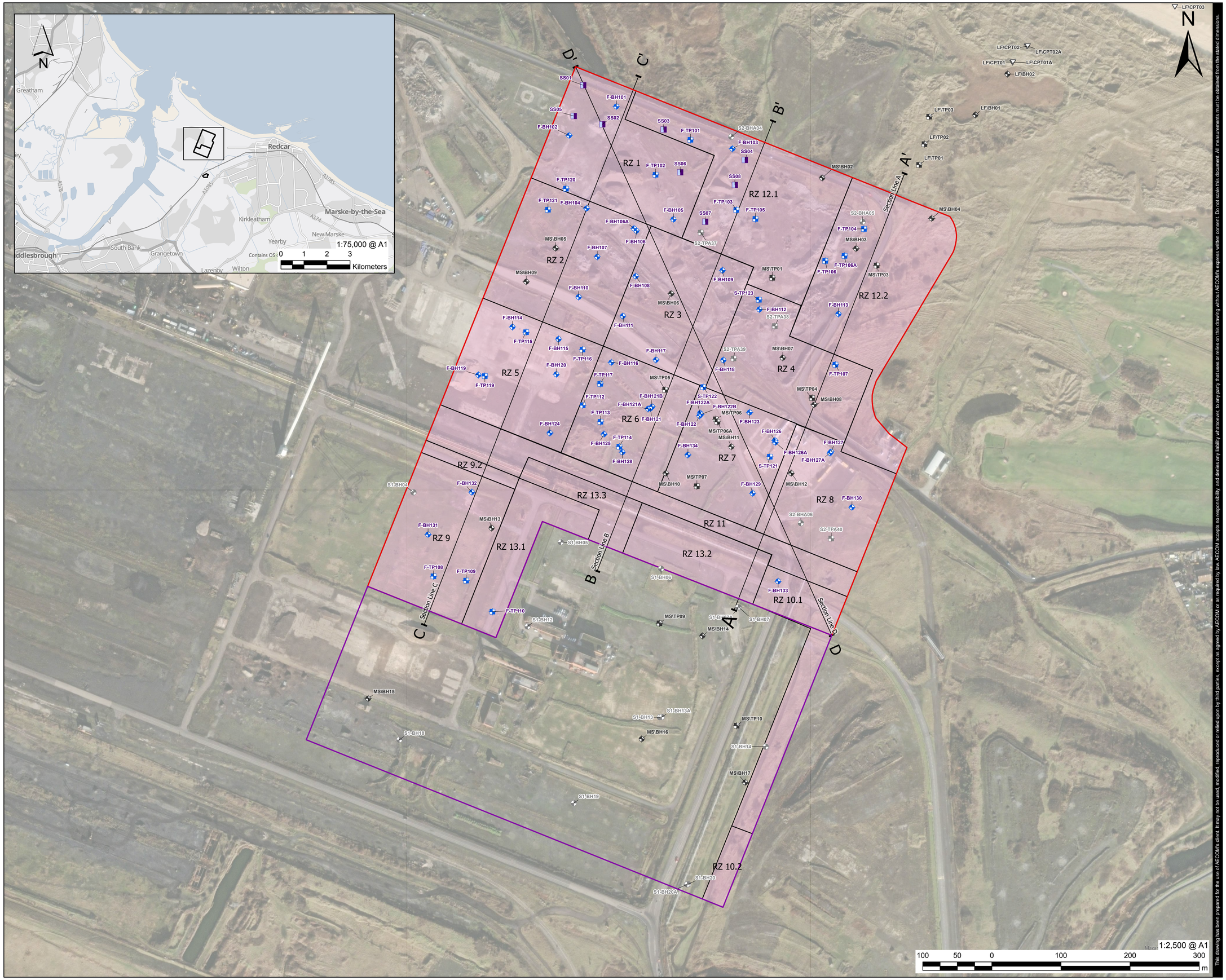
FIGURE NUMBER

Figure 5

Filename: C:\Users\DoranA\Documents\ArcGIS\Projects\NZT.qgz

Revision: P03 Drawn: SVC Checked: MB Approved: DW Date: 2024-12-19

Filename: C:\Users\ViveirosCarvalhoS\OneDrive - AECOM\Desktop\05_Working\NZT_FEED_GIR\NZT_FEED_GIR.aprx



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CLIENT

NZT Power Limited

CONSULTANT

AECOM Limited
Aldgate Tower
2 Leman Street
London E1 8FA, United Kingdom
www.aecom.com

LEGEND

FEED GI Locations
- Sample Location
- Sonic + Rotary Coring
- Trial Pit

Pre-FEED GI Locations
- CPTu
- Trial Pit
- Borehole

Historic GI Locations
- Borehole
- Trial Pit
- Section Lines

Site Boundaries
- Extension
- Main Site
- Remediation Zones (RZ)

NOTES

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• FEED GI DATA: AECOM. NET ZERO TEESIDE ONSHORE GROUND INVESTIGATION - FRONT END ENGINEERING DESIGN (FEED). GROUND INVESTIGATION FACTUAL REPORT. PROJECT NO. 60678042. NOVEMBER 2022.
6. EXPLORATORY HOLE AND SECTION LINE LOCATIONS SHOWN ON FIGURE NUMBER F001.
7. GEOLOGICAL CROSS SECTIONS A-A', B-B', C-C' AND D-D' REFER TO FIGURE NUMBERS F002 TO F005 INCLUSIVE.
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ISSUE PURPOSE

FOR INFORMATION

PROJECT NUMBER

60657467

FIGURE TITLE

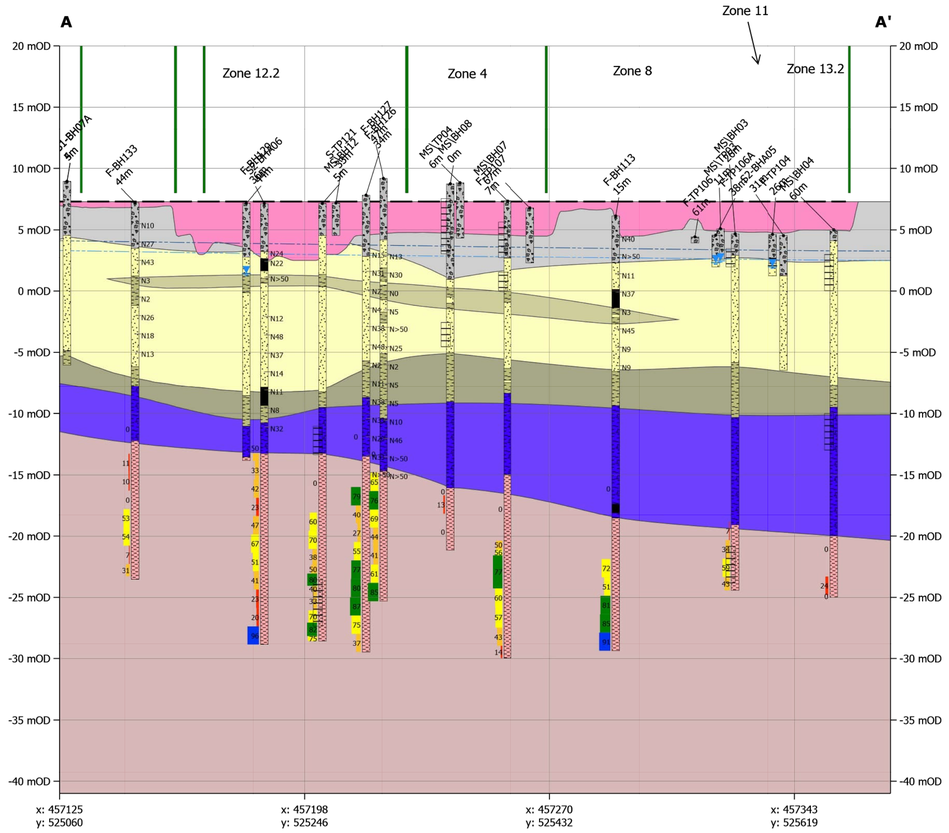
Site Location Plan

FIGURE NUMBER

F001

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Revision: P03 Drawn: SVC Checked: MB Approved: DW Date: 2024-12-19



Legend

FEED Ground Model - NZT HRA
- Remediated Made Ground
- d & e - Made Ground & Topsoil
- c2 - Tidal Flat Deposits Sand
- c1a - Tidal Flat Deposits Clay Upper
- c1b - Tidal Flat Deposits Clay Lower
- b - Glacial Deposits
- a - Mudstone Bedrock

Hole Geology Code
- e
- d
- c2
- c1
- b1
- a3
- a2
- a1
- NR

Rock Quality Designation (%)
Value and bar on LHS of hole stick:
- ≤ 25
- ≤ 50
- ≤ 75
- ≤ 90
- > 90

Standard Penetration Test Results
Value on RHS of hole stick:
N[SPT N Value]

Surfaces
- Finished Site Level (7.3mOD)
- MG & TFD Groundwater - Max. level
- MG & TFD Groundwater - Min. level
- Remediation Zones

Installations (VWP)
- Installations VWP

Installations (Standpipe response zone)
- SLOTTED

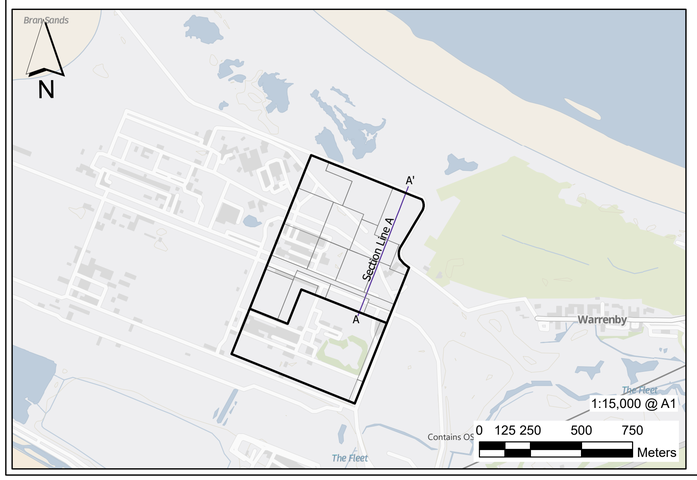
Groundwater Strike
- Strike_Level

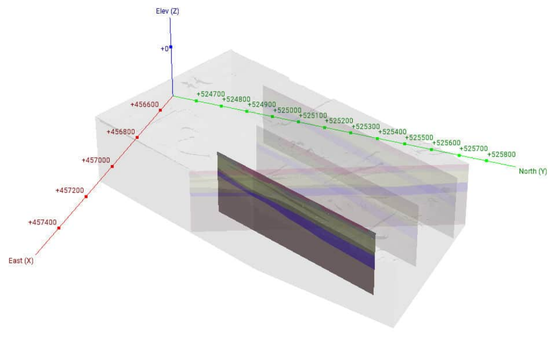
Monitored Strike
- Rise_Level

Scale: 1:2,500
Vertical exaggeration: 10x
0m 200m

Note - Geology Codes / Strata Names:
e - Topsoil, d - Made Ground, c2 - Tidal Flat Deposits Sand, c1 - Tidal Flat Deposits Clay, b1 - Glacial Till, a3 - Redcar Mudstone Formation, a2 - Penarth Group, a1 - Mercia Mudstone Group, NR - No Recovery

HOLES WITHIN 75M OF THE SECTION PLANE ARE GENERALLY SHOWN, BUT SOME HAVE BEEN OMITTED FOR CLARITY. THE OFFSET OF THE HOLE FROM THE SECTION PLANE IN METRES IS GIVEN BELOW THE HOLE ID (LOCATED ABOVE EACH HOLE STICK). REFER TO THE SITE LOCATION PLAN FOR THE LOCATION RELATIVE TO THE SECTION. HOLES OMITTED FOR SECTION A-A': S1-BH07, S1-BH13, F-TP106





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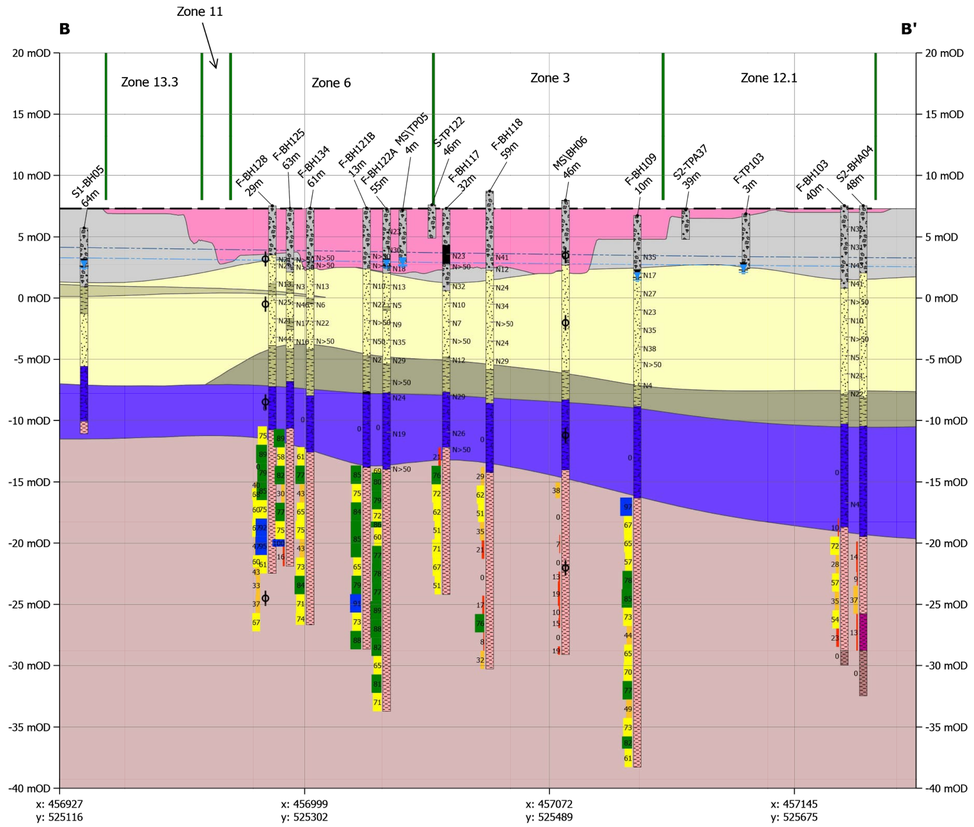
ISSUE PURPOSE
FOR INFORMATION

PROJECT NUMBER
60657467

FIGURE TITLE
Geological Cross Section
Section Line A

FIGURE NUMBER
F002

Filename: C:\Users\VveirosCarvalho5\OneDrive - AECOM\Desktop\05_Working\NZT_FEED_GIR\NZT_FEED_GIR.aprx



Legend

FEED Ground Model - NZT HRA
- Remediated Made Ground
- d & e - Made Ground & Topsoil
- c2 - Tidal Flat Deposits Sand
- c1a - Tidal Flat Deposits Clay Upper
- c1b - Tidal Flat Deposits Clay Lower
- b - Glacial Deposits
- a - Mudstone Bedrock

Hole Geology Code
- e
- d
- c2
- c1
- b1
- a3
- a2
- a1
- NR

Rock Quality Designation (%)
Value and bar on LHS of hole stick:
- ≤ 25
- ≤ 50
- ≤ 75
- ≤ 90
- > 90

Surfaces
- Finished Site Level (7.3mOD)
- MG & TFD Groundwater - Max. level
- MG & TFD Groundwater - Min. level
- Remediation Zones

Installations (VWP)
- Installations VWP

Installations (Standpipe response zone)
- SLOTTED

Groundwater Strike
- Strike_Level

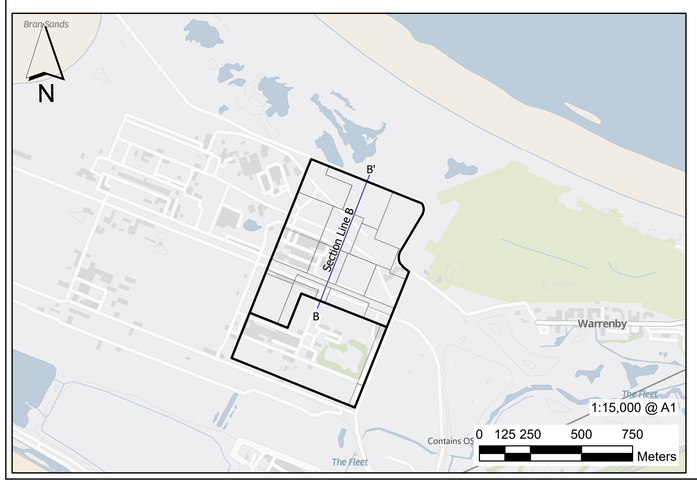
Monitored Strike
- Rise_Level

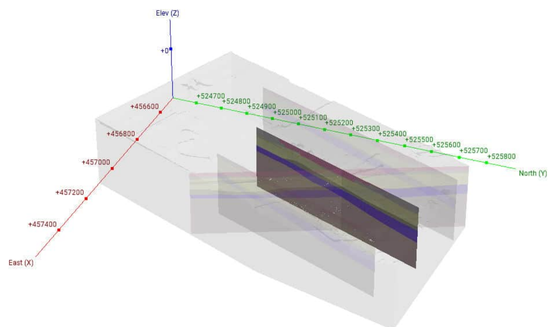
Standard Penetration Test Results
Value on RHS of hole stick:
N[SPT N Value]

Note - Geology Codes / Strata Names:
e - Topsoil, d - Made Ground, c2 - Tidal Flat Deposits Sand, c1 - Tidal Flat Deposits Clay, b1 - Glacial Till, a3 - Redcar Mudstone Formation, a2 - Penarth Group, a1 - Mercia Mudstone Group, NR - No Recovery

Scale: 1:2,500
Vertical exaggeration: 10x
0m 200m

HOLES WITHIN 75M OF THE SECTION PLANE ARE GENERALLY SHOWN, BUT SOME HAVE BEEN OMITTED FOR CLARITY. THE OFFSET OF THE HOLE FROM THE SECTION PLANE IN METRES IS GIVEN BELOW THE HOLE ID (LOCATED ABOVE EACH HOLE STICK). REFER TO THE SITE LOCATION PLAN FOR THE LOCATION RELATIVE TO THE SECTION. HOLES OMITTED FOR SECTION B-B': MS/BH10, F-TP114, F-TP113, F-BH121, F-BH121A, S2-TPA39, F-TP105, SS07, SS08, SS04.





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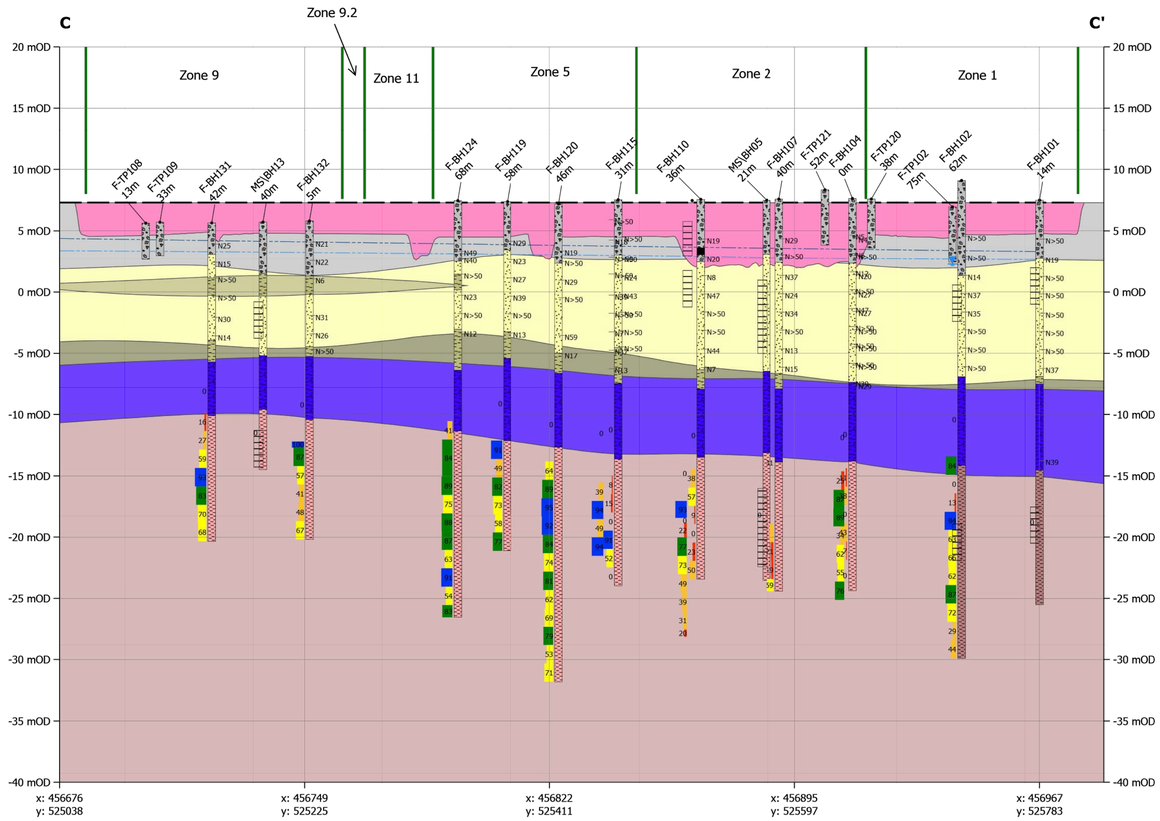
ISSUE PURPOSE
FOR INFORMATION

PROJECT NUMBER
60657467

FIGURE TITLE
Geological Cross Section
Section Line B

FIGURE NUMBER
F003

Revision: P03 Drawn: SVC Checked: MB Approved: DW Date: 2024-12-19
Filename: C:\Users\ViveirosCarvalhoS\OneDrive - AECOM\Desktop\05_Working\NZT_FEED_GIR\NZT_FEED_GIR.aprx



Legend

FEED Ground Model - NZT HRA
- Remediated Made Ground
- d & e - Made Ground & Topsoil
- c2 - Tidal Flat Deposits Sand
- c1a - Tidal Flat Deposits Clay Upper
- c1b - Tidal Flat Deposits Clay Lower
- b - Glacial Deposits
- a - Mudstone Bedrock

Hole Geology Code
- e
- d
- c2
- c1
- b1
- a3
- a2
- a1
- NR

Rock Quality Designation (%)
Value and bar on LHS of hole stick:
- ≤ 25
- ≤ 50
- ≤ 75
- ≤ 90
- > 90

Standard Penetration Test Results
Value on RHS of hole stick:
N[SPT N Value]

Surfaces
- Finished Site Level (7.3mOD)
- MG & TFD Groundwater - Max. level
- MG & TFD Groundwater - Min. level
- Remediation Zones

Installations (VWP)
- Installations VWP

Installations (Standpipe response zone)
- SLOTTED

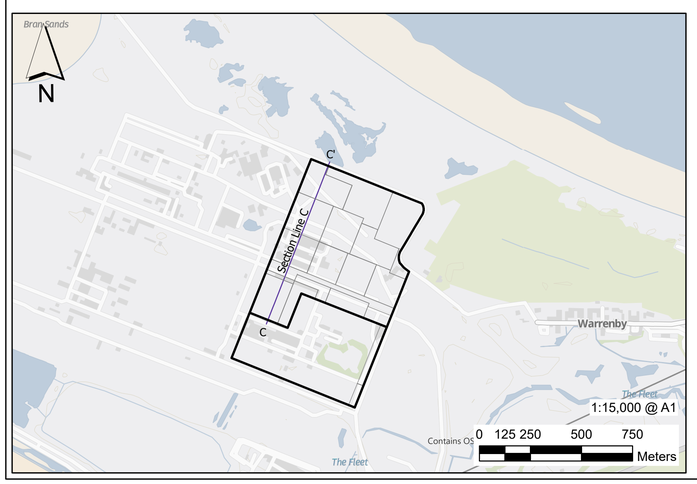
Groundwater Strike
- Strike_Level

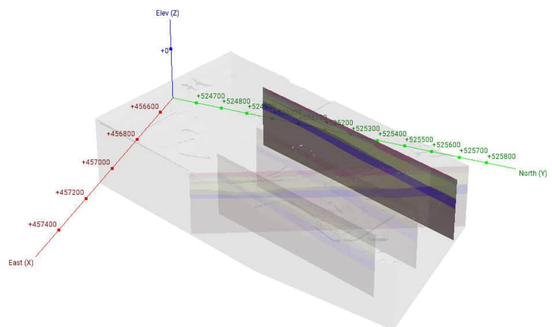
Monitored Strike
- Rise_Level

Scale: 1:2,500
Vertical exaggeration: 10x
0m 200m

Note - Geology Codes / Strata Names:
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9. GROUNDWATER SURFACES ARE SHOWN FOR THE MAXIMUM AND MINIMUM LEVELS RECORDED IN THE MADE GROUND AND TIDAL FLAT DEPOSITS WHICH ARE ASSUMED TO BE IN CONTINUITY; THEY SHOULD BE CONSIDERED INDICATIVE ONLY. THE SURFACES HAVE BEEN PRODUCED FROM MONITORING DATA BETWEEN 2022 AND 2024.

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ISSUE PURPOSE

FOR INFORMATION

PROJECT NUMBER

60657467

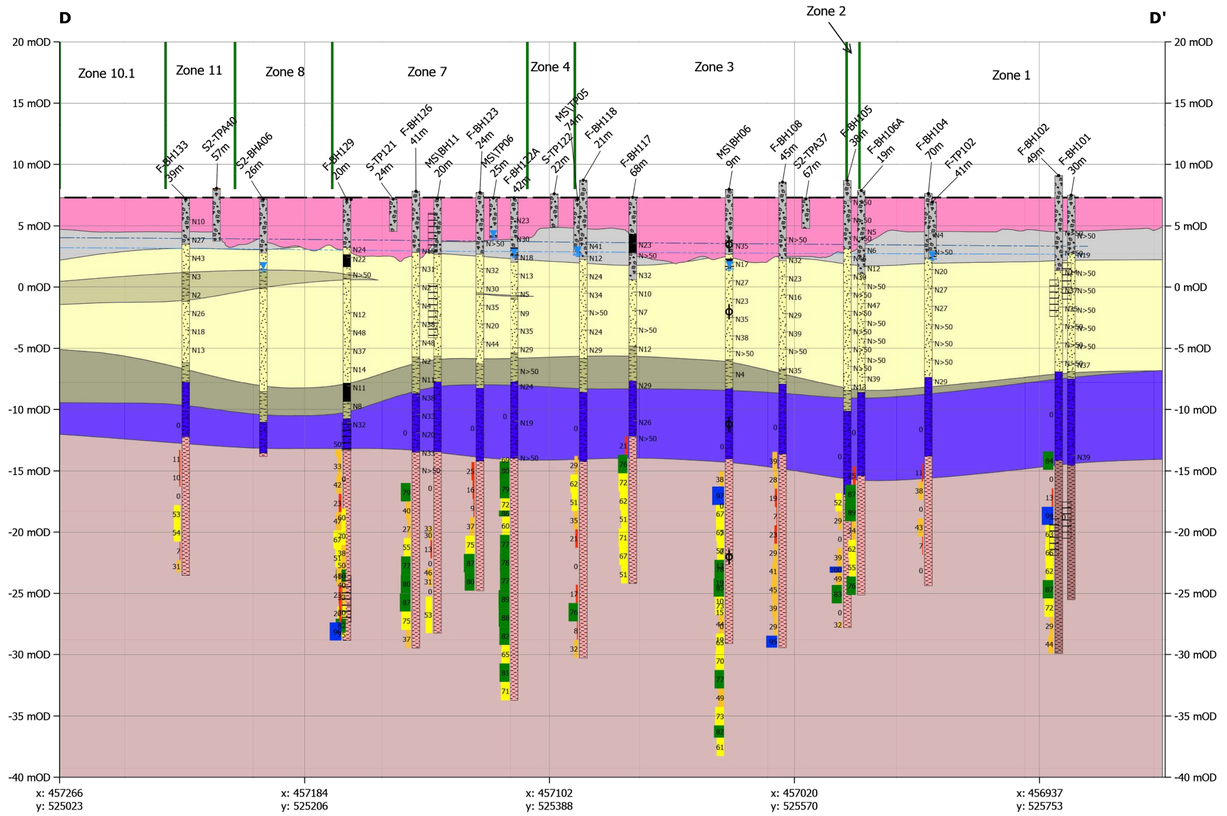
FIGURE TITLE

Geological Cross Section
Section Line C

FIGURE NUMBER

F004

Revision: P03 Drawn: SVC Checked: MB Approved: DW Date: 2024-12-19



Legend

FEED Ground Model - NZT HRA
- Remediated Made Ground
- d & e - Made Ground & Topsoil
- c2 - Tidal Flat Deposits Sand
- c1a - Tidal Flat Deposits Clay Upper
- c1b - Tidal Flat Deposits Clay Lower
- b - Glacial Deposits
- a - Mudstone Bedrock

Hole Geology Code
- e
- d
- c2
- c1
- b1
- a3
- a2
- a1
- NR

Rock Quality Designation (%)
Value and bar on LHS of hole stick:
- ≤ 25
- ≤ 50
- ≤ 75
- ≤ 90
- > 90

Surfaces
- Finished Site Level (7.3mOD)
- MG & TFD Groundwater - Max. level
- MG & TFD Groundwater - Min. level
- Remediation Zones

Installations (VWP)
- Installations VWP

Installations (Standpipe response zone)
- SLOTTED

Groundwater Strike
- Strike_Level

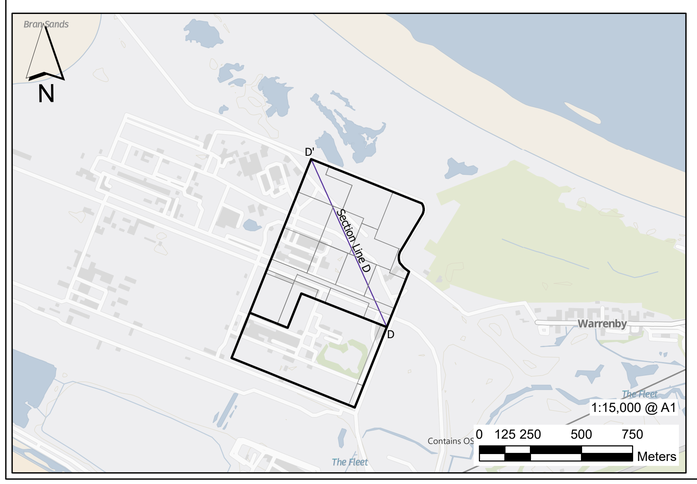
Monitored Strike
- Rise_Level

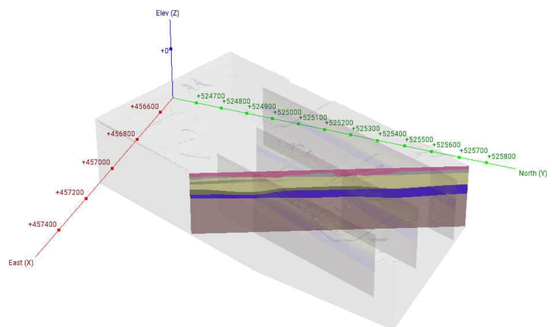
Standard Penetration Test Results
Value on RHS of hole stick:
N[SPT N Value]

Scale: 1:2,500
Vertical exaggeration: 10x
0m 200m

Note - Geology Codes / Strata Names:
e - Topsoil, d - Made Ground, c2 - Tidal Flat Deposits Sand, c1 - Tidal Flat Deposits Clay, b1 - Glacial Till, a3 - Redcar Mudstone Formation, a2 - Penarth Group, a1 - Mercia Mudstone Group, NR - No Recovery

HOLES WITHIN 75M OF THE SECTION PLANE ARE GENERALLY SHOWN, BUT SOME HAVE BEEN OMITTED FOR CLARITY. THE OFFSET OF THE HOLE FROM THE SECTION PLANE IN METRES IS GIVEN BELOW THE HOLE ID (LOCATED ABOVE EACH HOLE STICK). REFER TO THE SITE LOCATION PLAN FOR THE LOCATION RELATIVE TO THE SECTION. HOLES OMITTED FOR SECTION D-D': MS\BH12, MS\TP06A, S2-TPA39, F-BH109, F-BH106, SS02, SS05, SS01.





Plunge +07
Azimuth 248

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AECOM

PROJECT
NET ZERO TEESSIDE HYDROGEOLOGICAL RISK ASSESSMENT

CLIENT
NZT Power Limited

CONSULTANT
AECOM Limited
Aldgate Tower
2 Leman Street
London E1 8FA, United Kingdom
www.aecom.com

LEGEND

NOTES
1. DO NOT SCALE FROM THIS DRAWING.
2. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH THE FOLLOWING REPORT: NET ZERO TEESSIDE. HYDROGEOLOGICAL RISK ASSESSMENT. AECOM 2024.
3. ALL DIMENSIONS IN METRES (m) AND ALL ELEVATIONS/LEVELS IN METRES RELATIVE TO ORDNANCE DATUM (mOD) UNLESS NOTED OTHERWISE.
4. GROUND SURFACE SHOWN AT UNIFORM 7.3 mOD REPRESENTING A POST-REMEDIATION SURFACE. MINOR LOCAL VARIATIONS MAY EXIST ON SITE.
5. THE GROUND INVESTIGATION (GI) DATA IS DISPLAYED FROM THE FOLLOWING FACTUAL REPORTS AND CORRESPONDING DIGITAL DATA PROVIDED IN AGS FILES:
• HISTORICAL GI DATA: ALLIED EXPLORATION & GEOTECHNICS LTD. THE FORMER SSI STEELWORKS, REDCAR – GROUND INVESTIGATION CONTRACT. FINAL FACTUAL REPORT. CONTRACT NO. 4153 & 4154 (AREA A), JUNE 2018.
• PRE-FEED GI DATA: ALLIED EXPLORATION & GEOTECHNICS LTD. PRELIMINARY ONSHORE GROUND INVESTIGATION FOR NET ZERO TEESSIDE (NZT). FINAL FACTUAL REPORT. CONTRACT NO. 4339, DECEMBER 2021.
• FEED GI DATA: AECOM. NET ZERO TEESIDE ONSHORE GROUND INVESTIGATION - FRONT END ENGINEERING DESIGN (FEED). GROUND INVESTIGATION FACTUAL REPORT. PROJECT NO. 60678042, NOVEMBER 2022.
6. EXPLORATORY HOLE AND SECTION LINE LOCATIONS SHOWN ON FIGURE NUMBER F001.
7. GEOLOGICAL CROSS SECTIONS A-A', B-B', C-C' AND D-D' REFER TO FIGURE NUMBERS F002 TO F005 INCLUSIVE.
8. INTERPRETED GEOLOGY SHOWN ON HOLE STICKS IS BASED ON AGS DATA AND IS SUBJECT TO CHANGE ON REVIEW. THE ILLUSTRATED 3D GEOLOGICAL STRATIGRAPHY HAS BEEN CUT FROM AN INTERPRETATIVE 3D MODEL AND SHOULD BE CONSIDERED AS AN INDICATIVE DISTRIBUTION BETWEEN EXPLORATORY HOLES ONLY. ACTUAL GROUND CONDITIONS AWAY FROM EXPLORATORY HOLES MAY VARY FROM THAT SHOWN.
9. GROUNDWATER SURFACES ARE SHOWN FOR THE MAXIMUM AND MINIMUM LEVELS RECORDED IN THE MADE GROUND AND TIDAL FLAT DEPOSITS WHICH ARE ASSUMED TO BE IN CONTINUITY; THEY SHOULD BE CONSIDERED INDICATIVE ONLY. THE SURFACES HAVE BEEN PRODUCED FROM MONITORING DATA BETWEEN 2022 AND 2024.

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ISSUE PURPOSE
FOR INFORMATION

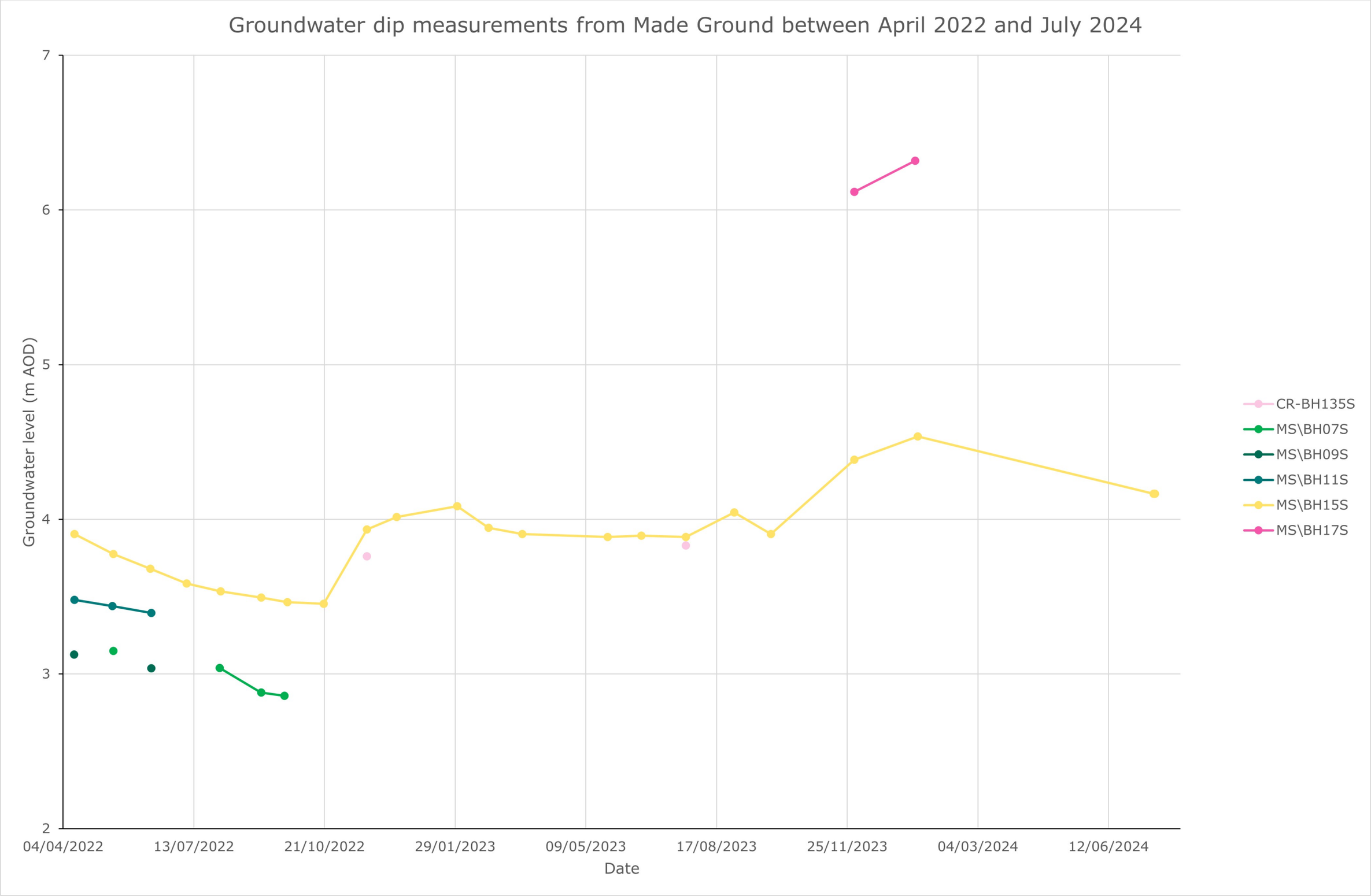
PROJECT NUMBER
60657467

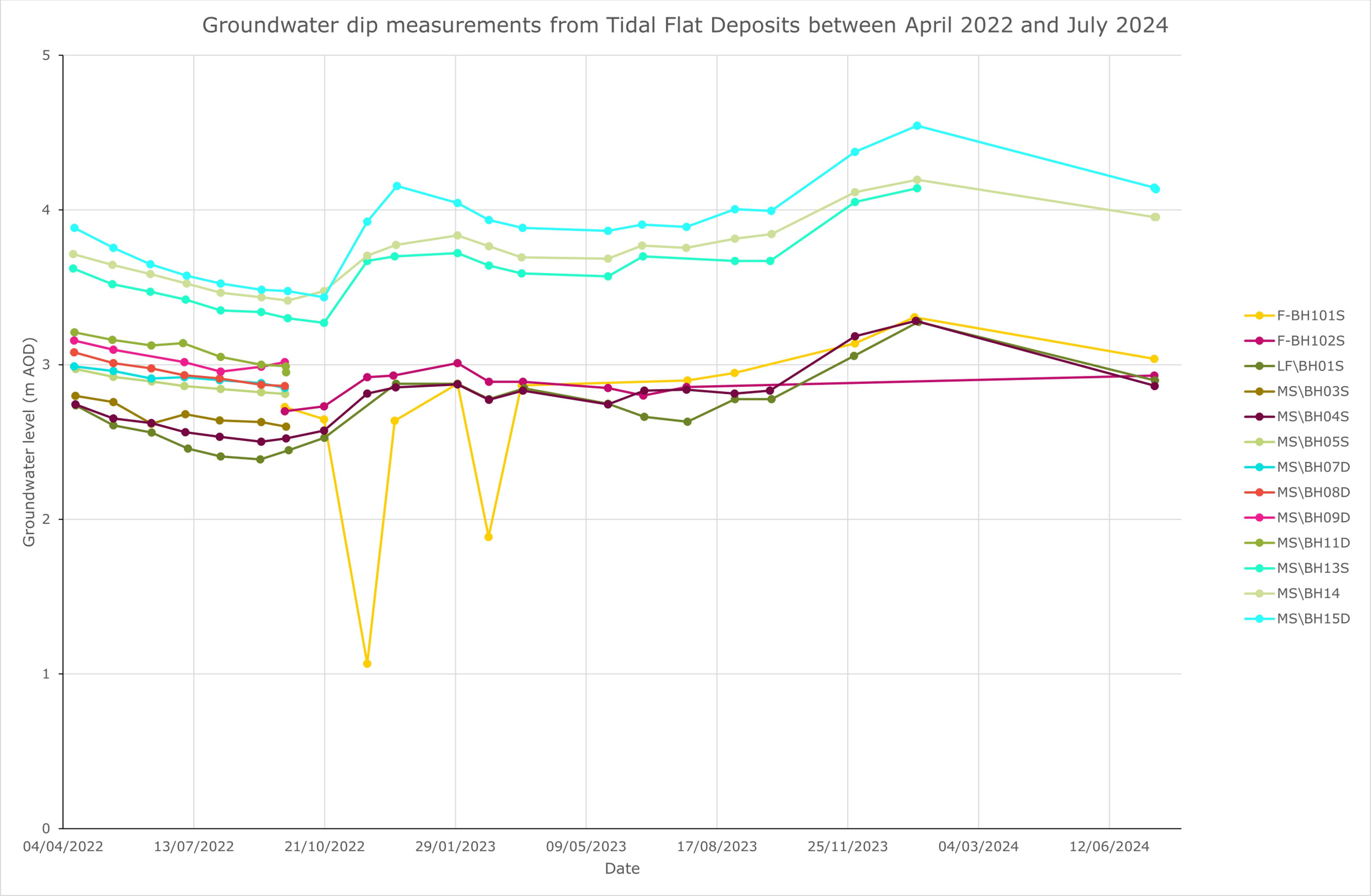
FIGURE TITLE
Geological Cross Section
Section Line D

FIGURE NUMBER
F005

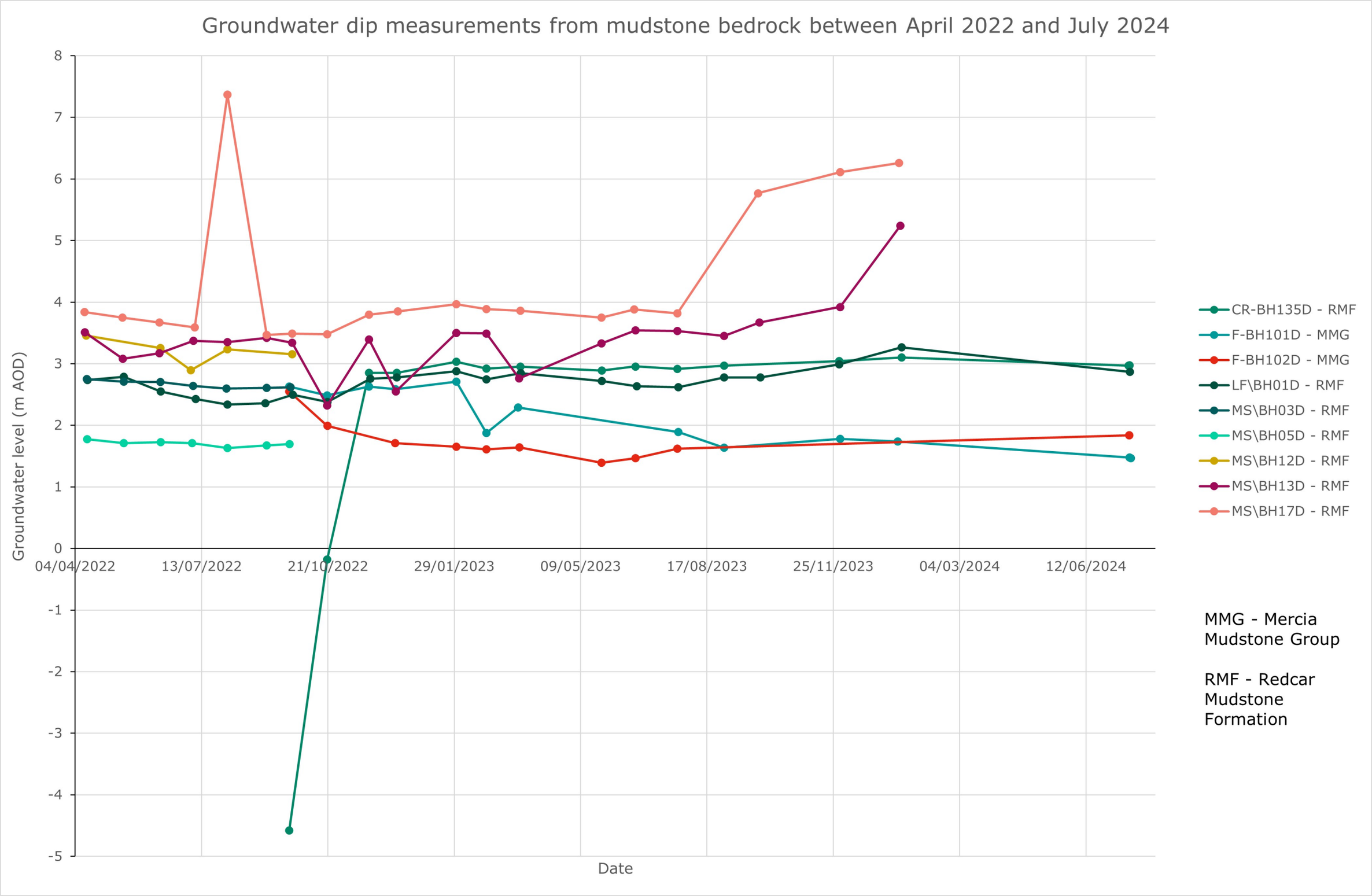
Filename: C:\Users\ViveirosCarvalhoS\OneDrive - AECOM\Desktop\05_Working\NZT_FEED_GIR\NZT_FEED_GIR.aprx

Appendix A - Groundwater Level Monitoring Data

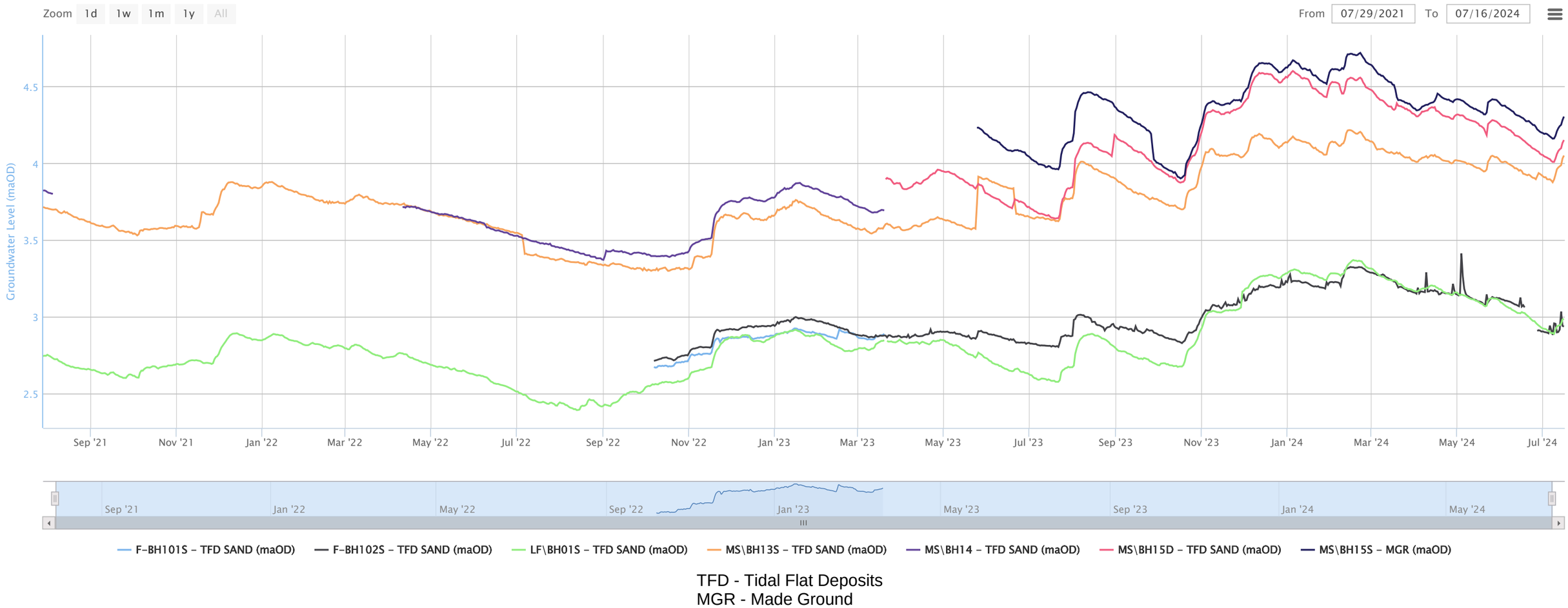

Groundwater dip measurements from Made Ground between April 2022 and July 2024
Groundwater level (m AOD)
7
6
5
4
3
2
04/04/2022
13/07/2022
21/10/2022
29/01/2023
09/05/2023
17/08/2023
25/11/2023
04/03/2024
12/06/2024
Date
CR-BH135S
MS\BH07S
MS\BH09S
MS\BH11S
MS\BH15S
MS\BH17S


Groundwater dip measurements from Tidal Flat Deposits between April 2022 and July 2024
Groundwater level (m AOD)
5
4
3
2
1
0
04/04/2022
13/07/2022
21/10/2022
29/01/2023
09/05/2023
17/08/2023
25/11/2023
04/03/2024
12/06/2024
Date
F-BH101S
F-BH102S
LF\BH01S
MS\BH03S
MS\BH04S
MS\BH05S
MS\BH07D
MS\BH08D
MS\BH09D
MS\BH11D
MS\BH13S
MS\BH14
MS\BH15D


Groundwater dip measurements from Glacial Till Deposits between April 2022 and July 2024
Groundwater level (m AOD)
4
3
2
04/04/2022
13/07/2022
21/10/2022
29/01/2023
09/05/2023
17/08/2023
25/11/2023
04/03/2024
12/06/2024
Date
MS\BH04D
MS\BH12S

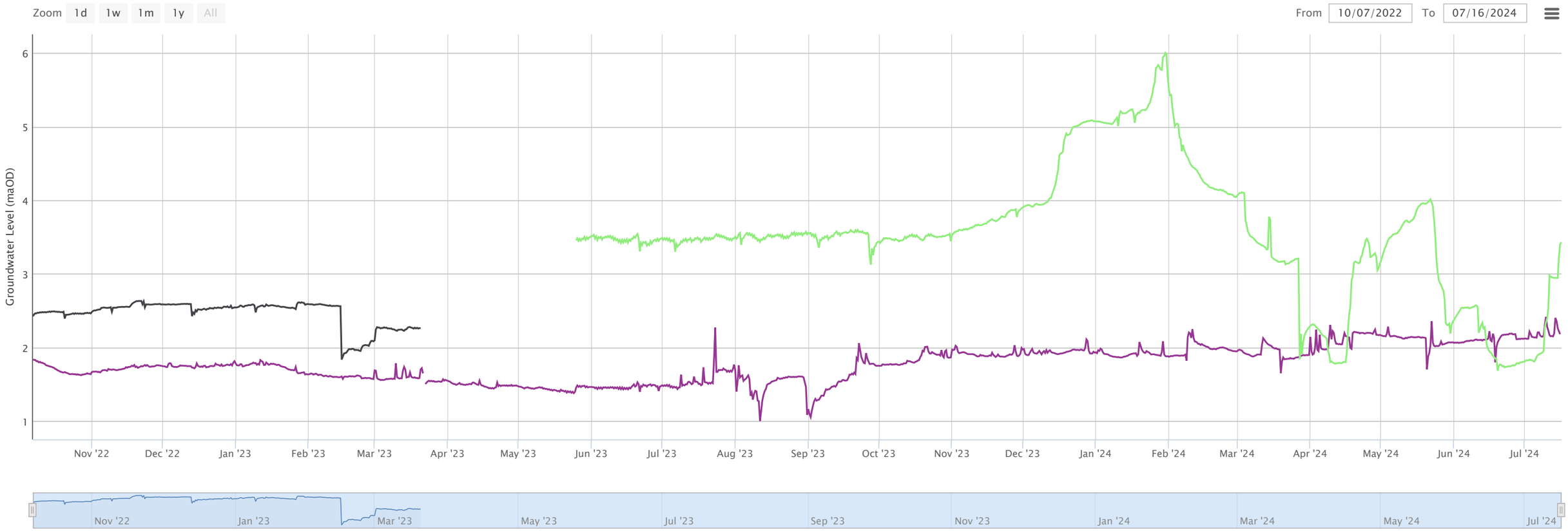

Groundwater dip measurements from mudstone bedrock between April 2022 and July 2024
Groundwater level (m AOD)
8
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
04/04/2022
13/07/2022
21/10/2022
29/01/2023
09/05/2023
17/08/2023
25/11/2023
04/03/2024
12/06/2024
Date
CR-BH135D - RMF
F-BH101D - MMG
F-BH102D - MMG
LF\BH01D - RMF
MS\BH03D - RMF
MS\BH05D - RMF
MS\BH12D - RMF
MS\BH13D - RMF
MS\BH17D - RMF
MMG - Mercia Mudstone Group
RMF - Redcar Mudstone Formation

Groundwater levels within TFD and MGR between September 2021 and July 2024 using diver data

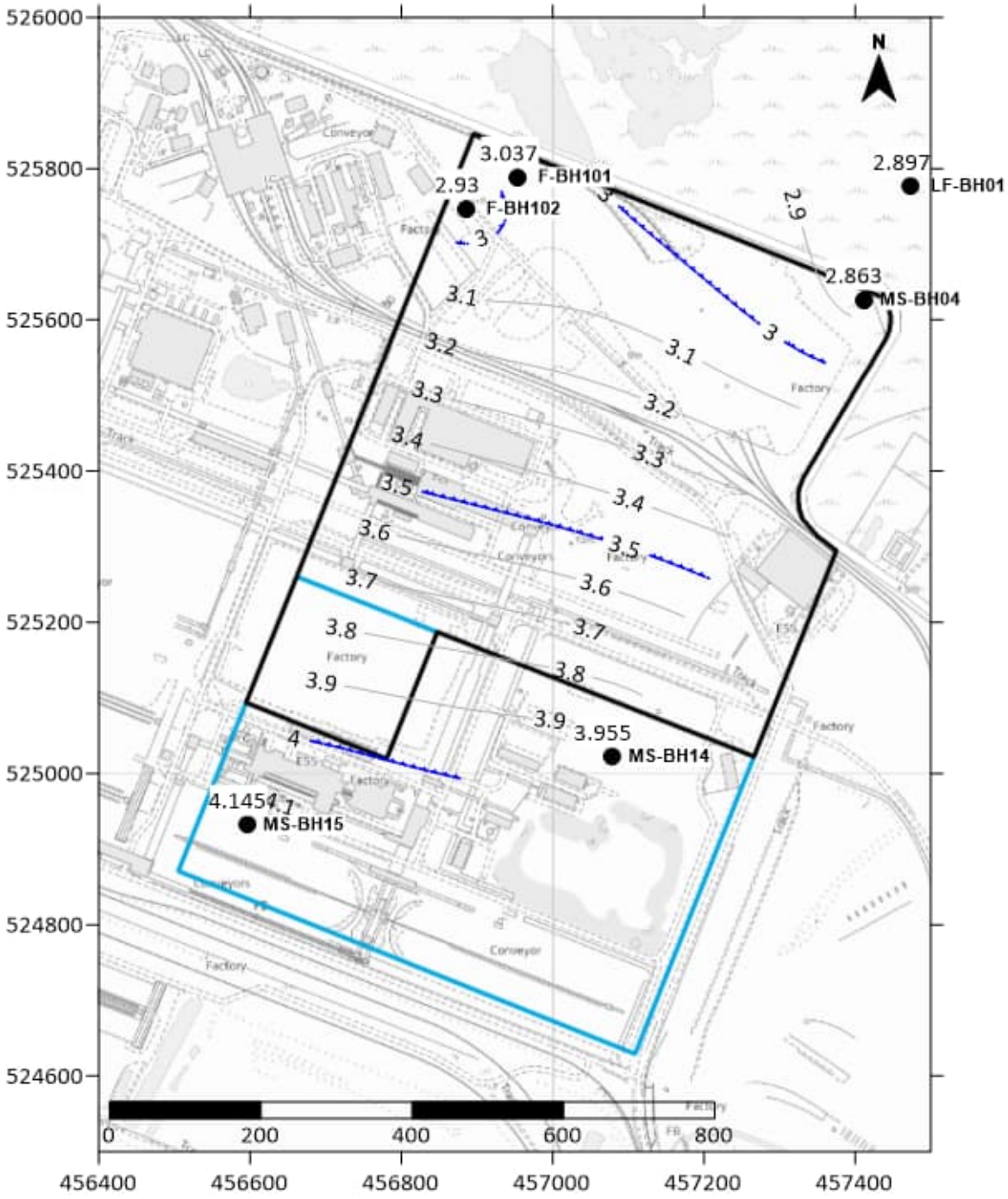


TFD - Tidal Flat Deposits
MGR - Made Ground

Groundwater levels within bedrock between October 2022 and July 2024 using diver data



MMG - Mercia Mudstone Group
RMU - Redcar Mudstone Formation



Key

Site Boundary

F-BH102 Borehole

Groundwater elevation value (m AOD)

m above Ordnance Datum (m AOD)

Elevation recorded by manual dip measurements on 16/07/2024

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Title: Groundwater elevation and inferred contours for TFD

Location: NZT PPC

Client: Net Zero Teesside Power Limited

AECOM

App'd	Drawn	Date
KS	HH	SEPT 2024
DRAFT		Version: 1
Scale: -		Project No: 60701533
Drg. Size: A4		Figure No: 1

Appendix B - Groundwater Quality Monitoring Data

AECOM

KEY

XX.XX	Format indicates result value exceeds the Action Level
<	Indicates that the result is below the Reporting Detection Limit

The following abbreviations are used throughout these tables.

Sample Types

N	Normal Environmental Sample
FD	Field Duplicate Sample
TB	Trip Blank
FB	Field Blank
EB	Equipment Blank

Fractions

T	The total of all fractions of the analyte: Unfiltered sample.
D	Dissolved: That portion of the analyte found in the liquid medium which cannot be removed by filtration.
L	Leached - leachate produced by soil leaching test. Concentrations reported in units of mass per volume e.g. mg/l
LC	Leached Calculated: leachate result back-calculated to concentration in parent soil sample. Reported in units of mass per mass e.g. mg/kg
N	Not Applicable

Units of Measure

%	Percent
% LEL	Percent of Lower Explosive Limit
°C	Degrees Celsius
µg	Micrograms
µg/kg	Micrograms per kilogram
µg/L	Microgram per litre
µg/m3	Microgram per cubic metre
µS/cm	Micro Siemens per centimetre
Bq	Becquerel
CFU	Colony Forming Units
cm	Centimetres
kg	Kilograms
L	Litres
m	Metres
mbar	Millibars
mbgl	Metres below ground level
mg	Milligrams
mg/kg	Milligrams per kilogram
mg/L	Milligrams per litre
mg/m3	Milligrams per cubic metre
ppb	Parts per billion
ppm	Parts per million
ppmv	Parts per million by volume
TEQ	Toxic equivalency value

Abbreviations used in Assessment Criteria

GAC	Generic Assessment Criteria
GW	Groundwater
HH	Human Health
C4SL	Category 4 Screening Levels
DWS	Drinking Water Standards
TOC	Total Organic Carbon
CW/WE	Controlled Waters / Water Environment
SoBRA	Society of Brownfield Risk Assessment
EIC	Environmental Industries Commission
AGS	Association of Geotechnical and Geoenvironmental Specialists
CL:AIRE	Contaminated Land: Applications in Real Environments
Defra	Department for Environment Food & Rural Affairs
USEPA	US Environmental Protection Agency
WHO	World Health Organization
SEPA	Scottish Environmental Protection Agency
WFD	Water Framework Directive
PNEC	Predicted No-Effect Concentration
IGV	interim guideline values
DETR	Department of the Environment, Transport and the Regions
DWI	Drinking Water Inspectorate
Dutch IV	Dutch Intervention Values
SRC	Serious Risk Concentrations
RSL	Regional Screening Levels
DWG	Drinking Water Guidelines
SG	Supporting Guidance
GTVs	Groundwater Threshold Values
RBD	River Basin District
LQM	Land Quality Management
CIEH	Chartered Institute for Environmental Health
S4ULs	Suitable For Use Levels
EQS	Environmental Quality Standards
AA	Annual Average
MAC	Maximum Allowable Concentration
RPV	Resource Protection Value
-	No data recorded

Geologic Unit codes

Shallow	Shallow Aquifer
Deep	Deep Aquifer
ALV	Alluvium
BC	Boulder Clay
BDRK	Bedrock
BO	Boulders
BRC	Breccia
CO	Cobbles
CHK	Chalk
CL	Clay
CM	Coal Measures
COA	Coal
CONC	Concrete
CGM	Conglomerate
DFT	Drift Deposits
GR	Gravel
HLT	Halite
IRS	Ironstone
LMS	Limestone
MD	Marine Deposits
MDS	Mudstone
MG	Made Ground
MGR	Made Ground
NAT	Natural Ground
PEAT	Peat
RTD	River Terrace Deposits
SA	Sand
SD_GRV	Sand and Gravel
SLT	Slate
SI	Silt
SIS	Siltstone
SAS	Sandstone
TFD	Tidal Flat Deposits
TILL	Glacial Till
TMC	Bituminous Material
TOPS	Topsoil

AECOM

Client: Net Zero Teesside Power Limited
Project: Net Zero Teesside
Table: Groundwater Analytical Results - data collected by AECOM
Analyte Group: All
Date Range: 10/08/2021

			Location	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S
			Date	20/10/2022	22/11/2022	23/11/2022	13/12/2022	20/03/2023	15/01/2024	16/07/2024	21/10/2024	21/10/2024	20/10/2022	22/11/2022	23/11/2022	13/12/2022	22/03/2023	21/06/2023	16/07/2024	22/10/2024	22/10/2024	13/08/2021	18/10/2021	17/11/2021	13/04/2022	14/04/2022	08/07/2022	23/09/2022
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																										
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	-	-	-	-	-	-
SVOC TICs	T	µg/L	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Dibutyltin	T	µg/L	-	-	-	-	-	-	< 1	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	-	-	-	-
Tributyltin	T	µg/L	-	-	-	-	-	-	< 1	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	-	-	-	-
Triphenyltin	T	µg/L	-	-	-	-	-	-	< 1	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	-	-	-	-
Dibenzofuran	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 0.5	-	-	
PCB 12	T	ug/L	< 1	-	< 1	< 1	-	-	-	-	-	< 1	-	< 1	< 1	-	-	-	-	-	-	-	-	-	-	-	-	< 1
PCB 52	T	µg/L	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2
PCB 77	T	µg/L	< 0.3	-	< 0.3	< 0.3	-	-	-	-	-	< 0.3	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3
PCB 81	T	µg/L	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2
PCB 101	T	µg/L	< 0.3	-	< 0.3	< 0.3	-	-	-	-	-	< 0.3	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3
PCB 105	T	µg/L	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2
PCB 114	T	µg/L	< 0.3	-	< 0.3	< 0.3	-	-	-	-	-	< 0.3	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3
PCB 126	T	µg/L	< 0.5	-	< 0.5	< 0.5	-	-	-	-	-	< 0.5	-	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5
PCB 138	T	µg/L	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2
PCB 153	T	µg/L	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2
PCB 156	T	µg/L	< 0.3	-	< 0.3	< 0.3	-	-	-	-	-	< 0.3	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3
PCB 157	T	µg/L	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2
PCB 167	T	µg/L	< 0.3	-	< 0.3	< 0.3	-	-	-	-	-	< 0.3	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3
PCB 169	T	µg/L	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2
PCB 180	T	µg/L	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	< 0.2	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2
PCB 189	T	µg/L	< 0.3	-	< 0.3	< 0.3	-	-	-	-	-	< 0.3	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3
PCB Coelute 28/31	T	ug/L	< 0.3	-	< 0.3	< 0.3	-	-	-	-	-	< 0.3	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3
PCB Coelute 118/123	T	ug/L	< 0.6	-	< 0.6	< 0.6	-	-	-	-	-	< 0.6	-	< 0.6	< 0.6	-	-	-	-	-	-	-	-	-	-	-	-	< 0.6
Total 7 PCB	T	µg/L	< 1	-	< 1	< 1	-	-	-	-	-	< 1	-	< 1	< 1	-	-	-	-	-	-	-	-	-	-	-	-	< 1
2,3,6-TBA	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-T	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-D	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DB	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methyl-4-Chlorophenoxy Butanoic Acid	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Actril (loxynil)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bentazon	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoxynil	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clopyralid	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicamba	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorprop	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluroxypyr	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mecoprop	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Picloram	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silvex	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Triclopyr	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinitrobenzene, p-	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	-	-	-	
1,3-Dinitrobenzene	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	-	-	-	
Dinitrotoluene, 2,4-	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 0.5	-	-	
Dinitrotoluene, 2,6-	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 1	-	-	
Nitrobenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	
Chlorobenzene	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 2	-	-	
1,2-Dichlorobenzene	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 3	-	-	
1,3-Dichlorobenzene	T	µg/L	< 2	-	< 2	< 2	< 2	-	< 2	-	-	< 2	-	< 2	< 2	< 2	-	< 2	-	-	< 2	< 2	< 2	-	< 3	-	-	
1,4-Dichlorobenzene	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 3	-	-	
Trichlorobenzene	T	µg/L	< 2	-	< 2	< 2	< 2	-	-	-	-	< 2	-	< 2	< 2	< 2	-	-	-	-	< 2	< 2	< 2	-	< 4	-	-	
1,2,3-Trichlorobenzene	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 3	-	-	
1,2,4-Trichlorobenzene	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 3	-	-	
Hexachlorobenzene	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 1	-	-	
2,3,4,6-Tetrachlorophenol	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	-	-	-	
2,3,5,6-Tetrachlorophenol	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	
2,3,5,6-Tetrachlorophenol	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	-	-	-	
2,4,5-Trichlorophenol	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 0.5	-	-	
2,4,6-Trichlorophenol	T	µg/L	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 1	< 0.1	-	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 1	-	< 0.1	< 1	< 1	< 1	-	< 1	< 0.1	< 0.1	
2,4-Dichlorophenol	T	µg/L	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 1	< 0.1	-	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 1	-	< 0.1	< 1	< 1	< 1	-	< 0.5	< 0.1	< 0.1	
2,4-Dimethylphenol	T	µg/L	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 1	< 0.1	-	< 0.1	-	< 0.1	< 0.1	< 0.1	0.14	< 1	-	< 0.1	< 1	< 1	< 1	-	< 1	< 0.1	< 0.1	
2,6-Dichlorophenol	T	µg/L	-	-	-	-	-	-	< 0.1	< 0.1	-	-	-	-	-	-	-	< 0.1	-	< 0.1	-	-	-	-	-	-	-	
2,6-Dichlorophenol	T	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	
2,6-Dimethylphenol	T	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	
2-Chlorophenol	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 1	-	-	
2-methylphenol	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 0.5	-	-	
2-Nitrophenol	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	
3/4-Methylphenol (m/p-cresol)	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	-	-	-	
4-Chloro-3-methylphenol	T	µg/L	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 1	< 0.1	-	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 1	-	< 0.1	< 1	< 1	< 1	-	< 0.5	< 0.1	< 0.1	

AECOM

Client: Net Zero Teesside Power Limited
Project: Net Zero Teesside
Table: Groundwater Analytical Results - data collected by AECOM
Analyte Group: All
Date Range: 10/08/2021

Analyte	Fraction	Units	Location	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S
			Date	20/10/2022	22/11/2022	23/11/2022	13/12/2022	20/03/2023	15/01/2024	16/07/2024	21/10/2024	21/10/2024	20/10/2022	22/11/2022	23/11/2022	13/12/2022	22/03/2023	21/06/2023	16/07/2024	22/10/2024	22/10/2024	13/08/2021	18/10/2021	17/11/2021	13/04/2022	14/04/2022	08/07/2022	23/09/2022
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
PAH Surrogate % Recovery	T	%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	-	-	-	-	-
4-Methylphenol	T	µg/L		< 0.1	-	< 0.1	< 0.1	0.15	0.98	< 0.1	< 0.1	-	< 0.1	-	< 0.1	< 0.1	< 0.1	0.27	< 0.1	-	< 0.1	-	-	-	-	< 1	< 0.1	< 0.1
4-Nitrophenol	T	µg/L		< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 10	-	-
Pentachlorophenol	T	µg/L		< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	1.4	< 1	< 1	-	< 1	-	-
Phenol	T	µg/L		0.12	-	< 0.1	< 0.1	0.15	6.1	< 1	0.25	-	< 0.1	-	< 0.1	< 0.1	< 0.1	1.8	< 1	-	< 0.1	7.9	1.9	< 1	-	1	< 0.1	< 0.1
Total Monohydric Phenols (S) Corrected	T	µg/L		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 100	< 100	< 100	-	-	-	-
Dissolved Organic Carbon	D	mg/L		160	-	69	60	62	54	-	63	-	270	-	66	120	87	< 2	-	-	-	-	-	-	-	19	9.1	17
Dissolved Organic Carbon	T	mg/L		-	-	-	-	-	-	53.38	-	-	-	-	-	-	-	-	18.4	-	35.54	-	-	-	-	-	-	-
Total Organic Carbon	T	mg/L		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	23	11	-	-	-	-
Colour	N	none		-	Clear	-	-	-	-	-	-	Dark Grey	-	Clear	-	-	-	-	-	Very Pale Straw	-	-	-	-	dark grey colour	-	-	-
Density	N	g/cm3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.000566	-	-	-
Electrical Conductivity (Lab)	T	µS/cm		-	-	-	-	-	-	2134.91	2160	-	-	-	-	-	-	-	332.77	-	820.81	-	-	-	-	-	-	-
Electrical Conductivity (Lab)	T	uS/cm		3120	-	3160	3660	4330	2160	-	-	-	3480	-	2530	2300	1610	1490	-	-	-	-	-	-	-	2650	3370	2960
pH	T	pH units		-	-	-	-	-	-	8.77	-	-	-	-	-	-	-	-	7.58	-	9.72	-	-	-	-	-	-	-
Solids, Suspended at 105 C	T	mg/L		-	-	-	-	12000	1400	-	270	-	-	-	-	-	< 5	100	-	-	-	-	-	-	-	-	-	-
Suspended solids (NEN-EN 872)	T	mg/L		-	-	-	-	-	-	35	-	-	-	-	-	-	-	-	39	-	18	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	T	mg/L		-	-	-	-	220	-	122.43	-	-	-	-	-	-	120	130	57.57	-	90	-	-	-	-	-	-	-
Ammoniacal Nitrogen as N	T	µg/L		800	-	1600	2400	6600	1700	1698.3	450	-	330	-	62	210	100	270	< 15	-	< 15	62	80	80	-	74	18	61
Ammoniacal Nitrogen as NH3	T	mg/L		0.97	-	2	3	8	2.1	2.0622	0.54	-	0.41	-	0.076	0.26	0.12	0.32	< 0.018	-	< 0.018	0.075	0.098	0.097	-	0.09	0.022	0.074
Carbonate	T	mg/L		-	-	-	-	-	-	-	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloride	D	µg/L		-	-	-	-	-	-	439430	-	-	-	-	-	-	-	-	23117	-	86659.4	-	-	-	-	-	-	-
Chloride	T	µg/L		270000	-	490000	420000	740000	610000	-	400000	-	130000	-	290000	190000	130000	120000	-	-	-	-	-	-	-	-	-	370000
Cyanide	D	µg/L		-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	4.4	-	9.89	-	-	-	-	-	-	-
Cyanide	T	µg/L		9.9	-	15	< 0.1	1.3	15	-	-	-	4	-	11	18	11	9.9	-	-	-	< 40	6.3	5.7	-	8	10	7.8
Cyanide (free)	T	µg/L		0.4	-	0.5	< 0.1	0.2	0.8	0.9	1.4	-	0.4	-	0.3	1.2	1.4	0.5	0.3	-	0.24	< 20	0.2	0.3	-	0.3	0.1	< 0.1
Cyanide, Total Low Level	T	µg/L		-	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides-complex	T	µg/L		-	-	-	-	1.1	14	-	18	-	-	-	-	-	10	9.4	-	-	9.65	-	-	-	-	-	-	-
Elemental Sulphur	T	µg/L		-	-	-	-	-	-	-	920	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elemental Sulphur	T	ug/L		-	-	-	-	< 84	-	-	-	-	-	-	-	-	< 84	< 84	-	-	-	-	-	-	-	-	-	-
Fluoride	D	µg/L		-	-	-	-	-	-	838	-	-	-	-	-	-	-	-	344	-	1155	-	-	-	-	-	-	-
Fluoride	T	µg/L		< 100	-	< 100	< 100	< 100	47000	-	6500	-	< 100	-	< 100	< 100	< 100	< 100	-	-	-	-	-	-	-	-	-	< 100
Hardness as CaCO3	T	mg/L		-	-	-	-	966	435	-	436	-	-	-	-	-	407	354	-	-	-	772	1050	991	-	-	-	-
Ion balance	T	%		-	-	-	-	116	-	99.978	89	-	-	-	-	-	94	90	97.2019	-	107.35	-	-	-	-	-	-	-
Nitrate (as N)	T	mg/L		0.14	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.31	-	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	0.37	0.35	-	-	0.44	< 0.1	< 0.1
Nitrate (as NO3-)	D	µg/L		-	-	-	-	-	-	< 100	-	-	-	-	-	-	-	-	488	-	369.4	-	-	-	-	-	-	-
Nitrate (as NO3-)	T	µg/L		619.724	-	< 442.66	< 442.66	< 442.66	< 442.66	-	840	-	< 442.66	-	< 442.66	< 442.66	< 442.66	< 442.66	-	-	-	1637.842	1549.31	310	-	1947.704	< 442.66	< 442.66
Nitrite	T	µg/L		272.6052	-	< 114.954	< 114.954	< 114.954	< 114.954	-	-	-	< 114.954	-	< 114.954	< 114.954	< 114.954	< 114.954	-	-	-	< 114.954	< 114.954	< 100	-	< 114.954	< 114.954	< 114.954
Nitrite (as N)	T	mg/L		0.083	-	< 0.035	< 0.035	< 0.035	< 0.035	< 0.035	< 0.035	-	< 0.035	-	< 0.035	< 0.035	< 0.035	< 0.035	< 0.035	-	< 0.035	< 0.035	< 0.035	-	-	< 0.035	< 0.035	< 0.035
Nitrite (as N)	T	ug/L		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ortho Phosphate as P	T	mg/L		-	-	-	-	-	-	0.015	-	-	-	-	-	-	-	-	< 0.01	-	0.0208	-	-	-	-	-	-	-
Phosphate (as P)	T	mg/L		< 0.01	-	1.3	0.22	-	-	-	-	-	< 0.01	-	0.06	0.21	-	-	-	-	-	-	-	-	-	-	-	< 0.01
Phosphorous, Total Orthophosphate (As P)	T	mg/L		-	-	-	-	< 0.01	< 0.01	-	< 0.01	-	-	-	-	-	< 0.01	< 0.01	-	-	-	-	-	-	-	-	-	-
Silica as SiO2	T	mg/L		-	-	-	-	6.5	-	28.0841	-	-	-	-	-	-	11	7	8.8395	-	-	-	-	-	-	-	-	-
Sulphate As SO4	D	µg/L		-	-	-	-	-	-	172308	-	-	-	-	-	-	-	-	63895	-	-	-	-	-	-	-	-	-
Sulphate As SO4	T	µg/L		-	-	-	-	700000	-	-	-	-	-	-	-	-	370000	310000	-	-	-	690000	900000	840000	-	-	-	-
Sulphide	T	µg/L		-	-	-	-	-	-	511.113	750	-	-	-	-	-	-	-	52.0497	-	798.8351	-	-	-	-	-	-	-
Sulphide	T	ug/L		-	-	-	-	73	-	-	-	-	-	-	-	-	5500	23000	-	-	-	-	-	-	-	-	-	-
Sulphur as S	T	mg/L		-	-	-	-	350	-	-	130	-	-	-	-	-	230	260	-	-	-	-	-	-	-	-	-	-
Sulphur (Free)	T	µg/L		-	-	-	-	-	-	120.46	-	-	-	-	-	-	-	-	< 84	-	< 84	-	-	-	-	-	-	-
Thiocyanate	D	µg/L		-	-	-	-	-	-	31.97	-	-	-	-	-	-	-	-	< 20	-	55.79	-	-	-	-	-	-	-
Thiocyanate	T	µg/L		< 20	-	83	45	36	26	-	< 20	-	61	-	170	< 20	120	180	-	-	-	100	< 20	37	-	< 20	< 20	< 20
Total Hardness	T	mg/L		-	-	-	-	-	-	352.6711	-	-	-	-	-	-	-	-	109.5609	-	233.1048	-	-	-	-	-	-	-
Sulphur	T	µg/L		-	-	-	-	-	-	228904.4	-	-	-	-	-	-	-	-	26543.2	-	302820	-	-	-	-	-	-	-
Aluminium	D	µg/L		380	-	350	330	310	< 10	< 10	44	-	170	-	110	19	94	190	22.5421	-	26.1067	-	-	-	-	-	-	< 10
Antimony	D	µg/L		-	-	-	-	4.3	14	10.6304	10	-	-	-	-	-	0.94	< 0.17	1.0172	-	1.4588	-	-	-	-	-	-	-
Arsenic	D	µg/L		2.9	-	2.8	2.1	2	20	24.7489	17	-	2.4	-	5.3	9.7	8.6	6.7	1.8156	-	3.5592	7	9.7	11	-	51	10	15
Barium	D	µg/L		-	-	-	-	200	140	228.0531	270	-	-	-	-	-	49	98	112.9728	-	93.4303	-	-	-	-	-	-	-
Beryllium	D	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
Boron	D	µg/L		59	-	74	82	60	380	431.2607	460	-	96	-	190	290	260	260	158.9173	-	226.6378	220	320	350	-	440	530	630
Cadmium	D	µg/L		0.23	-	0.17	0.1	0.05	< 0.03	< 0.03	0.27	-	0.13	-	0.09	0.16	0.07	< 0.03	< 0.03	-	< 0.03	0.05	0.03	< 0.03	-	< 0.03	< 0.03	< 0.03
Calcium	D	µg/L		-	-	-	-	390000	-	133095.6	-	-	-	-	-	-	160000	140000	39665	-	-	-	-	-	-	-	-	-
Trivalent Chromium (CrIII)	D	µg/L		2.3	-	2.5	< 1	< 1	< 1	< 1	4.3	-	6.5	-	< 1	< 1	1.5	< 1	< 1	-	< 1	< 1	16	< 1	-	< 1	1.9	1.1
Hexavalent Chromium (CrVI)	T	µg/L		< 7	-	< 7	< 7	< 7	< 7	< 7	< 7	-	< 7	-	< 7	< 7	< 7	< 7	< 7	-	< 7	50	< 7	< 7	-	< 7	< 7	< 7
Copper	D	µg/L		11	-	7.3	5.4	1	< 0.4	< 0.4	3.5	-	5.2	-	2.6	< 0.4	0.4	5.5	1.5491	-	< 0.4	0.5	0.5	< 0.4	-	< 0.4	< 0.4	1.2
Iron	D	µg/L		100	-	65	73	16	16	24.2302	98	-	95	-	21	19	13	87	59.5161	-	32.5656	12	30	19	-	11	92	170
Lead	D	µg/L		1.7	-	1.2	< 0.09	< 0.09	< 0.09	< 0.09	2.5	-	< 0.09	-	0.38	< 0.09	0.09	1.3	0.5835	-	0.2024	0.14	0.4	< 0.09	-	< 0.09	< 0.09	< 0.09
Magnesium	D	µg/L		-	-	-	-	240	-	4937.2	-	-	-	-	-	-	590	430	2554	-	-	-	-	-	-	-	-	-
Manganese	D	µg/L		11	-	6	17	0.65	5.3	13.4886	56	-	4.2	-	0.55	3.5	0.59	7.8	38.8798	-	19.8473	-	-	-	-	-	-	330
Mercury	D	µg/L		0.21	-	0.13	0.12	0.1	0.09	0.0464	0.07	-	0.06	-	0.13	0.11	0.1	0.09	0.0241	-	0.124	0.23	0.15	0.11	-	0.13	0.03	0.02
Molybdenum	D	µg/L		220	-	210	200	200	67	40.021	30	-	270	-	190	320	220	49	9.5253	-	18.769	-	-	-	-	-	-	22
Nickel	D	µg/L		3.8	-	4	3.4	0.9	2.5	2.5869	7	-	2.4	-	2.1	1.6	1.5	4.1	1.042	-	2.2938	4.4	1.5	0.9	-	2.6	1.6	2.3

Client: Net Zero Teesside Power Limited
Project: Net Zero Teesside
Table: Groundwater Analytical Results - data collected by AECOM
Analyte Group: All
Date Range: 10/08/2021

		Location	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S
		Date	20/10/2022	22/11/2022	23/11/2022	13/12/2022	20/03/2023	15/01/2024	16/07/2024	21/10/2024	21/10/2024	20/10/2022	22/11/2022	23/11/2022	13/12/2022	22/03/2023	21/06/2023	16/07/2024	22/10/2024	22/10/2024	13/08/2021	18/10/2021	17/11/2021	13/04/2022	14/04/2022	08/07/2022	23/09/2022
		Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																									
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	-	-	-	-	-
Phosphorus	D	µg/L	69	-	25	22	-	-	101.1436	100	-	24	-	36	38	-	-	< 18	-	67.4185	-	-	-	-	-	-	26
Potassium	D	µg/L	-	-	-	-	81000	-	55925	-	-	-	-	-	-	49000	39000	11260.5	-	-	-	-	-	-	-	-	-
Selenium	D	µg/L	11	-	7.4	5.2	2.3	0.67	2.2791	2	-	6.6	-	5.4	5.4	4.8	5.6	1.8314	-	3.9866	15	1.4	1.3	-	1.4	0.33	0.78
Sodium	D	µg/L	-	-	-	-	270000	-	225523.3	-	-	-	-	-	-	130000	130000	17219.7	-	-	-	-	-	-	-	-	-
Tin	D	µg/L	0.8	-	0.5	< 0.4	< 0.4	< 0.4	< 0.4	0.6	-	< 0.4	-	< 0.4	< 0.4	< 0.4	0.4	< 0.4	-	< 0.4	-	-	-	-	-	-	< 0.4
Titanium	D	µg/L	-	-	-	-	-	-	< 0.3	0.9	-	-	-	-	-	-	-	0.8016	-	< 0.3	-	-	-	-	-	-	-
Titanium	D	µg/L	-	-	-	-	< 0.3	0.3	-	-	-	-	-	-	-	0.3	< 0.3	-	-	-	-	-	-	-	-	-	-
Vanadium	D	µg/L	19	-	41	31	22	11	4.3836	8.3	-	11	-	11	6	4.4	4.1	12.4186	-	4.5203	15	3.8	0.7	-	5.3	< 0.6	< 0.6
Zinc	D	µg/L	36	-	14	26	12	4.9	5.6925	36	-	22	-	8	3.1	1.9	34	23.5133	-	8.72	1.6	4.9	2.5	-	17	9.2	2.9
2-chloronaphthalene	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 1	-	-
2-Nitroaniline	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 1	-	-
3-Nitroaniline	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 1	-	-
4-bromophenyl phenyl ether	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 1	-	-
4-Chlorophenyl phenyl ether	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 1	-	-
4-Nitroaniline	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 0.5	-	-
Aniline	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	-	-	-
Azobenzene	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 0.5	-	-
Benzyl Alcohol	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	2.2	2.2	< 1	-	-	-	-
Benzyl Butyl Phthalate	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 1	-	-
bis(2-Chloroethoxy)methane	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 0.5	-	-
bis(2-Chloroethyl)ether	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-
bis(2-Chloroisopropyl)ether	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	-	-	-
Bis(2-Ethylhexyl) Adipate	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	-	-	-
Bis(2-ethylhexyl) phthalate	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	5	< 1	-	< 5	-	-
Carbazole	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 0.5	-	-
Chloroaniline, p-	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-
Diethyl Phthalate	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	1	-	-
Dimethyl Phthalate	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 1	-	-
Di-n-butyl phthalate	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 1.5	-	-
Di-n-octyl phthalate	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 1	-	-
Diphenylamine	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	-	-	-
Hexachlorobutadiene	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 3	-	-
Hexachlorocyclopentadiene	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 1	-	-
Hexachloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-
Isophorone	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-
ISOPROPYLTOLUENE, p-	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 3	-	-
Methylnaphthalene, 1-	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	-	-	-
Methylnaphthalene, 2-	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	-	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	-	< 1	-	-
N-Nitrosodi-n-Propylamine	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-
Acenaphthene	T	µg/L	< 0.01	-	< 0.01	< 0.01	0.02	< 0.01	< 1	< 0.01	-	0.01	-	0.02	0.02	0.04	0.02	< 1	-	< 0.01	0.06	< 1	< 1	-	< 1	< 0.01	< 0.01
Acenaphthylene	T	µg/L	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 0.01	-	< 0.01	-	< 0.01	< 0.01	0.01	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 1	-	< 0.5	< 0.01	< 0.01
Anthracene	T	µg/L	< 0.01	-	< 0.01	< 0.01	0.01	< 0.01	< 1	< 0.01	-	< 0.01	-	< 0.01	< 0.01	0.02	0.01	< 1	-	< 0.01	< 0.01	< 1	< 1	-	< 0.5	< 0.01	< 0.01
Benzo(a)anthracene	T	µg/L	< 0.01	-	< 0.01	< 0.01	0.03	< 0.01	< 1	< 0.01	-	< 0.01	-	< 0.01	< 0.01	0.05	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 1	-	< 0.5	< 0.01	< 0.01
Benzo(a)pyrene	T	µg/L	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 0.01	-	< 0.01	-	< 0.01	< 0.01	0.05	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 1	-	< 1	< 0.01	< 0.01
Benzo(b)fluoranthene	T	µg/L	< 0.01	-	< 0.01	< 0.01	0.03	< 0.01	< 1	< 0.01	-	< 0.01	-	< 0.01	< 0.01	0.08	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 1	-	< 0.01	< 0.01	< 0.01
Benzo(b+k)fluoranthene	T	µg/L	< 0.02	-	< 0.02	< 0.02	0.04	< 0.02	-	-	-	< 0.02	-	< 0.02	< 0.02	0.11	< 0.02	-	-	-	< 0.02	< 0.018	< 0.018	-	< 1	< 0.02	< 0.02
Benzo(g,h,i)perylene	T	µg/L	< 0.01	-	< 0.01	< 0.01	0.01	< 0.01	< 1	< 0.01	-	< 0.01	-	< 0.01	< 0.01	0.05	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 1	-	< 0.5	< 0.01	< 0.01
Benzo(g,h,i)perylene + Indeno(1,2,3-c,d)pyrene	T	µg/L	< 0.02	-	< 0.02	< 0.02	0.02	< 0.02	-	-	-	< 0.02	-	< 0.02	< 0.02	0.09	< 0.02	-	-	-	< 0.02	< 0.022	< 0.022	-	< 1.5	< 0.02	< 0.02
Benzo(k)fluoranthene	T	µg/L	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 0.01	-	< 0.01	-	< 0.01	< 0.01	0.03	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 1	-	< 0.01	< 0.01	< 0.01
Chrysene	T	µg/L	< 0.01	-	< 0.01	< 0.01	0.04	< 0.01	< 1	< 0.01	-	< 0.01	-	< 0.01	< 0.01	0.05	0.01	< 1	-	< 0.01	< 0.01	< 1	< 1	-	< 0.5	< 0.01	< 0.01
Dibenz(a,h)anthracene	T	µg/L	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 0.01	-	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 1	-	< 0.5	< 0.01	< 0.01
Fluoranthene	T	µg/L	< 0.01	-	< 0.01	< 0.01	0.05	0.01	< 1	< 0.01	-	0.04	-	< 0.01	< 0.01	0.13	0.07	< 1	-	< 0.01	0.01	< 1	< 1	-	< 0.5	< 0.01	< 0.01
Fluorene	T	µg/L	< 0.01	-	< 0.01	< 0.01	0.03	0.01	< 1	< 0.01	-	0.01	-	< 0.01	< 0.01	0.03	0.02	< 1	-	< 0.01	0.02	< 1	< 1	-	< 0.5	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	T	µg/L	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 0.01	-	< 0.01	-	< 0.01	< 0.01	0.04	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 1	-	< 1	< 0.01	< 0.01
Naphthalene	T	µg/L	0.06	-	0.07	0.07	0.13	0.15	< 1	< 0.05	-	0.05	-	< 0.05	< 0.05	0.15	0.08	< 1	-	< 0.05	0.16	< 1	< 1	-	< 2	0.18	0.14
Phenanthrene	T	µg/L	0.01	-	< 0.01	0.01	0.08	0.02	< 1	1.2	-	0.05	-	< 0.01	0.02	0.08	0.05	< 1	-	0.1077	< 0.01	< 1	< 1	-	< 0.5	0.01	0.02
Pyrene	T	µg/L	< 0.01	-	< 0.01	< 0.01	0.05	0.01	< 1	< 0.01	-	0.03	-	< 0.01	< 0.01	0.1	0.05	< 1	-	< 0.01	0.01	< 1	< 1	-	< 0.5	< 0.01	< 0.01
Benzo(a)pyrene (surrogate marker for PAH mixture)	T	µg/L	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	-	-	-	< 0.01	-	< 0.01	< 0.01	0.05	< 0.01	-	-	-	< 0.01	< 0.016	< 0.016	-	< 1	< 0.01	< 0.01
PAH (Sum of 4)	T	µg/L	< 0.04	-	< 0.04	< 0.04	0.06	< 0.04	-	-	-	< 0.04	-	< 0.04	< 0.04	0.2	< 0.04	-	-	-	< 0.04	< 0.042	< 0.042	-	< 1.5	< 0.04	< 0.04
PAH (Sum of 16)	T	µg/L	< 0.2	-	< 0.2	< 0.2	0.49	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	0.89	0.3	-	-	-	0.26	0.24	0.215	-	0.21	< 0.2	< 0.2
Total PAH	T	µg/L	-	-	-	-	-	-	0.5781	-	-	-	-	-	-	-	-	0.4634	-	< 0.2	-	-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
1,1,1-Trichloroethane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
1,1,2,2-Tetrachloroethane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 4	-	-
1,1,2-Trichloroethane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-

AECOM

Client: Net Zero Teesside Power Limited
Project: Net Zero Teesside
Table: Groundwater Analytical Results - data collected by AECOM
Analyte Group: All
Date Range: 10/08/2021

		Location	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S
		Date	20/10/2022	22/11/2022	23/11/2022	13/12/2022	20/03/2023	15/01/2024	16/07/2024	21/10/2024	21/10/2024	20/10/2022	22/11/2022	23/11/2022	13/12/2022	22/03/2023	21/06/2023	16/07/2024	22/10/2024	22/10/2024	13/08/2021	18/10/2021	17/11/2021	13/04/2022	14/04/2022	08/07/2022	23/09/2022
		Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																									
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	-	-	-	-	-
1,1-Dichloroethane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
1,1-Dichloroethene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
1,1-dichloropropene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,1-dichloropropene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
1,2,3-trichloropropane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,2,3-trichloropropane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
1,2,4-Trimethylbenzene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
1,2-dibromo-3-chloropropane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,2-dibromo-3-chloropropane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
1,2-Dibromoethane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
1,2-Dichloroethane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
1,2-Dichloroethene	T	µg/L	< 2	-	< 2	< 2	< 2	-	-	-	-	< 2	-	< 2	< 2	< 2	-	-	-	-	< 2	< 2	< 2	-	< 6	-	-
1,2-Dichloropropane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
1,3,5-Trimethylbenzene (Mesitylene)	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene (Mesitylene)	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
1,3-Dichloropropane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	T	µg/L	-	-	-	-	-	-	< 2	-	-	-	-	-	-	-	-	< 2	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	T	ug/L	< 2	-	< 2	< 2	< 2	-	-	-	-	< 2	-	< 2	< 2	< 2	-	-	-	-	< 2	< 2	< 2	-	< 1	-	-
2-chlorotoluene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
2-chlorotoluene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
4-chlorotoluene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
4-chlorotoluene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
Benzene	T	µg/L	-	-	-	-	-	-	< 1	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	-	-	-
Benzene	T	ug/L	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	< 1	< 1	< 1
Bromobenzene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Bromobenzene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
Bromodichloromethane	T	µg/L	-	-	-	-	-	-	< 4	-	-	-	-	-	-	-	-	< 4	-	-	-	-	-	-	-	-	-
Bromodichloromethane	T	ug/L	< 4	-	< 4	< 4	< 4	-	-	-	-	< 4	-	< 4	< 4	< 4	-	-	-	-	< 4	< 4	< 4	-	< 2	-	-
Bromoform	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Bromoform	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
Bromomethane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Bromomethane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 1	-	-
Carbon tetrachloride	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
Chlorobromomethane	T	µg/L	-	-	-	-	-	-	< 4	-	-	-	-	-	-	-	-	< 4	-	-	-	-	-	-	-	-	-
Chlorobromomethane	T	ug/L	< 4	-	< 4	< 4	< 4	-	-	-	-	< 4	-	< 4	< 4	< 4	-	-	-	-	< 4	< 4	< 4	-	< 2	-	-
Chloroethane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Chloroethane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
Chloroform	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Chloroform	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
Chloromethane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Chloromethane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
cis-1,2-dichloroethene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
cis-1,2-dichloroethene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
cis-1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
Dibromochloromethane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Dibromochloromethane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
Dibromomethane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Dibromomethane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
Dichlorodifluoromethane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
Dichloromethane	T	µg/L	-	-	-	-	-	-	< 27	-	-	-	-	-	-	-	-	< 27	-	-	-	-	-	-	-	-	-
Dichloromethane	T	ug/L	< 27	-	< 27	< 27	< 27	-	-	-	-	< 27	-	< 27	< 27	< 27	-	-	-	-	< 27	< 27	< 27	-	< 3	-	-
Ethylbenzene	T	µg/L	-	-	-	-	-	-	< 1	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	-	-	-
Ethylbenzene	T	ug/L	< 1	-	< 1	< 1	< 1	< 1	-	-	-	22	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	< 1	< 1	< 1
Isopropylbenzene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Isopropylbenzene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
Methyl tertiary butyl ether	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Methyl tertiary butyl ether	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 0.1	-	-
n-Butylbenzene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
n-Butylbenzene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
n-Propylbenzene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-

AECOM

Client: Net Zero Teesside Power Limited
Project: Net Zero Teesside
Table: Groundwater Analytical Results - data collected by AECOM
Analyte Group: All
Date Range: 10/08/2021

			Location	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S
			Date	20/10/2022	22/11/2022	23/11/2022	13/12/2022	20/03/2023	15/01/2024	16/07/2024	21/10/2024	21/10/2024	20/10/2022	22/11/2022	23/11/2022	13/12/2022	22/03/2023	21/06/2023	16/07/2024	22/10/2024	22/10/2024	13/08/2021	18/10/2021	17/11/2021	13/04/2022	14/04/2022	08/07/2022	23/09/2022
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																										
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	-	-	-	-	-	-
n-Propylbenzene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
sec-Butylbenzene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-
sec-Butylbenzene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
Styrene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-
Styrene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
tert-Butylbenzene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-
tert-Butylbenzene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
Tetrachloroethene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
Toluene	T	µg/L	-	-	-	-	-	-	< 1	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	-	-	-
Toluene	T	ug/L	3	-	< 1	1	< 1	< 1	-	-	-	7.6	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	< 5	< 1	< 1
trans-1,2-Dichloroethene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
trans-1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 2	-	-
Trichloroethene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-
Trichloroethene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
Trichlorofluoromethane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 3	-	-
Vinyl Chloride	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 0.1	-	-
m-& p-Xylenes	T	µg/L	-	-	-	-	-	-	< 2	-	-	-	-	-	-	-	-	< 2	-	-	-	-	-	-	-	-	-	-
m-& p-Xylenes	T	ug/L	< 2	-	< 2	< 2	< 2	-	-	-	-	< 2	-	< 2	< 2	< 2	-	-	-	-	< 2	< 2	< 2	-	< 2	-	-
m/p/o-Xylene	T	µg/L	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 3	-	-
m/p/o-Xylene	T	ug/L	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	< 1	< 1	< 1
o-Xylene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	-	-	-
o-Xylene	T	ug/L	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1	-	< 1	-	-
Sum of Trihalomethanes	T	µg/L	< 7	-	< 7	< 7	< 7	-	-	-	-	< 7	-	< 7	< 7	< 7	-	-	-	-	< 7	< 7	< 7	-	< 8	-	-
Sum of Tetrachloroethene + Trichloroethene	T	µg/L	< 2	-	< 2	< 2	< 2	-	-	-	-	< 2	-	< 2	< 2	< 2	-	-	-	-	< 2	< 2	< 2	-	< 6	-	-
Volatile TIC	T	none	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
TPH >C5-C10	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH >C10-C40	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	210	190	150	-	-	-	-	-
Aliphatics >C5-C6	T	µg/L	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	130	-	< 0.1	54	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1
Aliphatics >C5-C35	T	µg/L	< 10	-	< 10	< 10	-	-	-	-	-	180	-	< 10	56	-	-	-	-	-	< 10	< 10	< 10	-	150	< 10	< 10
Aliphatics >C6-C8	T	µg/L	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	48	-	< 0.1	1.5	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1
Aliphatics >C8-C10	T	µg/L	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	4.8	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1
Aliphatics >C10-C12	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	-	7.2	< 1	< 1
Aliphatics >C10-C44	T	µg/L	-	-	-	-	< 1	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	< 1	-	-	-	-	-	-	-
Aliphatics >C12-C16	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	-	20	< 1	< 1
Aliphatics >C16-C21	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	-	34	< 1	< 1
Aliphatics >C16-C35	T	µg/L	< 2	-	< 2	< 2	< 2	-	-	-	-	< 2	-	< 2	< 2	< 2	< 2	-	-	-	< 2	< 2	< 2	-	125	< 2	< 2
Aliphatics >C21-C35	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	-	91	< 1	< 1
Aliphatics >C35-C44	T	µg/L	-	-	-	-	< 1	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	< 1	-	-	-	-	-	-	-
Aromatics >C5-C7	T	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
Aromatics >C5-C35	T	µg/L	< 10	-	< 10	< 10	-	-	-	-	-	43	-	< 10	< 10	-	-	-	-	-	< 10	< 10	< 10	-	< 10	< 10	< 10
Aromatics >C7-C8	T	µg/L	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	7.6	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1
Aromatics >C8-C10	T	µg/L	< 0.1	-	< 0.1	5.4	< 0.1	-	< 0.1	< 0.1	-	35	-	< 0.1	3.5	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1
Aromatics >C10-C12	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1
Aromatics >C10-C44	T	µg/L	-	-	-	-	< 1	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	< 1	-	-	-	-	-	-	-
Aromatics >C12-C16	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1
Aromatics >C16-C21	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	-	< 1	< 1	4.5
Aromatics >C21-C35	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	-	< 1	3.1	4.9
Aromatics >C35-C44	T	µg/L	-	-	-	-	< 1	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	< 1	-	-	-	-	-	-	-
Aliphatics & Aromatics >C5-C35	T	µg/L	< 10	-	< 10	< 10	-	-	-	-	-	220	-	< 10	59	-	-	-	-	-	< 10	< 10	< 10	-	150	< 10	10
Aliphatics & Aromatics >C10-C44	T	µg/L	-	-	-	-	< 1	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	< 1	-	-	-	-	-	-	-

AECOM

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	M-BH203	M-BH203	M-BH204	M-BH204	M-BH205	M-BH205	M-BH206S	M-BH206S	M-BH210	M-BH210	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH04S	MS\BH04S	MS\BH04S
			Date	14/12/2022	22/03/2023	22/06/2023	27/09/2023	27/09/2023	18/01/2024	04/11/2024	04/11/2024	05/11/2024	05/11/2024	05/11/2024	05/11/2024	05/11/2024	05/11/2024	06/11/2024	06/11/2024	12/08/2021	13/10/2021	17/11/2021	13/04/2022	13/04/2022	06/07/2022	21/09/2022	12/08/2021	13/10/2021	16/11/2021
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	-	-	-	-	-	-	79	-
SVOC TICs	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibutyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tributyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Triphenyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 0.5	-	-	-	< 1	< 1	< 1
PCB 12	T	ug/L	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	< 1	-	-	-
PCB 52	T	µg/L	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	-	-	-	< 0.2	-	-	-
PCB 77	T	µg/L	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	-	-	-	< 0.3	-	-	-
PCB 81	T	µg/L	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	-	-	-	< 0.2	-	-	-
PCB 101	T	µg/L	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	-	-	-	< 0.3	-	-	-
PCB 105	T	µg/L	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	-	-	-	< 0.2	-	-	-
PCB 114	T	µg/L	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	-	-	-	< 0.3	-	-	-
PCB 126	T	µg/L	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	< 0.5	-	-	-
PCB 138	T	µg/L	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	-	-	-	< 0.2	-	-	-
PCB 153	T	µg/L	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	-	-	-	< 0.2	-	-	-
PCB 156	T	µg/L	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	-	-	-	< 0.3	-	-	-
PCB 157	T	µg/L	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	-	-	-	< 0.2	-	-	-
PCB 167	T	µg/L	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	-	-	-	< 0.3	-	-	-
PCB 169	T	µg/L	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	-	-	-	< 0.2	-	-	-
PCB 180	T	µg/L	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	-	-	-	< 0.2	-	-	-
PCB 189	T	µg/L	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	-	-	-	< 0.3	-	-	-
PCB Coelute 28/31	T	ug/L	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	-	-	-	< 0.3	-	-	-
PCB Coelute 118/123	T	ug/L	< 0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.6	-	-	-	< 0.6	-	-	-
Total 7 PCB	T	µg/L	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	< 1	-	-	-
2,3,6-TBA	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-
2,4,5-T	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-
2,4-D	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-
2,4-DB	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-
2-Methyl-4-Chlorophenoxy Butanoic Acid	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-
Actril (loxynil)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-
Bentazon	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-
Bromoxynil	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-
Clopyralid	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-
Dicamba	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-
Dichlorprop	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-
Fluroxypyr	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-
Mecoprop	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-
Picloram	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-
Silvex	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-
Triclopyr	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-
Dinitrobenzene, p-	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
1,3-Dinitrobenzene	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
Dinitrotoluene, 2,4-	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 0.5	-	-	-	< 1	< 1	< 1
Dinitrotoluene, 2,6-	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
Nitrobenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-
Chlorobenzene	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	6	-	< 1	-	< 1	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
1,2-Dichlorobenzene	T	µg/L	-	< 1	-	-	-	-	< 1	-	8	-	8	-	< 1	-	< 1	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
1,3-Dichlorobenzene	T	µg/L	-	< 2	-	-	-	-	< 2	-	8	-	8	-	8	-	< 2	-	< 2	< 2	< 2	< 3	-	-	-	< 2	< 2	< 2
1,4-Dichlorobenzene	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	8	-	8	-	< 1	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
Trichlorobenzene	T	µg/L	-	< 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 2	< 2	< 2	< 4	-	-	-	< 2	< 2	< 2
1,2,3-Trichlorobenzene	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	10	-	< 1	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
1,2,4-Trichlorobenzene	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	10	-	< 1	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
Hexachlorobenzene	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
2,3,4,6-Tetrachlorophenol	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
2,3,5,6-Tetrachlorophenol	T	µg/L	-	-	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
2,3,5,6-Tetrachlorophenol	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
2,4,5-Trichlorophenol	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 0.5	-	-	-	< 1	< 1	< 1
2,4,6-Trichlorophenol	T	µg/L	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	-	< 1	< 1	< 1	< 1	-	< 0.1	< 0.1	< 1	< 1	< 1
2,4-Dichlorophenol	T	µg/L	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	-	< 1	< 1	< 1	< 0.5	-	< 0.1	< 0.1	< 1	< 1	< 1
2,4-Dimethylphenol	T	µg/L	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	-	< 1	< 1	< 1	< 1	-	< 0.1	< 0.1	< 1	< 1	< 1
2,6-Dichlorophenol	T	µg/L	-	-	-	-	-	-	< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	-	-	-	-	-	-	-	-	-	-	-
2,6-Dichlorophenol	T	ug/L	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	-	< 0.1	< 0.1	-	-	-
2,6-Dimethylphenol	T	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	-	-	-
2-Chlorophenol	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
2-methylphenol	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 0.5	-	-	-	< 1	< 1	< 1
2-Nitrophenol	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-
3/4-Methylphenol (m/p-cresol)	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
4-Chloro-3-methylphenol	T	µg/L	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	-	< 1	< 1	< 1	< 0.5	-	< 0.1	< 0.1	< 1	< 1	< 1

AECOM

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	M-BH203	M-BH203	M-BH204	M-BH204	M-BH205	M-BH205	M-BH206S	M-BH206S	M-BH210	M-BH210	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH04S	MS\BH04S	MS\BH04S
			Date	14/12/2022	22/03/2023	22/06/2023	27/09/2023	27/09/2023	18/01/2024	04/11/2024	04/11/2024	05/11/2024	05/11/2024	05/11/2024	05/11/2024	05/11/2024	05/11/2024	06/11/2024	06/11/2024	12/08/2021	13/10/2021	17/11/2021	13/04/2022	13/04/2022	06/07/2022	21/09/2022	12/08/2021	13/10/2021	16/11/2021
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	-	-	-	-	-	-	79	-
4-Methylphenol	T	µg/L	< 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	-	-	-
4-Nitrophenol	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 10	-	-	-	< 1	< 1	< 1
Pentachlorophenol	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	-	< 0.02	< 1	< 1	< 1
Phenol	T	µg/L	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	-	3	< 1	< 1	< 1	-	< 0.1	< 0.1	< 1	< 1	< 1
Total Monohydric Phenols (S) Corrected	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 100	< 100	< 100	-	-	-	-	< 100	< 100	< 100
Dissolved Organic Carbon	D	mg/L	17	4	20	6.3	-	3.9	4.3	-	8.1	-	45	-	7	-	3.6	-	-	-	-	3.2	-	4.7	6.1	-	-	-
Dissolved Organic Carbon	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	8.1	6	-	-	-	-	15	5.9	4.6
Colour	N	none	-	-	-	-	daek	-	-	Clear	-	Clear	-	Other Orange	-	Clear	-	Clear	-	-	-	-	grey	-	-	-	-	-
Density	N	g/cm3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.001812	-	-	-	-	-
Electrical Conductivity (Lab)	T	µS/cm	-	-	-	-	-	-	1110	-	1860	-	1030	-	8750	-	5550	-	-	-	-	-	-	-	-	-	-	-
Electrical Conductivity (Lab)	T	uS/cm	2770	2820	2760	2790	-	2590	-	-	-	-	-	-	-	-	-	-	-	-	-	2340	-	2420	2660	-	-	-
pH	T	pH units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solids, Suspended at 105 C	T	mg/L	-	15	5	22	-	7.5	7	-	7	-	14	-	62	-	18	-	-	-	-	-	-	-	-	-	-	-
Suspended solids (NEN-EN 872)	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	T	mg/L	-	160	91	110	-	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammoniacal Nitrogen as N	T	µg/L	400	43	< 15	46	-	64	68	-	1600	-	17000	-	1800	-	10000	-	190	< 15	90	35	-	< 15	150	15	91	100
Ammoniacal Nitrogen as NH3	T	mg/L	0.49	0.052	< 0.015	0.056	-	0.078	0.083	-	1.9	-	20	-	2.2	-	12	-	0.23	< 0.015	0.11	0.042	-	0.017	0.19	0.019	0.11	0.12
Carbonate	T	mg/L	-	-	-	-	-	-	52	-	40	-	140	-	230	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloride	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloride	T	µg/L	250000	250000	230000	260000	-	150000	110000	-	150000	-	160000	-	2000000	-	1300000	-	-	-	-	-	-	-	180000	-	-	-
Cyanide	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide	T	µg/L	9.8	10	8.1	9	-	9.3	-	-	-	-	-	-	-	-	-	-	< 40	9.8	8.4	11	-	8.2	11	< 40	9.5	7.8
Cyanide (free)	T	µg/L	0.6	0.9	0.6	0.7	-	0.6	3.2	-	2	-	2.9	-	< 0.1	-	0.3	-	< 20	0.3	0.4	1	-	34	1.3	< 20	1	2.5
Cyanide, Total Low Level	T	µg/L	-	-	-	-	-	-	20	-	21	-	150	-	2.2	-	3	-	-	-	-	-	-	-	-	-	-	-
Cyanides-complex	T	µg/L	-	9.1	7.5	8.3	-	8.7	17	-	19	-	150	-	2.2	-	2.7	-	-	-	-	-	-	-	-	-	-	-
Elemental Sulphur	T	µg/L	-	-	-	-	-	-	< 84	-	< 84	-	< 84	-	< 84	-	< 84	-	-	-	-	-	-	-	-	-	-	-
Elemental Sulphur	T	ug/L	-	650	< 84	< 84	-	< 84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoride	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoride	T	µg/L	< 100	< 100	< 100	< 100	-	< 100	1900	-	750	-	4100	-	15000	-	55000	-	-	-	-	-	-	-	< 100	-	-	-
Hardness as CaCO3	T	mg/L	-	955	917	1120	-	1110	281	-	640	-	76	-	471	-	912	-	806	876	945	-	-	-	-	1380	1280	1160
Ion balance	T	%	-	87	105	89	-	99	106	-	98	-	87	-	114	-	99	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	T	mg/L	< 0.1	< 0.1	0.4	< 0.1	-	0.52	0.34	-	< 0.1	-	< 0.1	-	0.12	-	< 0.1	-	0.2	-	-	< 0.1	-	< 0.1	< 0.1	0.27	< 0.1	-
Nitrate (as NO3-)	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as NO3-)	T	µg/L	< 442.66	< 442.66	21000	< 442.66	-	2301.832	710	-	370	-	590	-	-	-	-	-	885.32	< 100	340	< 442.66	-	< 442.66	< 442.66	1195.182	< 442.66	< 100
Nitrite	T	µg/L	< 114.954	< 114.954	< 114.954	< 114.954	-	< 114.954	-	-	-	-	-	-	-	-	-	-	< 114.954	11000	< 100	< 114.954	-	< 114.954	< 114.954	< 114.954	< 114.954	14000
Nitrite (as N)	T	mg/L	< 0.035	< 0.035	< 0.035	< 0.035	-	< 0.035	< 0.035	-	< 0.035	-	< 0.035	-	0.13	-	< 0.035	-	< 0.035	-	-	< 0.035	-	< 0.035	< 0.035	< 0.035	< 0.035	-
Nitrite (as N)	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ortho Phosphate as P	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate (as P)	T	mg/L	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.01	-	-	-
Phosphorous, Total Orthophosphate (As P)	T	mg/L	-	0.05	< 0.01	0.01	-	< 0.01	0.04	-	0.06	-	3.6	-	0.06	-	0.02	-	-	-	-	-	-	-	-	-	-	-
Silica as SiO2	T	mg/L	-	10	4.3	3.2	-	12	8.8	-	8.9	-	9.3	-	6	-	6.9	-	-	-	-	-	-	-	-	-	-	-
Sulphate As SO4	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphate As SO4	T	µg/L	-	780000	1100000	990000	-	1100000	-	-	-	-	-	-	-	-	-	-	920000	860000	840000	-	-	-	-	1000000	1400000	1500000
Sulphide	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphide	T	ug/L	-	270	23	18	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphur as S	T	mg/L	-	360	410	490	-	700	120	-	250	-	18	-	260	-	330	-	310	-	-	-	-	-	-	380	-	-
Sulphur (Free)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thiocyanate	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thiocyanate	T	µg/L	< 20	26	< 20	< 20	-	< 20	< 20	-	< 20	-	15000	-	68	-	< 20	-	< 20	23	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Total Hardness	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphur	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminium	D	µg/L	20	< 10	< 10	< 10	-	< 10	40	-	< 10	-	310	-	13	-	69	-	-	-	-	-	-	-	12	-	-	-
Antimony	D	µg/L	-	0.21	0.28	0.22	-	0.67	1	-	1.1	-	1.7	-	0.79	-	3.6	-	-	-	-	-	-	-	-	-	-	-
Arsenic	D	µg/L	50	16	12	14	-	13	28	-	11	-	51	-	3.3	-	4.2	-	4.1	4	4.2	5.2	-	16	20	2.6	4.6	4
Barium	D	µg/L	-	100	49	71	-	32	73	-	150	-	140	-	190	-	250	-	-	-	-	-	-	-	-	-	-	-
Beryllium	D	µg/L	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	< 0.1	-	0.4	-	< 0.1	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron	D	µg/L	990	580	630	640	-	780	180	-	190	-	400	-	540	-	280	-	390	490	450	570	-	540	570	590	610	550
Cadmium	D	µg/L	0.63	< 0.03	< 0.03	< 0.03	-	< 0.03	< 0.03	-	< 0.03	-	< 0.03	-	< 0.03	-	0.38	-	< 0.03	< 0.03	< 0.03	0.06	-	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Calcium	D	µg/L	-	280000	270000	350000	-	330000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trivalent Chromium (CrIII)	D	µg/L	< 1	1.2	< 1	< 1	-	< 1	< 1	-	< 1	-	5.5	-	< 1	-	6.2	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1
Hexavalent Chromium (CrVI)	T	µg/L	< 7	< 7	< 7	< 7	-	< 7	< 7	-	< 7	-	< 7	-	< 7	-	< 7	-	< 7	< 7	< 7	< 7	-	< 7	< 7	< 7	9.2	< 7
Copper	D	µg/L	9.8	< 0.4	0.7	< 0.4	-	< 0.4	< 0.4	-	< 0.4	-	0.6	-	< 0.4	-	4.9	-	< 0.4	< 0.4	< 0.4	0.6	-	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Iron	D	µg/L	51	74	9.7	12	-	6.8	17	-	30	-	710	-	660	-	350	-	14	120	86	16	-	30	< 5.5	870	2400	1600
Lead	D	µg/L	0.86	< 0.09	< 0.09	< 0.09	-	< 0.09	< 0.09	-	< 0.09	-	3.8	-	< 0.09	-	3.4	-	< 0.09	< 0.09	< 0.09	0.51	-	0.2	0.24	< 0.09	0.15	< 0.09
Magnesium	D	µg/L	-	61000	60000	63000	-	68000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	D	µg/L	350	190	260	320	-	150	82	-	150	-	57	-	490	-	360	-	-	-	-	-	-	-	180	-	-	-
Mercury	D	µg/L	0.06	0.01	0.01	0.01	-	< 0.01	0.1	-	0.05	-	0.03	-	0.02	-	0.05	-	0.07	0.07	0.07	0.02	-	0.02	0.02	< 0.01	< 0.01	< 0.01
Molybdenum	D	µg/L	970	22	69	18	-	36	51	-	31	-	34	-	17	-	35	-	-	-	-	-	-	-	67	-	-	-
Nickel	D	µg/L	2.4	0.6	0.8	0.6	-	0.6	0.7	-	2.1	-	5	-	2.8	-	6.4	-	1	< 0.5	< 0.5	1.4	-	2.2	< 0.5	0.6	0.6	0.7

AECOM

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	M-BH203	M-BH203	M-BH204	M-BH204	M-BH205	M-BH205	M-BH206S	M-BH206S	M-BH210	M-BH210	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH04S	MS\BH04S	MS\BH04S
			Date	14/12/2022	22/03/2023	22/06/2023	27/09/2023	27/09/2023	18/01/2024	04/11/2024	04/11/2024	05/11/2024	05/11/2024	05/11/2024	05/11/2024	05/11/2024	05/11/2024	06/11/2024	06/11/2024	12/08/2021	13/10/2021	17/11/2021	13/04/2022	13/04/2022	06/07/2022	21/09/2022	12/08/2021	13/10/2021	16/11/2021
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	-	-	-	-	-	-	79	-
Phosphorus	D	µg/L	130	-	-	-	-	-	53	-	71	-	4100	-	68	-	98	-	-	-	-	-	-	-	36	-	-	-
Potassium	D	µg/L	-	80000	76000	75000	-	73000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	D	µg/L	2.4	1.3	0.48	0.42	-	6.9	1.2	-	0.77	-	1.4	-	7.8	-	3.8	-	4.7	1.5	1.1	3.6	-	1.6	0.7	0.29	0.33	0.49
Sodium	D	µg/L	-	210000	210000	210000	-	130000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin	D	µg/L	0.9	< 0.4	< 0.4	< 0.4	-	< 0.4	< 0.4	-	< 0.4	-	< 0.4	-	< 0.4	-	0.7	-	-	-	-	-	-	-	< 0.4	-	-	-
Titanium	D	µg/L	-	-	-	-	-	-	< 0.3	-	< 0.3	-	35	-	0.3	-	1	-	-	-	-	-	-	-	-	-	-	-
Titanium	D	ug/L	-	< 0.3	< 0.3	< 0.3	-	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	D	µg/L	3.4	0.8	< 0.6	< 0.6	-	< 0.6	1.4	-	1.2	-	130	-	2	-	6.3	-	14	4	2	5.2	-	3.1	2.3	< 0.6	< 0.6	< 0.6
Zinc	D	µg/L	15	5.5	5.6	33	-	< 1.3	16	-	69	-	93	-	84	-	83	-	1.7	< 1.3	3	28	-	5.3	7.1	2.8	< 1.3	2.6
2-chloronaphthalene	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
2-Nitroaniline	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
3-Nitroaniline	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
4-bromophenyl phenyl ether	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
4-Chlorophenyl phenyl ether	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
4-Nitroaniline	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 0.5	-	-	-	< 1	< 1	< 1
Aniline	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
Azobenzene	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 0.5	-	-	-	< 1	< 1	< 1
Benzyl Alcohol	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
Benzyl Butyl Phthalate	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
bis(2-Chloroethoxy)methane	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 0.5	-	-	-	< 1	< 1	< 1
bis(2-Chloroethyl)ether	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
Bis(2-Ethylhexyl) Adipate	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
Bis(2-ethylhexyl) phthalate	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 5	-	-	-	< 1	< 1	< 1
Carbazole	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 0.5	-	-	-	< 1	< 1	< 1
Chloroaniline, p-	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-
Diethyl Phthalate	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
Dimethyl Phthalate	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
Di-n-butyl phthalate	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1.5	-	-	-	< 1	< 1	< 1
Di-n-octyl phthalate	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
Diphenylamine	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
Hexachlorobutadiene	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	10	-	< 1	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
Hexachlorocyclopentadiene	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
Hexachloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-
Isophorone	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-
ISOPROPYLTOLUENE, p-	T	µg/L	-	< 1	-	-	-	-	< 1	-	8	-	< 1	-	8	-	< 1	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
Methylnaphthalene, 1-	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
Methylnaphthalene, 2-	T	µg/L	-	< 1	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
N-Nitrosodi-n-Propylamine	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-
Acenaphthene	T	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	0.01	< 1	< 1	< 1	-	< 0.01	0.03	0.04	< 1	< 1
Acenaphthylene	T	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1
Anthracene	T	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1
Benzo(a)anthracene	T	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1
Benzo(a)pyrene	T	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	< 1	< 1	< 1	-	< 0.01	< 0.01	< 0.01	< 1	< 1
Benzo(b)fluoranthene	T	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	< 1	< 1	< 0.01	-	< 0.01	< 0.01	< 0.01	< 1	< 1
Benzo(b+k)fluoranthene	T	µg/L	< 0.02	< 0.02	< 0.02	< 0.02	-	< 0.02	-	-	-	-	-	-	-	-	-	-	< 0.02	< 0.018	< 0.018	< 1	-	< 0.02	< 0.02	< 0.02	< 0.018	< 0.018
Benzo(g,h,i)perylene	T	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1
Benzo(g,h,i)perylene + Indeno(1,2,3-c,d)pyrene	T	µg/L	< 0.02	< 0.02	< 0.02	< 0.02	-	< 0.02	-	-	-	-	-	-	-	-	-	-	< 0.02	< 0.022	< 0.002	< 1.5	-	< 0.02	< 0.02	< 0.02	< 0.002	< 0.022
Benzo(k)fluoranthene	T	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	< 1	< 1	< 0.01	-	< 0.01	< 0.01	< 0.01	< 1	< 1
Chrysene	T	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1
Dibenz(a,h)anthracene	T	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1
Fluoranthene	T	µg/L	0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1
Fluorene	T	µg/L	0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	0.01	< 1	< 1
Indeno(1,2,3-c,d)pyrene	T	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	< 1	< 1	< 1	-	< 0.01	< 0.01	< 0.01	< 1	< 1
Naphthalene	T	µg/L	0.27	0.12	< 0.05	0.18	-	0.05	0.05	-	0.11	-	< 0.05	-	< 0.05	-	< 0.05	-	0.09	< 1	< 1	< 2	-	0.05	0.83	0.22	< 1	< 1
Phenanthrene	T	µg/L	0.03	0.02	< 0.01	0.01	-	0.01	0.02	-	< 0.01	-	< 0.01	-	< 0.01	-	0.02	-	< 0.01	< 1	< 1	< 0.5	-	< 0.01	0.02	< 0.01	< 1	< 1
Pyrene	T	µg/L	0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	-	< 0.01	-	< 0.01	-	< 0.01	-	0.01	-	< 0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1
Benzo(a)pyrene (surrogate marker for PAH mixture)	T	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	-	-	-	-	-	-	-	-	-	< 0.01	< 0.016	< 0.001	< 1	-	< 0.01	< 0.01	< 0.01	< 0.001	< 0.016
PAH (Sum of 4)	T	µg/L	< 0.04	< 0.04	< 0.04	< 0.04	-	< 0.04	-	-	-	-	-	-	-	-	-	-	< 0.04	< 0.042	< 0.004	< 1.5	-	< 0.04	< 0.04	< 0.04	< 0.004	< 0.042
PAH (Sum of 16)	T	µg/L	0.34	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	< 0.195	0.06	< 0.2	-	< 0.2	0.88	0.28	0.281	< 0.195
Total PAH	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	T	µg/L	-	-	-	-	-	-	< 1	-	6	-	< 1	-	6	-	< 1	-	-	-	-	-	-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
1,1,1-Trichloroethane	T	µg/L	-	-	-	-	-	-	< 1	-	4	-	< 1	-	4	-	< 1	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	T	µg/L	-	-	-	-	-	-	< 1	-	7	-	7	-	8	-	< 1	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 4	-	-	-	< 1	< 1	< 1
1,1,2-Trichloroethane	T	µg/L	-	-	-	-	-	-	< 1	-	6	-	6	-	6	-	< 1	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1

AECOM

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	M-BH203	M-BH203	M-BH204	M-BH204	M-BH205	M-BH205	M-BH206S	M-BH206S	M-BH210	M-BH210	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH04S	MS\BH04S	MS\BH04S
			Date	14/12/2022	22/03/2023	22/06/2023	27/09/2023	27/09/2023	18/01/2024	04/11/2024	04/11/2024	05/11/2024	05/11/2024	05/11/2024	05/11/2024	05/11/2024	05/11/2024	06/11/2024	06/11/2024	12/08/2021	13/10/2021	17/11/2021	13/04/2022	13/04/2022	06/07/2022	21/09/2022	12/08/2021	13/10/2021	16/11/2021
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	-	-	-	-	-	-	79	-
1,1-Dichloroethane	T	µg/L	-	-	-	-	-	-	< 1	-	3	-	3	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
1,1-Dichloroethene	T	µg/L	-	-	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
1,1-dichloropropene	T	µg/L	-	-	-	-	-	-	< 1	-	4	-	4	-	4	-	< 1	-	-	-	-	-	-	-	-	-	-	-
1,1-dichloropropene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
1,2,3-trichloropropane	T	µg/L	-	-	-	-	-	-	< 1	-	7	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
1,2,3-trichloropropane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
1,2,4-Trimethylbenzene	T	µg/L	-	-	-	-	-	-	< 1	-	8	-	8	-	8	-	< 1	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
1,2-dibromo-3-chloropropane	T	µg/L	-	-	-	-	-	-	< 1	-	< 1	-	9	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
1,2-dibromo-3-chloropropane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
1,2-Dibromoethane	T	µg/L	-	-	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
1,2-Dichloroethane	T	µg/L	-	-	-	-	-	-	< 1	-	< 1	-	4	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
1,2-Dichloroethene	T	µg/L	-	< 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 2	< 2	< 2	< 6	-	-	-	< 2	< 2	< 2
1,2-Dichloropropane	T	µg/L	-	-	-	-	-	-	< 1	-	5	-	5	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
1,3,5-Trimethylbenzene (Mesitylene)	T	µg/L	-	-	-	-	-	-	< 1	-	8	-	8	-	8	-	< 1	-	-	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene (Mesitylene)	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
1,3-Dichloropropane	T	µg/L	-	-	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	T	µg/L	-	-	-	-	-	-	< 2	-	3	-	< 2	-	< 2	-	< 2	-	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	T	ug/L	-	< 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 2	< 2	< 2	< 1	-	-	-	< 2	< 2	< 2
2-chlorotoluene	T	µg/L	-	-	-	-	-	-	< 1	-	< 1	-	8	-	8	-	< 1	-	-	-	-	-	-	-	-	-	-	-
2-chlorotoluene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
4-chlorotoluene	T	µg/L	-	-	-	-	-	-	< 1	-	< 1	-	8	-	8	-	< 1	-	-	-	-	-	-	-	-	-	-	-
4-chlorotoluene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
Benzene	T	µg/L	-	-	-	-	-	-	< 1	-	4	-	4	-	4	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Benzene	T	ug/L	< 1	< 1	< 1	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1
Bromobenzene	T	µg/L	-	-	-	-	-	-	< 1	-	7	-	7	-	7	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Bromobenzene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
Bromodichloromethane	T	µg/L	-	-	-	-	-	-	< 4	-	5	-	< 4	-	5	-	< 4	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	T	ug/L	-	< 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 4	< 4	< 4	< 2	-	-	-	< 4	< 4	< 4
Bromoform	T	µg/L	-	-	-	-	-	-	< 1	-	7	-	7	-	7	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Bromoform	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
Bromomethane	T	µg/L	-	-	-	-	-	-	< 1	-	1	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Bromomethane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
Carbon tetrachloride	T	µg/L	-	-	-	-	-	-	< 1	-	4	-	4	-	4	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
Chlorobromomethane	T	µg/L	-	-	-	-	-	-	< 4	-	< 4	-	< 4	-	< 4	-	< 4	-	-	-	-	-	-	-	-	-	-	-
Chlorobromomethane	T	ug/L	-	< 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 4	< 4	< 4	< 2	-	-	-	< 4	< 4	< 4
Chloroethane	T	µg/L	-	-	-	-	-	-	< 1	-	2	-	< 1	-	1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
Chloroform	T	µg/L	-	-	-	-	-	-	1	-	4	-	4	-	4	-	5	-	-	-	-	-	-	-	-	-	-	-
Chloroform	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
Chloromethane	T	µg/L	-	-	-	-	-	-	< 1	-	1	-	1	-	1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	< 1	< 1	< 3	-	-	-	2	< 1	< 1
cis-1,2-dichloroethene	T	µg/L	-	-	-	-	-	-	< 1	-	3	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-dichloroethene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
cis-1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	< 1	-	5	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
Dibromochloromethane	T	µg/L	-	-	-	-	-	-	< 1	-	6	-	< 1	-	6	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
Dibromomethane	T	µg/L	-	-	-	-	-	-	< 1	-	5	-	5	-	5	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
Dichlorodifluoromethane	T	µg/L	-	-	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
Dichloromethane	T	µg/L	-	-	-	-	-	-	< 27	-	< 27	-	< 27	-	< 27	-	< 27	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	T	ug/L	-	< 27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 27	< 27	< 27	< 3	-	-	-	< 27	< 27	< 27
Ethylbenzene	T	µg/L	-	-	-	-	-	-	< 1	-	7	-	7	-	7	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	T	ug/L	< 1	< 1	< 1	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1
Isopropylbenzene	T	µg/L	-	-	-	-	-	-	< 1	-	< 1	-	< 1	-	7	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Isopropylbenzene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
Methyl tertiary butyl ether	T	µg/L	-	-	-	-	-	-	< 1	-	3	-	< 1	-	3	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Methyl tertiary butyl ether	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 0.1	-	-	-	< 1	< 1	< 1
n-Butylbenzene	T	µg/L	-	-	-	-	-	-	< 1	-	8	-	8	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
n-Butylbenzene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
n-Propylbenzene	T	µg/L	-	-	-	-	-	-	< 1	-	< 1	-	8	-	8	-	< 1	-	-	-	-	-	-	-	-	-	-	-

AECOM

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	LF\BH01S	M-BH203	M-BH203	M-BH204	M-BH204	M-BH205	M-BH205	M-BH206S	M-BH206S	M-BH210	M-BH210	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH03S	MS\BH04S	MS\BH04S	MS\BH04S
			Date	14/12/2022	22/03/2023	22/06/2023	27/09/2023	27/09/2023	18/01/2024	04/11/2024	04/11/2024	05/11/2024	05/11/2024	05/11/2024	05/11/2024	05/11/2024	05/11/2024	06/11/2024	06/11/2024	12/08/2021	13/10/2021	17/11/2021	13/04/2022	13/04/2022	06/07/2022	21/09/2022	12/08/2021	13/10/2021	16/11/2021
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	-	-	-	-	-	-	79	-
n-Propylbenzene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
sec-Butylbenzene	T	µg/L	-	-	-	-	-	-	< 1	-	8	-	8	-	8	-	< 1	-	-	-	-	-	-	-	-	-	-	-
sec-Butylbenzene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
Styrene	T	µg/L	-	-	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Styrene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
tert-Butylbenzene	T	µg/L	-	-	-	-	-	-	< 1	-	< 1	-	8	-	8	-	< 1	-	-	-	-	-	-	-	-	-	-	-
tert-Butylbenzene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
Tetrachloroethene	T	µg/L	-	-	-	-	-	-	< 1	-	6	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
Toluene	T	µg/L	-	-	-	-	-	-	< 1	-	5	-	5	-	5	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Toluene	T	ug/L	< 1	< 1	< 1	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 5	-	< 1	< 1	< 1	< 1	< 1
trans-1,2-Dichloroethene	T	µg/L	-	-	-	-	-	-	< 1	-	3	-	< 1	-	3	-	< 1	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
trans-1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	< 1	-	6	-	6	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 2	-	-	-	< 1	< 1	< 1
Trichloroethene	T	µg/L	-	-	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
Trichlorofluoromethane	T	µg/L	-	-	-	-	-	-	< 1	-	2	-	2	-	2	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 3	-	-	-	< 1	< 1	< 1
Vinyl Chloride	T	µg/L	-	-	-	-	-	-	< 1	-	1	-	1	-	1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 0.1	-	-	-	< 1	< 1	< 1
m-& p-Xylenes	T	µg/L	-	-	-	-	-	-	< 2	-	7	-	7	-	7	-	< 2	-	-	-	-	-	-	-	-	-	-	-
m-& p-Xylenes	T	ug/L	-	< 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 2	< 2	< 2	< 2	-	-	-	< 2	< 2	< 2
m/p/o-Xylene	T	µg/L	-	-	-	-	-	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	-	-	-	< 3	-	-	-	-	-	-
m/p/o-Xylene	T	ug/L	< 1	< 1	< 1	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1
o-Xylene	T	µg/L	-	-	-	-	-	-	< 1	-	7	-	7	-	7	-	< 1	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	T	ug/L	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1
Sum of Trihalomethanes	T	µg/L	-	< 7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 7	< 7	< 7	< 8	-	-	-	< 7	< 7	< 7
Sum of Tetrachloroethene + Trichloroethene	T	µg/L	-	< 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 2	< 2	< 2	< 6	-	-	-	< 2	< 2	< 2
Volatile TIC	T	none	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH >C5-C10	T	µg/L	-	-	-	-	-	-	373.65	-	-	-	-	-	38.96	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH >C10-C40	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170	130	140	-	-	-	-	< 10	< 10	64
Aliphatics >C5-C6	T	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	6.5	< 0.1	< 0.1	< 0.1
Aliphatics >C5-C35	T	µg/L	< 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 10	< 10	< 10	< 10	-	< 10	< 10	30	< 10	< 10
Aliphatics >C6-C8	T	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
Aliphatics >C8-C10	T	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
Aliphatics >C10-C12	T	µg/L	< 1	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	< 1	< 1	14	< 1	< 1
Aliphatics >C10-C44	T	µg/L	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Aliphatics >C12-C16	T	µg/L	< 1	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	< 1	< 1	5.4	< 1	< 1
Aliphatics >C16-C21	T	µg/L	< 1	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	< 1	< 1	8.2	< 1	< 1
Aliphatics >C16-C35	T	µg/L	< 2	< 2	< 2	< 2	-	< 2	-	-	-	-	-	-	-	-	-	-	< 2	< 2	< 2	< 2	-	< 2	< 2	9.7	< 2	< 2
Aliphatics >C21-C35	T	µg/L	< 1	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	< 1	< 1	1.5	< 1	< 1
Aliphatics >C35-C44	T	µg/L	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Aromatics >C5-C7	T	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
Aromatics >C5-C35	T	µg/L	< 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10
Aromatics >C7-C8	T	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
Aromatics >C8-C10	T	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
Aromatics >C10-C12	T	µg/L	< 1	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1
Aromatics >C10-C44	T	µg/L	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Aromatics >C12-C16	T	µg/L	< 1	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1
Aromatics >C16-C21	T	µg/L	< 1	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1
Aromatics >C21-C35	T	µg/L	< 1	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1
Aromatics >C35-C44	T	µg/L	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Aliphatics & Aromatics >C5-C35	T	µg/L	< 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 10	< 10	< 10	< 10	-	< 10	< 10	30	< 10	< 10
Aliphatics & Aromatics >C10-C44	T	µg/L	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-

AECOM

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH07D	MS\BH07D	MS\BH07D	MS\BH07D
			Date	13/04/2022	13/04/2022	06/07/2022	21/09/2022	13/12/2022	14/12/2022	21/03/2023	22/06/2023	26/09/2023	26/09/2023	16/01/2024	16/07/2024	22/10/2024	22/10/2024	12/08/2021	12/10/2021	15/11/2021	13/04/2022	13/04/2022	05/07/2022	20/09/2022	12/08/2021	12/10/2021	15/11/2021	12/04/2022
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																										
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	80	-	-	-	-	-	76	80	-
SVOC TICs	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibutyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Tributyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Triphenyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	T	µg/L	< 0.5	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	-	< 0.5
PCB 12	T	ug/L	-	-	-	< 1	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	-	-	-
PCB 52	T	µg/L	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-
PCB 77	T	µg/L	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-
PCB 81	T	µg/L	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-
PCB 101	T	µg/L	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-
PCB 105	T	µg/L	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-
PCB 114	T	µg/L	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-
PCB 126	T	µg/L	-	-	-	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	-	-	-
PCB 138	T	µg/L	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-
PCB 153	T	µg/L	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-
PCB 156	T	µg/L	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-
PCB 157	T	µg/L	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-
PCB 167	T	µg/L	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-
PCB 169	T	µg/L	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-
PCB 180	T	µg/L	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-
PCB 189	T	µg/L	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-
PCB Coelute 28/31	T	ug/L	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-
PCB Coelute 118/123	T	ug/L	-	-	-	< 0.6	< 0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.6	< 0.6	-	-	-
Total 7 PCB	T	µg/L	-	-	-	< 1	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	-	-	-
2,3,6-TBA	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
2,4,5-T	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
2,4-D	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
2,4-DB	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
2-Methyl-4-Chlorophenoxy Butanoic Acid	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
Actril (loxynil)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
Bentazon	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
Bromoxynil	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
Clopyralid	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
Dicamba	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
Dichlorprop	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
Fluroxypyr	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
Mecoprop	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
Picloram	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
Silvex	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
Triclopyr	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.02	-	-	-	-
Dinitrobenzene, p-	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-	-
1,3-Dinitrobenzene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-	-
Dinitrotoluene, 2,4-	T	µg/L	< 0.5	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	-	< 0.5
Dinitrotoluene, 2,6-	T	µg/L	< 1	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
Nitrobenzene	T	µg/L	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1
Chlorobenzene	T	µg/L	< 2	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
1,2-Dichlorobenzene	T	µg/L	< 3	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
1,3-Dichlorobenzene	T	µg/L	< 3	-	-	-	-	-	< 2	-	-	-	-	< 2	-	-	< 2	< 2	-	< 3	-	-	-	< 2	< 2	-	< 3
1,4-Dichlorobenzene	T	µg/L	< 3	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
Trichlorobenzene	T	µg/L	< 4	-	-	-	-	-	< 2	-	-	-	-	-	-	-	< 2	< 2	-	< 4	-	-	-	< 2	< 2	-	< 4
1,2,3-Trichlorobenzene	T	µg/L	< 3	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
1,2,4-Trichlorobenzene	T	µg/L	< 3	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
Hexachlorobenzene	T	µg/L	< 1	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
2,3,4,6-Tetrachlorophenol	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-	-
2,3,5,6-Tetrachlorophenol	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
2,3,5,6-Tetrachlorophenol	T	ug/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-	-
2,4,5-Trichlorophenol	T	µg/L	< 0.5	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	-	< 0.5
2,4,6-Trichlorophenol	T	µg/L	< 1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 1	-	< 0.1	< 1	< 1	-	< 1	-	< 0.1	< 0.1	< 1	< 1	-	< 1
2,4-Dichlorophenol	T	µg/L	< 0.5	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 1	-	< 0.1	< 1	< 1	-	< 0.5	-	< 0.1	< 0.1	< 1	< 1	-	< 0.5
2,4-Dimethylphenol	T	µg/L	< 1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 1	-	< 0.1	< 1	< 1	-	1	-	< 0.1	< 0.1	< 1	< 1	-	< 1
2,6-Dichlorophenol	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.1	-	< 0.1	-	-	-	-	-	-	-	-	-	-	-
2,6-Dichlorophenol	T	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
2,6-Dimethylphenol	T	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
2-Chlorophenol	T	µg/L	< 1	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
2-methylphenol	T	µg/L	< 0.5	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	-	< 0.5
2-Nitrophenol	T	µg/L	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-	< 0.5
3/4-Methylphenol (m/p-cresol)	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-	-
4-Chloro-3-methylphenol	T	µg/L	< 0.5	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 1	-	< 0.1	< 1	< 1	-	< 0.5	-	< 0.1	< 0.1	< 1	< 1	-	< 0.5

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Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH07D	MS\BH07D	MS\BH07D	MS\BH07D
			Date	13/04/2022	13/04/2022	06/07/2022	21/09/2022	13/12/2022	14/12/2022	21/03/2023	22/06/2023	26/09/2023	26/09/2023	16/01/2024	16/07/2024	22/10/2024	22/10/2024	12/08/2021	12/10/2021	15/11/2021	13/04/2022	13/04/2022	05/07/2022	20/09/2022	12/08/2021	12/10/2021	15/11/2021	12/04/2022
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																									
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	80	-	-	-	-	-	76	80	-
4-Methylphenol	T	µg/L	< 1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	< 0.1	-	-	-	< 1	-	< 0.1	< 0.1	-	-	-	< 1
4-Nitrophenol	T	µg/L	< 10	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 10	-	-	-	< 1	< 1	-	< 10
Pentachlorophenol	T	µg/L	< 1	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1	-	-	< 0.02	< 1	< 1	-	< 1
Phenol	T	µg/L	< 1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 1	-	< 0.1	3.7	< 1	-	< 1	-	< 0.1	< 0.1	2	< 1	-	< 1
Total Monohydric Phenols (S) Corrected	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 100	< 100	< 100	-	-	-	-	< 100	< 100	< 100	-
Dissolved Organic Carbon	D	mg/L	3.9	-	5	9.6	5.5	-	4.2	4.4	5.2	-	5.4	-	-	-	-	-	-	7.4	-	8.9	9	-	-	-	4.3
Dissolved Organic Carbon	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	5.43	-	5.36	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	8.5	8	-	-	-	-	13	8.4	5.5	-
Colour	N	none	-	black	-	-	-	becoming lighter*	-	-	-	clear	-	-	Clear	-	-	-	-	-	-	-	-	-	-	-	-
Density	N	g/cm3	-	1.000826	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.999668	-	-	-	-	-	-
Electrical Conductivity (Lab)	T	µS/cm	-	-	-	-	-	-	-	-	-	-	-	2718.32	-	7276.6	-	-	-	-	-	-	-	-	-	-	-
Electrical Conductivity (Lab)	T	uS/cm	2710	-	2750	2840	2630	-	2830	2700	3030	-	2680	-	-	-	-	-	-	868	-	905	837	-	-	-	1980
pH	T	pH units	-	-	-	-	-	-	-	-	-	-	-	7.37	-	7.86	-	-	-	-	-	-	-	-	-	-	-
Solids, Suspended at 105 C	T	mg/L	-	-	-	-	-	-	12	9	36	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Suspended solids (NEN-EN 872)	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	7	-	< 5	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	T	mg/L	-	-	-	-	-	-	120	120	130	-	120	124	-	230	-	-	-	-	-	-	-	-	-	-	-
Ammoniacal Nitrogen as N	T	µg/L	220	-	79	150	150	-	< 15	110	95	-	470	222.1	-	163.2	10000	10000	19000	18000	-	14000	14000	1200	910	1500	890
Ammoniacal Nitrogen as NH3	T	mg/L	0.27	-	0.095	0.18	0.18	-	< 0.015	0.13	0.12	-	0.57	0.2697	-	0.1981	13	12	23	22	-	18	17	1.5	1.1	1.8	1.1
Carbonate	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloride	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	121792	-	1494539.8	-	-	-	-	-	-	-	-	-	-	-
Chloride	T	µg/L	-	-	-	67000	67000	-	120000	67000	220000	-	120000	-	-	-	-	-	-	-	-	-	150000	-	-	-	-
Cyanide	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	4.4	-	10.94	-	-	-	-	-	-	-	-	-	-	-
Cyanide	T	µg/L	9.2	-	7.6	16	16	-	7.1	5.9	12	-	7.4	-	-	-	42	20	8.9	14	-	12	19	< 40	13	4.9	13
Cyanide (free)	T	µg/L	1	-	2.4	1.2	1.2	-	3	1.5	1	-	1.4	1.3	-	2.03	< 20	1.7	0.4	2	-	1.6	1.6	< 20	0.7	0.1	1.9
Cyanide, Total Low Level	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides-complex	T	µg/L	-	-	-	-	-	-	4.2	4.5	11	-	6	-	-	8.91	-	-	-	-	-	-	-	-	-	-	-
Elemental Sulphur	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elemental Sulphur	T	ug/L	-	-	-	-	-	-	< 84	< 84	< 84	-	< 84	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoride	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	3027	-	< 100	-	-	-	-	-	-	-	-	-	-	-
Fluoride	T	µg/L	-	-	-	< 100	< 100	-	< 100	< 100	< 100	-	< 100	-	-	-	-	-	-	-	-	-	590	-	-	-	-
Hardness as CaCO3	T	mg/L	-	-	-	-	-	-	1470	1320	1440	-	1380	-	-	-	45.7	19.5	11.1	-	-	-	-	697	647	769	-
Ion balance	T	%	-	-	-	-	-	-	113	113	120	-	82	94.9222	-	115.0583	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	T	mg/L	0.23	-	0.31	< 0.1	1.3	-	0.71	0.94	0.75	-	< 0.1	< 0.1	-	9.1646	-	-	-	0.15	-	6.1	< 0.0226	0.28	1.5	-	< 0.1
Nitrate (as NO3-)	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 100	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as NO3-)	T	µg/L	1018.118	-	1372.246	< 442.66	5754.58	-	3142.886	41000	3319.95	-	< 442.66	-	-	-	400	< 100	150	663.99	-	27002.26	< 100.04116	1239.448	6639.9	< 100	< 442.66
Nitrite	T	µg/L	< 114.954	-	< 114.954	< 114.954	177.3576	-	< 114.954	< 114.954	< 114.954	-	< 114.954	-	-	-	450	5600	3100	< 114.954	-	< 98.532	< 98.532	< 114.954	15000	< 100	< 114.954
Nitrite (as N)	T	mg/L	< 0.035	-	< 0.035	< 0.035	0.054	-	< 0.035	< 0.035	< 0.035	-	< 0.035	< 0.035	-	0.137	-	-	-	< 0.035	-	< 0.03	< 0.03	< 0.035	-	-	< 0.035
Nitrite (as N)	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ortho Phosphate as P	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.01	-	0.0655	-	-	-	-	-	-	-	-	-	-	-
Phosphate (as P)	T	mg/L	-	-	-	< 0.01	0.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.27	-	-	-	-
Phosphorous, Total Orthophosphate (As P)	T	mg/L	-	-	-	-	-	-	< 0.01	< 0.01	< 0.01	-	< 0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silica as SiO2	T	mg/L	-	-	-	-	-	-	14	5.2	5.7	-	13	14.9853	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphate As SO4	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	1222453	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphate As SO4	T	µg/L	-	-	-	-	-	-	1600000	1500000	1700000	-	1100000	-	-	-	96000	85000	100000	-	-	-	-	840000	820000	85000	-
Sulphide	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	66.8254	-	23.5129	-	-	-	-	-	-	-	-	-	-	-
Sulphide	T	ug/L	-	-	-	-	-	-	38	25	12	-	< 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphur as S	T	mg/L	-	-	-	-	-	-	600	560	630	-	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphur (Free)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 84	-	< 84	-	-	-	-	-	-	-	-	-	-	-
Thiocyanate	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 20	-	< 20	-	-	-	-	-	-	-	-	-	-	-
Thiocyanate	T	µg/L	< 20	-	< 20	< 20	< 20	-	< 20	< 20	< 20	-	< 20	-	-	-	2300	4400	4300	< 20	-	3800	< 20	< 20	< 20	54	< 20
Total Hardness	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	1352.1097	-	754.5389	-	-	-	-	-	-	-	-	-	-	-
Sulphur	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	684246.1	-	436870	-	-	-	-	-	-	-	-	-	-	-
Aluminium	D	µg/L	-	-	-	< 10	< 10	-	< 10	< 10	< 10	-	< 10	< 10	-	< 10	-	-	-	-	-	-	120	-	-	-	-
Antimony	D	µg/L	-	-	-	-	-	-	0.31	0.43	0.35	-	0.2	0.2351	-	1.121	-	-	-	-	-	-	-	-	-	-	-
Arsenic	D	µg/L	4.6	-	2	2	3	-	2.5	1.8	1.7	-	2.7	2.5644	-	3.2158	4.4	7.4	6.8	15	-	11	12	6.4	8.7	5.8	2.7
Barium	D	µg/L	-	-	-	-	-	-	23	31	99	-	57	89.3364	-	170.7844	-	-	-	-	-	-	-	-	-	-	-
Beryllium	D	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
Boron	D	µg/L	660	-	680	780	1100	-	740	790	780	-	660	677.3736	-	479.8741	280	200	140	180	-	150	180	380	370	410	460
Cadmium	D	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	< 0.03	< 0.03	-	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Calcium	D	µg/L	-	-	-	-	-	-	440000	370000	440000	-	420000	407648.4	-	-	-	-	-	-	-	-	-	-	-	-	-
Trivalent Chromium (CrIII)	D	µg/L	< 1	-	< 1	< 1	< 1	-	1.6	< 1	< 1	-	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	2.4	< 1	< 1
Hexavalent Chromium (CrVI)	T	µg/L	< 7	-	< 7	< 7	< 7	-	< 7	< 7	< 7	-	< 7	< 7	-	< 7	< 7	< 7	< 7	< 7	-	< 7	< 7	< 7	< 7	< 7	< 7
Copper	D	µg/L	< 0.4	-	< 0.4	< 0.4	< 0.4	-	< 0.4	0.9	0.9	-	< 0.4	< 0.4	-	2.7247	< 0.4	< 0.4	< 0.4	0.9	-	1.9	0.5	< 0.4	1	< 0.4	< 0.4
Iron	D	µg/L	11	-	16	< 5.5	15	-	230	8.4	13	-	82	158.8204	-	31.7902	44	95	99	200	-	230	110	26	38	340	14
Lead	D	µg/L	< 0.09	-	0.24	< 0.09	< 0.09	-	< 0.09	< 0.09	< 0.09	-	< 0.09	< 0.09	-	< 0.09	0.11	0.1	0.12	0.32	-	1.5	0.32	0.1	0.56	< 0.09	< 0.09
Magnesium	D	µg/L	-	-	-	-	-	-	92000	94000	84000	-	82000	81158.7	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	D	µg/L	-	-	-	2800	2000	-	2800	2600	2400	-	2500	2489.4671	-	1261.2483	-	-	-	-	-	-	6.2	-	-	-	-
Mercury	D	µg/L	< 0.01	-	< 0.01	0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	-	0.0313	0.02	0.03	0.02	0.02	-	0.02	0.04	0.03	0.06	< 0.01	< 0.01
Molybdenum	D	µg/L	-	-	-	67	79	-	49	60	62	-	52	53.6115	-	59.514	-	-	-	-	-	-	32	-	-	-	-
Nickel	D	µg/L	2.8	-	2.1	1.3	3.9	-	1.4	1.3	1.5	-	1.2	1.3293	-	2.9537	2.9	4.3	3.7	6.8	-	4.6	3.9	0.7	1.3	0.5	0.7

AECOM

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH07D	MS\BH07D	MS\BH07D	MS\BH07D
			Date	13/04/2022	13/04/2022	06/07/2022	21/09/2022	13/12/2022	14/12/2022	21/03/2023	22/06/2023	26/09/2023	26/09/2023	16/01/2024	16/07/2024	22/10/2024	22/10/2024	12/08/2021	12/10/2021	15/11/2021	13/04/2022	13/04/2022	05/07/2022	20/09/2022	12/08/2021	12/10/2021	15/11/2021	12/04/2022
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																										
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	80	-	-	-	-	-	76	80	-
Phosphorus	D	µg/L	-	-	-	27	29	-	-	-	-	-	-	< 18	-	71.3786	-	-	-	-	-	-	410	-	-	-	-
Potassium	D	µg/L	-	-	-	-	-	-	55000	62000	62000	-	60000	67987.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	D	µg/L	2.2	-	3.4	4.6	12	-	4	5.8	7	-	0.8	1.7177	-	49.279	0.69	0.49	0.31	0.37	-	0.45	0.37	8.2	2.3	< 0.25	0.28
Sodium	D	µg/L	-	-	-	-	-	-	63000	81000	140000	-	140000	97307.4	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin	D	µg/L	-	-	-	< 0.4	< 0.4	-	< 0.4	< 0.4	< 0.4	-	0.5	< 0.4	-	< 0.4	-	-	-	-	-	-	< 0.4	-	-	-	-
Titanium	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.3	-	< 0.3	-	-	-	-	-	-	-	-	-	-	-
Titanium	D	ug/L	-	-	-	-	-	-	< 0.3	< 0.3	< 0.3	-	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	D	µg/L	< 0.6	-	< 0.6	< 0.6	< 0.6	-	< 0.6	< 0.6	< 0.6	-	< 0.6	< 0.6	-	1.8511	1.3	1	0.9	7	-	1.6	7.6	2.3	1.5	< 0.6	< 0.6
Zinc	D	µg/L	41	-	15	31	47	-	3.4	6.5	32	-	35	26.9688	-	96.4936	4.8	< 1.3	1.3	12	-	6.9	8.4	5.1	11	< 1.3	36
2-chloronaphthalene	T	µg/L	< 1	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
2-Nitroaniline	T	µg/L	< 1	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
3-Nitroaniline	T	µg/L	< 1	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
4-bromophenyl phenyl ether	T	µg/L	< 1	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
4-Chlorophenyl phenyl ether	T	µg/L	< 1	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
4-Nitroaniline	T	µg/L	< 0.5	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	-	< 0.5
Aniline	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-	-
Azobenzene	T	µg/L	< 0.5	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	-	< 0.5
Benzyl Alcohol	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	1.6	< 1	-	-	-	-	-	< 1	< 1	-	-
Benzyl Butyl Phthalate	T	µg/L	< 1	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
bis(2-Chloroethoxy)methane	T	µg/L	< 0.5	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	-	< 0.5
bis(2-Chloroethyl)ether	T	µg/L	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1
bis(2-Chloroisopropyl)ether	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-	-
Bis(2-Ethylhexyl) Adipate	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-	-
Bis(2-ethylhexyl) phthalate	T	µg/L	< 5	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 15	-	-	-	< 1	13	-	< 5
Carbazole	T	µg/L	< 0.5	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	-	< 0.5
Chloroaniline, p-	T	µg/L	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1
Diethyl Phthalate	T	µg/L	< 1	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
Dimethyl Phthalate	T	µg/L	< 1	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
Di-n-butyl phthalate	T	µg/L	< 1.5	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1.5	-	-	-	< 1	< 1	-	< 1.5
Di-n-octyl phthalate	T	µg/L	< 1	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
Diphenylamine	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-	-
Hexachlorobutadiene	T	µg/L	< 3	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
Hexachlorocyclopentadiene	T	µg/L	< 1	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
Hexachloroethane	T	µg/L	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1
Isophorone	T	µg/L	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-	< 0.5
ISOPROPYLTOLUENE, p-	T	µg/L	< 3	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
Methylnaphthalene, 1-	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-	-
Methylnaphthalene, 2-	T	µg/L	< 1	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
N-Nitrosodi-n-Propylamine	T	µg/L	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-	< 0.5
Acenaphthene	T	µg/L	< 1	-	< 0.01	0.21	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	0.01	< 1	< 0.013	< 1	-	< 0.01	< 0.01	0.17	< 1	< 0.013	< 1
Acenaphthylene	T	µg/L	< 0.5	-	< 0.01	0.1	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 0.013	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 0.013	< 0.5
Anthracene	T	µg/L	< 0.5	-	< 0.01	0.09	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 0.013	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 0.013	< 0.5
Benzo(a)anthracene	T	µg/L	< 0.5	-	< 0.01	0.02	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 0.015	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 0.015	< 0.5
Benzo(a)pyrene	T	µg/L	< 1	-	< 0.01	0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 0.016	< 1	-	< 0.01	< 0.01	< 0.01	< 1	< 0.016	< 1
Benzo(b)fluoranthene	T	µg/L	< 0.01	-	< 0.01	0.16	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	< 1	< 0.01	< 0.01
Benzo(b+k)fluoranthene	T	µg/L	< 1	-	< 0.02	0.2	< 0.02	-	< 0.02	< 0.02	< 0.02	-	< 0.02	-	-	-	< 0.02	< 0.018	< 0.018	< 1	-	< 0.02	< 0.02	< 0.02	< 0.018	< 0.018	< 1
Benzo(g,h,i)perylene	T	µg/L	< 0.5	-	< 0.01	0.02	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 0.011	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 0.011	< 0.5
Benzo(g,h,i)perylene + Indeno(1,2,3-c,d)pyrene	T	µg/L	< 1.5	-	< 0.02	0.04	< 0.02	-	< 0.02	< 0.02	< 0.02	-	< 0.02	-	-	-	< 0.02	< 0.022	< 0.022	< 1.5	-	< 0.02	< 0.02	< 0.02	< 0.022	< 0.022	< 1.5
Benzo(k)fluoranthene	T	µg/L	< 0.01	-	< 0.01	0.04	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	< 1	< 0.01	< 0.01
Chrysene	T	µg/L	< 0.5	-	< 0.01	0.04	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 0.011	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	0.015	< 0.5
Dibenz(a,h)anthracene	T	µg/L	< 0.5	-	< 0.01	0.03	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 0.01	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 0.01	< 0.5
Fluoranthene	T	µg/L	< 0.5	-	< 0.01	0.05	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 0.012	< 0.5	-	< 0.01	0.01	< 0.01	< 1	0.019	< 0.5
Fluorene	T	µg/L	< 0.5	-	< 0.01	0.19	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	0.02	< 1	< 0.014	< 0.5	-	< 0.01	< 0.01	0.06	< 1	< 0.014	< 0.5
Indeno(1,2,3-c,d)pyrene	T	µg/L	< 1	-	< 0.01	0.02	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 0.011	< 1	-	< 0.01	< 0.01	< 0.01	< 1	< 0.011	< 1
Naphthalene	T	µg/L	< 2	-	0.15	0.18	< 0.05	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 1	-	< 0.05	0.12	< 1	0.1	< 2	-	0.05	0.19	0.15	< 1	0.1	< 2
Phenanthrene	T	µg/L	< 0.5	-	0.02	0.19	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 0.011	< 0.5	-	< 0.01	0.05	< 0.01	< 1	0.039	< 0.5
Pyrene	T	µg/L	< 0.5	-	< 0.01	0.06	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	< 0.01	< 1	< 0.013	< 0.5	-	< 0.01	0.01	< 0.01	< 1	0.032	< 0.5
Benzo(a)pyrene (surrogate marker for PAH mixture)	T	µg/L	< 1	-	< 0.01	0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	-	< 0.01	-	-	-	< 0.01	< 0.016	< 0.016	< 1	-	< 0.01	< 0.01	< 0.01	< 0.016	< 0.016	< 1
PAH (Sum of 4)	T	µg/L	< 1.5	-	< 0.04	0.24	< 0.04	-	< 0.04	< 0.04	< 0.04	-	< 0.04	-	-	-	< 0.04	< 0.042	< 0.042	< 1.5	-	< 0.04	< 0.04	< 0.04	< 0.042	< 0.042	< 1.5
PAH (Sum of 16)	T	µg/L	< 0.2	-	< 0.2	1.4	< 0.2	-	< 0.2	< 0.2	< 0.2	-	< 0.2	-	-	-	< 0.2	< 0.195	< 0.195	0.21	-	< 0.2	0.26	0.38	< 0.195	0.205	< 0.2
Total PAH	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.2	-	< 0.2	-	-	-	-	-	-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
1,1,1-Trichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
1,1,2,2-Tetrachloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	T	ug/L	< 4	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 4	-	-	-	< 1	< 1	-	< 4
1,1,2-Trichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH07D	MS\BH07D	MS\BH07D	MS\BH07D
			Date	13/04/2022	13/04/2022	06/07/2022	21/09/2022	13/12/2022	14/12/2022	21/03/2023	22/06/2023	26/09/2023	26/09/2023	16/01/2024	16/07/2024	22/10/2024	22/10/2024	12/08/2021	12/10/2021	15/11/2021	13/04/2022	13/04/2022	05/07/2022	20/09/2022	12/08/2021	12/10/2021	15/11/2021	12/04/2022
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																										
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	80	-	-	-	-	-	76	80	-
1,1-Dichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	1	2	-	< 3	-	-	-	< 1	< 1	-	< 3
1,1-Dichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
1,1-dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-dichloropropene	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
1,2,3-trichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-trichloropropane	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
1,2,4-Trimethylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
1,2-dibromo-3-chloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-dibromo-3-chloropropane	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
1,2-Dibromoethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
1,2-Dichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
1,2-Dichloroethene	T	µg/L	< 6	-	-	-	-	-	< 2	-	-	-	-	-	-	-	< 2	< 2	-	< 6	-	-	-	< 2	< 2	-	< 6
1,2-Dichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
1,3,5-Trimethylbenzene (Mesitylene)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene (Mesitylene)	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
1,3-Dichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 2	-	-	-	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	T	ug/L	< 1	-	-	-	-	-	< 2	-	-	-	-	-	-	-	< 2	< 2	-	< 1	-	-	-	< 2	< 2	-	< 1
2-chlorotoluene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
2-chlorotoluene	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
4-chlorotoluene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
4-chlorotoluene	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
Benzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Benzene	T	ug/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	< 1	-	< 1	-	-	-	5.2	2	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1
Bromobenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromobenzene	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
Bromodichloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 4	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	T	ug/L	< 2	-	-	-	-	-	< 4	-	-	-	-	-	-	-	< 4	< 4	-	< 2	-	-	-	< 4	< 4	-	< 2
Bromoform	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
Bromomethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane	T	ug/L	< 1	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
Carbon tetrachloride	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
Chlorobromomethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 4	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobromomethane	T	ug/L	< 2	-	-	-	-	-	< 4	-	-	-	-	-	-	-	< 4	< 4	-	< 2	-	-	-	< 4	< 4	-	< 2
Chloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
Chloroform	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
Chloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	2	< 1	-	< 3	-	-	-	2	< 1	-	< 3
cis-1,2-dichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-dichloroethene	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
cis-1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
Dibromochloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
Dibromomethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
Dichlorodifluoromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
Dichloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 27	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	T	ug/L	< 3	-	-	-	-	-	< 27	-	-	-	-	-	-	-	< 27	< 27	-	< 3	-	-	-	< 27	< 27	-	< 3
Ethylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	T	ug/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1
Isopropylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Isopropylbenzene	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
Methyl tertiary butyl ether	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tertiary butyl ether	T	ug/L	< 0.1	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	< 1	< 0.1	-	-	-	< 1	< 1	< 1	< 0.1
n-Butylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Butylbenzene	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
n-Propylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-

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Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH05S	MS\BH07D	MS\BH07D	MS\BH07D	MS\BH07D
			Date	13/04/2022	13/04/2022	06/07/2022	21/09/2022	13/12/2022	14/12/2022	21/03/2023	22/06/2023	26/09/2023	26/09/2023	16/01/2024	16/07/2024	22/10/2024	22/10/2024	12/08/2021	12/10/2021	15/11/2021	13/04/2022	13/04/2022	05/07/2022	20/09/2022	12/08/2021	12/10/2021	15/11/2021	12/04/2022
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																										
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	80	-	-	-	-	-	76	80	-
n-Propylbenzene	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
sec-Butylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-
sec-Butylbenzene	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
Styrene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
tert-Butylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-
tert-Butylbenzene	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
Tetrachloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
Toluene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-
Toluene	T	ug/L	< 5	-	< 1	< 1	< 1	-	< 1	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	< 5	-	< 1	< 1	< 1	< 1	< 1	< 5
trans-1,2-Dichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
trans-1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	T	ug/L	< 2	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	-	< 2
Trichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
Trichlorofluoromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	T	ug/L	< 3	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	-	< 3
Vinyl Chloride	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride	T	ug/L	< 0.1	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 0.1	-	-	-	< 1	< 1	-	< 0.1
m-& p-Xylenes	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	< 2	-	-	-	-	-	-	-	-	-	-	-	-
m-& p-Xylenes	T	ug/L	< 2	-	-	-	-	-	< 2	-	-	-	-	-	-	-	< 2	< 2	-	< 2	-	-	-	< 2	< 2	-	< 2
m/p/o-Xylene	T	µg/L	< 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 3	-	-	-	-	-	-	< 3
m/p/o-Xylene	T	ug/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1
o-Xylene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-
o-Xylene	T	ug/L	< 1	-	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	-	< 1
Sum of Trihalomethanes	T	µg/L	< 8	-	-	-	-	-	< 7	-	-	-	-	-	-	-	< 7	< 7	-	< 8	-	-	-	< 7	< 7	-	< 8
Sum of Tetrachloroethene + Trichloroethene	T	µg/L	< 6	-	-	-	-	-	< 2	-	-	-	-	-	-	-	< 2	< 2	-	< 6	-	-	-	< 2	< 2	-	< 6
Volatile TIC	T	none	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH >C5-C10	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH >C10-C40	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	370	170	70	-	-	-	-	120	15	140	-
Aliphatics >C5-C6	T	µg/L	< 0.1	-	3	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	29
Aliphatics >C5-C35	T	µg/L	< 10	-	< 10	150	< 10	-	-	-	-	-	-	-	-	-	< 10	200	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	29
Aliphatics >C6-C8	T	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
Aliphatics >C8-C10	T	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
Aliphatics >C10-C12	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	< 1	4.8	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1
Aliphatics >C10-C44	T	µg/L	-	-	-	-	-	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Aliphatics >C12-C16	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	< 1	4	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1
Aliphatics >C16-C21	T	µg/L	< 1	-	< 1	3.1	< 1	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	< 1	120	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1
Aliphatics >C16-C35	T	µg/L	< 2	-	< 2	153.1	< 2	-	< 2	< 2	< 2	-	< 2	-	-	-	< 2	190	< 2	< 2	-	< 2	< 2	< 2	< 2	< 2	< 2
Aliphatics >C21-C35	T	µg/L	< 1	-	< 1	150	< 1	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	< 1	70	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1
Aliphatics >C35-C44	T	µg/L	-	-	-	-	-	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Aromatics >C5-C7	T	µg/L	< 0.1	-	< 0.1	< 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	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatics >C5-C35	T	µg/L	< 10	-	< 10	< 10	< 10	-	-	-	-	-	-	-	-	-	< 10	92	< 10	< 10	-	32	< 10	< 10	110	< 10	< 10
Aromatics >C7-C8	T	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
Aromatics >C8-C10	T	µg/L	< 0.1	-	< 0.1	0.8	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatics >C10-C12	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	3.9	< 1	< 1
Aromatics >C10-C44	T	µg/L	-	-	-	-	-	-	< 1	< 1	39	-	< 1	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Aromatics >C12-C16	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	< 1	7.6	< 1	< 1	-	< 1	< 1	< 1	11	< 1	< 1
Aromatics >C16-C21	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	< 1	59	< 1	< 1	-	2	< 1	< 1	74	< 1	< 1
Aromatics >C21-C35	T	µg/L	< 1	-	< 1	< 1	< 1	-	< 1	< 1	39	-	< 1	< 1	-	< 1	< 1	25	< 1	< 1	-	30	< 1	< 1	23	< 1	< 1
Aromatics >C35-C44	T	µg/L	-	-	-	-	-	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Aliphatics & Aromatics >C5-C35	T	µg/L	< 10	-	< 10	150	< 10	-	-	-	-	-	-	-	-	-	< 10	290	< 10	< 10	-	33	< 10	< 10	110	< 10	29
Aliphatics & Aromatics >C10-C44	T	µg/L	-	-	-	-	-	-	< 1	< 1	39	-	< 1	< 1	-	< 1	-	-	-	-	-	-	-	-	-	-	-

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Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

		Location	MS\BH07D	MS\BH07D	MS\BH07D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH09D	MS\BH09D	MS\BH09D	MS\BH09D	MS\BH09D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S
		Date	12/04/2022	05/07/2022	20/09/2022	11/08/2021	12/10/2021	15/11/2021	12/04/2022	12/04/2022	05/07/2022	20/09/2022	13/08/2021	12/10/2021	15/11/2021	05/07/2022	20/09/2022	11/08/2021	13/10/2021	17/11/2021	12/04/2022	12/04/2022	04/07/2022	21/09/2022	12/08/2021	12/10/2021	16/11/2021	11/04/2022
		Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																										
PAH Surrogate % Recovery	T	%	-	-	-	-	82	82	-	-	-	-	-	82	78	-	-	-	76	-	-	-	-	-	83	-	-
SVOC TICs	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibutyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tributyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Triphenyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	T	µg/L	-	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 0.5	-	-	-	-	< 1	< 1	< 0.5
PCB 12	T	ug/L	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-
PCB 52	T	µg/L	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-
PCB 77	T	µg/L	-	-	< 0.3	-	-	-	-	-	-	< 0.3	-	-	-	-	< 0.3	-	-	-	-	-	-	< 0.3	-	-	-	-
PCB 81	T	µg/L	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-
PCB 101	T	µg/L	-	-	< 0.3	-	-	-	-	-	-	< 0.3	-	-	-	-	< 0.3	-	-	-	-	-	-	< 0.3	-	-	-	-
PCB 105	T	µg/L	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-
PCB 114	T	µg/L	-	-	< 0.3	-	-	-	-	-	-	< 0.3	-	-	-	-	< 0.3	-	-	-	-	-	-	< 0.3	-	-	-	-
PCB 126	T	µg/L	-	-	< 0.5	-	-	-	-	-	-	< 0.5	-	-	-	-	< 0.5	-	-	-	-	-	-	< 0.5	-	-	-	-
PCB 138	T	µg/L	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-
PCB 153	T	µg/L	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-
PCB 156	T	µg/L	-	-	< 0.3	-	-	-	-	-	-	< 0.3	-	-	-	-	< 0.3	-	-	-	-	-	-	< 0.3	-	-	-	-
PCB 157	T	µg/L	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-
PCB 167	T	µg/L	-	-	< 0.3	-	-	-	-	-	-	< 0.3	-	-	-	-	< 0.3	-	-	-	-	-	-	< 0.3	-	-	-	-
PCB 169	T	µg/L	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-
PCB 180	T	µg/L	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-	-
PCB 189	T	µg/L	-	-	< 0.3	-	-	-	-	-	-	< 0.3	-	-	-	-	< 0.3	-	-	-	-	-	-	< 0.3	-	-	-	-
PCB Coelute 28/31	T	ug/L	-	-	< 0.3	-	-	-	-	-	-	< 0.3	-	-	-	-	< 0.3	-	-	-	-	-	-	< 0.3	-	-	-	-
PCB Coelute 118/123	T	ug/L	-	-	< 0.6	-	-	-	-	-	-	< 0.6	-	-	-	-	< 0.6	-	-	-	-	-	-	< 0.6	-	-	-	-
Total 7 PCB	T	µg/L	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-
2,3,6-TBA	T	ug/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-T	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-D	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DB	T	ug/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methyl-4-Chlorophenoxy Butanoic Acid	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Actril (loxynil)	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bentazon	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoxynil	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clopyralid	T	ug/L	-	-	0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicamba	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorprop	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluroxypyr	T	ug/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mecoprop	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Picloram	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silvex	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Triclopyr	T	ug/L	-	-	< 0.02	-	-	-	-	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinitrobenzene, p-	T	µg/L	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-
1,3-Dinitrobenzene	T	µg/L	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-
Dinitrotoluene, 2,4-	T	µg/L	-	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 0.5	-	-	-	-	< 1	< 1	< 0.5
Dinitrotoluene, 2,6-	T	µg/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
Nitrobenzene	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1
Chlorobenzene	T	µg/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
1,2-Dichlorobenzene	T	µg/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
1,3-Dichlorobenzene	T	µg/L	-	-	-	< 2	< 2	-	< 3	-	-	-	< 2	< 2	< 2	-	-	-	< 2	< 2	< 3	-	-	-	-	< 2	< 2	< 3
1,4-Dichlorobenzene	T	µg/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
Trichlorobenzene	T	µg/L	-	-	-	< 2	< 2	-	< 4	-	-	-	< 2	< 2	< 2	-	-	-	< 2	< 2	< 4	-	-	-	-	< 2	< 2	< 4
1,2,3-Trichlorobenzene	T	µg/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
1,2,4-Trichlorobenzene	T	µg/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
Hexachlorobenzene	T	µg/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
2,3,4,6-Tetrachlorophenol	T	µg/L	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-
2,3,5,6-Tetrachlorophenol	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,3,5,6-Tetrachlorophenol	T	ug/L	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-
2,4,5-Trichlorophenol	T	µg/L	-	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 0.5	-	-	-	-	< 1	< 1	< 0.5
2,4,6-Trichlorophenol	T	µg/L	-	< 0.1	< 0.1	< 1	< 1	-	< 1	-	< 0.1	< 0.1	< 1	< 1	< 1	< 0.1	< 0.1	-	< 1	< 1	< 1	-	< 0.1	< 0.1	-	< 1	< 1	< 1
2,4-Dichlorophenol	T	µg/L	-	< 0.1	< 0.1	< 1	< 1	-	< 0.5	-	< 0.1	< 0.1	< 1	< 1	< 1	< 0.1	< 0.1	-	< 1	< 1	< 0.5	-	< 0.1	< 0.1	-	< 1	< 1	< 0.5
2,4-Dimethylphenol	T	µg/L	-	< 0.1	< 0.1	< 1	< 1	-	< 1	-	< 0.1	< 0.1	< 1	< 1	< 1	< 0.1	< 0.1	-	< 1	< 1	< 1	-	< 0.1	< 0.1	-	< 1	< 1	< 1
2,6-Dichlorophenol	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dichlorophenol	T	ug/L	-	< 0.1	< 0.1	-	-	-	< 0.1	-	< 0.1	< 0.1	-	-	-	< 0.1	< 0.1	-	-	-	< 0.1	-	< 0.1	< 0.1	-	-	-	< 0.1
2,6-Dimethylphenol	T	µg/L	-	< 0.1	< 0.1	-	-	-	< 0.1	-	< 0.1	< 0.1	-	-	-	< 0.1	< 0.1	-	-	-	< 0.1	-	< 0.1	< 0.1	-	-	-	< 0.1
2-Chlorophenol	T	µg/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
2-methylphenol	T	µg/L	-	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 0.5	-	-	-	-	< 1	< 1	< 0.5
2-Nitrophenol	T	µg/L	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-	< 0.5
3/4-Methylphenol (m/p-cresol)	T	µg/L	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-
4-Chloro-3-methylphenol	T	µg/L	-	< 0.1	< 0.1	< 1	< 1	-	< 0.5	-	< 0.1	< 0.1	< 1	< 1	< 1	< 0.1	< 0.1	-	< 1	< 1	< 0.5	-	< 0.1	< 0.1	-	< 1	< 1	< 0.5

AECOM

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	MS\BH07D	MS\BH07D	MS\BH07D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH09D	MS\BH09D	MS\BH09D	MS\BH09D	MS\BH09D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S
			Date	12/04/2022	05/07/2022	20/09/2022	11/08/2021	12/10/2021	15/11/2021	12/04/2022	12/04/2022	05/07/2022	20/09/2022	13/08/2021	12/10/2021	15/11/2021	05/07/2022	20/09/2022	11/08/2021	13/10/2021	17/11/2021	12/04/2022	12/04/2022	04/07/2022	21/09/2022	12/08/2021	12/10/2021	16/11/2021	11/04/2022
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
PAH Surrogate % Recovery	T	%	-	-	-	-	82	82	-	-	-	-	-	82	78	-	-	-	76	-	-	-	-	-	-	83	-	-
4-Methylphenol	T	µg/L	-	< 0.1	< 0.1	-	-	-	< 1	-	< 0.1	< 0.1	-	-	-	< 0.1	< 0.1	-	-	-	< 1	-	< 0.1	< 0.1	-	-	-	< 1
4-Nitrophenol	T	µg/L	-	-	-	< 1	< 1	-	< 10	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 10	-	-	-	-	< 1	< 1	< 10
Pentachlorophenol	T	µg/L	-	-	< 0.02	< 1	< 1	-	< 1	-	-	< 0.02	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
Phenol	T	µg/L	-	< 0.1	< 0.1	< 1	< 1	-	< 1	-	< 0.1	< 0.1	< 1	< 1	1.2	< 0.1	< 0.1	-	< 1	< 1	< 1	-	< 0.1	< 0.1	-	< 1	< 1	< 1
Total Monohydric Phenols (S) Corrected	T	µg/L	-	-	-	< 100	< 100	< 100	-	-	-	-	< 100	< 100	< 100	-	-	< 100	< 100	910	-	-	-	-	< 100	160	170	-
Dissolved Organic Carbon	D	mg/L	-	7	9.4	-	-	-	7.1	-	8.3	12	-	-	-	6.6	9	-	-	-	8.1	-	9.7	11	-	-	-	5.9
Dissolved Organic Carbon	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	T	mg/L	-	-	-	32	29	9.1	-	-	-	-	36	17	8.2	-	-	39	23	11	-	-	-	-	8.2	6.8	6.1	-
Colour	N	none	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	grey colour	-	-	-	-	-	-
Density	N	g/cm3	1.000462	-	-	-	-	-	-	1.000722	-	-	-	-	-	-	-	-	-	-	-	1.000268	-	-	-	-	-	-
Electrical Conductivity (Lab)	T	µS/cm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical Conductivity (Lab)	T	uS/cm	-	1880	1660	-	-	-	2700	-	3780	4070	-	-	-	679	705	-	-	-	1170	-	1280	1290	-	-	-	5870
pH	T	pH units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solids, Suspended at 105 C	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Suspended solids (NEN-EN 872)	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammoniacal Nitrogen as N	T	µg/L	-	1000	640	1200	1900	2500	2800	-	2500	3100	1900	5400	5200	3700	3500	1800	3300	3800	3900	-	4000	4300	2000	4500	5300	4700
Ammoniacal Nitrogen as NH3	T	mg/L	-	1.2	0.78	1.5	2.3	3	3.5	-	3	3.8	2.3	6.6	6.3	4.5	4.2	2.2	4.1	4.6	4.8	-	4.8	5.2	2.4	5.4	6.4	5.7
Carbonate	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloride	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloride	T	µg/L	-	-	130000	-	-	-	-	-	-	580000	-	-	-	-	65000	-	-	-	-	-	-	200000	-	-	-	-
Cyanide	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide	T	µg/L	-	11	15	< 40	8.5	7.2	7.7	-	3.8	6.7	< 40	5.1	12	5.2	8.5	< 40	14	12	12	-	13	16	29	39	< 0.1	< 0.1
Cyanide (free)	T	µg/L	-	2.6	0.6	< 20	0.3	0.3	0.7	-	< 0.1	< 0.1	< 20	0.3	0.7	0.8	< 0.1	< 20	0.4	0.5	0.8	-	0.4	0.5	4.4	5.6	< 0.1	6.9
Cyanide, Total Low Level	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides-complex	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elemental Sulphur	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elemental Sulphur	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoride	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoride	T	µg/L	-	-	< 100	-	-	-	-	-	-	< 100	-	-	-	-	410	-	-	-	-	-	-	2200	-	-	-	-
Hardness as CaCO3	T	mg/L	-	-	-	388	552	577	-	-	-	-	30.3	106	108	-	-	95.4	128	126	-	-	-	-	370	416	433	-
Ion balance	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	T	mg/L	-	< 0.1	< 0.1	0.17	-	-	< 0.1	-	< 0.1	< 0.1	-	-	-	0.03	0.04	0.15	-	-	< 0.1	-	< 0.1	0.04	0.15	< 0.1	< 0.1	< 0.1
Nitrate (as NO3-)	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as NO3-)	T	µg/L	-	< 442.66	< 442.66	752.522	< 100	< 100	< 442.66	-	< 442.66	< 442.66	< 100	< 100	360	132.798	177.064	663.99	< 100	250	< 442.66	-	< 442.66	177.064	663.99	< 442.66	< 442.66	< 442.66
Nitrite	T	µg/L	-	< 114.954	< 114.954	< 114.954	< 100	< 100	< 114.954	-	147.798	< 114.954	< 100	1800	< 100	< 98.532	< 98.532	< 114.954	2200	< 100	< 114.954	-	< 114.954	< 98.532	< 114.954	44000	< 114.954	< 114.954
Nitrite (as N)	T	mg/L	-	< 0.035	< 0.035	< 0.035	-	-	< 0.035	-	0.045	< 0.035	-	-	-	< 0.03	< 0.03	< 0.035	-	-	< 0.035	-	< 0.035	< 0.03	< 0.035	-	< 0.035	< 0.035
Nitrite (as N)	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ortho Phosphate as P	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate (as P)	T	mg/L	-	-	< 0.01	-	-	-	-	-	-	0.38	-	-	-	-	0.14	-	-	-	-	-	-	0.16	-	-	-	-
Phosphorous, Total Orthophosphate (As P)	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silica as SiO2	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphate As SO4	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphate As SO4	T	µg/L	-	-	-	710000	730000	380000	-	-	-	-	160000	150000	160000	-	-	67000	96000	110000	-	-	-	-	280000	1100000	350000	-
Sulphide	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphide	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphur as S	T	mg/L	-	-	-	-	-	-	-	-	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphur (Free)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thiocyanate	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thiocyanate	T	µg/L	-	66	< 20	44	43	31	< 20	-	36	< 20	150	110	170	77	< 20	170	190	240	310	-	< 20	< 20	-	9300	7400	< 20
Total Hardness	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphur	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminium	D	µg/L	-	-	11	-	-	-	-	-	-	12	-	-	-	-	33	-	-	-	-	-	-	70	-	-	-	-
Antimony	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	D	µg/L	-	2.1	3.5	13	3.9	3.2	8	-	5.1	4.9	8.4	7.4	7.9	13	14	2.6	3.5	2.5	3.2	-	4.5	5.5	10	16	10	6.4
Barium	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	D	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron	D	µg/L	-	420	470	460	650	660	720	-	670	680	210	230	230	250	300	700	740	690	710	-	620	670	360	630	620	780
Cadmium	D	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	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	-	< 0.03	0.04	< 0.03	< 0.03	< 0.03	< 0.03
Calcium	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trivalent Chromium (CrIII)	D	µg/L	-	< 1	< 1	< 1	< 1	< 1	< 1	-	2.2	3.7	< 1	< 1	< 1	< 1	< 1	< 1	1.1	< 1	< 1	-	1.2	1.4	< 1	< 1	< 1	2
Hexavalent Chromium (CrVI)	T	µg/L	-	< 7	< 7	< 7	< 7	< 7	< 7	-	< 7	< 7	< 7	< 7	< 7	< 7	< 7	< 7	< 7	< 7	< 7	-	< 7	< 7	< 7	< 7	< 7	< 7
Copper	D	µg/L	-	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	-	0.4	1.1	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	0.8	< 0.4	< 0.4	-	1.4	1.1	< 0.4	< 0.4	1.2	0.8
Iron	D	µg/L	-	11	20	14	85	37	76	-	37	110	16	18	56	7.4	13	20	89	130	100	-	52	130	91	350	890	41
Lead	D	µg/L	-	< 0.09	0.1	< 0.09	< 0.09	< 0.09	0.14	-	0.25	0.11	0.09	< 0.09	0.11	< 0.09	< 0.09	0.1	0.26	0.38	2.6	-	15	17	< 0.09	< 0.09	0.1	< 0.09
Magnesium	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	D	µg/L	-	-	250	-	-	-	-	-	-	400	-	-	-	-	26	-	-	-	-	-	-	210	-	-	-	-
Mercury	D	µg/L	-	< 0.01	< 0.01	0.06	0.04	0.05	0.02	-	0.03	0.01	0.05	0.13	0.12	0.05	0.07	0.07	0.07	0.04	< 0.01	-	< 0.01	0.02	0.03	0.01	< 0.01	< 0.01
Molybdenum	D	µg/L	-	-	12	-	-	-	-	-	-	4.6	-	-	-	-	9.4	-	-	-	-	-	-	30	-	-	-	-
Nickel	D	µg/L	-	0.9	< 0.5	1.5	0.7	0.6	0.6	-	1.6	< 0.5	1.6	1.3	1.2	1.4	< 0.5	2.3	2.2	1	1	-	8.9	1.8	0.9	1	1.3	4.2

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Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	MS\BH07D	MS\BH07D	MS\BH07D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH09D	MS\BH09D	MS\BH09D	MS\BH09D	MS\BH09D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S
			Date	12/04/2022	05/07/2022	20/09/2022	11/08/2021	12/10/2021	15/11/2021	12/04/2022	12/04/2022	05/07/2022	20/09/2022	13/08/2021	12/10/2021	15/11/2021	05/07/2022	20/09/2022	11/08/2021	13/10/2021	17/11/2021	12/04/2022	12/04/2022	04/07/2022	21/09/2022	12/08/2021	12/10/2021	16/11/2021	11/04/2022
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
PAH Surrogate % Recovery	T	%	-	-	-	-	82	82	-	-	-	-	-	82	78	-	-	-	76	-	-	-	-	-	83	-	-
Phosphorus	D	µg/L	-	-	22	-	-	-	-	-	-	740	-	-	-	-	230	-	-	-	-	-	-	190	-	-	-	-
Potassium	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	D	µg/L	-	0.34	0.26	3.8	0.74	0.47	0.36	-	1.8	< 0.25	7.1	5.6	2.6	1.4	0.56	1.6	0.41	0.29	< 0.25	-	0.27	0.35	0.6	0.27	< 0.25	0.28
Sodium	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin	D	µg/L	-	-	< 0.4	-	-	-	-	-	-	< 0.4	-	-	-	-	< 0.4	-	-	-	-	-	-	1.2	-	-	-	-
Titanium	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Titanium	D	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	D	µg/L	-	< 0.6	< 0.6	4.5	4.2	5.6	4.3	-	4.9	3.9	8.1	15	3.3	1.3	1.4	16	20	13	7.2	-	7.7	9.9	-	1.3	2	3
Zinc	D	µg/L	-	4.5	37	1.8	< 1.3	1.7	36	-	3.7	6.2	4.4	< 1.3	2.1	2.6	11	1.8	51	3.4	15	-	23	31	6.3	3.8	8.8	48
2-chloronaphthalene	T	µg/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
2-Nitroaniline	T	µg/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
3-Nitroaniline	T	µg/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
4-bromophenyl phenyl ether	T	µg/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
4-Chlorophenyl phenyl ether	T	µg/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
4-Nitroaniline	T	µg/L	-	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 0.5	-	-	-	-	< 1	< 1	< 0.5
Aniline	T	µg/L	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-
Azobenzene	T	µg/L	-	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 0.5	-	-	-	-	< 1	< 1	< 0.5
Benzyl Alcohol	T	µg/L	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-
Benzyl Butyl Phthalate	T	µg/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
bis(2-Chloroethoxy)methane	T	µg/L	-	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 0.5	-	-	-	-	< 1	< 1	< 0.5
bis(2-Chloroethyl)ether	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1
bis(2-Chloroisopropyl)ether	T	µg/L	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-
Bis(2-Ethylhexyl) Adipate	T	µg/L	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-
Bis(2-ethylhexyl) phthalate	T	µg/L	-	-	-	< 1	< 1	-	< 5	-	-	-	< 1	< 1	2.9	-	-	-	< 1	< 1	< 5	-	-	-	-	< 1	< 1	< 5
Carbazole	T	µg/L	-	-	-	< 1	< 1	-	< 0.5	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 0.5	-	-	-	-	< 1	< 1	< 0.5
Chloroaniline, p-	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1
Diethyl Phthalate	T	µg/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
Dimethyl Phthalate	T	µg/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
Di-n-butyl phthalate	T	µg/L	-	-	-	< 1	< 1	-	< 1.5	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1.5	-	-	-	-	2	1.2	< 1.5
Di-n-octyl phthalate	T	µg/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
Diphenylamine	T	µg/L	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-
Hexachlorobutadiene	T	µg/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
Hexachlorocyclopentadiene	T	µg/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
Hexachloroethane	T	µg/L	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1
Isophorone	T	µg/L	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-	< 0.5
ISOPROPYLTOLUENE, p-	T	µg/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
Methylnaphthalene, 1-	T	µg/L	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	-	-	-	-	-	< 1	< 1	-
Methylnaphthalene, 2-	T	µg/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
N-Nitrosodi-n-Propylamine	T	µg/L	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-	< 0.5
Acenaphthene	T	µg/L	-	< 0.01	0.03	0.08	< 1	0.015	< 1	-	< 0.01	0.03	0.02	< 1	< 1	0.09	0.01	0.02	< 1	< 1	< 1	-	< 0.01	< 0.01	0.06	< 1	< 1	< 1
Acenaphthylene	T	µg/L	-	< 0.01	0.03	< 0.01	< 1	< 0.013	< 0.5	-	< 0.01	0.02	< 0.01	< 1	< 1	0.04	< 0.01	< 0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1	< 0.5
Anthracene	T	µg/L	-	< 0.01	0.02	< 0.01	< 1	< 0.013	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1	0.07	< 0.01	< 0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1	< 0.5
Benzo(a)anthracene	T	µg/L	-	< 0.01	0.03	< 0.01	< 1	< 0.015	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1	0.04	< 0.01	< 0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1	< 0.5
Benzo(a)pyrene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 1	< 0.016	< 1	-	< 0.01	< 0.01	< 0.01	< 1	< 1	0.04	< 0.01	< 0.01	< 1	< 1	< 1	-	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1
Benzo(b)fluoranthene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 1	< 0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	< 1	< 1	0.06	< 0.01	< 0.01	< 1	< 1	< 0.01	-	< 0.01	< 0.01	< 0.01	< 1	< 1	< 0.01
Benzo(b+k)fluoranthene	T	µg/L	-	< 0.02	< 0.02	< 0.02	< 0.018	< 0.018	< 1	-	< 0.02	< 0.02	< 0.02	< 0.018	< 0.018	0.07	< 0.02	< 0.02	< 0.018	< 0.018	< 1	-	< 0.02	< 0.02	< 0.02	< 0.018	< 0.018	< 1
Benzo(g,h,i)perylene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 1	< 0.011	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1	0.11	< 0.01	< 0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1	< 0.5
Benzo(g,h,i)perylene + Indeno(1,2,3-c,d)pyrene	T	µg/L	-	< 0.02	< 0.02	< 0.02	< 0.022	< 0.022	< 1.5	-	< 0.02	< 0.02	< 0.02	< 0.022	< 0.022	0.14	< 0.02	< 0.02	< 0.022	< 0.002	< 1.5	-	< 0.02	< 0.02	< 0.02	< 0.022	< 0.022	< 1.5
Benzo(k)fluoranthene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 1	< 0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	< 1	< 1	0.01	< 0.01	< 0.01	< 1	< 1	< 0.01	-	< 0.01	< 0.01	< 0.01	< 1	< 1	< 0.01
Chrysene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 1	< 0.011	< 0.5	-	< 0.01	0.01	< 0.01	< 1	< 1	0.06	< 0.01	< 0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1	< 0.5
Dibenz(a,h)anthracene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 1	< 0.01	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1	0.01	< 0.01	< 0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1	< 0.5
Fluoranthene	T	µg/L	-	< 0.01	0.03	< 0.01	< 1	< 0.012	< 0.5	-	< 0.01	0.02	< 0.01	< 1	< 1	0.18	< 0.01	0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	< 0.01	< 1	< 1	< 0.5
Fluorene	T	µg/L	-	< 0.01	0.05	0.02	< 1	< 0.014	< 0.5	-	< 0.01	0.04	0.01	< 1	< 1	0.1	0.02	0.01	< 1	< 1	< 0.5	-	< 0.01	< 0.01	0.02	< 1	< 1	< 0.5
Indeno(1,2,3-c,d)pyrene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 1	< 0.011	< 1	-	< 0.01	< 0.01	< 0.01	< 1	< 1	0.03	< 0.01	< 0.01	< 1	< 1	< 1	-	< 0.01	< 0.01	< 0.01	< 1	< 1	< 1
Naphthalene	T	µg/L	-	< 0.05	< 0.05	0.42	< 1	0.1	< 2	-	0.31	0.06	0.2	< 1	< 1	2.7	0.24	0.17	< 1	< 1	< 2	-	0.08	0.1	0.1	< 1	< 1	< 2
Phenanthrene	T	µg/L	-	< 0.01	0.25	< 0.01	< 1	< 0.011	< 0.5	-	< 0.01	0.18	< 0.01	< 1	< 1	0.52	0.07	< 0.01	< 1	< 1	< 0.5	-	0.03	0.04	< 0.01	< 1	< 1	< 0.5
Pyrene	T	µg/L	-	< 0.01	0.03	< 0.01	< 1	< 0.013	< 0.5	-	< 0.01	0.02	< 0.01	< 1	< 1	0.33	0.01	0.01	< 1	< 1	< 0.5	-	0.02	0.01	0.01	< 1	< 1	< 0.5
Benzo(a)pyrene (surrogate marker for PAH mixture)	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 0.016	< 0.016	< 1	-	< 0.01	< 0.01	< 0.01	< 0.016	< 0.016	0.04	< 0.01	< 0.01	< 0.016	< 0.001	< 1	-	< 0.01	< 0.01	< 0.01	< 0.016	< 0.016	< 1
PAH (Sum of 4)	T	µg/L	-	< 0.04	< 0.04	< 0.04	< 0.042	< 0.042	< 1.5	-	< 0.04	< 0.04	< 0.04	< 0.042	< 0.042	0.21	< 0.04	< 0.04	< 0.042	< 0.004	< 1.5	-	< 0.04	< 0.04	< 0.04	< 0.042	< 0.042	< 1.5
PAH (Sum of 16)	T	µg/L	-	< 0.2	0.46	0.52	< 0.195	< 0.195	< 0.2	-	0.31	0.38	0.23	< 0.195	0.3	4.4	0.34	0.22	0.219	0.178	< 0.2	-	< 0.2	< 0.2	0.2	< 0.195	< 0.195	< 0.2
Total PAH	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
1,1,1-Trichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
1,1,2,2-Tetrachloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	T	ug/L	-	-	-	< 1	< 1	-	< 4	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 4	-	-	-	-	< 1	< 1	< 4
1,1,2-Trichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2

AECOM

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	MS\BH07D	MS\BH07D	MS\BH07D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH09D	MS\BH09D	MS\BH09D	MS\BH09D	MS\BH09D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S
			Date	12/04/2022	05/07/2022	20/09/2022	11/08/2021	12/10/2021	15/11/2021	12/04/2022	12/04/2022	05/07/2022	20/09/2022	13/08/2021	12/10/2021	15/11/2021	05/07/2022	20/09/2022	11/08/2021	13/10/2021	17/11/2021	12/04/2022	12/04/2022	04/07/2022	21/09/2022	12/08/2021	12/10/2021	16/11/2021	11/04/2022
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
PAH Surrogate % Recovery	T	%	-	-	-	-	82	82	-	-	-	-	-	82	78	-	-	-	76	-	-	-	-	-	-	83	-	-
1,1-Dichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
1,1-Dichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
1,1-dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-dichloropropene	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
1,2,3-trichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-trichloropropane	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
1,2,4-Trimethylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
1,2-dibromo-3-chloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-dibromo-3-chloropropane	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
1,2-Dibromoethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
1,2-Dichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
1,2-Dichloroethene	T	µg/L	-	-	-	< 2	< 2	-	< 6	-	-	-	< 2	< 2	< 2	-	-	-	< 2	< 2	< 6	-	-	-	-	< 2	< 2	< 6
1,2-Dichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
1,3,5-Trimethylbenzene (Mesitylene)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene (Mesitylene)	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
1,3-Dichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	T	ug/L	-	-	-	< 2	< 2	-	< 1	-	-	-	< 2	< 2	< 2	-	-	-	< 2	< 2	< 1	-	-	-	-	< 2	< 2	< 1
2-chlorotoluene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-chlorotoluene	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
4-chlorotoluene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-chlorotoluene	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
Benzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	T	ug/L	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	5	4	4	< 1	3.3	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1
Bromobenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromobenzene	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
Bromodichloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	T	ug/L	-	-	-	< 4	< 4	-	< 2	-	-	-	< 4	< 4	< 4	-	-	-	< 4	< 4	< 2	-	-	-	-	< 4	< 4	< 2
Bromoform	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
Bromomethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane	T	ug/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
Carbon tetrachloride	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
Chlorobromomethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobromomethane	T	ug/L	-	-	-	< 4	< 4	-	< 2	-	-	-	< 4	< 4	< 4	-	-	-	< 4	< 4	< 2	-	-	-	-	< 4	< 4	< 2
Chloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
Chloroform	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
Chloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	T	ug/L	-	-	-	3	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
cis-1,2-dichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-dichloroethene	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
cis-1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
Dibromochloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
Dibromomethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
Dichlorodifluoromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
Dichloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	T	ug/L	-	-	-	< 27	< 27	-	< 3	-	-	-	< 27	< 27	< 27	-	-	-	< 27	< 27	< 3	-	-	-	-	< 27	< 27	< 3
Ethylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	T	ug/L	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1
Isopropylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isopropylbenzene	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
Methyl tertiary butyl ether	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tertiary butyl ether	T	ug/L	-	-	-	< 1	< 1	< 1	< 0.1	-	-	-	< 1	< 1	< 1	-	-	< 1	< 1	< 1	< 0.1	-	-	-	< 1	< 1	< 1	< 0.1
n-Butylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Butylbenzene	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
n-Propylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	MS\BH07D	MS\BH07D	MS\BH07D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH08D	MS\BH09D	MS\BH09D	MS\BH09D	MS\BH09D	MS\BH09D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH11D	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S
			Date	12/04/2022	05/07/2022	20/09/2022	11/08/2021	12/10/2021	15/11/2021	12/04/2022	12/04/2022	05/07/2022	20/09/2022	13/08/2021	12/10/2021	15/11/2021	05/07/2022	20/09/2022	11/08/2021	13/10/2021	17/11/2021	12/04/2022	12/04/2022	04/07/2022	21/09/2022	12/08/2021	12/10/2021	16/11/2021	11/04/2022
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																										
PAH Surrogate % Recovery	T	%	-	-	-	-	82	82	-	-	-	-	-	82	78	-	-	-	76	-	-	-	-	-	83	-	-
n-Propylbenzene	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
sec-Butylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sec-Butylbenzene	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
Styrene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
tert-Butylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
tert-Butylbenzene	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
Tetrachloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
Toluene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	T	ug/L	-	< 1	< 1	< 1	< 1	< 1	< 5	-	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 5	-	< 1	< 1	< 1	< 1	< 1	< 5
trans-1,2-Dichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
trans-1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	T	ug/L	-	-	-	< 1	< 1	-	< 2	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 2	-	-	-	-	< 1	< 1	< 2
Trichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
Trichlorofluoromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	T	ug/L	-	-	-	< 1	< 1	-	< 3	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 3	-	-	-	-	< 1	< 1	< 3
Vinyl Chloride	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride	T	ug/L	-	-	-	< 1	< 1	-	< 0.1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 0.1	-	-	-	-	< 1	< 1	< 0.1
m-& p-Xylenes	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m-& p-Xylenes	T	ug/L	-	-	-	< 2	< 2	-	< 2	-	-	-	< 2	< 2	< 2	-	-	-	< 2	< 2	< 2	-	-	-	-	< 2	< 2	< 2
m/p/o-Xylene	T	µg/L	-	-	-	-	-	-	< 3	-	-	-	-	-	-	-	-	-	-	-	< 3	-	-	-	-	-	-	< 3
m/p/o-Xylene	T	ug/L	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1
o-Xylene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	T	ug/L	-	-	-	< 1	< 1	-	< 1	-	-	-	< 1	< 1	< 1	-	-	-	< 1	< 1	< 1	-	-	-	-	< 1	< 1	< 1
Sum of Trihalomethanes	T	µg/L	-	-	-	< 7	< 7	-	< 8	-	-	-	< 7	< 7	< 7	-	-	-	< 7	< 7	< 8	-	-	-	-	< 7	< 7	< 8
Sum of Tetrachloroethene + Trichloroethene	T	µg/L	-	-	-	< 2	< 2	-	< 6	-	-	-	< 2	< 2	< 2	-	-	-	< 2	< 2	< 6	-	-	-	-	< 2	< 2	< 6
Volatile TIC	T	none	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH >C5-C10	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH >C10-C40	T	µg/L	-	-	-	54	110	29	-	-	-	-	150	300	56	-	-	< 10	< 10	59	-	-	-	-	440	100	< 10	-
Aliphatics >C5-C6	T	µg/L	-	6.7	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	7.7	< 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	< 0.1	< 0.1	28
Aliphatics >C5-C35	T	µg/L	-	< 10	< 10	51	< 10	< 10	< 10	-	45	< 10	35	390	< 10	28	< 10	99	< 10	< 10	< 10	-	< 10	< 10	< 10	150	< 10	29
Aliphatics >C6-C8	T	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatics >C8-C10	T	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatics >C10-C12	T	µg/L	-	< 1	< 1	33	< 1	< 1	< 1	-	1.5	< 1	2.8	6.4	< 1	< 1	< 1	45	< 1	< 1	< 1	-	< 1	< 1	< 1	10	< 1	< 1
Aliphatics >C10-C44	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aliphatics >C12-C16	T	µg/L	-	< 1	< 1	8.6	< 1	< 1	< 1	-	1.8	< 1	1.5	6.7	< 1	3.4	< 1	18	< 1	< 1	< 1	-	< 1	< 1	< 1	15	< 1	< 1
Aliphatics >C16-C21	T	µg/L	-	< 1	< 1	8.2	< 1	< 1	< 1	-	7.1	< 1	30	160	< 1	9.8	< 1	24	< 1	< 1	< 1	-	< 1	< 1	< 1	80	< 1	< 1
Aliphatics >C16-C35	T	µg/L	-	< 2	< 2	9.2	< 2	< 2	< 2	-	34.1	< 2	31	380	< 2	23.8	< 2	36	< 2	< 2	< 2	-	< 2	< 2	< 2	129	< 2	< 2
Aliphatics >C21-C35	T	µg/L	-	< 1	< 1	< 1	< 1	< 1	< 1	-	27	< 1	< 1	220	< 1	14	< 1	12	< 1	< 1	< 1	-	< 1	< 1	< 1	49	< 1	< 1
Aliphatics >C35-C44	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aromatics >C5-C7	T	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	3.3	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatics >C5-C35	T	µg/L	-	< 10	< 10	< 10	64	< 10	< 10	-	19	< 10	< 10	240	< 10	< 10	< 10	< 10	< 10	29	< 10	-	< 10	< 10	< 10	50	< 10	< 10
Aromatics >C7-C8	T	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatics >C8-C10	T	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatics >C10-C12	T	µg/L	-	< 1	< 1	< 1	2.1	< 1	< 1	-	< 1	< 1	< 1	2.2	< 1	< 1	< 1	< 1	< 1	< 1	2.3	-	< 1	< 1	< 1	2.7	< 1	< 1
Aromatics >C10-C44	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aromatics >C12-C16	T	µg/L	-	< 1	< 1	< 1	4.1	< 1	< 1	-	< 1	< 1	< 1	8.4	< 1	< 1	< 1	< 1	< 1	2.5	4.9	-	< 1	< 1	< 1	7.1	< 1	< 1
Aromatics >C16-C21	T	µg/L	-	< 1	< 1	< 1	43	< 1	< 1	-	3.3	< 1	< 1	110	< 1	< 1	< 1	< 1	< 1	24	< 1	-	< 1	< 1	< 1	33	< 1	< 1
Aromatics >C21-C35	T	µg/L	-	2.9	< 1	< 1	15	< 1	< 1	-	15	< 1	< 1	110	< 1	< 1	< 1	< 1	< 1	1.5	< 1	-	2	< 1	< 1	7.5	< 1	< 1
Aromatics >C35-C44	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aliphatics & Aromatics >C5-C35	T	µg/L	-	10	< 10	51	64	< 10	< 10	-	64	< 10	36	630	< 10	28	< 10	99	< 10	29	< 10	-	< 10	< 10	< 10	200	< 10	29
Aliphatics & Aromatics >C10-C44	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AECOM

Client: Net Zero Teesside F
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14
			Date	11/04/2022	07/07/2022	22/09/2022	13/12/2022	20/03/2023	21/06/2023	26/09/2023	27/09/2023	16/01/2024	23/10/2024	23/10/2024	10/08/2021	13/10/2021	16/11/2021	11/04/2022	11/04/2022	07/07/2022	22/09/2022	14/12/2022	20/03/2023	20/06/2023	27/09/2023	27/09/2023	17/01/2024	17/07/2024	21/10/2024
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SVOC TICs	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
Dibutyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	
Tributyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	
Triphenyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	
Dibenzofuran	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-	
PCB 12	T	ug/L	-	-	< 1	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	-	-	-	-	-	-	-	
PCB 52	T	µg/L	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	
PCB 77	T	µg/L	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	
PCB 81	T	µg/L	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	
PCB 101	T	µg/L	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	
PCB 105	T	µg/L	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	
PCB 114	T	µg/L	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	
PCB 126	T	µg/L	-	-	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	< 0.5	-	-	-	-	-	-	-	
PCB 138	T	µg/L	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	
PCB 153	T	µg/L	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	
PCB 156	T	µg/L	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	
PCB 157	T	µg/L	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	
PCB 167	T	µg/L	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	
PCB 169	T	µg/L	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	
PCB 180	T	µg/L	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	
PCB 189	T	µg/L	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	
PCB Coelute 28/31	T	ug/L	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	
PCB Coelute 118/123	T	ug/L	-	-	< 0.6	< 0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.6	< 0.6	-	-	-	-	-	-	-	
Total 7 PCB	T	µg/L	-	-	< 1	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1	-	-	-	-	-	-	-	
2,3,6-TBA	T	ug/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,4,5-T	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-D	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-DB	T	ug/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Methyl-4-Chlorophenoxy Butanoic Acid	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Actril (loxynil)	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bentazon	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bromoxynil	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Clopyralid	T	ug/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dicamba	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dichlorprop	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fluroxypyr	T	ug/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mecoprop	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Picloram	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Silvex	T	µg/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Triclopyr	T	ug/L	-	-	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dinitrobenzene, p-	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	
1,3-Dinitrobenzene	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	
Dinitrotoluene, 2,4-	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-	
Dinitrotoluene, 2,6-	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	
Nitrobenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	
Chlorobenzene	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	< 1	-	
1,2-Dichlorobenzene	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	< 1	-	
1,3-Dichlorobenzene	T	µg/L	-	-	-	-	< 2	-	-	-	-	-	-	-	< 2	-	< 3	-	-	-	-	< 2	-	-	-	-	< 2	-	
1,4-Dichlorobenzene	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	< 1	-	
Trichlorobenzene	T	µg/L	-	-	-	-	< 2	-	-	-	-	-	-	-	< 2	-	< 4	-	-	-	-	< 2	-	-	-	-	-	-	
1,2,3-Trichlorobenzene	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	< 1	-	
1,2,4-Trichlorobenzene	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	< 1	-	
Hexachlorobenzene	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	
2,3,4,6-Tetrachlorophenol	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	
2,3,5,6-Tetrachlorophenol	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	
2,3,5,6-Tetrachlorophenol	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	-	-	
2,4,5-Trichlorophenol	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-	
2,4,6-Trichlorophenol	T	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	< 0.1	-	< 1	-	< 1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 1	< 0.1	
2,4-Dichlorophenol	T	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	< 0.1	-	< 1	-	< 0.5	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 1	< 0.1	
2,4-Dimethylphenol	T	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.15	-	< 0.1	-	< 0.1	-	< 1	-	< 1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 1	< 0.1	
2,6-Dichlorophenol	T	µg/L	-	-	-	-	-	-	-	-	-	-	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	< 0.1	
2,6-Dichlorophenol	T	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	-	-	
2,6-Dimethylphenol	T	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	
2-Chlorophenol	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	-	< 1	-	
2-methylphenol	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-	
2-Nitrophenol	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-	-	-	-	-	-	
3/4-Methylphenol (m/p-cresol)	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	13	-	-	-	-	-	-	3.4	-	-	-	-	< 1	-	
4-Chloro-3-methylphenol	T	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	< 0.1	-	< 1	-	< 0.5	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 1	< 0.1	

AECOM

Client: Net Zero Teesside F
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14
			Date	11/04/2022	07/07/2022	22/09/2022	13/12/2022	20/03/2023	21/06/2023	26/09/2023	27/09/2023	16/01/2024	23/10/2024	23/10/2024	10/08/2021	13/10/2021	16/11/2021	11/04/2022	11/04/2022	07/07/2022	22/09/2022	14/12/2022	20/03/2023	20/06/2023	27/09/2023	27/09/2023	17/01/2024	17/07/2024	21/10/2024
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	-	73	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Methylphenol	T	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	-	< 0.1	-	< 0.1	-	-	-	3	-	< 0.1	< 0.1	< 0.1	0.46	< 0.1	< 0.1	-	< 0.1	< 0.1	0.2
4-Nitrophenol	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 10	-	-	-	-	< 1	-	-	-	-	< 1	-
Pentachlorophenol	T	µg/L	-	-	< 0.02	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-
Phenol	T	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	< 0.1	-	2.4	-	< 1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 1	< 0.1
Total Monohydric Phenols (S) Corrected	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 100	< 100	< 100	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	D	mg/L	-	6.6	4.7	7.7	8.3	8.4	7.5	-	8.9	-	-	-	-	-	8.7	-	7.9	6.1	7.7	15	14	13	-	10	-	6.7
Dissolved Organic Carbon	T	mg/L	-	-	-	-	-	-	-	-	-	-	6.99	-	-	-	-	-	-	-	-	-	-	-	-	-	6.77	-
Total Organic Carbon	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	7.6	14	5.9	-	-	-	-	-	-	-	-	-	-	-	-
Colour	N	none	-	-	-	-	-	-	-	clear	-	Clear	-	-	-	-	-	-	-	-	-	-	-	-	green yellow	-	-	-
Density	N	g/cm3	1.002296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.999937	-	-	-	-	-	-	-	-	-	-
Electrical Conductivity (Lab)	T	µS/cm	-	-	-	-	-	-	-	-	-	-	4959.08	-	-	-	-	-	-	-	-	-	-	-	-	-	1651.42	1590
Electrical Conductivity (Lab)	T	uS/cm	-	5020	35600	6620	5560	6280	5120	-	4790	-	-	-	-	-	767	-	1500	1410	1260	937	699	787	-	695	-	-
pH	T	pH units	-	-	-	-	-	-	-	-	-	-	7.44	-	-	-	-	-	-	-	-	-	-	-	-	-	11.04	-
Solids, Suspended at 105 C	T	mg/L	-	-	-	-	7.5	9.5	20	-	5.5	-	-	-	-	-	-	-	-	-	-	6	20	11	-	20	-	7.5
Suspended solids (NEN-EN 872)	T	mg/L	-	-	-	-	-	-	-	-	-	-	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-
Alkalinity, Total (as CaCO3)	T	mg/L	-	-	-	-	150	150	160	-	< 10	-	-	-	-	-	-	-	-	-	-	170	170	160	-	130	85.86	-
Ammoniacal Nitrogen as N	T	µg/L	-	4200	5400	4800	4700	6800	5400	-	5200	-	9661.2	790	7000	4800	6500	-	3400	39	4100	5100	5600	4700	-	5300	2166.4	4000
Ammoniacal Nitrogen as NH3	T	mg/L	-	5.1	6.6	5.8	5.7	8.3	6.6	-	6.3	-	11.7315	0.96	8.5	5.8	7.9	-	4.2	0.047	5	6.1	6.8	5.8	-	6.4	2.6306	4.8
Carbonate	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86
Chloride	D	µg/L	-	-	-	-	-	-	-	-	-	-	1046878.6	-	-	-	-	-	-	-	-	-	-	-	-	-	48695.9	-
Chloride	T	µg/L	-	-	12000000	890000	1400000	1500000	1200000	-	1300000	-	-	-	-	-	-	-	-	69000	65000	49000	100000	45000	-	50000	-	37000
Cyanide	D	µg/L	-	-	-	-	-	-	-	-	-	-	18.06	-	-	-	-	-	-	-	-	-	-	-	-	-	9.4	-
Cyanide	T	µg/L	-	24	0.5	< 0.1	46	210	< 0.1	-	63	-	-	< 40	5.1	4.5	5.5	-	5.5	5.4	7.7	7.6	8.1	9.6	-	11	-	-
Cyanide (free)	T	µg/L	-	2.1	< 0.1	6.4	7.7	9.3	2.3	-	8.8	-	< 0.1	< 20	0.2	< 0.1	0.3	-	< 0.1	0.1	0.4	0.6	0.9	0.6	-	0.6	0.2	0.5
Cyanide, Total Low Level	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5
Cyanides-complex	T	µg/L	-	-	-	-	38	200	< 0.1	-	54	-	18.06	-	-	-	-	-	-	-	-	7	7.2	9	-	11	-	6
Elemental Sulphur	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 84
Elemental Sulphur	T	ug/L	-	-	-	-	< 84	170	< 84	-	< 84	-	-	-	-	-	-	-	-	-	-	< 84	< 84	< 84	-	< 84	-	-
Fluoride	D	µg/L	-	-	-	-	-	-	-	-	-	-	21859.7	-	-	-	-	-	-	-	-	-	-	-	-	-	544.2	-
Fluoride	T	µg/L	-	-	< 100	< 100	< 100	< 100	< 100	-	< 100	-	-	-	-	-	-	-	-	< 100	810	550	< 100	130	-	150	-	640
Hardness as CaCO3	T	mg/L	-	-	-	-	638	464	505	-	490	-	-	593	104	4.49	-	-	-	-	-	154	100	156	-	71.9	-	563
Ion balance	T	%	-	-	-	-	108	110	111	-	99	-	93.2043	-	-	-	-	-	-	-	-	120	117	98	-	111	89.7103	105
Nitrate (as N)	T	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	< 0.1	-	-	-	< 0.1	-	< 0.1	< 0.1	0.03	< 0.1	< 0.1	< 0.1	-	< 0.1	0.4405	0.54
Nitrate (as NO3-)	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1595.6	-
Nitrate (as NO3-)	T	µg/L	-	< 442.66	< 442.66	< 442.66	< 442.66	< 442.66	< 442.66	-	< 442.66	-	-	280	< 100	820	< 442.66	-	< 442.66	< 442.66	132.798	490	2300	< 442.66	-	< 442.66	-	340
Nitrite	T	µg/L	-	< 114.954	< 114.954	< 114.954	< 114.954	< 114.954	< 114.954	-	< 114.954	-	-	< 100	2700	1800	< 114.954	-	< 114.954	< 114.954	< 98.532	< 114.954	< 114.954	< 114.954	-	< 114.954	-	-
Nitrite (as N)	T	mg/L	-	< 0.035	< 0.035	< 0.035	< 0.035	< 0.035	< 0.035	-	< 0.035	-	< 0.035	-	-	-	< 0.035	-	< 0.035	< 0.035	< 0.03	< 0.035	< 0.035	< 0.035	-	< 0.035	0.1517	0.099
Nitrite (as N)	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ortho Phosphate as P	T	mg/L	-	-	-	-	-	-	-	-	-	-	0.121	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.01	-
Phosphate (as P)	T	mg/L	-	-	< 0.01	0.34	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.01	0.09	-	-	-	-	-	-	-
Phosphorous, Total Orthophosphate (As P)	T	mg/L	-	-	-	-	0.07	0.13	0.13	-	0.15	-	-	-	-	-	-	-	-	-	-	0.02	0.16	0.02	-	0.43	-	< 0.01
Silica as SiO2	T	mg/L	-	-	-	-	6.1	2.2	1.7	-	7.8	-	-	-	-	-	-	-	-	-	-	26	6.8	6.1	-	23	18.857	-
Sulphate As SO4	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	551633	-
Sulphate As SO4	T	µg/L	-	-	-	-	390000	440000	550000	-	420000	-	-	540000	130000	400000	-	-	-	-	-	170000	160000	130000	-	120000	-	-
Sulphide	T	µg/L	-	-	-	-	-	-	-	-	-	-	22.0546	-	-	-	-	-	-	-	-	-	-	-	-	-	288.8797	150
Sulphide	T	ug/L	-	-	-	-	90	21	14	-	< 10	-	-	-	-	-	-	-	-	-	-	2600	81	600	-	1100	-	-
Sulphur as S	T	mg/L	-	-	-	-	170	180	160	-	150	-	-	180	-	-	-	-	-	-	-	73	77	79	-	230	-	240
Sulphur (Free)	T	µg/L	-	-	-	-	-	-	-	-	-	-	< 84	-	-	-	-	-	-	-	-	-	-	-	-	-	< 84	-
Thiocyanate	D	µg/L	-	-	-	-	-	-	-	-	-	-	1384.48	-	-	-	-	-	-	-	-	-	-	-	-	-	132.33	-
Thiocyanate	T	µg/L	-	7700	37	8300	940	9200	2900	-	12000	-	-	170	200	210	190	-	180	230	190	210	260	220	-	250	-	120
Total Hardness	T	mg/L	-	-	-	-	-	-	-	-	-	-	387.1962	-	-	-	-	-	-	-	-	-	-	-	-	-	610.1856	-
Sulphur	T	µg/L	-	-	-	-	-	-	-	-	-	-	< 10000	-	-	-	-	-	-	-	-	-	-	-	-	-	229020	-
Aluminium	D	µg/L	-	-	< 10	11	< 10	15	< 10	-	< 10	-	< 10	-	-	-	-	-	-	370	280	360	150	240	-	88	243.5206	270
Antimony	D	µg/L	-	-	-	-	0.23	< 0.17	< 0.17	-	< 0.17	-	0.2285	-	-	-	-	-	-	-	-	0.91	0.44	0.51	-	< 0.17	0.64	0.45
Arsenic	D	µg/L	-	6	1.8	6	6	6.3	6.2	-	6	-	5.734	24	61	2.5	21	-	21	18	18	32	34	51	-	41	6.2202	16
Barium	D	µg/L	-	-	-	-	100	130	94	-	70	-	82.5283	-	-	-	-	-	-	-	-	53	100	31	-	57	113.0576	120
Beryllium	D	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1
Boron	D	µg/L	-	630	870	820	730	780	670	-	620	-	698.1392	17	59	< 12	56	-	32	37	190	54	67	46	-	53	44.0467	47
Cadmium	D	µg/L	-	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	-	< 0.03	-	< 0.03	0.08	0.08	< 0.03	0.04	-	0.09	0.1	0.22	0.06	0.13	0.06	-	< 0.03	< 0.03	< 0.03
Calcium	D	µg/L	-	-	-	-	94000	72000	98000	-	79000	-	-	-	-	-	-	-	-	-	-	61000	35000	62000	-	29000	243881.1	-
Trivalent Chromium (CrIII)	D	µg/L	-	2.5	1.1	1	2	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1.4	5.4	< 1	< 1	< 1	< 1	-	< 1	< 1	6.6
Hexavalent Chromium (CrVI)	T	µg/L	-	< 7	< 7	< 7	< 7	< 7	< 7	-	< 7	-	< 7	< 7	< 7	< 7	< 7	-	< 7	< 7	< 7	< 7	< 7	< 7	-	< 7	< 7	< 7
Copper	D	µg/L	-	< 0.4	1.6	< 0.4	< 0.4	0.4	< 0.4	-	< 0.4	-	< 0.4	0.7	1	0.8	< 0.4	-	0.6	1.6	2.9	0.6	1.2	0.6	-	< 0.4	0.8425	0.8
Iron	D	µg/L	-	34	24	39	160	370	39	-	44	-	198.3889	16	230	40	170	-	18	18	11	250	270	260	-	220	9.9153	66
Lead	D	µg/L	-	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	-	< 0.09	-	< 0.09	0.19	1.6	0.26	3	-	0.79	0.69	0.2	4.2	12	6.8	-	3.1	< 0.09	< 0.09
Magnesium	D	µg/L	-	-	-	-	98000	69000	64000	-	71000	-	-	-	-	-	-	-	-	-	-	170	3000	60	-	90	294.9	-
Manganese	D	µg/L	-	-	2700	120	120	120	110	-	120	-	94.716	-	-	-	-	-	-	1.2	1.5	3	15	3.6	-	4.5	10.2446	4.1
Mercury	D	µg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	-	< 0.01	-	< 0.01	0.41	0.19	< 0.01	0.2	-	0.44	0.45	0.37	0.22	0.15	0.17	-	0.07	0.2365	0.26
Molybdenum	D	µg/L	-	-	3.1	20	18	14	18	-	17	-	16.58	-	-	-	-	-	-	190	440	240	280	240	-	81	103.4706	170
Nickel	D	µg/L	-	2.4	17	1.9	< 0.5	0.6	0.7	-	< 0.5	-	0.5015	5.2	6.3	< 0.5	5	-	5.6	5.1	6.6	3.5	5.9	6	-	3.7	3.2808	5.2

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Client: Net Zero Teesside F
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14
			Date	11/04/2022	07/07/2022	22/09/2022	13/12/2022	20/03/2023	21/06/2023	26/09/2023	27/09/2023	16/01/2024	23/10/2024	23/10/2024	10/08/2021	13/10/2021	16/11/2021	11/04/2022	11/04/2022	07/07/2022	22/09/2022	14/12/2022	20/03/2023	20/06/2023	27/09/2023	27/09/2023	17/01/2024	17/07/2024	21/10/2024
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																										
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	73	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	D	µg/L	-	-	< 18	65	-	-	-	-	-	-	176.0757	-	-	-	-	-	-	49	68	-	-	-	-	-	30.5966	56
Potassium	D	µg/L	-	-	-	-	79000	56000	69000	-	65000	-	-	-	-	-	-	-	-	-	-	51000	83000	62000	-	69000	82595.3	-
Selenium	D	µg/L	-	0.38	0.51	0.36	0.27	< 0.25	< 0.25	-	0.31	-	< 0.25	3.2	1.6	< 0.25	2	-	2.2	4	4.2	2.6	0.73	1.3	-	1	4.4517	4.7
Sodium	D	µg/L	-	-	-	-	720000	850000	700000	-	790000	-	-	-	-	-	-	-	-	-	-	46000	79000	51000	-	51000	39109.2	-
Tin	D	µg/L	-	-	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	-	0.4	-	< 0.4	-	-	-	-	-	-	< 0.4	0.5	< 0.4	< 0.4	< 0.4	-	0.8	< 0.4	< 0.4
Titanium	D	µg/L	-	-	-	-	-	-	-	-	-	-	< 0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	< 0.3
Titanium	D	ug/L	-	-	-	-	< 0.3	0.4	< 0.3	-	< 0.3	-	-	-	-	-	-	-	-	-	-	4.6	6	4.4	-	3.7	-	-
Vanadium	D	µg/L	-	1.9	< 0.6	1.6	0.8	2.3	1.3	-	1.7	-	1.2263	63	33	< 0.6	47	-	19	39	190	78	76	88	-	26	6.985	62
Zinc	D	µg/L	-	25	8.3	40	27	24	34	-	33	-	94.2775	< 1.3	17	3	7.7	-	3.3	2.5	11	5.3	21	200	-	6.6	1.6725	16
2-chloronaphthalene	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-
2-Nitroaniline	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-
3-Nitroaniline	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-
4-bromophenyl phenyl ether	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-
4-Chlorophenyl phenyl ether	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-
4-Nitroaniline	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-
Aniline	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-
Azobenzene	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-
Benzyl Alcohol	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-
Benzyl Butyl Phthalate	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-
bis(2-Chloroethoxy)methane	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-
bis(2-Chloroethyl)ether	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-
Bis(2-Ethylhexyl) Adipate	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-
Bis(2-ethylhexyl) phthalate	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	1.1	-	< 15	-	-	-	-	< 1	-	-	-	-	< 1	-
Carbazole	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-
Chloroaniline, p-	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Diethyl Phthalate	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-
Dimethyl Phthalate	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-
Di-n-butyl phthalate	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1.5	-	-	-	-	< 1	-	-	-	-	< 1	-
Di-n-octyl phthalate	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-
Diphenylamine	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-
Hexachlorobutadiene	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	< 1	-
Hexachlorocyclopentadiene	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-
Hexachloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-
Isophorone	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-	-	-	-	-	-
ISOPROPYLTOLUENE, p-	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	< 1	-
Methylnaphthalene, 1-	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-
Methylnaphthalene, 2-	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-
N-Nitrosodi-n-Propylamine	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	T	µg/L	-	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	< 0.01	2.3	< 1	0.157	< 1	-	0.66	0.51	0.18	0.39	0.25	0.26	-	0.04	< 1	0.46
Acenaphthylene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	< 0.01	0.02	< 1	0.013	< 0.5	-	0.02	0.01	0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	< 0.01
Anthracene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	< 0.01	0.19	< 1	< 0.013	< 0.5	-	0.12	0.08	0.06	0.06	0.03	0.05	-	< 0.01	< 1	< 0.01
Benzo(a)anthracene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	< 0.01	0.02	< 1	< 0.015	< 0.5	-	0.04	0.03	< 0.01	0.02	0.01	0.01	-	< 0.01	< 1	< 0.01
Benzo(a)pyrene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	< 0.01	< 0.01	< 1	< 0.016	< 1	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	< 0.01
Benzo(b)fluoranthene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	< 0.01	< 0.01	< 1	< 0.01	0.02	-	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	< 0.01
Benzo(b+k)fluoranthene	T	µg/L	-	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	< 0.02	-	-	< 0.02	< 0.018	< 0.018	< 1	-	< 0.02	0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	< 0.02	-	-
Benzo(g,h,i)perylene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	< 0.01	0.01	< 1	< 0.011	< 0.5	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	0.01	< 1	< 0.01
Benzo(g,h,i)perylene + Indeno(1,2,3-c,d)pyrene	T	µg/L	-	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	< 0.02	-	-	0.02	< 0.022	< 0.022	< 1.5	-	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	0.02	-	-
Benzo(k)fluoranthene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	< 0.01	< 0.01	< 1	< 0.01	< 0.01	-	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	< 0.01
Chrysene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	< 0.01	0.02	< 1	< 0.011	< 0.5	-	0.04	0.04	< 0.01	0.01	< 0.01	< 0.01	-	< 0.01	< 1	< 0.01
Dibenz(a,h)anthracene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	< 0.01	0.01	< 1	< 0.01	< 0.5	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	< 0.01
Fluoranthene	T	µg/L	-	< 0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	< 0.01	0.24	< 1	0.266	< 0.5	-	0.54	0.42	0.09	0.3	0.19	0.19	-	0.06	< 1	0.4
Fluorene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	< 0.01	0.52	< 1	0.026	< 0.5	-	0.22	0.17	0.06	0.15	0.09	0.1	-	0.02	< 1	0.17
Indeno(1,2,3-c,d)pyrene	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	< 0.01	< 0.01	< 1	< 0.011	< 1	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	< 0.01
Naphthalene	T	µg/L	-	0.08	0.13	0.05	0.05	0.05	< 0.05	-	0.05	-	< 0.05	0.65	< 1	< 0.1	< 2	-	0.89	0.28	0.12	0.38	0.21	0.25	-	0.07	< 1	0.84
Phenanthrene	T	µg/L	-	< 0.01	0.02	0.02	0.01	< 0.01	0.02	-	0.01	-	< 0.01	2.6	< 1	< 0.011	0.8	-	1.1	0.29	0.17	0.62	0.39	0.42	-	0.09	< 1	0.75
Pyrene	T	µg/L	-	< 0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	0.0126	0.14	< 1	0.168	< 0.5	-	0.35	0.3	0.08	0.2	0.14	0.14	-	0.05	< 1	0.29
Benzo(a)pyrene (surrogate marker for PAH mixture)	T	µg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	-	< 0.01	< 0.016	< 0.016	< 1	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	-	-
PAH (Sum of 4)	T	µg/L	-	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	-	< 0.04	-	-	0.04	< 0.042	< 0.042	< 1.5	-	< 0.04	0.04	< 0.04	< 0.04	< 0.04	< 0.04	-	0.04	-	-
PAH (Sum of 16)	T	µg/L	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	< 0.2	-	-	6.8	1.645	0.63	1.5	-	3.9	2.2	0.78	2.1	1.3	1.4	-	0.34	-	2.9
Total PAH	T	µg/L	-	-	-	-	-	-	-	-	-	-	< 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7242	-
1,1,1,2-Tetrachloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
1,1,1,2-Tetrachloroethane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-
1,1,1-Trichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
1,1,1-Trichloroethane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
1,1,2,2-Tetrachloroethane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 4	-	-	-	-	< 1	-	-	-	-	-	-
1,1,2-Trichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
1,1,2-Trichloroethane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-

AECOM

Client: Net Zero Teesside F
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14
			Date	11/04/2022	07/07/2022	22/09/2022	13/12/2022	20/03/2023	21/06/2023	26/09/2023	27/09/2023	16/01/2024	23/10/2024	23/10/2024	10/08/2021	13/10/2021	16/11/2021	11/04/2022	11/04/2022	07/07/2022	22/09/2022	14/12/2022	20/03/2023	20/06/2023	27/09/2023	27/09/2023	17/01/2024	17/07/2024	21/10/2024
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																										
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	73	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
1,1-Dichloroethane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-
1,1-Dichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
1,1-Dichloroethene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-
1,1-dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
1,1-dichloropropene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-
1,2,3-trichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
1,2,3-trichloropropane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-
1,2,4-Trimethylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
1,2,4-Trimethylbenzene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-
1,2-dibromo-3-chloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
1,2-dibromo-3-chloropropane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-
1,2-Dibromoethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
1,2-Dibromoethane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-
1,2-Dichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
1,2-Dichloroethane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-
1,2-Dichloroethene	T	µg/L	-	-	-	-	< 2	-	-	-	-	-	-	-	< 2	-	< 6	-	-	-	-	< 2	-	-	-	-	-	-
1,2-Dichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
1,2-Dichloropropane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-
1,3,5-Trimethylbenzene (Mesitylene)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
1,3,5-Trimethylbenzene (Mesitylene)	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-
1,3-Dichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
1,3-Dichloropropane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-
1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
2,2-Dichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 2	-
2,2-Dichloropropane	T	ug/L	-	-	-	-	< 2	-	-	-	-	-	-	-	< 2	-	< 1	-	-	-	-	< 2	-	-	-	-	-	-
2-chlorotoluene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
2-chlorotoluene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-
4-chlorotoluene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
4-chlorotoluene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-
Benzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1
Benzene	T	ug/L	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	-	-
Bromobenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Bromobenzene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-
Bromodichloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 4	-
Bromodichloromethane	T	ug/L	-	-	-	-	< 4	-	-	-	-	-	-	-	< 4	-	< 2	-	-	-	-	< 4	-	-	-	-	-	-
Bromoform	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Bromoform	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-
Bromomethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Bromomethane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	-	-
Carbon tetrachloride	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Carbon tetrachloride	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-
Chlorobromomethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 4	-
Chlorobromomethane	T	ug/L	-	-	-	-	< 4	-	-	-	-	-	-	-	< 4	-	< 2	-	-	-	-	< 4	-	-	-	-	-	-
Chloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Chloroethane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-
Chloroform	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Chloroform	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-
Chloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Chloromethane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-
cis-1,2-dichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
cis-1,2-dichloroethene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-
cis-1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-
Dibromochloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Dibromochloromethane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-
Dibromomethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Dibromomethane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-
Dichlorodifluoromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Dichlorodifluoromethane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-
Dichloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 27	-
Dichloromethane	T	ug/L	-	-	-	-	< 27	-	-	-	-	-	-	-	< 27	-	< 3	-	-	-	-	< 27	-	-	-	-	-	-
Ethylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1
Ethylbenzene	T	ug/L	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	-	-
Isopropylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Isopropylbenzene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-
Methyl tertiary butyl ether	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Methyl tertiary butyl ether	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	< 1	< 1	< 1	< 0.1	-	-	-	-	< 1	-	-	-	-	-	-
n-Butylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
n-Butylbenzene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-
n-Propylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-

AECOM

Client: Net Zero Teesside F
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

			Location	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14	MS\BH14
			Date	11/04/2022	07/07/2022	22/09/2022	13/12/2022	20/03/2023	21/06/2023	26/09/2023	27/09/2023	16/01/2024	23/10/2024	23/10/2024	10/08/2021	13/10/2021	16/11/2021	11/04/2022	11/04/2022	07/07/2022	22/09/2022	14/12/2022	20/03/2023	20/06/2023	27/09/2023	27/09/2023	17/01/2024	17/07/2024	21/10/2024
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
PAH Surrogate % Recovery	T	%	-	-	-	-	-	-	-	-	-	-	-	-	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-
sec-Butylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
sec-Butylbenzene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-
Styrene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Styrene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-
tert-Butylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
tert-Butylbenzene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-
Tetrachloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Tetrachloroethene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-
Toluene	T	µg/L	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	< 1
Toluene	T	ug/L	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	< 5	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	-	-
trans-1,2-Dichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
trans-1,2-Dichloroethene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
trans-1,3-Dichloropropene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-
Trichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Trichloroethene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-
Trichlorofluoromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Trichlorofluoromethane	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-
Vinyl Chloride	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
Vinyl Chloride	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 0.1	-	-	-	-	< 1	-	-	-	-	-	-	-
m-& p-Xylenes	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 2	-
m-& p-Xylenes	T	ug/L	-	-	-	-	< 2	-	-	-	-	-	-	-	< 2	-	< 2	-	-	-	-	< 2	-	-	-	-	-	-	-
m/p/o-Xylene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 3	-	-	-	-	-	-	-	-	-	-	-	< 1
m/p/o-Xylene	T	ug/L	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	-	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	-	-
o-Xylene	T	µg/L	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
o-Xylene	T	ug/L	-	-	-	-	< 1	-	-	-	-	-	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	-	-	-
Sum of Trihalomethanes	T	µg/L	-	-	-	-	< 7	-	-	-	-	-	-	-	< 7	-	< 8	-	-	-	-	< 7	-	-	-	-	-	-	-
Sum of Tetrachloroethene + Trichloroethene	T	µg/L	-	-	-	-	< 2	-	-	-	-	-	-	-	< 2	-	< 6	-	-	-	-	< 2	-	-	-	-	-	-	-
Volatile TIC	T	none	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
TPH >C5-C10	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH >C10-C40	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	53	< 10	120	-	-	-	-	-	-	-	-	-	-	-	-	-
Aliphatics >C5-C6	T	µg/L	-	9.3	5.6	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	22	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1
Aliphatics >C5-C35	T	µg/L	-	< 10	13	< 10	-	-	-	-	-	-	-	< 10	< 10	< 10	22	-	< 10	< 10	< 10	-	-	-	-	-	-	-
Aliphatics >C6-C8	T	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1
Aliphatics >C8-C10	T	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1
Aliphatics >C10-C12	T	µg/L	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1
Aliphatics >C10-C44	T	µg/L	-	-	-	-	< 1	< 1	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	< 1	< 1	< 1	-	< 1	9.0025	< 1
Aliphatics >C12-C16	T	µg/L	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	2.3726	< 1
Aliphatics >C16-C21	T	µg/L	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	6.0961	< 1
Aliphatics >C16-C35	T	µg/L	-	< 2	8.1	< 2	< 2	< 2	< 2	-	< 2	-	-	< 2	< 2	< 2	< 2	-	< 2	< 2	< 2	< 2	< 2	< 2	-	< 2	-	-
Aliphatics >C21-C35	T	µg/L	-	< 1	7.1	< 1	< 1	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1
Aliphatics >C35-C44	T	µg/L	-	-	-	-	< 1	< 1	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	< 1	< 1	< 1	-	< 1	< 1	< 1
Aromatics >C5-C7	T	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1
Aromatics >C5-C35	T	µg/L	-	42	< 10	< 10	-	-	-	-	-	-	-	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	-	-	-	-	-	-	-
Aromatics >C7-C8	T	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1
Aromatics >C8-C10	T	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	1.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1
Aromatics >C10-C12	T	µg/L	-	2.6	< 1	< 1	< 1	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1
Aromatics >C10-C44	T	µg/L	-	-	-	-	< 1	< 1	46	-	< 1	-	< 1	-	-	-	-	-	-	-	-	< 1	21	< 1	-	< 1	< 1	< 1
Aromatics >C12-C16	T	µg/L	-	2.9	2.9	< 1	< 1	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	4.4	< 1	-	< 1	< 1	< 1
Aromatics >C16-C21	T	µg/L	-	6.6	< 1	< 1	< 1	< 1	< 1	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	< 1	5.1	< 1	< 1	12	< 1	-	< 1	< 1	< 1
Aromatics >C21-C35	T	µg/L	-	30	< 1	< 1	< 1	< 1	46	-	< 1	-	< 1	< 1	< 1	< 1	< 1	-	3.3	< 1	< 1	< 1	3.7	< 1	-	< 1	< 1	< 1
Aromatics >C35-C44	T	µg/L	-	-	-	-	< 1	< 1	< 1	-	< 1	-	< 1	-	-	-	-	-	-	-	-	< 1	< 1	< 1	-	< 1	< 1	< 1
Aliphatics & Aromatics >C5-C35	T	µg/L	-	52	17	< 10	-	-	-	-	-	-	-	< 10	< 10	< 10	23	-	< 10	< 10	< 10	-	-	-	-	-	-	-
Aliphatics & Aromatics >C10-C44	T	µg/L	-	-	-	-	< 1	< 1	46	-	< 1	-	< 1	-	-	-	-	-	-	-	-	< 1	21	< 1	-	< 1	9.0025	< 1

AECOM

Client: Net Zero Teesside F
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

		Location	MS\BH14	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	S2-BHA04D	S2-BHA04D
		Date	21/10/2024	13/08/2021	13/10/2021	16/11/2021	12/04/2022	12/04/2022	07/07/2022	22/09/2022	15/12/2022	21/03/2023	20/06/2023	27/09/2023	27/09/2023	17/01/2024	17/07/2024	23/10/2024	23/10/2024	05/11/2024	05/11/2024
		Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																			
PAH Surrogate % Recovery	T	%	-	-	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SVOC TICs	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Dibutyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	< 1	-	-
Tributyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	< 1	-	-
Triphenyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	< 1	-	-
Dibenzofuran	T	µg/L	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
PCB 12	T	ug/L	-	-	-	-	-	-	-	< 1	< 1	-	-	-	-	-	-	-	-	-	-
PCB 52	T	µg/L	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-
PCB 77	T	µg/L	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-
PCB 81	T	µg/L	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-
PCB 101	T	µg/L	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-
PCB 105	T	µg/L	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-
PCB 114	T	µg/L	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-
PCB 126	T	µg/L	-	-	-	-	-	-	-	< 0.5	< 0.5	-	-	-	-	-	-	-	-	-	-
PCB 138	T	µg/L	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-
PCB 153	T	µg/L	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-
PCB 156	T	µg/L	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-
PCB 157	T	µg/L	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-
PCB 167	T	µg/L	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-
PCB 169	T	µg/L	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-
PCB 180	T	µg/L	-	-	-	-	-	-	-	< 0.2	< 0.2	-	-	-	-	-	-	-	-	-	-
PCB 189	T	µg/L	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-
PCB Coelute 28/31	T	ug/L	-	-	-	-	-	-	-	< 0.3	< 0.3	-	-	-	-	-	-	-	-	-	-
PCB Coelute 118/123	T	ug/L	-	-	-	-	-	-	-	< 0.6	< 0.6	-	-	-	-	-	-	-	-	-	-
Total 7 PCB	T	µg/L	-	-	-	-	-	-	-	< 1	< 1	-	-	-	-	-	-	-	-	-	-
2,3,6-TBA	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-T	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-D	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DB	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methyl-4-Chlorophenoxy Butanoic Acid	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Actril (loxynil)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bentazon	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoxynil	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clopyralid	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dicamba	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorprop	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluroxypyr	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mecoprop	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Picloram	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silvex	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Triclopyr	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinitrobenzene, p-	T	µg/L	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
1,3-Dinitrobenzene	T	µg/L	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Dinitrotoluene, 2,4-	T	µg/L	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Dinitrotoluene, 2,6-	T	µg/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Nitrobenzene	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	T	µg/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
1,2-Dichlorobenzene	T	µg/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	< 1	-	-	8	-
1,3-Dichlorobenzene	T	µg/L	-	-	< 2	-	< 3	-	-	-	-	< 2	-	-	-	-	< 2	-	-	8	-
1,4-Dichlorobenzene	T	µg/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	< 1	-	-	8	-
Trichlorobenzene	T	µg/L	-	-	< 2	-	< 4	-	-	-	-	< 2	-	-	-	-	-	-	-	-	-
1,2,3-Trichlorobenzene	T	µg/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	< 1	-	-	10	-
1,2,4-Trichlorobenzene	T	µg/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	< 1	-	-	10	-
Hexachlorobenzene	T	µg/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
2,3,4,6-Tetrachlorophenol	T	µg/L	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
2,3,5,6-Tetrachlorophenol	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	< 1	-
2,3,5,6-Tetrachlorophenol	T	ug/L	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	T	µg/L	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
2,4,6-Trichlorophenol	T	µg/L	-	-	< 1	-	< 1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 1	-	< 0.1	< 0.1	-
2,4-Dichlorophenol	T	µg/L	-	-	< 1	-	< 0.5	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 1	-	< 0.1	< 0.1	-
2,4-Dimethylphenol	T	µg/L	-	-	< 1	-	< 1	-	< 0.1	< 0.1	0.13	< 0.1	< 0.1	< 0.1	-	< 0.1	< 1	-	< 0.1	< 0.1	-
2,6-Dichlorophenol	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	-	< 0.1	< 0.1	-
2,6-Dichlorophenol	T	ug/L	-	-	-	-	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	-	-	-	-	-
2,6-Dimethylphenol	T	µg/L	-	-	-	-	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	< 0.1	< 0.1	-
2-Chlorophenol	T	µg/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
2-methylphenol	T	µg/L	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
2-Nitrophenol	T	µg/L	-	-	-	-	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/4-Methylphenol (m/p-cresol)	T	µg/L	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
4-Chloro-3-methylphenol	T	µg/L	-	-	< 1	-	< 0.5	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.15	-	< 0.1	< 1	-	< 0.1	< 0.1	-

Client: Net Zero Teesside F
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

		Location	MS\BH14	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	S2-BHA04D	S2-BHA04D
		Date	21/10/2024	13/08/2021	13/10/2021	16/11/2021	12/04/2022	12/04/2022	07/07/2022	22/09/2022	15/12/2022	21/03/2023	20/06/2023	27/09/2023	27/09/2023	17/01/2024	17/07/2024	23/10/2024	23/10/2024	05/11/2024	05/11/2024
		Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																			
PAH Surrogate % Recovery	T	%	-	-	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Methylphenol	T	µg/L	-	-	-	-	< 1	-	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	< 0.1	< 0.1	-
4-Nitrophenol	T	µg/L	-	-	< 1	-	< 10	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Pentachlorophenol	T	µg/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Phenol	T	µg/L	-	-	< 1	-	< 1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 1	-	< 0.1	< 0.1	-
Total Monohydric Phenols (S) Corrected	T	µg/L	-	< 100	< 100	< 100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	D	mg/L	-	-	-	-	3.3	-	6.5	4.3	6	4.8	7.4	6.8	-	4.8	-	-	-	8	-
Dissolved Organic Carbon	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.75	-	8.2	-	-
Total Organic Carbon	T	mg/L	-	4.6	3	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Colour	N	none	Clear	-	-	-	-	-	-	-	-	-	-	-	Cloudy	-	-	Clear	-	-	Clear
Density	N	g/cm3	-	-	-	-	-	1.000518	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical Conductivity (Lab)	T	µS/cm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2178.31	-	1999.12	2100	-
Electrical Conductivity (Lab)	T	uS/cm	-	-	-	-	1970	-	1890	1930	1980	2210	2130	1890	-	2120	-	-	-	-	-
pH	T	pH units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.33	-	10.45	-	-
Solids, Suspended at 105 C	T	mg/L	-	-	-	-	-	-	-	-	-	34	23	15	-	15	-	-	-	20	-
Suspended solids (NEN-EN 872)	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 5	-	< 5	-	-
Alkalinity, Total (as CaCO3)	T	mg/L	-	-	-	-	-	-	-	-	-	60	69	83	-	77	56	-	-	-	-
Ammoniacal Nitrogen as N	T	µg/L	-	1300	2100	1900	2000	-	1700	2300	2200	1800	2400	5100	-	4900	2924.7	-	1310.8	820	-
Ammoniacal Nitrogen as NH3	T	mg/L	-	1.6	2.6	2.2	2.5	-	2.1	2.7	2.7	2.1	2.9	6.2	-	5.9	3.5515	-	1.5917	1	-
Carbonate	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	-
Chloride	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87976.1	-	98691.8	-	-
Chloride	T	µg/L	-	-	-	-	-	-	-	76000	96000	62000	77000	100000	-	73000	-	-	-	270000	-
Cyanide	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	12.66	-	-
Cyanide	T	µg/L	-	< 40	15	11	13	-	6.2	10	16	13	14	9.6	-	9.6	-	-	-	-	-
Cyanide (free)	T	µg/L	-	< 20	0.5	0.2	0.7	-	< 0.1	< 0.1	0.6	0.6	1.8	2.2	-	0.3	0.6	-	0.15	0.4	-
Cyanide, Total Low Level	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500	-
Cyanides-complex	T	µg/L	-	-	-	-	-	-	-	-	-	12	12	7.4	-	9.3	-	-	12.51	500	-
Elemental Sulphur	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 84	-
Elemental Sulphur	T	ug/L	-	-	-	-	-	-	-	-	-	< 84	< 84	< 84	-	< 84	-	-	-	-	-
Fluoride	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	853.1	-	1050	-	-
Fluoride	T	µg/L	-	-	-	-	-	-	-	< 100	< 100	< 100	< 100	< 100	-	< 100	-	-	-	2100	-
Hardness as CaCO3	T	mg/L	-	1040	1010	2230	-	-	-	-	-	885	906	776	-	915	-	-	-	698	-
Ion balance	T	%	-	-	-	-	-	-	-	-	-	116	89	103	-	101	91.1433	-	110.7585	103	-
Nitrate (as N)	T	mg/L	-	0.39	-	-	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	0.13	1	-	< 0.1	0.1586	-	0.6474	< 0.1	-
Nitrate (as NO3-)	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	734.2	-	925	-	-
Nitrate (as NO3-)	T	µg/L	-	1726.374	190	< 100	< 442.66	-	< 442.66	< 442.66	< 442.66	< 442.66	575.458	4426.6	-	< 442.66	-	-	-	400	-
Nitrite	T	µg/L	-	< 114.954	3700	420	< 114.954	-	< 114.954	< 114.954	< 114.954	< 114.954	< 114.954	< 114.954	-	< 114.954	-	-	-	-	-
Nitrite (as N)	T	mg/L	-	< 0.035	-	-	< 0.035	-	< 0.035	< 0.035	< 0.035	< 0.035	< 0.035	< 0.035	-	-	< 0.035	-	3.306	< 0.035	-
Nitrite (as N)	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	< 35	-	-	-	-	-
Ortho Phosphate as P	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.01	-	< 0.01	-	-
Phosphate (as P)	T	mg/L	-	-	-	-	-	-	-	< 0.01	0.11	-	-	-	-	-	-	-	-	-	-
Phosphorous, Total Orthophosphate (As P)	T	mg/L	-	-	-	-	-	-	-	-	-	< 0.01	0.02	< 0.01	-	< 0.01	-	-	-	0.03	-
Silica as SiO2	T	mg/L	-	-	-	-	-	-	-	-	-	12	6.7	5.8	-	14	14.355	-	-	6.7	-
Sulphate As SO4	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	942335	-	-	-	-
Sulphate As SO4	T	µg/L	-	130000	1100000	1300000	-	-	-	-	-	1100000	840000	850000	-	990000	-	-	-	-	-
Sulphide	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	439.1189	-	< 10	-	-
Sulphide	T	ug/L	-	-	-	-	-	-	-	-	-	36	26	500	-	100	-	-	-	-	-
Sulphur as S	T	mg/L	-	-	-	-	-	-	-	-	-	440	420	550	-	6500	-	-	-	270	-
Sulphur (Free)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 84	-	< 84	-	-
Thiocyanate	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	159.11	-	194.77	-	-
Thiocyanate	T	µg/L	-	170	270	280	140	-	260	260	< 20	190	280	250	-	220	-	-	-	< 20	-
Total Hardness	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	996.1428	-	712.2035	-	-
Sulphur	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	484304	-	145110	-	-
Aluminium	D	µg/L	-	-	-	-	-	-	-	41	54	58	51	36	-	36	24.2695	-	147.2507	13	-
Antimony	D	µg/L	-	-	-	-	-	-	-	-	-	0.25	0.41	0.17	-	0.27	0.1824	-	0.5425	0.52	-
Arsenic	D	µg/L	-	11	10	8.2	10	-	11	15	15	15	15	18	-	18	16.833	-	6.0819	7.8	-
Barium	D	µg/L	-	-	-	-	-	-	-	-	-	51	74	66	-	71	101.9205	-	62.9463	99	-
Beryllium	D	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	D	µg/L	-	76	100	64	85	-	88	88	96	70	78	67	-	75	98.7073	-	102.9609	590	-
Cadmium	D	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	-	< 0.03	< 0.03	-
Calcium	D	µg/L	-	-	-	-	-	-	-	-	-	350000	360000	310000	-	370000	398899.4	-	-	-	-
Trivalent Chromium (CrIII)	D	µg/L	-	< 1	< 1	< 1	< 1	-	< 1	6.7	< 1	3.4	< 1	< 1	-	< 1	< 1	-	< 1	< 1	-
Hexavalent Chromium (CrVI)	T	µg/L	-	< 7	< 7	< 7	< 7	-	< 7	< 7	< 7	< 7	< 7	< 7	-	< 7	< 7	-	< 7	< 7	-
Copper	D	µg/L	-	< 0.4	< 0.4	< 0.4	< 0.4	-	< 0.4	0.6	0.4	< 0.4	< 0.4	< 0.4	-	< 0.4	< 0.4	-	4.1325	< 0.4	-
Iron	D	µg/L	-	8.6	11	11	12	-	19	18	6.1	77	22	9.9	-	8.2	8.1276	-	7.7226	260	-
Lead	D	µg/L	-	< 0.09	< 0.09	< 0.09	< 0.09	-	0.15	< 0.09	< 0.09	0.09	0.14	< 0.09	-	< 0.09	< 0.09	-	< 0.09	< 0.09	-
Magnesium	D	µg/L	-	-	-	-	-	-	-	-	-	60	370	1000	-	60	22.1	-	-	-	-
Manganese	D	µg/L	-	-	-	-	-	-	-	4.6	< 0.22	2.1	6.5	3.2	-	0.49	7.4788	-	1.2983	100	-
Mercury	D	µg/L	-	0.1	0.16	0.17	0.15	-	0.15	0.16	0.2	0.13	0.16	0.12	-	0.13	0.1107	-	0.1496	0.03	-
Molybdenum	D	µg/L	-	-	-	-	-	-	-	36	40	36	40	39	-	39	47.418	-	47.881	200	-
Nickel	D	µg/L	-	0.7	< 0.5	0.6	< 0.5	-	1.1	2.8	0.5	2.3	1.3	1.3	-	1.1	0.8837	-	1.1811	1.3	-

AECOM

Client: Net Zero Teesside F
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

		Location	MS\BH14	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	S2-BHA04D	S2-BHA04D
		Date	21/10/2024	13/08/2021	13/10/2021	16/11/2021	12/04/2022	12/04/2022	07/07/2022	22/09/2022	15/12/2022	21/03/2023	20/06/2023	27/09/2023	27/09/2023	17/01/2024	17/07/2024	23/10/2024	23/10/2024	05/11/2024	05/11/2024
		Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																			
PAH Surrogate % Recovery	T	%	-	-	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	D	µg/L	-	-	-	-	-	-	-	29	37	-	-	-	-	-	33.3297	-	42.0208	26	-
Potassium	D	µg/L	-	-	-	-	-	-	-	-	-	96000	94000	95000	-	94000	94190.7	-	-	-	-
Selenium	D	µg/L	-	9.2	5.1	2	4.9	-	4.1	3.2	6.3	9.6	7.6	5	-	5.7	4.0769	-	13.5564	0.61	-
Sodium	D	µg/L	-	-	-	-	-	-	-	-	-	57000	67000	77000	-	64000	64969.2	-	-	-	-
Tin	D	µg/L	-	-	-	-	-	-	-	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	-	1.3	< 0.4	-	< 0.4	< 0.4	-
Titanium	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.3	-	< 0.3	< 0.3	-
Titanium	D	ug/L	-	-	-	-	-	-	-	-	-	0.7	< 0.3	< 0.3	-	< 0.3	-	-	-	-	-
Vanadium	D	µg/L	-	1.1	< 0.6	0.6	0.9	-	0.7	0.8	1	1	8.8	33	-	54	38.2935	-	137.3835	11	-
Zinc	D	µg/L	-	4.4	< 1.3	< 1.3	4.6	-	2.5	16	4.6	2.9	3.2	96	-	4.6	< 1.3	-	22.5975	18	-
2-chloronaphthalene	T	µg/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
2-Nitroaniline	T	µg/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
3-Nitroaniline	T	µg/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
4-bromophenyl phenyl ether	T	µg/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
4-Chlorophenyl phenyl ether	T	µg/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
4-Nitroaniline	T	µg/L	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Aniline	T	µg/L	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Azobenzene	T	µg/L	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Benzyl Alcohol	T	µg/L	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Benzyl Butyl Phthalate	T	µg/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
bis(2-Chloroethoxy)methane	T	µg/L	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
bis(2-Chloroethyl)ether	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	T	µg/L	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Bis(2-Ethylhexyl) Adipate	T	µg/L	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Bis(2-ethylhexyl) phthalate	T	µg/L	-	-	< 1	-	< 5	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Carbazole	T	µg/L	-	-	< 1	-	< 0.5	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Chloroaniline, p-	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl Phthalate	T	µg/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Dimethyl Phthalate	T	µg/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Di-n-butyl phthalate	T	µg/L	-	-	< 1	-	< 1.5	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Di-n-octyl phthalate	T	µg/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Diphenylamine	T	µg/L	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Hexachlorobutadiene	T	µg/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	< 1	-	-	10	-
Hexachlorocyclopentadiene	T	µg/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Hexachloroethane	T	µg/L	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isophorone	T	µg/L	-	-	-	-	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ISOPROPYLTOLUENE, p-	T	µg/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	< 1	-	-	8	-
Methylnaphthalene, 1-	T	µg/L	-	-	< 1	-	-	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
Methylnaphthalene, 2-	T	µg/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	< 1	-	-	< 1	-
N-Nitrosodi-n-Propylamine	T	µg/L	-	-	-	-	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	T	µg/L	-	0.51	< 1	0.074	1	-	1	0.71	0.84	0.96	1.5	1.6	-	1.9	1.7499	-	0.0461	0.02	-
Acenaphthylene	T	µg/L	-	0.01	< 1	< 0.013	< 0.5	-	0.02	0.01	0.02	0.03	0.03	0.03	-	0.06	< 1	-	0.1126	< 0.01	-
Anthracene	T	µg/L	-	< 0.01	< 1	< 0.013	< 0.5	-	0.01	< 0.01	0.01	0.01	< 0.01	< 0.01	-	0.01	< 1	-	0.044	< 0.01	-
Benzo(a)anthracene	T	µg/L	-	< 0.01	< 1	< 0.015	< 0.5	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	0.03	< 1	-	0.0207	< 0.01	-
Benzo(a)pyrene	T	µg/L	-	< 0.01	< 1	< 0.016	< 1	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	0.02	< 1	-	< 0.01	< 0.01	-
Benzo(b)fluoranthene	T	µg/L	-	< 0.01	< 1	< 0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	0.05	< 1	-	< 0.01	< 0.01	-
Benzo(b+k)fluoranthene	T	µg/L	-	< 0.02	< 0.018	< 0.018	< 1	-	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	0.07	-	-	-	-	-
Benzo(g,h,i)perylene	T	µg/L	-	< 0.01	< 1	< 0.011	< 0.5	-	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	0.04	< 1	-	0.0178	< 0.01	-
Benzo(g,h,i)perylene + Indeno(1,2,3-c,d)pyrene	T	µg/L	-	< 0.02	< 0.022	< 0.022	< 1.5	-	< 0.02	0.02	< 0.02	< 0.02	< 0.02	< 0.02	-	0.08	-	-	-	-	-
Benzo(k)fluoranthene	T	µg/L	-	< 0.01	< 1	< 0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	0.02	< 1	-	< 0.01	< 0.01	-
Chrysene	T	µg/L	-	< 0.01	< 1	< 0.011	< 0.5	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	0.02	< 1	-	0.0126	< 0.01	-
Dibenz(a,h)anthracene	T	µg/L	-	< 0.01	< 1	< 0.01	< 0.5	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 1	-	< 0.01	< 0.01	-
Fluoranthene	T	µg/L	-	< 0.01	< 1	< 0.012	< 0.5	-	< 0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01	-	0.08	< 1	-	0.0561	< 0.01	-
Fluorene	T	µg/L	-	0.07	< 1	< 0.014	< 0.5	-	0.13	0.1	0.13	0.2	0.21	0.24	-	0.31	< 1	-	0.0352	0.01	-
Indeno(1,2,3-c,d)pyrene	T	µg/L	-	< 0.01	< 1	< 0.011	< 1	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	0.04	< 1	-	0.0102	< 0.01	-
Naphthalene	T	µg/L	-	4.9	5.1	< 0.1	6	-	6.6	5	5.1	6.5	2.4	6.5	-	5.3	3.7108	-	< 0.05	0.07	-
Phenanthrene	T	µg/L	-	< 0.01	< 1	0.011	< 0.5	-	0.02	0.03	0.02	0.01	0.02	0.02	-	0.07	< 1	-	0.0242	0.03	-
Pyrene	T	µg/L	-	0.01	< 1	< 0.013	< 0.5	-	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	0.07	< 1	-	0.0425	0.01	-
Benzo(a)pyrene (surrogate marker for PAH mixture)	T	µg/L	-	< 0.01	< 0.016	< 0.016	< 1	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	0.02	-	-	-	-	-
PAH (Sum of 4)	T	µg/L	-	< 0.04	< 0.042	< 0.042	< 1.5	-	< 0.04	0.04	< 0.04	< 0.04	< 0.04	< 0.04	-	0.15	-	-	-	-	-
PAH (Sum of 16)	T	µg/L	-	5.6	6.231	< 0.195	3.2	-	7.8	5.9	6.2	7.7	4.2	8.4	-	8	-	-	-	< 0.2	-
Total PAH	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8791	-	0.4219	-	-
1,1,1,2-Tetrachloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	7	-
1,1,1,2-Tetrachloroethane	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	4	-
1,1,1-Trichloroethane	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	7	-
1,1,2,2-Tetrachloroethane	T	ug/L	-	-	< 1	-	< 4	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	6	-
1,1,2-Trichloroethane	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-

AECOM

Client: Net Zero Teesside F
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

		Location	MS\BH14	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	S2-BHA04D	S2-BHA04D
		Date	21/10/2024	13/08/2021	13/10/2021	16/11/2021	12/04/2022	12/04/2022	07/07/2022	22/09/2022	15/12/2022	21/03/2023	20/06/2023	27/09/2023	27/09/2023	17/01/2024	17/07/2024	23/10/2024	23/10/2024	05/11/2024	05/11/2024
		Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																			
PAH Surrogate % Recovery	T	%	-	-	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	3	-
1,1-Dichloroethane	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	2	-
1,1-Dichloroethene	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,1-dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	4	-
1,1-dichloropropene	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,2,3-trichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	7	-
1,2,3-trichloropropane	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	8	-
1,2,4-Trimethylbenzene	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,2-dibromo-3-chloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	9	-
1,2-dibromo-3-chloropropane	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	6	-
1,2-Dibromoethane	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	4	-
1,2-Dichloroethane	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,2-Dichloroethene	T	µg/L	-	-	< 2	-	< 6	-	-	-	-	< 2	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	5	-
1,2-Dichloropropane	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene (Mesitylene)	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	8	-
1,3,5-Trimethylbenzene (Mesitylene)	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	6	-
1,3-Dichloropropane	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	-	-
2,2-Dichloropropane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 2	-	-	3	-
2,2-Dichloropropane	T	ug/L	-	-	< 2	-	< 1	-	-	-	-	< 2	-	-	-	-	-	-	-	-	-
2-chlorotoluene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	8	-
2-chlorotoluene	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
4-chlorotoluene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	8	-
4-chlorotoluene	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Benzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	< 1	4	-
Benzene	T	ug/L	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	-	-	-	-	-
Bromobenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	7	-
Bromobenzene	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Bromodichloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 4	-	-	< 4	-
Bromodichloromethane	T	ug/L	-	-	< 4	-	< 2	-	-	-	-	< 4	-	-	-	-	-	-	-	-	-
Bromoform	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	7	-
Bromoform	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Bromomethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	< 1	-
Bromomethane	T	ug/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	4	-
Carbon tetrachloride	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Chlorobromomethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 4	-	-	< 4	-
Chlorobromomethane	T	ug/L	-	-	< 4	-	< 2	-	-	-	-	< 4	-	-	-	-	-	-	-	-	-
Chloroethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	2	-
Chloroethane	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Chloroform	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	< 1	-
Chloroform	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Chloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	1	-
Chloromethane	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
cis-1,2-dichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	3	-
cis-1,2-dichloroethene	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	5	-
cis-1,3-Dichloropropene	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Dibromochloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	< 1	-
Dibromochloromethane	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Dibromomethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	< 1	-
Dibromomethane	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	< 1	-
Dichlorodifluoromethane	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Dichloromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 27	-	-	< 27	-
Dichloromethane	T	ug/L	-	-	< 27	-	< 3	-	-	-	-	< 27	-	-	-	-	-	-	-	-	-
Ethylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	< 1	7	-
Ethylbenzene	T	ug/L	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	-	-	-	-	-
Isopropylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	< 1	-
Isopropylbenzene	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Methyl tertiary butyl ether	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	< 1	-
Methyl tertiary butyl ether	T	ug/L	-	< 1	< 1	< 1	< 0.1	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
n-Butylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	9	-
n-Butylbenzene	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
n-Propylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	7	-

AECOM

Client: Net Zero Teesside F
Project: Net Zero Teesside
Table: Groundwater Analyti
Analyte Group: All
Date Range: 10/08/2021

		Location	MS\BH14	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	S2-BHA04D	S2-BHA04D
		Date	21/10/2024	13/08/2021	13/10/2021	16/11/2021	12/04/2022	12/04/2022	07/07/2022	22/09/2022	15/12/2022	21/03/2023	20/06/2023	27/09/2023	27/09/2023	17/01/2024	17/07/2024	23/10/2024	23/10/2024	05/11/2024	05/11/2024
		Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																			
PAH Surrogate % Recovery	T	%	-	-	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
sec-Butylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	8	-
sec-Butylbenzene	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Styrene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	7	-
Styrene	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
tert-Butylbenzene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	8	-
tert-Butylbenzene	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Tetrachloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	6	-
Tetrachloroethene	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Toluene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	< 1	5	-
Toluene	T	ug/L	-	< 1	< 1	< 1	< 5	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	-	-	-	-	-
trans-1,2-Dichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	3	-
trans-1,2-Dichloroethene	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	6	-
trans-1,3-Dichloropropene	T	ug/L	-	-	< 1	-	< 2	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Trichloroethene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	< 1	-
Trichloroethene	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	< 1	-
Trichlorofluoromethane	T	ug/L	-	-	< 1	-	< 3	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Vinyl Chloride	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	-	1	-
Vinyl Chloride	T	ug/L	-	-	< 1	-	< 0.1	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
m-& p-Xylenes	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 2	-	-	7	-
m-& p-Xylenes	T	ug/L	-	-	< 2	-	< 2	-	-	-	-	< 2	-	-	-	-	-	-	-	-	-
m/p/o-Xylene	T	µg/L	-	-	-	-	< 3	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-
m/p/o-Xylene	T	ug/L	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	-	-	-	-	-
o-Xylene	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1	-	< 1	7	-
o-Xylene	T	ug/L	-	-	< 1	-	< 1	-	-	-	-	< 1	-	-	-	-	-	-	-	-	-
Sum of Trihalomethanes	T	µg/L	-	-	< 7	-	< 8	-	-	-	-	< 7	-	-	-	-	-	-	-	-	-
Sum of Tetrachloroethene + Trichloroethene	T	µg/L	-	-	< 2	-	< 6	-	-	-	-	< 2	-	-	-	-	-	-	-	-	-
Volatile TIC	T	none	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
TPH >C5-C10	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH >C10-C40	T	µg/L	-	130	< 10	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aliphatics >C5-C6	T	µg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	4.7	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	< 0.1	< 0.1	-
Aliphatics >C5-C35	T	µg/L	-	32	< 10	< 10	< 10	-	< 10	< 10	< 10	-	-	-	-	-	-	-	-	-	-
Aliphatics >C6-C8	T	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	-
Aliphatics >C8-C10	T	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	-
Aliphatics >C10-C12	T	µg/L	-	2.4	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	-	< 1	< 1	-
Aliphatics >C10-C44	T	µg/L	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	< 1	-
Aliphatics >C12-C16	T	µg/L	-	1.6	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	-	< 1	< 1	-
Aliphatics >C16-C21	T	µg/L	-	27	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	-	< 1	< 1	-
Aliphatics >C16-C35	T	µg/L	-	28	< 2	< 2	< 2	-	< 2	< 2	< 2	< 2	< 2	< 2	-	< 2	-	-	-	-	-
Aliphatics >C21-C35	T	µg/L	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	< 1	< 1	-	< 1	< 1	-	< 1	< 1	-
Aliphatics >C35-C44	T	µg/L	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	< 1	-
Aromatics >C5-C7	T	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	-
Aromatics >C5-C35	T	µg/L	-	< 10	< 10	< 10	16	-	< 10	40	< 10	-	-	-	-	-	-	-	-	-	-
Aromatics >C7-C8	T	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	-
Aromatics >C8-C10	T	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	-
Aromatics >C10-C12	T	µg/L	-	< 1	< 1	< 1	9.4	-	3.1	4.9	4.6	< 1	2.1	< 1	-	< 1	< 1	-	< 1	< 1	-
Aromatics >C10-C44	T	µg/L	-	-	-	-	-	-	-	-	-	< 1	12	< 1	-	< 1	< 1	-	< 1	< 1	-
Aromatics >C12-C16	T	µg/L	-	< 1	< 1	< 1	5.6	-	< 1	4.1	< 1	< 1	4.2	< 1	-	< 1	< 1	-	< 1	< 1	-
Aromatics >C16-C21	T	µg/L	-	< 1	< 1	< 1	< 1	-	< 1	< 1	< 1	< 1	5.5	< 1	-	< 1	< 1	-	< 1	< 1	-
Aromatics >C21-C35	T	µg/L	-	< 1	< 1	< 1	< 1	-	2.7	30	< 1	< 1	< 1	< 1	-	< 1	< 1	-	< 1	< 1	-
Aromatics >C35-C44	T	µg/L	-	-	-	-	-	-	-	-	-	< 1	< 1	< 1	-	< 1	< 1	-	< 1	< 1	-
Aliphatics & Aromatics >C5-C35	T	µg/L	-	32	< 10	< 10	16	-	< 10	45	< 10	-	-	-	-	-	-	-	-	-	-
Aliphatics & Aromatics >C10-C44	T	µg/L	-	-	-	-	-	-	-	-	-	< 1	12	< 1	-	< 1	< 1	-	< 1	< 1	-

AECOM

Client: Net Zero Teesside Power Limited
Project: Net Zero Teesside
Table: Groundwater Analytical Results - data collected by Arcadis
Analyte Group: All
Date Range: 15/09/2022

		Location	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S
		Date	04/10/2022	09/11/2022	09/01/2023	26/01/2023	14/02/2023	21/03/2023	25/05/2023	28/06/2023	02/08/2023	27/09/2023	25/10/2023	28/11/2023	11/01/2024	09/02/2024	19/03/2024	18/04/2024	05/10/2022	08/11/2022	10/01/2023	26/01/2023	15/02/2023	22/03/2023	25/05/2023	29/06/2023	08/02/2024	19/03/2024	18/04/2024
		Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
Methyl N-Amyl Ketone	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	349	-	-	206	-	-	-	-
Hexathiane	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SVOC TICs	T	µg/L	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	-	0	0	0	0	0	0	0
Dibutyltin	T	µg/L	-	-	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	-	-	-	-	-	-	-	-
Tributyltin	T	µg/L	-	-	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	-	-	-	-	-	-	-	-
Triphenyltin	T	µg/L	-	-	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	-	-	-	-	-	-	-	-
Dibenzofuran	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dinitrotoluene, 2,4-	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dinitrotoluene, 2,6-	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Nitrobenzene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chlorobenzene	T	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,3-Dichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,4-Dichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2,3-Trichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2,4-Trichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Hexachlorobenzene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1-Naphthol	T	mg/L	-	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,3,5-Trimethylphenol	T	µg/L	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2,4,5-Trichlorophenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4,6-Trichlorophenol	T	µg/L	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2,4-Dichlorophenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4-Dimethylphenol	T	µg/L	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Chlorophenol	T	µg/L	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Isopropylphenol	T	µg/L	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-methylphenol	T	µg/L	< 0.5	< 0.5	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.5	< 10	< 10	< 10	< 10	< 10	< 10	< 100	< 10	< 10	< 10	< 10
2-Nitrophenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
3/4-Methylphenol (m/p-cresol)	T	µg/L	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	30	< 20	< 20	< 20	< 20	< 20	< 200	< 20	< 20	< 20	< 20
4-Chloro-3-methylphenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
4-Methylphenol	T	µg/L	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	5	4	2	1	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1	< 1	< 1	< 1
4-Nitrophenol	T	µg/L	< 10	< 0.5	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Catechol (o-dihydroxybenzene)	T	mg/L	-	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 0.01	< 0.01	< 0.2	< 0.5	< 0.01	< 0.01	< 0.01	< 0.1	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01
Cresol Total	T	µg/L	-	-	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	-	30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Pentachlorophenol	T	µg/L	< 1	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Phenol	T	µg/L	< 10	< 0.5	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 200	40	70	30	20	< 100	< 10	< 10	< 10	10	< 10	< 10	< 100	< 10	< 10	< 10	< 10
Total Speciated Phenols	T	mg/L	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 5	< 0.1	< 0.1	< 0.1
Total Speciated Phenols	T	ug/L	-	< 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenols	T	µg/L	-	-	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	-	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60
Dissolved Organic Carbon	T	mg/L	-	100	62	53	28	32	23	24	42	65	72	73	77	58	53	56	-	80	99	172	128	91	153	77	75	56	19
pH (Lab)	T	pH units	-	11.7	11.4	11.23	10.29	10.26	9.71	9.55	-	8.76	9.92	6.94	9.56	9.81	9.16	9.68	-	11.88	11.2	12.16	11.21	10.56	12.11	10.1	8.51	10.57	8.74
Suspended solids (NEN-EN 872)	T	mg/L	-	-	-	83	-	54	-	-	-	-	-	-	-	-	-	-	-	-	-	174	75	-	-	-	-	-	-
Total Suspended Solids	T	mg/L	-	-	60	-	44	-	143	< 10	21	125	30	68	65	52	133	132	-	19	91	-	-	23	106	52	112	67	154
% Cation Excess	T	%	-	-	11.74	4.57	10.21	3.32	0.46	28.66	-7.74	7.45	8.39	9.85	20.47	0.08	3.21	-5.1	-	7.74	-12.49	1.93	6.25	-2.83	82.19	3.09	1.52	-7.55	23.25
Alkalinity, Total (as CaCO3)	T	mg/L	-	-	228	186	64	86	72	48	146	120	132	98	136	102	126	102	-	322	144	790	236	108	602	116	88	146	70
Ammoniacal Nitrogen as N	T	µg/L	550	1070	2670	1700	1860	1130	7180	11730	440	840	7480	1020	8660	1040	1370	2970	370	110	70	900	120	150	640	200	90	< 600	110
Anions Total	T	mmolc/l	-	-	34.93	34.78	30.39	30.54	36.82	32.48	37.87	24.49	27.62	20.54	25.12	25.23	23.52	29.15	-	24.67	13.55	22.61	18.91	17.28	17.76	13.65	10.36	9.55	5
Cation, total	T	mmolc/l	-	-	44.22	38.11	37.3	32.64	37.16	58.58	32.43	28.43	32.68	25.03	38.05	25.27	25.08	26.32	-	28.81	10.54	23.5	21.43	16.33	181.65	14.52	10.68	8.21	8.03
Chloride	T	µg/L	-	-	504000	514500	270600	332700	520800	374400	714600	438400	523300	436000	563700	578600	535000	716100	-	178500	125000	146500	173500	190700	124700	140600	176800	119400	32400
Cyanide	T	µg/L	-	34	51	57	68	423	240	106	103	38	3	23	31	3	19	4	-	114	141	36	22	619	61	487	2	5	< 1
Cyanide (free)	T	µg/L	< 10	5	37	64	< 25	296	120	31	59	< 1	3	< 1	< 1	1	< 1	< 1	< 10	< 100	141	19	-	372	< 50	99	2	< 1	< 1
Cyanides-complex	T	µg/L	-	-	14	< 3	68	127	120	75	< 50	38	< 1	23	31	2	19	4	-	114	< 50	17	-	247	61	388	< 1	5	< 1
Dissolved Inorganic Carbon	T	mg/L	-	-	< 2	2	2	2	< 2	2	< 2	4	< 2	5	3	2	7	2	-	< 2	2	< 2	3	2	< 2	2	8	2	4
Inorganic nitrogen	T	µg/L	-	-	2670	1700	1860	1130	7180	11730	440	840	7480	1020	8660	1100	1370	2970	-	-	70	920	120	210	670	200	90	< 50	190
Nitrate (as NO3-)	T	µg/L	< 200	-	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	300	< 200	< 200	< 200	< 200	< 200	< 200	< 200	300	< 200	< 200	< 200	< 200	300
Nitrite	T	µg/L	100	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	70	< 20	< 20	90	< 20	< 20	< 20	40
Ortho Phosphate as P	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ortho Phosphate as PO4	T	mg/L	-	-	< 0.06	< 0.06	0.19	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	0.09	< 0.06	0.07	< 0.06	< 0.06	< 0.06	-	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Sulphate As SO4	T	µg/L	-	642000	776000	794600	1031300	933300	993500	1006600	710400	467000	490800	301000	312200	329500	283800	331900	-	633700	343000	128800	446600	467500	105800	353800	173500	156900	128700
Sulphide	T	mg/L	-	-	< 0.01	< 0.01	0.06	0.03	0.02	< 0.01	0.04	< 0.01	0.03	< 0.01	0.02	< 0.01	< 0.01	< 0.01	-	0.76	0.01	< 0.01	0.04	0.02	< 0.01	< 0.01	< 0.01	0.04	< 0.01
Thiocyanate	T	µg/L	250	30	20	30	40	40	< 20	< 20	30	20	30	< 20	< 20	< 20	< 20	20	40	140	40	50	120	120	80	110	< 20	30	< 20
Sulphur	T	µg/L	-	-	308000	324810	372047	357186	438757	394947	263641	179467	195242	110000	168926	169051	155623	172488	-	339617	122000	43170	199440	146296	43650	130388	63346	106937	42237
Aluminium	D	µg/L	-	-	301	188	73.2	1519.1	75.1	59.8	23.2	6	13.1	5.2	23.8	112.1	5.9	806.9	-	156	268	373.2	159	120.1	50	240.4	129.3	129.8	6243.9
Arsenic	D	µg/L	< 2.5	1.5	2.5	4.3	3.3	7.4	6.9	4.7	7.4	20.2	7.3	23.2	9.1	21.3	29	22.5	< 2.5	4.3	13.7	1.5	8	11.5	2.5	13.7	4.7	10.9	11.4
Barium	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	-	-	-	-	-	-	-	-	-	-
Beryllium	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-	-	-	-	-
Boron	D	µg/L	59	62	83	124	146	195	161	132	228	328	199	448	199	391	400	377	70	219	185	87	255	337	95	298	159	182	129
Cadmium	D	µg/L	< 0.5	< 0.03	0.06	0.05	< 0.03	< 0.03	0.04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.04	< 0.5	0.11	0.03	0.04	< 0.03	0.07	< 0.03	0.07	< 0.03	< 0.03	0.73
Calcium	D	µg/L	-	451000	514000	461800	550000	460400	464400	611100	448200	332000	326800	192000	354700	184200	176300	191100	-	404500	113000	265000	246300	172500	862100	147400	89400	94600	111700
Chromium	D	µg/L	6.7	9	8.3	0.9	5.8	6.7	6.9	4.7	10.9	7.6	2.6	2.6	4.5	2.2	0.4	1.8	12.2	0.3	3.2	7.5	< 0.2	3.1	6.1	5.4	5.4	0.3	9.5
Trivalent Chromium (CrIII)	D	µg/L	6.7	9	8.3	0.9	5.8	6.7	6.9	-	-	-	-	-	-	-	-	-	12.2	0.3	3.2	7.5	< 0.2	3.1	6.1	-	-	-	-

AECOM

Client: Net Zero Teesside Power Limited
Project: Net Zero Teesside
Table: Groundwater Analytical Results - data collected by Arcadis
Analyte Group: All
Date Range: 15/09/2022

		Location	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S
		Date	04/10/2022	09/11/2022	09/01/2023	26/01/2023	14/02/2023	21/03/2023	25/05/2023	28/06/2023	02/08/2023	27/09/2023	25/10/2023	28/11/2023	11/01/2024	09/02/2024	19/03/2024	18/04/2024	05/10/2022	08/11/2022	10/01/2023	26/01/2023	15/02/2023	22/03/2023	25/05/2023	29/06/2023	08/02/2024	19/03/2024	18/04/2024
		Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
Methyl N-Amyl Ketone	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	349	-	-	206	-	-	-	-
Hexavalent Chromium (CrVI)	T	µg/L	< 6	-	-	-	< 6	< 6	-	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	-	-	-	< 6	< 6	-	< 6	< 6	< 6	< 6
Cobalt	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	D	µg/L	9	3	4	< 1	< 3	< 1	< 1	< 3	< 1	< 1	< 3	< 1	< 3	< 1	< 1	7	< 7	< 1	< 1	3	< 3	< 1	< 3	< 1	< 1	< 1	15
Iron	D	µg/L	-	52	51.1	33.8	24.1	131.9	33.1	25.6	17.9	14.3	10.6	12	14.5	137.9	12.8	441.5	-	31.3	57.2	21.3	6.9	17.9	23.8	13.5	50.5	9.1	3339.4
Lead	D	µg/L	< 5	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	5	0.9	< 0.4	5	< 5	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	0.4	< 0.4	141.1
Magnesium	D	µg/L	-	< 100	< 100	100	300	2000	< 100	300	300	1500	100	1900	200	2100	2600	2600	-	< 100	400	< 100	100	1000	< 100	< 100	9600	500	8300
Manganese	D	µg/L	< 2	< 1.5	1.7	< 1.5	2.9	79.2	2.2	< 1.5	4.5	3.8	< 1.5	4.6	< 1.5	29.1	6.3	65.8	< 2	1.7	7.1	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	171.7	< 1.5	912.5
Mercury	D	µg/L	< 1	< 0.01	0.01	0.03	0.06	0.04	< 0.01	0.01	< 0.01	< 0.05	0.01	< 0.05	< 0.01	0.01	< 0.01	< 0.01	< 1	0.12	0.02	0.13	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Molybdenum	D	µg/L	-	-	229	186.1	83.7	87.6	120.4	143.2	91.9	75.5	117	47.1	168	58.8	50.9	38.7	-	208.5	113	148.2	162.2	253.7	138	229.6	41.1	91.3	9.7
Nickel	D	µg/L	3	0.5	3.4	2.7	1.9	2	2	2	1.9	1.9	0.4	2	1.5	2.2	2.1	3.2	3	2.3	1.2	3.3	1.8	1.5	4.5	1.9	1.8	1.7	8.4
Potassium	D	µg/L	-	34700	76300	75600	60100	59500	85900	100300	59200	60400	77600	55200	68400	58200	57700	55500	-	56100	32700	60800	54400	50600	146100	41700	31700	25200	15700
Selenium	D	µg/L	-	-	-	-	4.9	< 1.2	-	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	7	-	-	-	< 1.2	2.7	-	2.6	< 1.2	< 1.2	1.6
Silicon	D	µg/L	-	-	4680	8138	15764	29465	14804	24005	21668	19692	18549	22500	27597	17593	26357	28998	-	3232	7640	2825	8665	7132	1921	14539	6554	16850	25111
Sodium	D	µg/L	-	189000	382000	301600	190700	183400	271100	586100	196000	234300	330600	319000	427200	331500	335400	348400	-	165300	92700	200400	177900	145900	3101300	140100	106100	64400	31400
Vanadium	D	µg/L	7.1	-	-	-	66	54.3	-	22.9	15	9.1	15.2	4.3	11.9	4.9	3.4	7.5	< 1.5	-	-	-	< 0.6	4.9	-	2.8	4.7	5.5	48.9
Zinc	D	µg/L	< 3	2	1.8	2.6	1.8	3.6	-	< 1.5	2.2	< 1.5	< 1.5	1.6	2.6	4.9	2.1	42.1	< 3	3.4	3.4	2.9	< 1.5	2.1	-	1.5	7.5	1.7	356.2
2-chloronaphthalene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Nitroaniline	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
3-Nitroaniline	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4-bromophenyl phenyl ether	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4-Chlorophenyl phenyl ether	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4-Nitroaniline	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Azobenzene	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzyl Butyl Phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
bis(2-Chloroethoxy)methane	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
bis(2-Chloroethyl)ether	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bis(2-ethylhexyl) phthalate	T	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbazole	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroaniline, p-	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Diethyl Phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dimethyl Phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Di-n-butyl phthalate	T	µg/L	< 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
Di-n-octyl phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Hexachlorobutadiene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Hexachlorocyclopentadiene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Hexachloroethane	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Isophorone	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
ISOPROPYLTOLUENE, p-	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Methylnaphthalene, 2-	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
N-Nitrosodi-n-Propylamine	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Resorcinol (m-dihydroxybenzene)	T	µg/L	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	T	µg/L	0.014	0.01	0.035	0.041	0.019	0.01	0.015	0.008	0.022	0.005	0.047	0.017	0.025	0.016	0.012	0.011	< 0.005	0.011	0.051	0.029	0.038	0.048	0.074	0.033	0.014	0.027	0.016
Acenaphthylene	T	µg/L	< 0.005	0.007	0.037	0.037	0.03	0.004	< 0.005	0.007	0.031	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.034	0.029	0.031	0.013	0.041	0.008	< 0.005	0.046	0.023
Anthracene	T	µg/L	< 0.005	< 0.005	0.036	0.059	0.03	0.004	0.005	< 0.005	0.035	< 0.005	< 0.005	0.006	< 0.005	0.005	< 0.005	< 0.005	0.019	< 0.005	0.076	0.059	0.05	0.028	0.06	0.011	0.016	0.098	0.056
Benzo(a)anthracene	T	µg/L	< 0.005	< 0.005	0.028	0.203	0.051	0.001	0.015	< 0.005	0.063	< 0.005	< 0.005	< 0.005	0.007	< 0.005	< 0.005	< 0.005	0.078	0.006	0.299	0.199	0.229	0.083	0.24	0.021	0.027	0.405	0.27
Benzo(a)pyrene	T	µg/L	< 0.005	< 0.005	0.014	0.073	0.049	0.00039	0.008	0.005	0.049	< 0.005	< 0.002	< 0.005	0.005	< 0.005	< 0.005	0.005	0.103	< 0.005	0.233	0.18	0.209	0.062	0.237	< 0.005	0.028	0.436	0.343
Benzo(b)fluoranthene	T	µg/L	< 0.008	< 0.008	0.025	0.149	0.06	< 0.001	0.02	< 0.008	0.103	< 0.008	< 0.005	< 0.008	0.009	< 0.008	< 0.008	< 0.008	0.148	< 0.008	0.474	0.317	0.379	0.132	0.488	0.023	0.045	0.574	0.447
Benzo(b+k)fluoranthene	T	µg/L	< 0.008	< 0.008	0.034	0.207	0.083	< 0.001	0.028	< 0.008	0.143	< 0.008	< 0.01	< 0.008	0.013	< 0.008	< 0.008	0.011	0.205	0.008	0.659	0.44	0.526	0.183	0.678	0.032	0.063	0.797	0.621
Benzo(g,h,i)perylene	T	µg/L	< 0.005	< 0.005	0.008	0.041	< 0.005	< 0.001	0.008	< 0.005	0.033	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.065	< 0.005	0.166	0.118	0.133	0.029	0.178	< 0.005	0.025	0.301	0.241
Benzo(k)fluoranthene	T	µg/L	< 0.008	< 0.008	0.01	0.058	0.023	< 0.001	< 0.008	< 0.008	0.04	< 0.008	< 0.005	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	0.057	< 0.008	0.185	0.123	0.147	0.051	0.19	0.009	0.018	0.223	0.174
Chrysene	T	µg/L	< 0.005	< 0.005	0.032	0.186	0.086	0.001	0.017	< 0.015	0.135	< 0.005	< 0.005	< 0.005	0.008	< 0.005	< 0.005	< 0.005	0.108	0.008	0.343	0.33	0.254	0.119	0.377	0.041	0.031	0.419	0.303
Dibenz(a,h)anthracene	T	µg/L	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.0009	< 0.005	< 0.005	0.007	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.041	0.02	0.011	0.006	0.041	< 0.005	0.007	0.064	0.047
Fluoranthene	T	µg/L	0.005	< 0.005	0.111	0.285	0.179	0.01	0.034	0.005	0.301	< 0.005	0.009	0.022	0.016	0.016	0.02	0.02	0.209	0.024	0.641	0.397	0.404	0.196	0.528	0.099	0.094	0.827	0.632
Fluorene	T	µg/L	0.012	< 0.005	0.048	0.05	0.028	0.01	0.014	0.007	0.023	0.006	0.015	0.018	0.015	0.016	0.014	0.012	< 0.005	< 0.005	0.038	0.03	0.031	0.026	0.063	0.022	0.012	0.029	0.016
Indeno(1,2,3-c,d)pyrene	T	µg/L	< 0.005	< 0.005	0.009	0.047	< 0.005	< 0.001	< 0.005	< 0.005	0.027	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.069	< 0.005	0.213	0.128	0.177	0.067	0.213	< 0.005	0.028	0.311	0.236
Naphthalene	T	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	6.3	< 2	< 2	< 2	< 2	< 2	< 2
Phenanthrene	T	µg/L	0.019	< 0.005	0.217	0.266	0.178	0.02	0.026	0.01	0.198	< 0.005	0.017	0.054	0.02	0.025	0.042	0.021	0.084	0.018	0.243	0.156	0.142	0.099	0.234	0.057	0.048	0.209	0.116
Pyrene	T	µg/L	0.006	< 0.005	0.087	0.24	0.173	0.007	0.028	0.006	0.195	< 0.005	0.007	0.021	0.013	0.013	0.016	0.017	0.185	0.018	0.605	0.389	0.349	0.175	0.458	0.085	0.072	0.786	0.591
PAH (Sum of 16)	T	µg/L	0.256	< 0.173	0.796	1.94	0.906	0.21539	0.398	< 0.173	1.262	< 0.173	0.525	0.338	< 0.173	0.191	0.204	0.197	1.125	< 0.173	3.642	2.504	8.884	1.134	3.722	0.509	0.465	4.755	3.511
1,1,1,2-Tetrachloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1,1-Trichloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1,2,2-Tetrachloroethane	T	ug/L	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4
1,1,2-Trichloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,1-Dichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,1-dichloropropene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2,3-trichloropropane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2,4-Trimethylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2-dibromo-3-chloropropane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Client: Net Zero Teesside Power Limited
Project: Net Zero Teesside
Table: Groundwater Analytical Results - data collected by Arcadis
Analyte Group: All
Date Range: 15/09/2022

			Location	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH101S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S	F-BH102S
			Date	04/10/2022	09/11/2022	09/01/2023	26/01/2023	14/02/2023	21/03/2023	25/05/2023	28/06/2023	02/08/2023	27/09/2023	25/10/2023	28/11/2023	11/01/2024	09/02/2024	19/03/2024	18/04/2024	05/10/2022	08/11/2022	10/01/2023	26/01/2023	15/02/2023	22/03/2023	25/05/2023	29/06/2023	08/02/2024	19/03/2024	18/04/2024
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
Methyl N-Amyl Ketone	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	349	-	-	206	-	-	-	-
1,2-Dibromoethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,3,5-Trimethylbenzene (Mesitylene)	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,3-Dichloropropane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
2,2-Dichloropropane	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-chlorotoluene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
4-chlorotoluene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Benzene	T	ug/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromobenzene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromodichloromethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromoform	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromomethane	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon tetrachloride	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chlorobromomethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloroethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Chloroform	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloromethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
cis-1,2-dichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
cis-1,3-Dichloropropene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dibromomethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Dichlorodifluoromethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dichloromethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Ethylbenzene	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Isopropylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Methyl tertiary butyl ether	T	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	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
n-Butylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
n-Propylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
sec-Butylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Styrene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
tert-Butylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Tetrachloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Toluene	T	ug/L	6	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
trans-1,3-Dichloropropene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Trichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Trichlorofluoromethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Vinyl Chloride	T	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	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m-& p-Xylenes	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
m/p/o-Xylene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	-	-	-	-	-	-	-	-	-	< 3	< 3	< 3	< 3	< 3	< 3	< 3	-	-	-	-
o-Xylene	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Sum of Tetrachloroethene + Trichloroethene	T	µg/L	< 6	< 6	< 6	< 6	< 6	< 6	< 6	-	-	-	-	-	-	-	-	-	< 6	< 6	< 6	< 6	< 6	< 6	< 6	-	-	-	-
Volatile TIC	T	none	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	-	0	0	-	0	0	0	0
Aliphatics >C5-C6	T	µg/L	42	< 10	< 10	< 10	< 10	< 10	< 10	13	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	98	39	22	79	39	23	65	28	< 10	15	< 10
Aliphatics >C5-C35	T	µg/L	-	127	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1271	148	-	-	-	-	-	-	-	-	-
Aliphatics >C5-C44	T	µg/L	945	-	27	23	22	12	21	54	< 10	< 10	20	14	17	27	< 10	13	-	148	76	772	143	100	626	79	86	45	18
Aliphatics >C6-C8	T	µg/L	98	16	< 10	< 10	< 10	< 10	< 10	11	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	184	11	12	90	20	15	48	12	10	< 10	< 10
Aliphatics >C8-C10	T	µg/L	805	111	27	23	22	12	21	30	< 10	< 10	20	14	17	27	< 10	13	989	98	42	603	84	62	513	39	76	30	18
Aliphatics >C10-C12	T	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Aliphatics >C12-C16	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C16-C21	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C16-C35	T	µg/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	-	-	-	-	-	-	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	-	-	-
Aliphatics >C21-C35	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C35-C44	T	µg/L	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C5-C7	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C5-C35	T	µg/L	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	< 10	-	-	-	-	-	-	-	-	-
Aromatics >C5-C44	T	µg/L	26	-	< 10	< 10	< 10	< 10	< 10	13	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	46	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C7-C8	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	11	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C8-C10	T	µg/L	26	16	< 10	< 10	< 10	< 10	< 10	13	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	52	< 10	< 10	46	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C10-C12	T	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Aromatics >C12-C16	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C16-C21	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C21-C35	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C35-C44	T	µg/L	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics & Aromatics >C5-C35	T	µg/L	-	143	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1344	148	-	-	-	-	-	-	-	-	-
Aliphatics & Aromatics >C5-C44	T	µg/L	971	-	27	23	22	12	21	67	< 10	< 10	20	14	17	27	< 10	13	-	148	76	818	143	100	626	79	86	45	18

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyt
Analyte Group: All
Date Range: 15/09/2022

			Location	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S
			Date	15/09/2022	02/11/2022	13/12/2022	19/01/2023	14/02/2023	21/03/2023	24/05/2023	30/06/2023	26/07/2023	31/08/2023	25/09/2023	31/10/2023	30/11/2023	09/01/2024	06/02/2024	20/03/2024	05/10/2022	09/11/2022	13/12/2022	19/01/2023	15/02/2023	20/03/2023	22/05/2023	06/07/2023	04/08/2023	05/09/2023	29/09/2023
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
Methyl N-Amyl Ketone	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexathiane	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SVOC TICs	T	µg/L	-	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
Dibutyltin	T	µg/L	-	-	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	< 0.1	-	-	-	-	-	-	-
Tributyltin	T	µg/L	-	-	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	< 0.1	-	-	-	-	-	-	-
Triphenyltin	T	µg/L	-	-	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	< 0.1	-	-	-	-	-	-	-
Dibenzofuran	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dinitrotoluene, 2,4-	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dinitrotoluene, 2,6-	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Nitrobenzene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chlorobenzene	T	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,3-Dichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,4-Dichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2,3-Trichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2,4-Trichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Hexachlorobenzene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1-Naphthol	T	mg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,3,5-Trimethylphenol	T	µg/L	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2,4,5-Trichlorophenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4,6-Trichlorophenol	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2,4-Dichlorophenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4-Dimethylphenol	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Chlorophenol	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Isopropylphenol	T	µg/L	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-methylphenol	T	µg/L	< 0.5	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.5	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Nitrophenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
3/4-Methylphenol (m/p-cresol)	T	µg/L	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
4-Chloro-3-methylphenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
4-Methylphenol	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4-Nitrophenol	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Catechol (o-dihydroxybenzene)	T	mg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cresol Total	T	µg/L	-	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	-	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Pentachlorophenol	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Phenol	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Speciated Phenols	T	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total Speciated Phenols	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenols	T	µg/L	-	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	-	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60
Dissolved Organic Carbon	T	mg/L	-	3	6	5	3	5	4	2	< 2	3	4	4	< 2	2	3	2	-	5	8	8	7	5	7	5	4	8	8
pH (Lab)	T	pH units	-	7.74	7.74	7.76	7.82	7.67	7.63	7.88	7.73	7.62	7.87	7.43	7.81	7.71	7.4	7.4	-	8.05	7.88	7.97	8.01	7.73	8.13	7.62	7.53	7.99	8.13
Suspended solids (NEN-EN 872)	T	mg/L	-	-	-	53	-	37	39	-	-	-	-	-	-	-	-	-	-	-	-	47	42	20	-	-	-	-	-
Total Suspended Solids	T	mg/L	-	49	29	-	51	-	-	16	17	23	33	15	12	21	13	27	-	< 10	63	-	-	-	< 10	16	12	< 10	14
% Cation Excess	T	%	-	6.71	4.98	7.85	6.78	1.64	4.86	-3.37	2.54	2.22	1.54	9.2	7.54	5.89	10.66	9.52	-	6.43	-0.79	11.98	3.2	8.64	7	0.47	9.77	1.12	-2.44
Alkalinity, Total (as CaCO3)	T	mg/L	-	154	154	154	136	134	144	140	138	140	140	144	154	150	158	160	-	170	172	172	168	156	160	172	154	154	166
Ammoniacal Nitrogen as N	T	µg/L	140	190	200	190	190	170	150	150	170	150	200	230	190	170	180	190	4640	5000	4890	4640	4970	5020	4900	4750	4870	5090	5110
Anions Total	T	mmolc/l	-	37.87	35.76	36.43	34.99	37.17	33.68	36.04	32.98	33.23	33.91	34.97	32.74	33.4	33.57	32.83	-	49	48.65	44.39	48.15	47.78	43.08	46.35	44.63	44.04	46.82
Cation, total	T	mmolc/l	-	43.32	39.51	42.64	40.08	38.41	37.12	33.69	34.7	34.74	34.97	42.06	38.08	37.58	41.58	39.74	-	55.73	47.89	56.47	51.33	56.82	49.57	46.79	54.29	45.04	44.59
Chloride	T	µg/L	-	65100	58300	56700	62600	66800	88700	74400	72300	64900	66800	76500	92300	152800	174700	165100	-	1346100	1320000	1140100	1304000	1281900	1126100	1212600	1162200	1162700	1253900
Cyanide	T	µg/L	-	12	22	10	13	6	10	10	11	9	14	21	7	13	39	8	-	52	58	38	49	25	68	80	50	57	43
Cyanide (free)	T	µg/L	< 10	1	7	4	7	4	< 1	5	5	3	10	< 50	2	2	34	1	20	19	11	17	-	14	22	27	16	33	< 1
Cyanides-complex	T	µg/L	-	11	15	6	6	2	10	5	6	6	4	< 10	5	11	5	7	-	33	47	21	-	11	46	53	34	24	43
Dissolved Inorganic Carbon	T	mg/L	-	32	32	31	32	31	30	31	31	31	31	32	33	33	34	35	-	38	39	37	39	38	39	39	39	37	39
Inorganic nitrogen	T	µg/L	-	-	350	910	190	1010	1040	1230	770	770	270	230	190	260	180	190	-	-	4890	4640	4970	5020	4900	4750	6190	5090	5110
Nitrate (as NO3-)	T	µg/L	300	800	600	3100	< 200	3700	3900	4500	2600	2700	300	< 200	< 200	400	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200
Nitrite	T	µg/L	310	< 20	60	40	< 20	< 20	< 20	180	50	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	190	< 20	< 20	< 20	< 20	< 20	< 20	4320	< 20	< 20
Ortho Phosphate as P	T	mg/L	-	-	-	< 0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.13	-	-	-	-	-	-	-
Ortho Phosphate as PO4	T	mg/L	-	< 0.06	< 0.06	-	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	-	0.06	0.19	-	0.13	0.26	0.3	0.46	0.31	0.36	0.45
Sulphate As SO4	T	µg/L	-	1582400	1490000	1522700	1465000	1563000	1356200	1492400	1351400	1371700	1403500	1437600	1299400	1252900	1224000	1199400	-	366600	383000	422100	384600	408000	389500	418000	421200	392000	390500
Sulphide	T	mg/L	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.1	< 0.01	< 0.01	< 0.01	< 0.1	< 0.01	< 0.01	< 0.05	< 0.01
Thiocyanate	T	µg/L	30	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	9540	70	8960	9610	7620	10080	10560	10670	10220	10290	11020
Sulphur	T	µg/L	-	511478	589000	573690	580025	566239	495372	482844	483484	490425	462107	601235	589215	630592	604007	701755	-	130565	188000	174487	152382	144373	143974	140104	143043	159729	133548
Aluminium	D	µg/L	-	16	5.4	6	5.7	6.2	6.1	4.7	1.9	2.4	4.1	5	192.3	4.9	14.9	7.8	-	2.7	2.6	5.7	11.7	2.6	2	12.4	4.3	3.9	< 1.5
Arsenic	D	µg/L	3.7	3.6	2.9	2.8	5.4	3	2.5	2.3	< 0.9	3.4	2.9	3.4	4.3	2.9	2.5	2.8	8.6	8.4	9.5	6.3	7.4	9.4	7.5	9.8	7.4	4.3	6.1
Barium	D	µg/L	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	-	-	-	-	-	-	-	-	29.4	-
Beryllium	D	µg/L	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	-	-	-	-	-	-	-
Boron	D	µg/L	943	958	1040	967	997	1003	876	1009	919	883	886	973	1004	773	764	775	821	803	855	811	811	930	777	832	867	-	772
Cadmium	D	µg/L	< 0.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Calcium	D	µg/L	-	613900	554000	609500	551600	516000	500000	437300	446500	453000	452100	526900	519000	501000	550800	519200	-	79800	69500	68400	77000	75400	71300	66900	67200	71200	72000
Chromium	D	µg/L	< 1.5	< 0.2	< 0.2	1.8	6.8	9.6	0.9	5	0.6	2.8	3.1	6.6	9.2	10.6	3.7	4.4	3.2	< 0.2	0.3	1.7	< 0.2	6.6	3.9	3.8	5.1	6.8	2.2
Trivalent Chromium (CrIII)	D	µg/L	< 6	< 0.2	< 0.2	1.8	6.8	9.6	0.9	-	-	-	-	-	-	-	-	-	3.2	< 0.2	0.3	1.7	< 0.2	6.6	3.9	-	-	-	-

AECOM

Client: Net Zero Teesside I
Project: Net Zero Teesside
Table: Groundwater Analyt
Analyte Group: All
Date Range: 15/09/2022

			Location	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S
			Date	15/09/2022	02/11/2022	13/12/2022	19/01/2023	14/02/2023	21/03/2023	24/05/2023	30/06/2023	26/07/2023	31/08/2023	25/09/2023	31/10/2023	30/11/2023	09/01/2024	06/02/2024	20/03/2024	05/10/2022	09/11/2022	13/12/2022	19/01/2023	15/02/2023	20/03/2023	22/05/2023	06/07/2023	04/08/2023	05/09/2023	29/09/2023
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																												
Methyl N-Amyl Ketone	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexavalent Chromium (CrVI)	T	µg/L	< 6	-	-	-	< 6	< 6	< 6	-	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	-	-	-	< 6	< 6	< 6	-	< 6	< 6	< 6	< 6
Cobalt	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1
Copper	D	µg/L	< 7	< 1	< 1	< 3	< 3	< 1	< 1	< 1	< 3	< 3	< 1	< 1	< 1	< 1	< 1	< 1	< 7	< 3	< 1	< 3	< 3	< 1	< 3	< 3	< 1	< 3	-	
Iron	D	µg/L	-	662	426	377.4	433.1	470.8	265.9	198.8	168.1	176.8	340.9	558.5	1174	398.7	324	192.9	-	835.5	952	800.3	754.3	965.9	843.3	907.6	997.9	921.3	894.6	
Lead	D	µg/L	< 5	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	0.9	< 0.4	< 0.4	< 0.4	< 5	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	
Magnesium	D	µg/L	-	93500	90800	102300	98800	101000	92300	91400	96300	95100	97300	103100	86700	79600	79700	75500	-	59400	55700	56000	59300	57700	57900	57200	54700	58300	58700	
Manganese	D	µg/L	2510	3462.1	3190	2378.6	2607.4	2857.2	2563.7	2513.6	2549.7	2371.4	3183.3	3457	3087.8	2393.5	2120.5	2646.2	107	91.4	103	85.1	75.7	94.1	74.7	87.2	100.3	83.9	72.4	
Mercury	D	µg/L	< 1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03	< 0.01	
Molybdenum	D	µg/L	-	64.5	69.1	51	49.8	62	61.8	63.3	50.2	49.4	59.6	54.8	62.7	58.8	55	60	-	11	17.2	13.9	8.9	17.5	12.4	13.3	17.3	13.9	11.7	
Nickel	D	µg/L	< 2	1.5	1.4	0.9	1.2	1.3	1.6	1.3	< 0.2	1.5	1.1	1.1	2.4	1.2	1.3	1.3	< 2	0.2	0.3	< 0.2	0.8	0.4	< 0.2	2.9	0.3	2.1	< 0.2	
Potassium	D	µg/L	-	64800	59100	58900	61400	58100	54900	54400	55600	54400	54100	55900	55400	53100	59000	61400	-	100200	86600	91400	97200	95600	92600	89900	88500	89900	91300	
Selenium	D	µg/L	< 3	-	-	-	< 1.2	4.4	-	10.8	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	2.1	< 1.2	< 1.2	< 3	-	-	-	< 1.2	< 1.2	-	< 1.2	< 1.2	< 1.2	< 1.2	
Silicon	D	µg/L	-	6402	6580	6873	6550	6574	6492	7008	6632	6477	6594	6352	6702	6174	6087	6559	-	3164	3390	3667	3283	3365	3588	3928	3750	3746	3911	
Sodium	D	µg/L	-	76800	66300	52900	65700	65900	72900	68000	70700	67100	69500	134700	83400	107400	138600	139000	-	1018500	865000	1060100	922400	1054500	893900	838000	1015600	790700	777700	
Vanadium	D	µg/L	< 1.5	-	-	-	< 0.6	< 0.6	-	0.8	< 0.6	< 0.6	0.6	0.9	1.4	< 0.6	0.8	0.6	< 1.5	-	-	-	< 0.6	1.3	-	3.5	1.6	1.9	< 0.6	
Zinc	D	µg/L	< 3	< 1.5	1.7	4.3	2.7	2	-	1.6	< 1.5	3.1	1.5	< 1.5	3.6	1.5	4.2	11.5	< 3	< 1.5	< 1.5	2.6	< 1.5	< 1.5	-	6.2	1.9	4	< 1.5	
2-chloronaphthalene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
2-Nitroaniline	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
3-Nitroaniline	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
4-bromophenyl phenyl ether	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
4-Chlorophenyl phenyl ether	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
4-Nitroaniline	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Azobenzene	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Benzyl Butyl Phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
bis(2-Chloroethoxy)methane	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
bis(2-Chloroethyl)ether	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Bis(2-ethylhexyl) phthalate	T	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Carbazole	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Chloroaniline, p-	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Diethyl Phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Dimethyl Phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Di-n-butyl phthalate	T	µg/L	< 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	
Di-n-octyl phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Hexachlorobutadiene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	
Hexachlorocyclopentadiene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Hexachloroethane	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Isophorone	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
ISOPROPYLTOLUENE, p-	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	
Methylnaphthalene, 2-	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
N-Nitrosodi-n-Propylamine	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Resorcinol (m-dihydroxybenzene)	T	µg/L	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	
Acenaphthene	T	µg/L	< 0.005	< 0.005	< 0.005	0.009	< 0.005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	0.011	< 0.005	< 0.005	< 0.005	0.012	0.013	0.005	0.003	0.008	< 0.005	0.006	0.006	< 0.005	
Acenaphthylene	T	µg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	< 0.005	0.007	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Anthracene	T	µg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.001	0.006	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	0.005	< 0.005	0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Benzo(a)anthracene	T	µg/L	< 0.005	0.007	< 0.005	0.005	< 0.005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Benzo(a)pyrene	T	µg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Benzo(b)fluoranthene	T	µg/L	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.001	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.001	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	
Benzo(b+k)fluoranthene	T	µg/L	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.001	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.001	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	
Benzo(g,h,i)perylene	T	µg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Benzo(k)fluoranthene	T	µg/L	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.001	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.001	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	
Chrysene	T	µg/L	< 0.005	0.009	< 0.005	< 0.005	< 0.005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Dibenz(a,h)anthracene	T	µg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Fluoranthene	T	µg/L	0.005	0.012	< 0.005	0.008	0.011	0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.008	< 0.005	0.009	0.007	< 0.005	0.006	0.005	0.014	0.008	0.004	< 0.005	< 0.005	0.01	0.005	< 0.005	
Fluorene	T	µg/L	< 0.005	< 0.005	< 0.005	0.007	< 0.005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	0.009	< 0.005	< 0.005	0.005	0.009	0.007	0.005	0.003	0.006	< 0.005	< 0.005	0.005	< 0.005	
Indeno(1,2,3-c,d)pyrene	T	µg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Naphthalene	T	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Phenanthrene	T	µg/L	0.01	< 0.005	< 0.005	0.023	< 0.005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.008	< 0.005	0.019	< 0.005	< 0.005	< 0.005	0.025	0.026	0.017	0.008	< 0.005	< 0.005	< 0.005	< 0.005	0.007	
Pyrene	T	µg/L	0.005	0.014	< 0.005	0.012	0.014	0.003	< 0.005	0.007	< 0.005	0.006	0.006	< 0.005	0.012	0.005	0.008	0.008	< 0.005	0.01	0.01	0.019	0.01	0.005	0.005	0.006	0.012	0.006	< 0.005	
PAH (Sum of 16)	T	µg/L	< 0.173	< 0.173	< 0.173	< 0.173	< 0.173	< 0.013	< 0.173	< 0.173	< 0.173	< 0.173	< 0.173	< 0.173	< 0.173	< 0.173	< 0.173	< 0.173	< 0.173	< 0.173	< 0.173	0.196	< 0.173	0.092	< 0.173	< 0.173	< 0.173	0.227	< 0.173	
1,1,1,2-Tetrachloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
1,1,1-Trichloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
1,1,2,2-Tetrachloroethane	T	ug/L	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	
1,1,2-Trichloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
1,1-Dichloroethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	
1,1-Dichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	
1,1-dichloropropene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	
1,2,3-trichloropropane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	
1,2,4-Trimethylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	
1,2-dibromo-3-chloropropane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyt
Analyte Group: All
Date Range: 15/09/2022

			Location	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH04S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S
			Date	15/09/2022	02/11/2022	13/12/2022	19/01/2023	14/02/2023	21/03/2023	24/05/2023	30/06/2023	26/07/2023	31/08/2023	25/09/2023	31/10/2023	30/11/2023	09/01/2024	06/02/2024	20/03/2024	05/10/2022	09/11/2022	13/12/2022	19/01/2023	15/02/2023	20/03/2023	22/05/2023	06/07/2023	04/08/2023	05/09/2023	29/09/2023
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
Methyl N-Amyl Ketone	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,3,5-Trimethylbenzene (Mesitylene)	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,3-Dichloropropane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
2,2-Dichloropropane	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-chlorotoluene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
4-chlorotoluene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Benzene	T	ug/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromobenzene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromodichloromethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromoform	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromomethane	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon tetrachloride	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chlorobromomethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloroethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Chloroform	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloromethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
cis-1,2-dichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
cis-1,3-Dichloropropene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dibromomethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Dichlorodifluoromethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dichloromethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Ethylbenzene	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Isopropylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Methyl tertiary butyl ether	T	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	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
n-Butylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
n-Propylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
sec-Butylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Styrene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
tert-Butylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Tetrachloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Toluene	T	ug/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
trans-1,3-Dichloropropene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Trichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Trichlorofluoromethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Vinyl Chloride	T	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	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m-& p-Xylenes	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
m/p/o-Xylene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	-	-	-	-	-	-	-	-	-	-	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	-	-	-	-
o-Xylene	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Sum of Tetrachloroethene + Trichloroethene	T	µg/L	< 6	< 6	< 6	< 6	< 6	< 6	< 6	-	-	-	-	-	-	-	-	-	-	< 6	< 6	< 6	< 6	< 6	< 6	< 6	-	-	-	-
Volatile TIC	T	none	-	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
Aliphatics >C5-C6	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C5-C35	T	µg/L	< 10	< 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 10	< 10	-	-	-	-	-	-	-	-	-	-
Aliphatics >C5-C44	T	µg/L	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C6-C8	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C8-C10	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C10-C12	T	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Aliphatics >C12-C16	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C16-C21	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C16-C35	T	µg/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	-	-	-	-	-	-	-	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	-	-	-
Aliphatics >C21-C35	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C35-C44	T	µg/L	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C5-C7	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C5-C35	T	µg/L	< 10	< 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 10	< 10	-	-	-	-	-	-	-	-	-	-
Aromatics >C5-C44	T	µg/L	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	8873	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C7-C8	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C8-C10	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C10-C12	T	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	13	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Aromatics >C12-C16	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	420	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C16-C21	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	1750	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C21-C35	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	3990	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C35-C44	T	µg/L	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	2700	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics & Aromatics >C5-C35	T	µg/L	< 10	< 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 10	< 10	-	-	-	-	-	-	-	-	-	-
Aliphatics & Aromatics >C5-C44	T	µg/L	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	8873	< 10	< 10	< 10	< 10	< 10	< 10	< 10

AECOM

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyt
Analyte Group: All
Date Range: 15/09/2022

		Location	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D
		Date	30/10/2023	28/11/2023	10/01/2024	08/02/2024	27/03/2024	16/09/2022	01/11/2022	10/01/2023	18/01/2023	13/02/2023	20/03/2023	30/05/2023	29/06/2023	27/07/2023	31/08/2023	26/09/2023	24/10/2023	29/11/2023	09/01/2024	06/02/2024	18/03/2024	15/09/2022	02/11/2022	12/12/2022	26/01/2023	14/02/2023	22/03/2023
		Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
Methyl N-Amyl Ketone	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexathiane	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SVOC TICs	T	µg/L	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
Dibutyltin	T	µg/L	-	-	-	-	-	-	-	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	-	-	-
Tributyltin	T	µg/L	-	-	-	-	-	-	-	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	-	-	-
Triphenyltin	T	µg/L	-	-	-	-	-	-	-	< 0.1	< 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	-	-	-
Dibenzofuran	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dinitrotoluene, 2,4-	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dinitrotoluene, 2,6-	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Nitrobenzene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chlorobenzene	T	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,3-Dichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,4-Dichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2,3-Trichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2,4-Trichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Hexachlorobenzene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1-Naphthol	T	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,3,5-Trimethylphenol	T	µg/L	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10
2,4,5-Trichlorophenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4,6-Trichlorophenol	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2,4-Dichlorophenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4-Dimethylphenol	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Chlorophenol	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Isopropylphenol	T	µg/L	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10
2-methylphenol	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 0.5	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.5	< 10	< 10	< 10	< 10	< 10
2-Nitrophenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
3/4-Methylphenol (m/p-cresol)	T	µg/L	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
4-Chloro-3-methylphenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
4-Methylphenol	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4-Nitrophenol	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Catechol (o-dihydroxybenzene)	T	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.5	< 0.01	< 0.01	< 0.01	< 0.2	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cresol Total	T	µg/L	< 30	< 30	< 30	< 30	< 30	-	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	-	< 30	< 30	< 30	< 30	< 30
Pentachlorophenol	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Phenol	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Speciated Phenols	T	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 2	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total Speciated Phenols	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenols	T	µg/L	< 60	< 60	< 60	< 60	< 60	-	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	-	< 60	< 60	< 60	< 60	< 60
Dissolved Organic Carbon	T	mg/L	7	8	7	6	7	-	6	6	5	5	5	6	5	6	7	8	7	6	6	4	5	-	4	5	5	4	4
pH (Lab)	T	pH units	7.98	8.05	8.01	10.02	7.78	-	9.81	9.9	10.11	9.87	9.25	10.1	9.5	10.18	10.02	10.16	10.08	9.9	9.92	6.95	10.01	-	8.6	9.18	8.82	8.73	8.46
Suspended solids (NEN-EN 872)	T	mg/L	-	-	-	-	-	-	-	-	23	-	29	-	-	-	-	-	-	-	-	-	-	-	-	-	102	-	-
Total Suspended Solids	T	mg/L	21	15	15	46	50	-	19	68	-	32	-	31	11	52	12	17	10	25	16	79	28	-	81	55	-	31	27
% Cation Excess	T	%	1.46	6.92	10.23	21.68	8.63	-	7.27	5.81	19.64	12.89	6.59	4.25	-0.11	-1.14	0.96	1.21	-1.13	-0.17	11.54	8.11	15.75	-	4.54	2.03	4.8	10.2	6.44
Alkalinity, Total (as CaCO3)	T	mg/L	164	162	182	56	166	-	42	58	50	40	36	48	50	50	52	64	64	64	68	350	62	-	50	46	48	34	40
Ammoniacal Nitrogen as N	T	µg/L	5010	5150	5100	1640	5960	2630	3130	3070	3180	2760	2490	3270	4050	4860	5720	6940	7130	6380	5890	5810	3620	210	230	780	470	330	300
Anions Total	T	mmolc/l	43.79	45.44	56.75	24.15	43.35	-	19.71	21.32	20.87	22.5	25.17	23.79	21.91	22.26	19.66	18.34	22.36	20.94	21.74	491.84	24.25	-	27.22	24.66	26.7	26.41	26.97
Cation, total	T	mmolc/l	45.09	52.2	69.68	37.52	51.54	-	22.8	23.95	31.07	29.16	28.72	25.9	21.86	21.76	20.04	18.79	21.86	20.87	27.41	578.61	33.32	-	29.81	25.68	29.39	32.41	30.68
Chloride	T	µg/L	1133600	1200000	1527900	78900	1112900	-	67800	74900	75200	70000	54300	72700	77300	81800	88300	86600	79000	79900	73400	14845200	76100	-	280900	251000	270000	272600	282900
Cyanide	T	µg/L	49	84	99	16	36	-	138	186	219	63	189	2464	197	41	252	22	< 20	17	33	1	14	-	328	830	444	278	36
Cyanide (free)	T	µg/L	24	8	13	< 1	17	270	7	158	22	31	138	< 100	< 50	37	215	< 20	< 20	1	< 1	1	< 1	70	5	7	14	10	< 20
Cyanides-complex	T	µg/L	25	76	86	16	19	-	138	< 30	197	32	51	2464	197	< 5	< 100	22	< 20	16	33	< 1	14	-	323	823	430	268	36
Dissolved Inorganic Carbon	T	mg/L	37	37	39	< 2	37	-	< 2	< 2	< 2	< 2	< 2	< 2	3	< 2	< 2	< 2	< 2	< 2	< 2	95	< 2	-	6	4	4	5	5
Inorganic nitrogen	T	µg/L	5010	5150	5100	4250	5960	-	-	3070	3180	2760	2490	3270	4050	4860	5720	6940	7130	6380	6100	5810	3970	-	-	780	470	330	500
Nitrate (as NO3-)	T	µg/L	< 200	< 200	< 200	< 200	< 200	< 200	300	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	200	< 200	< 200	< 200	900
Nitrite	T	µg/L	< 20	< 20	< 20	8570	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	700	< 20	1130	< 20	< 20	< 20	< 20	< 20	< 20
Ortho Phosphate as P	T	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ortho Phosphate as PO4	T	mg/L	0.45	0.18	0.42	< 0.06	0.47	-	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	0.62	< 0.06	-	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Sulphate As SO4	T	µg/L	409700	401000	480900	999200	414700	-	814200	867000	852700	947300	1100900	997900	899500	910400	774600	702200	905400	836200	879500	3173800	1002000	-	878700	800000	870700	866300	873100
Sulphide	T	mg/L	< 0.05	< 0.01	< 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	0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Thiocyanate	T	µg/L	10470	10600	20570	70	< 20	230	240	280	280	270	210	270	230	220	220	280	240	250	200	< 20	80	< 20	< 20	< 20	< 20	< 20	< 20
Sulphur	T	µg/L	179416	152000	260773	513617	198130	-	281271	339000	344520	323444	378827	437162	324502	365827	295849	242537	307528	308391	604756	1257854	588217	-	291016	357000	381440	327981	283348
Aluminium	D	µg/L	3.1	2.3	12.8	182.3	7.6	-	45.9	54.6	56.3	33.3	54.7	42.2	39.4	29.1	34.4	47.2	56.6	48.6	344.1	19.3	58.7	-	46.9	54.1	10.4	12.2	8
Arsenic	D	µg/L	7.7	8.1	9.1	5.5	6.1	10.8	17.8	14.9	15.7	9.1	15.9	19.1	16.3	11.1	11.1	16.4	18.5	12.5	17.7	3	17.8	4.4	6	6.5	5.8	6.1	6.6
Barium	D	µg/L	-	-	-	-	-	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	-	-	-	-	-
Beryllium	D	µg/L	-	-	-	-	-	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.5	-	-	-	-	-
Boron	D	µg/L	834	810	844	108	872	90	102	102	110	86	103	88	95	76	77	86	93	91	82	1251	85	666	702	610	675	623	764
Cadmium	D	µg/L	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.06	< 0.03	< 0.03	< 0.5	0.07	0.06	0.07	0.09	0.07
Calcium	D	µg/L	67700	70800	87600	645000	74900	-	363700	377000	518000	474200	459700	410800	334300	321900	285900	268300	325400	298700	443300	1460200	558900	-	356300	297000	352100	409100	375900
Chromium	D	µg/L	3.8	2.9	2	4.6	0.3	< 1.5	< 0.2	1.2	7	4.9	5	2.3	6.5	< 0.2	7.1	0.2	8.3	5.7	12.2	1.9	0.3	< 1.5	< 0.2	< 0.2	5.1	6.2	2.8
Trivalent Chromium (CrIII)	D	µg/L	-	-	-	-	-	< 6	< 0.2	1.2	7	4.9	5	2.3	-	-	-	-	-	-	-	-	-	< 6	< 0.2	< 0.2	5.1	6.2	2.8

AECOM

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyt
Analyte Group: All
Date Range: 15/09/2022

			Location	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D
			Date	30/10/2023	28/11/2023	10/01/2024	08/02/2024	27/03/2024	16/09/2022	01/11/2022	10/01/2023	18/01/2023	13/02/2023	20/03/2023	30/05/2023	29/06/2023	27/07/2023	31/08/2023	26/09/2023	24/10/2023	29/11/2023	09/01/2024	06/02/2024	18/03/2024	15/09/2022	02/11/2022	12/12/2022	26/01/2023	14/02/2023	22/03/2023
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
Methyl N-Amyl Ketone	T	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexavalent Chromium (CrVI)	T	µg/L	< 6	< 6	< 6	< 6	< 6	< 6	-	-	-	< 6	< 6	-	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	46	< 6	< 6	-	-	-	< 6	< 6
Cobalt	D	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	D	µg/L	< 1	< 3	< 3	2	< 1	< 7	< 1	< 1	< 1	< 3	< 1	< 1	< 1	< 3	< 3	< 1	< 1	< 1	3	< 3	< 1	< 7	< 1	< 1	< 1	< 1	< 1
Iron	D	µg/L	772.7	811	1031	37	459.3	-	7.8	39.4	24.1	< 4.7	36.9	17.6	14	6.3	13.4	10.2	29.3	18.9	511.4	4752.9	23.8	-	154.3	295	160	115.9	108
Lead	D	µg/L	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 5	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	5.3	< 0.4	< 0.4	< 5	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Magnesium	D	µg/L	54200	55400	77300	200	62300	-	200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	500	200	< 100	600	300	1181600	< 100	-	30700	20500	25700	28700	29400
Manganese	D	µg/L	94	77.4	162.3	3.8	62.2	< 2	1.6	4.3	< 1.5	< 1.5	2.8	< 1.5	< 1.5	< 1.5	6.3	< 1.5	1.9	3.1	52.5	1613.9	< 1.5	459	438.3	144	207.3	338.1	375.8
Mercury	D	µg/L	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 0.01	< 0.01	0.05	< 0.01	< 0.01	< 0.01	< 0.01	0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Molybdenum	D	µg/L	18.1	13.6	16.9	43	17.3	-	33.6	39.8	36	23.9	37.9	38.2	37.9	29.5	35.6	42.5	37.2	44.8	44.3	< 0.2	47.1	-	246.3	229	247.8	257.9	236.8
Nickel	D	µg/L	0.3	< 0.2	< 0.2	1	0.3	< 2	0.8	1	1	< 0.2	0.9	1.1	1.2	< 0.2	1.2	1.4	1.1	1.4	29.2	< 0.2	0.8	< 2	0.8	1.1	1	0.7	0.8
Potassium	D	µg/L	89300	91900	87400	102300	98100	-	78900	91700	94400	102600	116000	98900	90200	96700	88900	85900	96700	92600	93300	165000	102200	-	80500	74600	82800	79300	82900
Selenium	D	µg/L	< 1.2	< 1.2	< 1.2	6.4	< 1.2	< 3	-	-	-	5.6	7.7	-	3.7	< 1.2	< 1.2	4.2	4.2	4	4.6	< 1.2	4.8	< 3	-	-	-	< 1.2	< 1.2
Silicon	D	µg/L	3483	3410	3590	6369	3588	-	6565	6970	6883	6558	6349	7058	6926	7117	5728	6068	6995	5343	7216	3459	6870	-	3635	2820	2833	3103	3097
Sodium	D	µg/L	803900	960000	1303900	62100	923400	-	60100	64200	64500	66100	64700	66000	66100	74100	79600	73200	72300	81500	66100	9295300	64700	-	171100	167000	174500	174900	169800
Vanadium	D	µg/L	1.6	1.3	3.4	204.4	1	< 1.5	-	-	-	< 0.6	1.1	-	4.5	3.4	8.3	9.2	19	71.4	67.7	< 0.6	79.8	< 1.5	-	-	-	1.5	1.5
Zinc	D	µg/L	< 1.5	1.6	2.8	2.6	< 1.5	< 3	< 1.5	2.2	1.5	< 1.5	< 1.5	-	< 1.5	< 1.5	3.5	1.6	< 1.5	1.6	24.1	3	< 1.5	< 3	< 1.5	< 1.5	1.8	2	2
2-chloronaphthalene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Nitroaniline	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
3-Nitroaniline	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4-bromophenyl phenyl ether	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4-Chlorophenyl phenyl ether	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4-Nitroaniline	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Azobenzene	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzyl Butyl Phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
bis(2-Chloroethoxy)methane	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
bis(2-Chloroethyl)ether	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bis(2-ethylhexyl) phthalate	T	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbazole	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroaniline, p-	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Diethyl Phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dimethyl Phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Di-n-butyl phthalate	T	µg/L	< 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
Di-n-octyl phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Hexachlorobutadiene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Hexachlorocyclopentadiene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Hexachloroethane	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Isophorone	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
ISOPROPYLTOLUENE, p-	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Methylnaphthalene, 2-	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
N-Nitrosodi-n-Propylamine	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Resorcinol (m-dihydroxybenzene)	T	µg/L	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10
Acenaphthene	T	µg/L	0.009	0.008	0.015	0.452	< 0.005	0.789	0.298	0.343	1.223	1.232	0.998	1.11	1.107	1.039	0.781	0.346	1.22	0.503	0.891	0.006	0.056	0.013	0.015	0.031	0.023	0.027	0.015
Acenaphthylene	T	µg/L	< 0.005	< 0.005	< 0.005	0.057	< 0.005	0.015	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.023	0.023	0.023	0.013	0.016	0.019	0.031	< 0.005	< 0.005	< 0.005	< 0.005	0.007	0.006	< 0.005	0.002
Anthracene	T	µg/L	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	0.02	0.009	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.011	0.021	< 0.005	0.007	< 0.005	< 0.005	0.011	0.012	0.009	0.004
Benzo(a)anthracene	T	µg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	0.008	0.01	0.007	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.028	< 0.005	< 0.005	0.005	0.014	0.018	0.017	< 0.005	0.002
Benzo(a)pyrene	T	µg/L	< 0.002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.002	< 0.005	0.024	< 0.005	< 0.005	< 0.005	0.01	0.012	0.007	< 0.005	0.00196
Benzo(b)fluoranthene	T	µg/L	< 0.005	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	0.009	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.005	< 0.008	0.034	< 0.008	< 0.008	< 0.008	0.012	0.021	0.012	< 0.008	0.002
Benzo(b+k)fluoranthene	T	µg/L	< 0.01	< 0.008	< 0.008	0.01	< 0.008	< 0.008	< 0.008	< 0.008	0.013	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.01	< 0.008	0.047	< 0.008	< 0.008	< 0.008	0.017	0.029	0.016	< 0.008	0.003
Benzo(g,h,i)perylene	T	µg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.018	< 0.005	< 0.005	< 0.005	< 0.005	0.007	< 0.005	< 0.005	0.001
Benzo(k)fluoranthene	T	µg/L	< 0.005	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.005	< 0.008	0.013	< 0.008	< 0.008	< 0.008	< 0.008	0.008	< 0.008	< 0.008	< 0.001
Chrysene	T	µg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	0.007	0.011	0.008	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.025	< 0.005	< 0.005	< 0.005	0.021	0.017	0.011	< 0.005	0.002
Dibenz(a,h)anthracene	T	µg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0009
Fluoranthene	T	µg/L	< 0.005	< 0.005	< 0.005	0.043	0.011	< 0.005	0.017	0.034	0.028	0.009	< 0.005	< 0.005	< 0.005	0.006	0.008	0.008	< 0.005	0.019	0.06	0.015	< 0.005	0.006	0.037	0.064	0.028	0.021	0.013
Fluorene	T	µg/L	< 0.005	0.009	0.007	0.188	0.005	0.106	0.041	0.007	0.259	0.231	0.175	0.225	0.212	0.204	0.166	0.05	0.236	0.133	0.206	0.005	0.007	0.01	0.011	0.03	0.017	0.018	0.01
Indeno(1,2,3-c,d)pyrene	T	µg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	0.011	< 0.005	< 0.005	0.001
Naphthalene	T	µg/L	< 2	< 2	< 2	< 2	< 2	5	< 2	6	4.9	5.3	4.5	7	4.3	4.1	2.5	2	6	3	5	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Phenanthrene	T	µg/L	0.01	0.013	< 0.005	0.097	0.021	< 0.005	0.02	0.091	0.052	< 0.005	0.015	0.012	0.014	0.021	0.022	0.013	0.019	0.05	0.052	0.017	< 0.005	0.017	0.033	0.088	0.048	0.044	0.022
Pyrene	T	µg/L	< 0.005	< 0.005	0.005	0.034	0.014	< 0.005	0.019	0.034	0.031	0.011	< 0.005	0.006	0.007	0.008	0.009	0.01	< 0.005	0.019	0.051	0.014	< 0.005	0.005	0.032	0.054	0.025	0.016	0.009
PAH (Sum of 16)	T	µg/L	0.129	< 0.173	< 0.173	0.901	< 0.173	5.01	2.106	1.144	6.536	6.798	5.693	5.653	5.663	5.401	3.509	2.44	1.531	2.954	3.579	< 0.173	0.47	< 0.173	0.19	0.379	0.21	< 0.173	0.12996
1,1,1,2-Tetrachloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1,1-Trichloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1,2,2-Tetrachloroethane	T	ug/L	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4
1,1,2-Trichloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,1-Dichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,1-dichloropropene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2,3-trichloropropane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2,4-Trimethylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2-dibromo-3-chloropropane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

AECOM

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyt
Analyte Group: All
Date Range: 15/09/2022

			Location	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH13S	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	MS\BH15D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D
			Date	30/10/2023	28/11/2023	10/01/2024	08/02/2024	27/03/2024	16/09/2022	01/11/2022	10/01/2023	18/01/2023	13/02/2023	20/03/2023	30/05/2023	29/06/2023	27/07/2023	31/08/2023	26/09/2023	24/10/2023	29/11/2023	09/01/2024	06/02/2024	18/03/2024	15/09/2022	02/11/2022	12/12/2022	26/01/2023	14/02/2023	22/03/2023
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**																											
Methyl N-Amyl Ketone	T	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,3,5-Trimethylbenzene (Mesitylene)	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,3-Dichloropropane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
2,2-Dichloropropane	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-chlorotoluene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
4-chlorotoluene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Benzene	T	ug/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromobenzene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromodichloromethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromoform	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromomethane	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon tetrachloride	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chlorobromomethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloroethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Chloroform	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloromethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
cis-1,2-dichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
cis-1,3-Dichloropropene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dibromomethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Dichlorodifluoromethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dichloromethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Ethylbenzene	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Isopropylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Methyl tertiary butyl ether	T	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	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
n-Butylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
n-Propylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
sec-Butylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Styrene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
tert-Butylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Tetrachloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Toluene	T	ug/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
trans-1,3-Dichloropropene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Trichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Trichlorofluoromethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Vinyl Chloride	T	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	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m-& p-Xylenes	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
m/p/o-Xylene	T	µg/L	-	-	-	-	-	< 3	< 3	< 3	< 3	< 3	< 3	< 3	-	-	-	-	-	-	-	-	-	< 3	< 3	< 3	< 3	< 3	< 3
o-Xylene	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Sum of Tetrachloroethene + Trichloroethene	T	µg/L	-	-	-	-	-	< 6	< 6	< 6	< 6	< 6	< 6	< 6	-	-	-	-	-	-	-	-	-	< 6	< 6	< 6	< 6	< 6	< 6
Volatile TIC	T	none	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
Aliphatics >C5-C6	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C5-C35	T	µg/L	-	-	-	-	-	< 10	< 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 10	< 10	-	-	-	-
Aliphatics >C5-C44	T	µg/L	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10
Aliphatics >C6-C8	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C8-C10	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C10-C12	T	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Aliphatics >C12-C16	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C16-C21	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C16-C35	T	µg/L	-	-	-	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	-	-	-	-	-	-	-	-	< 20	< 20	< 20	< 20	< 20	< 20
Aliphatics >C21-C35	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C35-C44	T	µg/L	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10
Aromatics >C5-C7	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C5-C35	T	µg/L	-	-	-	-	-	< 10	< 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 10	< 10	-	-	-	-
Aromatics >C5-C44	T	µg/L	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10
Aromatics >C7-C8	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C8-C10	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C10-C12	T	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Aromatics >C12-C16	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C16-C21	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C21-C35	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C35-C44	T	µg/L	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10
Aliphatics & Aromatics >C5-C35	T	µg/L	-	-	-	-	-	< 10	< 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 10	< 10	-	-	-	-
Aliphatics & Aromatics >C5-C44	T	µg/L	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	-	< 10	< 10	< 10	< 10	< 10

AECOM

Client: Net Zero Teesside F
Project: Net Zero Teesside
Table: Groundwater Analyt
Analyte Group: All
Date Range: 15/09/2022

			Location	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D
			Date	30/05/2023	06/07/2023	28/07/2023	01/09/2023	25/09/2023	25/10/2023	29/11/2023	09/01/2024	21/02/2024	20/03/2024	17/04/2024
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**												
Methyl N-Amyl Ketone	T	ug/L	-	-	-	-	-	-	-	-	-	-	-
Hexathiane	T	ug/L	-	-	-	-	-	-	-	4263	-	-	-
SVOC TICs	T	µg/L	0	0	0	0	0	0	0	-	0	0	0
Dibutyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	-
Tributyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	-
Triphenyltin	T	µg/L	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dinitrotoluene, 2,4-	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dinitrotoluene, 2,6-	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Nitrobenzene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chlorobenzene	T	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,3-Dichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,4-Dichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2,3-Trichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2,4-Trichlorobenzene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Hexachlorobenzene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1-Naphthol	T	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,3,5-Trimethylphenol	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2,4,5-Trichlorophenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4,6-Trichlorophenol	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2,4-Dichlorophenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2,4-Dimethylphenol	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Chlorophenol	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Isopropylphenol	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-methylphenol	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Nitrophenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
3/4-Methylphenol (m/p-cresol)	T	µg/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
4-Chloro-3-methylphenol	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
4-Methylphenol	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	6	< 1	< 1	< 1
4-Nitrophenol	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Catechol (o-dihydroxybenzene)	T	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01
Cresol Total	T	µg/L	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Pentachlorophenol	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Phenol	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	30	< 10	< 10	< 10
Total Speciated Phenols	T	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total Speciated Phenols	T	ug/L	-	-	-	-	-	-	-	-	-	-	-
Xylenols	T	µg/L	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60
Dissolved Organic Carbon	T	mg/L	4	4	4	5	5	15	4	156	5	5	5
pH (Lab)	T	pH units	8.32	8.27	8.65	8.88	8.91	11.68	8.15	7.44	9.21	8.36	8.62
Suspended solids (NEN-EN 872)	T	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total Suspended Solids	T	mg/L	18	< 10	29	22	19	18	40	12	12	27	10
% Cation Excess	T	%	1.65	0.26	0.73	2.68	4.67	-1.2	9.85	11.04	7.37	12.36	11.25
Alkalinity, Total (as CaCO3)	T	mg/L	40	50	40	26	42	282	32	322	60	54	40
Ammoniacal Nitrogen as N	T	µg/L	320	200	260	580	380	2640	460	2100	750	610	360
Anions Total	T	mmolc/l	26.56	26.43	26.38	24.3	24.83	9.3	25.62	31.56	25.77	25.24	25.73
Cation, total	T	mmolc/l	27.45	26.57	26.77	25.64	27.26	9.08	31.22	39.39	29.87	32.36	32.25
Chloride	T	µg/L	268100	276800	266700	251100	264000	73400	268900	614300	263900	271300	259900
Cyanide	T	µg/L	265	322	489	729	315	2500	351	31	432	272	46
Cyanide (free)	T	µg/L	27	13	84	35	11	< 200	6	< 1	33	2	5
Cyanides-complex	T	µg/L	238	309	405	694	304	2500	345	31	399	270	41
Dissolved Inorganic Carbon	T	mg/L	5	7	6	< 2	6	4	4	45	6	6	5
Inorganic nitrogen	T	µg/L	1110	370	580	650	380	4850	460	2100	760	610	360
Nitrate (as NO3-)	T	µg/L	3500	600	900	< 200	< 200	400	< 200	< 200	< 200	< 200	< 200
Nitrite	T	µg/L	40	130	350	230	< 20	6970	< 20	< 20	30	< 20	< 20
Ortho Phosphate as P	T	mg/L	-	-	-	-	-	-	-	-	-	-	-
Ortho Phosphate as PO4	T	mg/L	< 0.06	< 0.06	0.06	< 0.06	< 0.06	0.12	< 0.06	< 0.06	0.08	< 0.06	< 0.06
Sulphate As SO4	T	µg/L	871500	846100	866700	801700	794600	76200	835500	374400	822300	792600	845200
Sulphide	T	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01
Thiocyanate	T	µg/L	30	< 20	< 20	< 20	< 20	70	< 20	< 20	< 20	< 20	< 20
Sulphur	T	µg/L	380387	294028	310466	281529	295769	24401	298453	230970	431137	507086	425084
Aluminium	D	µg/L	14	18.9	7.4	55.8	13.8	1460.9	15.1	10	125.5	14.1	181
Arsenic	D	µg/L	6.2	5.7	4.7	5.5	6.3	14.8	5.8	24.5	5	5.3	5.6
Barium	D	µg/L	-	-	-	-	-	-	-	-	-	-	-
Beryllium	D	µg/L	-	-	-	-	-	-	-	-	-	-	-
Boron	D	µg/L	691	654	650	591	649	196	665	393	778	842	820
Cadmium	D	µg/L	0.08	0.06	< 0.03	< 0.03	0.08	< 0.03	0.07	< 0.03	< 0.03	0.06	0.07
Calcium	D	µg/L	322100	303300	301900	299300	311500	45500	395300	350800	359100	401300	404800
Chromium	D	µg/L	3.6	6.8	9.1	1.2	1.9	1.5	2.3	3.1	2.3	2.8	0.7
Trivalent Chromium (CrIII)	D	µg/L	3.6	-	-	-	-	-	-	-	-	-	-

AECOM

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyt
Analyte Group: All
Date Range: 15/09/2022

			Location	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D
			Date	30/05/2023	06/07/2023	28/07/2023	01/09/2023	25/09/2023	25/10/2023	29/11/2023	09/01/2024	21/02/2024	20/03/2024	17/04/2024
			Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
			Sample Type	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**												
Methyl N-Amyl Ketone	T	ug/L	-	-	-	-	-	-	-	-	-	-	-
Hexavalent Chromium (CrVI)	T	µg/L	-	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Cobalt	D	µg/L	-	-	-	-	-	-	-	-	-	-	-
Copper	D	µg/L	< 1	< 1	< 3	< 3	< 1	< 1	< 1	< 3	< 3	< 1	< 1
Iron	D	µg/L	121.6	121.9	115.1	168.4	123.8	811.4	127.7	92.2	288	128.8	271.8
Lead	D	µg/L	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	1.3
Magnesium	D	µg/L	27400	28900	28000	23100	28600	< 100	27100	9600	32400	33500	34100
Manganese	D	µg/L	382.2	480.7	341	156.4	245.4	< 1.5	257.4	181	387.2	454.1	372
Mercury	D	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.12	< 0.01	< 0.01	< 0.01
Molybdenum	D	µg/L	249.8	242.8	182	185.5	233.6	31.4	244.9	25.5	171.1	221.3	211.5
Nickel	D	µg/L	0.8	0.7	< 0.2	0.9	0.6	5.2	0.7	4	< 0.2	0.6	0.8
Potassium	D	µg/L	77200	79200	79100	74900	81800	25400	81000	67100	79500	86100	82000
Selenium	D	µg/L	-	< 1.2	< 1.2	< 1.2	< 1.2	2.6	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Silicon	D	ug/L	3275	3920	3752	3064	3222	12315	2827	10315	3567	2896	3209
Sodium	D	µg/L	164400	161700	169700	158400	167200	141700	165400	445500	166700	169700	164300
Vanadium	D	µg/L	-	5.8	< 0.6	8.7	4.1	187	3.6	6.4	6.1	1.6	2.9
Zinc	D	µg/L	-	4.4	< 1.5	2.5	< 1.5	1.8	< 1.5	25	6.5	< 1.5	7.8
2-chloronaphthalene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Nitroaniline	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
3-Nitroaniline	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4-bromophenyl phenyl ether	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4-Chlorophenyl phenyl ether	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4-Nitroaniline	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Azobenzene	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzyl Butyl Phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
bis(2-Chloroethoxy)methane	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
bis(2-Chloroethyl)ether	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bis(2-ethylhexyl) phthalate	T	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbazole	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroaniline, p-	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Diethyl Phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dimethyl Phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Di-n-butyl phthalate	T	µg/L	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Di-n-octyl phthalate	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Hexachlorobutadiene	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Hexachlorocyclopentadiene	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Hexachloroethane	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Isophorone	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
ISOPROPYLTOLUENE, p-	T	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Methylnaphthalene, 2-	T	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
N-Nitrosodi-n-Propylamine	T	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Resorcinol (m-dihydroxybenzene)	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	T	µg/L	0.022	0.019	0.014	0.019	0.013	< 0.005	0.048	< 1	0.016	0.017	0.014
Acenaphthylene	T	µg/L	< 0.005	0.009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 1	< 0.005	< 0.005	< 0.005
Anthracene	T	µg/L	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.005	0.008	< 1	0.005	0.006	< 0.005
Benzo(a)anthracene	T	µg/L	0.008	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.008	< 1	< 0.005	< 0.005	< 0.005
Benzo(a)pyrene	T	µg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.002	< 0.005	< 1	< 0.005	< 0.005	< 0.005
Benzo(b)fluoranthene	T	µg/L	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.005	< 0.008	< 1.6	< 0.008	< 0.008	< 0.008
Benzo(b+k)fluoranthene	T	µg/L	0.01	< 0.008	< 0.008	< 0.008	< 0.008	< 0.01	< 0.008	< 1.6	< 0.008	< 0.008	< 0.008
Benzo(g,h,i)perylene	T	µg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 1	< 0.005	< 0.005	< 0.005
Benzo(k)fluoranthene	T	µg/L	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008	< 0.005	< 0.008	< 1.6	< 0.008	< 0.008	< 0.008
Chrysene	T	µg/L	0.006	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.009	< 1	< 0.005	< 0.005	< 0.005
Dibenz(a,h)anthracene	T	µg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 1	< 0.005	< 0.005	< 0.005
Fluoranthene	T	µg/L	0.017	0.009	0.007	0.011	0.01	< 0.005	0.033	< 1	0.007	0.015	0.007
Fluorene	T	µg/L	0.014	0.014	0.01	0.012	0.01	< 0.005	0.108	< 1	0.011	0.012	0.011
Indeno(1,2,3-c,d)pyrene	T	µg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 1	< 0.005	< 0.005	< 0.005
Naphthalene	T	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 20	< 2	< 2	< 2
Phenanthrene	T	µg/L	0.024	0.013	0.015	0.024	0.022	< 0.005	0.132	< 1	0.016	0.02	0.015
Pyrene	T	µg/L	0.015	0.007	0.006	0.008	0.008	< 0.005	0.032	< 1	0.006	0.012	0.006
PAH (Sum of 16)	T	µg/L	0.216	< 0.173	< 0.173	< 0.173	< 0.173	< 0.082	0.378	< 34.6	< 0.173	< 0.173	< 0.173
1,1,1,2-Tetrachloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1,1-Trichloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1,2,2-Tetrachloroethane	T	ug/L	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4
1,1,2-Trichloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,1-Dichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,1-dichloropropene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2,3-trichloropropane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2,4-Trimethylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,2-dibromo-3-chloropropane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Client: Net Zero Teesside P
Project: Net Zero Teesside
Table: Groundwater Analyt
Analyte Group: All
Date Range: 15/09/2022

		Location	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D	S2-BHA04D
		Date	30/05/2023	06/07/2023	28/07/2023	01/09/2023	25/09/2023	25/10/2023	29/11/2023	09/01/2024	21/02/2024	20/03/2024	17/04/2024
		Geologic Unit	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND	TFD SAND
		Sample Type	N	N	N	N	N	N	N	N	N	N	N
Analyte	**Fraction**	**Units**											
Methyl N-Amyl Ketone	T	ug/L	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloroethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,3,5-Trimethylbenzene (Mesitylene)	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
1,3-Dichloropropane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
2,2-Dichloropropane	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-chlorotoluene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
4-chlorotoluene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Benzene	T	ug/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromobenzene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromodichloromethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromoform	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromomethane	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon tetrachloride	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chlorobromomethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloroethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Chloroform	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloromethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
cis-1,2-dichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
cis-1,3-Dichloropropene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dibromomethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Dichlorodifluoromethane	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dichloromethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Ethylbenzene	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Isopropylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Methyl tertiary butyl ether	T	ug/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
n-Butylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
n-Propylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
sec-Butylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Styrene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
tert-Butylbenzene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Tetrachloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Toluene	T	ug/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
trans-1,3-Dichloropropene	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Trichloroethene	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Trichlorofluoromethane	T	ug/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Vinyl Chloride	T	ug/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m-& p-Xylenes	T	ug/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
m/p/o-Xylene	T	µg/L	< 3	-	-	-	-	-	-	-	-	-	-
o-Xylene	T	ug/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Sum of Tetrachloroethene + Trichloroethene	T	µg/L	< 6	-	-	-	-	-	-	-	-	-	-
Volatile TIC	T	none	0	0	0	0	0	0	0	0	0	0	0
Aliphatics >C5-C6	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	15	< 10	< 10	< 10
Aliphatics >C5-C35	T	µg/L	-	-	-	-	-	-	-	-	-	-	-
Aliphatics >C5-C44	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	83	< 10	< 10	< 10
Aliphatics >C6-C8	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	27	< 10	< 10	< 10
Aliphatics >C8-C10	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	41	< 10	< 10	< 10
Aliphatics >C10-C12	T	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Aliphatics >C12-C16	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C16-C21	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C16-C35	T	µg/L	< 20	-	-	-	-	-	-	-	-	-	-
Aliphatics >C21-C35	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics >C35-C44	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C5-C7	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C5-C35	T	µg/L	-	-	-	-	-	-	-	-	-	-	-
Aromatics >C5-C44	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C7-C8	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C8-C10	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C10-C12	T	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Aromatics >C12-C16	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C16-C21	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C21-C35	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics >C35-C44	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics & Aromatics >C5-C35	T	µg/L	-	-	-	-	-	-	-	-	-	-	-
Aliphatics & Aromatics >C5-C44	T	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	83	< 10	< 10	< 10

Annex B

Stage 1 – 3 Assessment for Hazardous Substances

1. Introduction

A Stage 1 – 3 Assessment for hazardous substances, as outlined in the European Commission Guidance concerning baseline reporting (2014/C 136/03), has been produced to support the Site Condition Report.

The European Commission Guidance under Article 22(2) of Directive 2010/75/EU specifies criteria for baseline reports, covering aspects such as the necessity of the report, investigation design, and report development. Consequently, the Environment Agency request that a Stage 1 to 3 assessment for hazardous substances including the following components is carried out:

- Specification of primary containment, including the volume of any relevant hazardous substances (RHS) proposed for storage or use at an Installation, and their Material Safety Data Sheets (MSDS).
- Description of secondary containment measures and their volumes, alongside a compliance evaluation in accordance with CIRIA Report C736—Containment systems for the prevention of pollution.

To address this requirement the aim of this Annex is to conduct an assessment aligned with Stages 1-3 of the European Guidance concerning baseline reports as outlined in Article 22(2) of Directive 2010/75/EU on Industrial Emissions. The guidance describes the following stages:

- Stage 1: Identify the hazardous substances currently in use, produced or released at the installation.
- Stage 2: Identify relevant hazardous substances to evaluate pollution risks.
- Stage 3: Assess the site-specific pollution possibility.

The outcome of the three stages will determine the pollution risk for the Installation.

Following the identification of the pollution risk and the information gathered from this assessment, the CIRIA Report C736 - Containment systems for the prevention of pollution will be used to

undertake a qualitative assessment to determine what level of classification of secondary containment is appropriate and the requirements of that level of classification. The report will then consider how the design of the secondary containment complies with the secondary containment classification requirements.

2. Stage 1 – 2 Assessment

Stage 1 requires the identification of hazardous materials that may be encountered within the Installation including raw materials, products, intermediaries, by-products, emissions or waste. Table 1 lists the main materials that will be used and produced at the Installation. The final design of the Installation is not yet available, therefore there are likely to be some additional chemicals required in small quantities for the operation of the Installation (i.e. cleaning chemicals) which are not listed. However, the management measures outlined in this Report will apply to any additional chemicals.

Stage 2 requires the assessment of the potential pollution risk to soil and groundwater posed by the hazardous substances identified in Stage 1. This assessment requires a review of the chemical and physical properties of each material. To do this the information necessary for this evaluation has been gathered primarily from MSDS for the relevant substances. The available MSDS are presented in Annex C of the Site Condition Report. These documents provide essential information, including the Chemical Abstracts Service (CAS) numbers for each substance, which serve as unique identifiers for chemical compounds.

The assessment also considers the classification of the materials under the European Union's Regulation (EC) No. 1272/2008, which governs the classification, labelling, and packaging of substances and mixtures (CLP Regulations).

A summary of the findings from Stage 1 and 2 of this assessment is presented in Table 1.

Table 1 Raw Materials to be Stored, Used and Handled and Waste Materials Produced and Stored at the Installation

Stage 1	Stage 2					
Material	**State** **S Solid** **L Liquid** **G Gas**	**CAS No.**	**Hazardous Statements**	**Hazardous substances under Stage 2 (Yes/ No)**	**Environmental Fate and Behaviours** **Product (P)** **Water (W)** **Sewer (S)** **Air (A)** **Waste/ Land (L)**	**Potential Pollution Risk to Soil and Groundwater**
Raw Materials						
CANSOLV DC-103 Fresh solvent	L	7732-18-5	H302 - Harmful if swallowed. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H318 - Causes serious eye damage. H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. H361 - Suspected of damaging fertility or the unborn child	Yes	W	Yes, if released to soil or groundwater.
99.95% wt Anhydrous Ammonia	G	7664-41-7	H221 - Flammable gas. H280 - Contains under pressure gas; may explode if heated. H331 - Toxic if inhaled. H314 - Causes severe skin burns and eye damage. H400 - Very toxic to aquatic life. H 411 - Toxic to aquatic life with long lasting effects	Yes	A	This substance is a gas, so it does not pose a risk to soil or groundwater. It was therefore excluded from further assessment in Stage 3.
24.5% wt Ammonia	L	7664-41-7	H314 Causes severe skin burns and eye damage. H335 May cause respiratory irritation. H412 Harmful to aquatic environment with long lasting effects.	Yes	W, L	Yes, if released to soil or groundwater.

Stage 1	Stage 2					
Material	**State** **S Solid** **L Liquid** **G Gas**	**CAS No.**	**Hazardous Statements**	**Hazardous substances under Stage 2 (Yes/ No)**	**Environmental Fate and Behaviours** **Product (P)** **Water (W)** **Sewer (S)** **Air (A)** **Waste/ Land (L)**	**Potential Pollution Risk to Soil and Groundwater**
47% Sodium hydroxide (caustic)	L	1310-73-2	H314 - Causes severe skin burns and eye damage. H318 - Causes serious eye damage. H402 - Harmful to aquatic life	Yes	W, L	Yes, if released to soil or groundwater.
Sodium hypochlorite	L	7681-52-9	H290 - substance or mixture corrosive to metals H314 - Causes severe skin burns and eye damage H410 - hazardous to the aquatic environment - chronic hazard	Yes	W, L	Yes, if released to soil or groundwater.
Antifoam	S	25322-68-3	Not considered hazardous	No	W, L	No. The substance is not considered hazardous, so it does not pose a risk to soil or groundwater. It was therefore excluded from further assessment in Stage 3.
Coagulant ($FeCl_3$)	L	7705-08-0	H302 - Harmful if swallowed H315 - Causes skin irritation H317 - May cause an allergic skin reaction H318 - Causes serious eye damage	Yes	W, L	Yes, if released to soil or groundwater.
Flocculant	L	Mixture	Not considered hazardous	No	W, L	No. The substance is not considered hazardous, so it does not pose a risk to

Stage 1	Stage 2					
Material	**State** **S Solid** **L Liquid** **G Gas**	**CAS No.**	**Hazardous Statements**	**Hazardous substances under Stage 2 (Yes/ No)**	**Environmental Fate and Behaviours** **Product (P)** **Water (W)** **Sewer (S)** **Air (A)** **Waste/ Land (L)**	**Potential Pollution Risk to Soil and Groundwater**
						soil or groundwater. It was therefore excluded from further assessment in Stage 3.
Natural gas	G	8006-14-2	H280 - Contains gas under pressure; may explode if heated.	No	A	This substance is a gas, so it does not pose a risk to soil or groundwater. It was therefore excluded from further assessment in Stage 3.
Sulphuric acid	L	7664-93-9	H290 – May be corrosive to metals H314 - Causes severe skin burns and eye damage.	Yes	W, L	Yes, if released to soil or groundwater.
Activated carbon	S	7440-44-0	H320 - Causes eye irritation H335 - May cause respiratory irritation	Yes	W, L	Yes, if released to soil or groundwater.
Diesel (emergency diesel generator fuel)	L	68334-30-5	H226 - Flammable liquid and vapour H304 - May be fatal if swallowed and enters airways H315 - Causes skin irritation H332 - Harmful if inhaled H351 - Suspected of causing cancer	Yes	W, L	Yes, if released to soil or groundwater.

Stage 1	Stage 2					
Material	**State** **S Solid** **L Liquid** **G Gas**	**CAS No.**	**Hazardous Statements**	**Hazardous substances under Stage 2 (Yes/ No)**	**Environmental Fate and Behaviours** **Product (P)** **Water (W)** **Sewer (S)** **Air (A)** **Waste/ Land (L)**	**Potential Pollution Risk to Soil and Groundwater**
			H373 - May cause damage to organs through prolonged or repeated exposure. Bone marrow, Liver, Thymus H411 - Toxic to aquatic life with long lasting effects			
Hydrogen	G	1333-74-0	H280 - Contains gas under pressure; may explode if heated.	No	A	This substance is a gas, so it does not pose a risk to soil or groundwater. It was therefore excluded from further assessment in Stage 3.
Corrosion Inhibitor	L	7664-38-2	H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage	Yes	W, L	Yes, if released to soil or groundwater.
Biocide	L	10377-60-3 26172-55-4 2682-20-4	H314 - Causes severe skin burns and eye damage H317 - May cause an allergic skin reaction	Yes	W, L	Yes, if released to soil or groundwater.
Propylene glycol	L	57-55-6	Not considered hazardous	No	W, L	No. The substance is not considered hazardous, so it does not pose a risk to soil or groundwater. It was therefore excluded from

Stage 1	Stage 2					
Material	**State** **S Solid** **L Liquid** **G Gas**	**CAS No.**	**Hazardous Statements**	**Hazardous substances under Stage 2 (Yes/ No)**	**Environmental Fate and Behaviours** **Product (P)** **Water (W)** **Sewer (S)** **Air (A)** **Waste/ Land (L)**	**Potential Pollution Risk to Soil and Groundwater**
						further assessment in Stage 3.
Lubrication oil (mechanical equipment)	L	Mixture	H412 - Harmful to aquatic life with long lasting effects	Yes	W, L	Yes, if released to soil or groundwater.
Instrument air	G	7782-44-7	H280 - Contains gas under pressure; may explode if heated	No	A	This substance is a gas, so it does not pose a risk to soil or groundwater. It was therefore excluded from further assessment in Stage 3.
Carbon dioxide	G	124-38-9	H280 - Contains gas under pressure; may explode if heated.	Yes	A	This substance is a gas, so it does not pose a risk to soil or groundwater. It was therefore excluded from further assessment in Stage 3
Biodispersant	L	Propriety	H318 - Causes serious eye damage	Yes	W, L	Yes, if released to soil or groundwater.
Sodium metabisulphite	S	007681-57-4	H302 – Harmful if swallowed H313 – May be harmful to skin	Yes	W, L	Yes, if released to soil or groundwater.

Stage 1	Stage 2					
Material	**State** **S Solid** **L Liquid** **G Gas**	**CAS No.**	**Hazardous Statements**	**Hazardous substances under Stage 2 (Yes/ No)**	**Environmental Fate and Behaviours** **Product (P)** **Water (W)** **Sewer (S)** **Air (A)** **Waste/ Land (L)**	**Potential Pollution Risk to Soil and Groundwater**
			H319 – Causes serious eye irritation			
Wastes						
Thermal reclaimer waste	L	N/A	This material is classified as waste, so an MSDS is not available. It is expected to consist of degraded CANSOLV solvent combined with heat-stable salts from the reclaiming process. The hazardous safety statements applicable to the CANSOLV solvent also apply to the thermal reclaimer waste.	Yes	W, L	Yes, if released to soil or groundwater.
Solvent from solvent drain vessel	L	N/A	This material is classified as waste, so an MSDS is not available. It is expected to consist of CANSOLV solvent. The hazardous safety statements applicable to the CANSOLV solvent also apply to the solvent drain vessel.	Yes	W, L	Yes, if released to soil or groundwater.
SCR catalyst	S	N/A	The material is a waste therefore no MSDS available.	Yes	W, L	Yes, if released to soil or groundwater.
Spent filter elements from the CCGT air intakes	S	N/A	The material is a waste therefore no MSDS available.	Yes	W, L	Yes, if released to soil or groundwater.
Waste lubricants	L	N/A	The material is a waste therefore no MSDS available.	Yes	W, L	Yes, if released to soil or groundwater.
Spent filter cartridges from water treatment	S	N/A	The material is a waste therefore no MSDS available.	Yes	W, L	Yes, if released to soil or groundwater.
Spent desiccant from LP compression	S	N/A	The material is a waste therefore no MSDS available.	Yes	W, L	Yes, if released to soil or groundwater.

Stage 1	Stage 2					
Material	**State** **S Solid** **L Liquid** **G Gas**	**CAS No.**	**Hazardous Statements**	**Hazardous substances under Stage 2 (Yes/ No)**	**Environmental Fate and Behaviours** **Product (P)** **Water (W)** **Sewer (S)** **Air (A)** **Waste/ Land (L)**	**Potential Pollution Risk to Soil and Groundwater**
Dehydrated sludge from Wastewater Treatment Plant (WwTP)	L/S	N/A	The material is a waste therefore no MSDS available.	Yes	W, L	Yes, if released to soil or groundwater.
Oily water from Installation interceptors	L	N/A	The material is a waste therefore no MSDS available.	Yes	W, L	Yes, if released to soil or groundwater.

3. Stage 3 Assessment

Stage 3 of the European Commission Guidance focuses on assessing the site-specific pollution possibility to soil and groundwater. The first requirement is to identify potential pollution risks. This involves evaluating each relevant hazardous substance to determine if circumstances exist that may result in its release in sufficient quantities to pose a pollution risk. The guidance requires the consideration of the quantity of hazardous substances handled, produced, or emitted, as well as their location on the site, including delivery, storage, usage, and movement. Additionally, the guidance requires the assessment of the presence and integrity of containment, site surfacing, and drainage systems.

As outlined in Table 1, the following substances have been identified as not having a pollution risk and therefore will not be assessed as part of Stage 3:

- Anhydrous ammonia
- Coagulant (antifoam)
- Flocculant
- Natural gas
- Propylene glycol
- Hydrogen
- Instrument air

The following materials will be further assessed in Stage 3:

- Raw Materials
  - CANSOLV DC-103 (fresh solvent)
  - 24.4% Ammonia solution
  - 47% Sodium hydroxide (caustic)
  - Sodium hypochlorite
  - Coagulant ($FeCl_3$)
  - Sulphuric acid
  - Activated carbon
  - Diesel
  - Corrosion inhibitor
  - Biocide
  - Lubrication oil
  - Biodispersant
  - Sodium Metabisulphite

- Wastes
  - Thermal reclaimer waste
  - Solvent from solvent drain vessel
  - SCR catalyst
  - Spent filter elements from the CCGT air intakes
  - Waste lubricants
  - Spent filter cartridges from water treatment
  - Spent desiccant from LP compression
  - Dehydrated sludge from WwTP
  - Oily water from Installation interceptors

Stage 3 of the assessment is presented in Table 2.

Table 2 Stage 3: Assessment of Site-specific Pollution Potential

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
Raw Materials							
CANSOLV DC-103 Fresh solvent	850 tonnes	The solvent will be directly delivered into lean solvent tank.	Delivered in tankers/ HGVs directly into the lean solvent tank.	Primary storage in the lean solvent tank on the PCC plant. The lean solvent tank is an atmospheric pressure fixed roof tank, constructed of stainless steel with 40 mm of external insulation and will be painted white. The tank will be designed to relevant industry codes (API 650) and standards (BSEN 14015). This type of tank is considered BAT in the Emissions from Storage BRef for tanks where nitrogen blanketing is not required. Secondary containment will be a bund designed in accordance with CIRIA C736 guidance and will normally either hold 110% of the capacity of the	An Environmental Management System (EMS) for the Installation will be in place which will outline all measures for delivery, handling, and storage of chemicals. All personnel who are required to handle the solvent will receive relevant training on the safe handling of the chemical. The solvent will be stored within close proximity to the location of use thereby minimising travel distances within the Installation boundary.	Areas where chemicals are handled, will comprise concrete hardstanding of watertight construction and be kerbed/ bunded to ensure that spillages and/ or leaks in those areas are contained. The drainage system in areas of chemical handling will be designed to channel towards buried concrete neutralising pits which will be installed with the required instrumentation to carry out testing prior to discharge. The pits will also be fitted with an alarm in the central control room if the contents of the neutralisation pit reaches a certain high point (yet to be confirmed). In areas of the Installation where there will be amines present, these will be served by a dedicated surface water drainage system. In the unlikely event of a spill, drainage from these areas will flow to a collection sump. To enable testing to determine	Low due to measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
				largest tank within a bund or 25% of the total capacity, whichever is the greater. It will be constructed of impermeable materials on impermeable ground and all pipework will be routed over the bund and not through it.		whether amines are present. Where amines are found to be present, the collected water will either be reused in the process or disposed of off-site by a licenced 3rd party waste contractor. All bunding will be inspected regularly by an operative who has received the appropriate training. Any defects will be accurately recorded and managed/ rectified accordingly. All personnel responsible for the management of amines will undergo appropriate training in accordance with the Installation's EMS.	
24.5 wt Ammonia	6,600 tonnes	Stored within the vicinity of the Selective Catalytic Reduction equipment (SCR), which is shown in Figure 3 in Appendix A of the Main Supporting Document.	Delivered in tankers/ HGVs and unloaded into the dedicated storage tank.	The ammonia for the SCR will be stored in an atmospheric pressure fixed roof tank. The tank will be sized and designed to relevant industry codes (API 650) and standards (BSEN 14015). The tank will be located in a bund that will have sufficient capacity to allow for tank failure and firewater management. This	An EMS for the Installation will be in place which will outline all measures for delivery, handling, and storage of chemicals. All personnel who are required to handle the ammonia will receive relevant training on the safe handling of the chemical. The ammonia will be stored within close proximity to the location of use thereby minimising travel	The bunding will be constructed of impermeable materials on impermeable ground and all pipework will be routed over the bund and not through it. Ammonia gas detectors will be provided and located in the bund area and close to pumps handling aqueous ammonia due to the toxicity of this product. All bunding will be inspected regularly by an operative who has received the appropriate training. Any defects will be accurately recorded and	Low due to measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
				will be designed in accordance with CIRIA C736 guidance and will normally either hold 110% of the capacity of the largest tank within a bund or 25% of the total capacity, whichever is the greater.	distances within the Installation boundary.	managed/ rectified accordingly. The drainage system in areas of chemical handling will be designed to channel towards buried concrete neutralising pits which will be installed with the required instrumentation to carry out testing prior to discharge. The pits will also be fitted with an alarm in the central control room if the contents of the neutralisation pit reaches a determined high point.	
47% Sodium hydroxide (caustic)	270 tonnes	Chemical Storage Area as shown in Figure 3 in Appendix A of the Main Supporting Document.	Delivered in tankers/ HGVs and unloaded in dedicated chemical delivery area located close to the Chemical Storage Area.	The chemical will be stored in a bunded Chemical Storage Area as shown in Figure 3 in Appendix A of the Main Supporting Document. The Chemical Storage Area will be designed in line with COSHH Regulations and CIRIA C736.	An EMS for the Installation will be in place which will outline all measures for delivery, handling, and storage of chemicals. All personnel who are required to handle the sodium hydroxide will receive relevant training on the safe handling of the chemical.	Areas where chemicals are handled, will comprise concrete hard standing of watertight construction and be kerbed/ bunded to ensure that spillages and/ or leaks in those areas are contained. The drainage system in areas of chemical handling will be designed to channel towards buried concrete neutralising pits which will be installed with the required instrumentation to carry out testing prior to discharge. The pits will also be fitted with an alarm in the central control room if the contents of the neutralisation pit reaches a determined high point.	Low due to measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
						Areas of chemical storage will be bunded and will be constructed according to the requirements of CIRIA C736, API 650 and relevant Eurocodes. All bunding will be inspected regularly by an operative who has received the appropriate training. Any defects will be accurately recorded and managed/ rectified accordingly.	
Sodium hypochlorite	225 tonnes	Chemical Storage Building as shown in Figure 3 in Appendix A of the Main Supporting Document.	Delivered in tankers/ HGVs and unloaded in dedicated chemical delivery area located close to the Chemical Storage Building.	The chemical will be stored in a bunded chemical Storage Area as shown in Figure 3 in Appendix A of the Main Supporting Document. The Chemical Storage Building will be designed in line with COSHH Regulations and CIRIA C736.	An EMS for the Installation will be in place which will outline all measures for delivery, handling, and storage of chemicals. All personnel who are required to handle the sodium hypochlorite will receive relevant training on the safe handling of the chemical.	Areas where chemicals are handled, will comprise concrete hard standing of watertight construction and be kerbed/ bunded to ensure that spillages and/ or leaks in those areas are contained. The drainage system in areas of chemical handling will be designed to channel towards buried concrete neutralising pits which will be installed with the required instrumentation to carry out testing prior to discharge. The pits will also be fitted with an alarm in the central control room if the contents of the neutralisation pit reaches a determined high point.	Low due to measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
						Areas of chemical storage will be bunded and will be constructed according to the requirements of CIRIA C736, API 650 and relevant Eurocodes. All bunding will be inspected regularly by an operative who has received the appropriate training. Any defects will be accurately recorded and managed/ rectified accordingly.	
Coagulant ($FeCl_3$)	150 tonnes	Chemical Storage Building as shown in Figure 3 in Appendix A of the Main Supporting Document.	Delivered in tankers/ HGVs and unloaded in dedicated chemical delivery area located close to the Chemical Storage Building.	The chemical will be stored in a bunded chemical Storage Area as shown in Figure 3 in Appendix A of the Main Supporting Document. The Chemical Storage Building will be designed in line with COSHH Regulations and CIRIA C736.	An EMS for the Installation will be in place which will outline all measures for delivery, handling, and storage of chemicals. All personnel who are required to handle coagulant will receive relevant training on the safe handling of the chemical. The coagulant will be stored within close proximity to the location of use thereby minimising travel distances within the Installation boundary.	Areas where chemicals are handled, will comprise concrete hard standing of watertight construction and be kerbed/ bunded to ensure that spillages and/ or leaks in those areas are contained. The drainage system in areas of chemical handling will be designed to channel towards buried concrete neutralising pits which will be installed with the required instrumentation to carry out testing prior to discharge. The pits will also be fitted with an alarm in the central control room if the contents of the neutralisation pit reaches a determined high point.	Low due to measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
						Areas of chemical storage will be bunded and will be constructed according to the requirements of CIRIA C736, API 650 and relevant Eurocodes. All bunding will be inspected regularly by an operative who has received the appropriate training. Any defects will be accurately recorded and managed/ rectified accordingly.	
Sulphuric acid	10 tonnes	Chemical Storage Building as shown in Figure 3 in Appendix A of the Main Supporting Document.	Delivered in tankers/ HGVs and unloaded in dedicated chemical delivery area located close to the Chemical Storage Building.	The chemical will be stored in a bunded chemical Storage Area as shown in Figure 3 in Appendix A of the Main Supporting Document. The Chemical Storage Building will be designed in line with COSHH Regulations and CIRIA C736.	An EMS for the Installation will be in place which will outline all measures for delivery, handling, and storage of chemicals. All personnel who are required to handle the sulphuric acid will receive relevant training on the safe handling of the chemical. The sulphuric acid will be stored within close proximity to the location of use thereby minimising travel distances within the Installation boundary.	Areas where chemicals are handled, will comprise concrete hard standing of watertight construction and be kerbed/ bunded to ensure that spillages and/ or leaks in those areas are contained. The drainage system in areas of chemical handling will be designed to channel towards buried concrete neutralising pits which will be installed with the required instrumentation to carry out testing prior to discharge. The pits will also be fitted with an alarm in the central control room if the contents of the neutralisation pit reaches a determined high point. Areas of chemical storage will be bunded and will be	Low due to measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
						constructed according to the requirements of CIRIA C736, API 650 and relevant Eurocodes. All bunding will be inspected regularly by an operative who has received the appropriate training. Any defects will be accurately recorded and managed/ rectified accordingly.	
Activated carbon	45 tonnes	In absorbent handling area	Delivered to the Site when required in sealed containers or bags.	Contained within bags, sacks or other suitable smaller containers. All dry and powdered materials will be stored on suitably robust shelving/ pallets within the dedicated Storage Area inside the building which has an impermeable concrete floor.	An EMS for the Installation will be in place which will outline all measures for delivery, handling, and storage of hazardous solid materials. All personnel who are required to handle the activated carbon will receive relevant training on the safe handling of the chemical. The activated carbon will be stored within proximity to the location of use thereby minimising travel distances within the Installation boundary.	Areas where chemicals/ hazardous solids are handled, will comprise concrete hard standing of watertight construction and be kerbed/ bunded to ensure that spillages and/ or leaks in those areas are contained. Areas of chemical/ hazardous solid materials storage will be bunded and will be constructed according to the requirements of CIRIA C736, API 650 and relevant Eurocodes. All bunding will be inspected regularly by an operative who has received the appropriate training. Any defects will be accurately recorded and managed/ rectified accordingly.	Low due to measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
						In the event of a spill the area will be suitably ventilated. Filter debris will be collected and removed offsite as a waste for disposal at an appropriate facility.	
Diesel (emergency diesel generator fuel)	7 tonnes	Emergency diesel generator fuel storage	Delivered to the Site as required in tankers	There will be two approximately 5 MWth, two approximately 4 MWth, one approximately 3.2 MWth and one approximately 2.5 MWth Emergency Diesel Generators (EDGs). Diesel fuel for the EDGs will be stored in individual day tanks for each unit, which will be made of carbon steel and be of double walled design. The 2.5 MWth and 3.2 MWth EDG will have approximately 3,000 l diesel day tanks mounted within the package enclosure. The two 5 MWth EDGs and two 4 MWth EDGs will have approximately 5,000 litre tanks each, which will be mounted outside of	Diesel will be brought to the Site and offloaded directly into the storage tank. The filling will be observed by a trained, competent person. A drip tray will be present beneath the filling location. The tank will be fitted with measures to prevent overfill. Spill kits will be present in the event of a spill. The spill kits will be checked prior to a fuel delivery to ensure they are complete.	All fuel storage will be fitted with leak detection. Stored diesel will be located on a concrete surface. Surface water generated in the areas of diesel storage will pass through an oil interceptor before continuing into the wider site drainage system. The oil interceptor will be fitted with an alarm that is connected to the central control system. If the oil in the interceptor reaches a certain level, the alarm will be triggered, and the oil will be collected and removed from the Site. The inspection of the oil interceptors will be undertaken as part of routine site maintenance programmes.	Low due to measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
				the diesel enclosure, due to its larger size.			
Corrosion Inhibitor	$3m^3$ contained within process. This product is intended to compensate accidental losses from closed circuits losses. Under normal operating conditions there will be no additional consumption therefore consumption volumes are not applicable.	Chemical Storage Building as shown in Figure 3 in Appendix A of the Main Supporting Document.	Delivered in tankers/ HGVs and unloaded in dedicated chemical delivery area located close to the Chemical Storage Building.	The chemical will be stored in a bunded Chemical Storage Area as shown in Figure 3 in Appendix A of the Main Supporting Document. The Chemical Storage Building will be designed in line with COSHH Regulations and CIRIA C736.	An EMS for the Installation will be in place which will outline all measures for delivery, handling, and storage of chemicals. All personnel who are required to handle the corrosion inhibitor will receive relevant training on the safe handling of the chemical.	Areas where chemicals are handled, will comprise concrete hard standing of watertight construction and be kerbed/ bunded to ensure that spillages and/ or leaks in those areas are contained. The drainage system in areas of chemical handling will be designed to channel towards buried concrete neutralising pits which will be installed with the required instrumentation to carry out testing prior to discharge. The pits will also be fitted with an alarm in the central control room if the contents of the neutralisation pit reaches a determined high point. Areas of chemical storage will be bunded and will be constructed according to the requirements of CIRIA C736, API 650 and relevant Eurocodes. All bunding will be inspected regularly by an operative who has received the appropriate training. Any defects will be accurately recorded and	Low due to measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
						managed/ rectified accordingly.	
Biocide	$3m^3$ contained within process. This product is intended to compensate accidental losses from closed circuits losses. Under normal operating conditions there will be no additional consumption therefore consumption volumes are not applicable.	Chemical Storage Area as shown in Figure 3 in Appendix A of the Main Supporting Document.	Delivered in tankers/ HGVs and unloaded in dedicated chemical delivery area located close to the Chemical Storage Area.	The chemical will be stored in a bunded chemical Storage Area as shown in Figure 3 in Appendix A of the Main Supporting Document. The Chemical Storage Area will be designed in line with COSHH Regulations and CIRIA C736.	An EMS for the Installation will be in place which will outline all measures for delivery, handling, and storage of chemicals. All personnel who are required to handle the biocide will receive relevant training on the safe handling of the chemical.	Areas where chemicals are handled, will comprise concrete hard standing of watertight construction and be kerbed/ bunded to ensure that spillages and/ or leaks in those areas are contained. The drainage system in areas of chemical handling will be designed to channel towards buried concrete neutralising pits which will be installed with the required instrumentation to carry out testing prior to discharge. The pits will also be fitted with an alarm in the central control room if the contents of the neutralisation pit reaches a certain high point (yet to be confirmed). Areas of chemical storage will be bunded and will be constructed according to the requirements of CIRIA C736, API 650 and relevant Eurocodes. All bunding will be inspected regularly by an operative who has received the appropriate training. Any defects will be	Low due to measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
						accurately recorded and managed/ rectified accordingly.	
Lubrication oil (mechanical equipment)	15,000L	Chemical Storage Building as shown in Figure 3 in Appendix A of the Main Supporting Document.	Delivered to the site as required in tankers.	The storage is yet to be confirmed, however it is anticipated this will be stored in either IBCs or drums. The lubrication oil will be stored in a bunded chemical Storage Area as shown in Figure 3 in Appendix A of the Main Supporting Document. The Chemical Storage Building will be designed in line with COSHH Regulations and CIRIA C736.	EMS for the Installation will be in place which will outline all measures for delivery, handling, and storage of chemicals. All personnel who are required to handle the lubrication oil will receive relevant training on the safe handling of the chemical. The lubrication oil will be transferred to the area of use when required.	Areas where lubrication oil is stored will comprise concrete surfacing. Surface water generated in the areas of oil storage will pass through an oil interceptor before continuing into the wider site drainage system. The oil interceptor will be fitted with an alarm that is connected to the central control system. If the oil in the interceptor reaches a certain level, the alarm will be triggered, and the oil will be collected and removed from the site. The inspection of the oil interceptors will be undertaken as part of routine site maintenance programmes.	Low due to measures in place.
Biodispersant	1.6 tonnes	Chemical Storage Building as shown in Figure 3 in Appendix A of the Main Supporting Document.	Delivered in tankers/ HGVs and unloaded in dedicated chemical delivery area located close to the Chemical Storage Building.	The chemical will be stored in a bunded Chemical Storage Area as shown in Figure 3 in Appendix A of the Main Supporting Document. The Chemical Storage Building will be designed in line with COSHH Regulations and CIRIA C736.	An EMS for the Installation will be in place which will outline all measures for delivery, handling, and storage of chemicals. All personnel who are required to handle the corrosion inhibitor will receive relevant training on the safe handling of the chemical.	Areas where chemicals are handled, will comprise concrete hard standing of watertight construction and be kerbed/ bunded to ensure that spillages and/ or leaks in those areas are contained. The drainage system in areas of chemical handling will be designed to channel towards buried concrete neutralising pits which will be installed with the required	Low due to measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
						instrumentation to carry out testing prior to discharge. The pits will also be fitted with an alarm in the central control room if the contents of the neutralisation pit reaches a determined high point. Areas of chemical storage will be bunded and will be constructed according to the requirements of CIRIA C736, API 650 and relevant Eurocodes. All bunding will be inspected regularly by an operative who has received the appropriate training. Any defects will be accurately recorded and managed/ rectified accordingly.	
Sodium Metabisulphite	54 tonnes required for Auxiliary Boiler Chemical Dosing Product is intended to compensate accidental losses from closed circuits losses. Normally no consumption.	Chemical Storage Building as shown in Figure 3 in Appendix A of the Main Supporting Document.	Delivered to the site as required in tankers.	The storage is yet to be confirmed; however, it is anticipated this will be stored in either IBCs or drums. The chemical will be stored in a bunded Chemical Storage Area as shown in Figure 3 in Appendix A of the Main Supporting Document. The Chemical Storage	An EMS for the Installation will be in place which will outline all measures for delivery, handling, and storage of chemicals. All personnel who are required to handle the chemical will receive relevant training on the safe handling of the chemical.	Areas where chemicals are handled, will comprise concrete hard standing of watertight construction and be kerbed/ bunded to ensure that spillages and/ or leaks in those areas are contained. The drainage system in areas of chemical handling will be designed to channel towards buried concrete neutralising pits which will be installed with the required	Low due to measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
				Building will be designed in line with COSHH Regulations and CIRIA C736.		instrumentation to carry out testing prior to discharge. The pits will also be fitted with an alarm in the central control room if the contents of the neutralisation pit reaches a determined high point. Areas of chemical storage will be bunded and will be constructed according to the requirements of CIRIA C736, API 650 and relevant Eurocodes. All bunding will be inspected regularly by an operative who has received the appropriate training. Any defects will be accurately recorded and managed/ rectified accordingly.	
Wastes							
Thermal reclaimer waste	2,000 tonnes	Within the PCC plant (see Figure 3 in Appendix A of the Main Supporting Document).	Tankered offsite for treatment and disposal by a registered 3rd party waste contractor.	Once the amine has become sufficiently degraded it will be discharged from the process into the degraded solvent drum. The degraded solvent drum will be designed specifically to contain the thermal reclaimer waste.	The degraded solvent will be transferred to the degraded solvent tank as part of the process operation when the solvent is no longer suitable for use. This process will be automated and no manual handling required. Once the tank is full the tank will be connected to a tanker using a sealed connection	Areas where chemicals are handled, will comprise concrete hard standing of watertight construction and be kerbed/ bunded to ensure that spillages and/ or leaks in those areas are contained. Areas of the Installation where amines are present will have a closed drainage system.	Pollution risk is low due to measures in place however the substance is particularly hazardous and therefore overall rating is moderate.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
				Secondary containment will be a bund designed in accordance with CIRIA C736 guidance and will hold 110% of the capacity of the primary tank. It will be constructed of impermeable materials on impermeable ground, and all pipework will be routed over the bund and not through it.	and the degraded solvent will be removed from site for disposal. An EMS for the Installation will be in place which will outline all measures for the handling of the degraded solvent.		
Solvent from solvent drain vessel	Solvent will be re-used in the process wherever possible, and only disposed of if it cannot be re-used, therefore disposal quantity unknown.	Located within PCC plant (see Figure 3 in Appendix A of the Main Supporting Document).	Tankered offsite for treatment and disposal by a registered 3rd party waste contractor.	The solvent from the solvent drain vessel will be transferred from the process into sealed drums and collected and taken offsite for disposal.	EMS for the Installation will be in place which will outline all measures for the handling of the degraded solvent. All personnel who are required to handle the containment drums will receive relevant training on the safe handling of the chemical. The solvent will be stored within the PCC plant thereby minimising travel distances within the Installation boundary.	Areas where chemicals are handled, will comprise concrete hard standing of watertight construction and be kerbed/ bunded to ensure that spillages and/ or leaks in those areas are contained. Areas of the Installation where amines are present will have a closed drainage system.	Low due to the low quantities of the waste.
SCR catalyst	1 – 2 tonnes every 3 – 5 years	Located locally near SCR	Will be produced during plant maintenance periods. The	The spent catalysts will remain within the plant until they are replaced during	Waste will be managed in accordance with the EMS.	Waste that come from maintenance activities will be generated occasionally. They will be stored locally where	Low due to type of waste and measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
			catalyst will be returned to vendor on change out for recycling or disposal.	maintenance periods. Following removal, from the plant they will be stored locally where they are generated and removed from site as soon as possible. Local storage will be either a skip or another appropriate container which will be located on an impermeable surface in an area served by the closed drainage system.		they are generated without any transit through the Waste Storage Area. Then, they will be removed from the plant and transported offsite and returned to the vendor. However, if required a spare zone will be provided in the Waste Storage Area to withstand any abnormal event generating waste. See Section 4.4.1 for further details on Waste Storage Area design.	
Spent filter elements from the CCGT air intakes	1,000 filters will be produced intermittently (every 3 – 24 months depending on filter type and performance)	Stored locally where generated	Collected and stored prior to offsite by licenced 3rd party waste contractor.	The spent filters will remain within the plant until they are replaced during maintenance periods. Following removal, from the plant they will be stored locally where they are generated and removed from site as soon as possible. Local storage will be either a skip or another appropriate container which will be located on an impermeable surface in an area served by	Waste will be managed in accordance with the EMS.	Waste will be handled in accordance with the EMS. On-site personnel will receive appropriate training on the management of the waste stream, Waste that come from maintenance activities will be generated occasionally. They will be stored locally where they are generated without any transit through the Waste Storage Area. Then, they will be removed from the plant and transported offsite and returned to the vendor. Local storage will be either a skip or other appropriate	Low due to types of waste and measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
				the closed drainage system.		container which will be located on an impermeable surface in an area served by the closed drainage system. However, if required a spare zone will be provided in the Waste Storage Area to withstand any abnormal event generating waste. See Section 4.4.1 for further details on Waste Storage Area design.	
Waste lubricants	5 tonnes (intermittent)	Stored locally where generated	Collected and stored prior to offsite by licenced 3rd party waste contractor.	Waste lubricants will remain within the plant until they are replaced during maintenance periods. Following removal, from the plant they will be stored locally where they are generated and removed from site as soon as possible. Local storage will be a drum which will be located on an impermeable surface in an area served by the closed drainage system.	Waste will be managed in accordance with the EMS.	Waste will be handled in accordance with the EMS. On-site personnel will receive appropriate training on the management of the waste stream, Waste that come from maintenance activities will be generated occasionally. They will be stored locally where they are generated without any transit through the Waste Storage Area. Then, they will be removed from the plant and transported offsite and returned to the vendor. The waste lubricants will be stored locally in a drum before removal from site. The drum will be located on an	Low due to measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
						impermeable surface in an area served by the closed drainage system. However, if required a spare zone will be provided in the Waste Storage Area to withstand any abnormal event generating wastes. See Section 4.4.1 for further details on Waste Storage Area design.	
Spent filter cartridges from water treatment	100 – 500 cartridges (approximately every 6 – 12 months depending on filter type and performance)	Stored locally where generated	Collected and stored prior to offsite by licenced 3rd party waste contractor.	The spent filters will remain within the plant until they are replaced during maintenance periods. Following removal, from the plant they will be stored locally where they are generated and removed from site as soon as possible. Local storage will be either a skip or another appropriate container which will be located on an impermeable surface in an area served by the closed drainage system.	Waste will be managed in accordance with the EMS.	Waste will be handled in accordance with the EMS. On-site personnel will receive appropriate training on the management of the waste stream, Waste that come from maintenance activities will be generated occasionally. They will be stored locally where they are generated without any transit through the Waste Storage Area. Then, they will be removed from the plant and transported offsite and returned to the vendor. Local storage will be either a skip or other appropriate container which will be located on an impermeable surface in an area served by the closed drainage system.	Low due to measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
						However, if required a spare zone will be provided in the Waste Storage Area to withstand any abnormal event generating waste. See Section 4.4.1 for further details on Waste Storage Area design.	
Spent desiccant from low pressure compression	30 tonnes (approximately every 6 – 12 months)	Stored locally where generated	Collected and stored prior to offsite by licenced 3rd party waste contractor.	The spent desiccant will remain within the plant until they are replaced during maintenance periods. Following removal, from the plant they will be stored locally where they are generated and removed from site as soon as possible. Local storage will be either a skip or another appropriate container which will be located on an impermeable surface in an area served by the closed drainage system.	Waste will be managed in accordance with the EMS.	Waste will be handled in accordance with the EMS. On-site personnel will receive appropriate training on the management of the waste stream. Waste that come from maintenance activities will be generated occasionally. They will be stored locally where they are generated without any transit through the Waste Storage Area. Then, they will be removed from the plant and transported offsite and returned to the vendor. Local storage will be either a skip or other appropriate container which will be located on an impermeable surface in an area served by the closed drainage system. However, if required a spare zone will be provided in the	Low due to measures in place.

Stage 3							
Material	**Estimated volumes per annum**	**Location of storage**	**Delivery/ Removal**	**Primary and secondary storage**	**Handling and use details**	**Additional containment measures and procedures**	**Pollution risk**
						Waste Storage Area to withstand any abnormal event generating waste. See Section 4.4.1 for further details on Waste Storage Area design.	
Dehydrated sludge from WwTP	2,000 tonnes	Stored within the WwTP until removal from the Installation.	Collected and stored prior to offsite by licenced 3rd party waste contractor.	Dedicated storage within the WwTP until removal from site. Final design is yet to be confirmed however the WwTP will be designed to contain all process effluents. Where required appropriate bunding will be incorporated into the design in accordance with CIRIA 736.	Waste will be managed in accordance with the EMS.	Waste will be handled in accordance with the EMS. On-site personnel will receive appropriate training for the management of the Waste Storage Area. The WwTP will be designed to contain all process effluents and sludges. In process monitoring will take place to	Low due to measures in place.
Oily water from Installation interceptors	0 – 2 tonnes (approximately every 12 months)	Collection sump within drainage system	Pumped from the sump into a tanker and removed from site.	Contained within a packaged sump	Handling will be infrequent. The pumping of the oily water from the sump to the tanker will be undertaken by suitably trained site personnel or Contractor.	The sump will be fitted with an alarm to notify personnel when the sump is beginning to fill.	Low due to measures in place.

4. Pollution Risk

4.1 Pollution Sources

The pollution sources relevant to the Soil and Groundwater Pollution Risk Assessment are those RHS identified in Table 2 and are summarised in the list below:

The following materials will be further assessed in Stage 3:

- Raw Materials
  - CANSOLV DC-103 Fresh solvent
  - 24.5% ammonia solution
  - 47% Sodium hydroxide (caustic)
  - Sodium hypochlorite
  - Coagulant (FeCl3)
  - Sulphuric acid
  - Activated carbon
  - Diesel
  - Corrosion Inhibitor
  - Biocide
  - Lubrication oil
  - Biodispersant
  - Sodium Metabisulphite
- Wastes
  - Thermal reclaimer waste
  - Solvent from solvent drain vessel
  - SCR catalyst
  - Spent filter elements from the CCGT air intakes
  - Waste lubricants
  - Spent filter cartridges from water treatment
  - Spent desiccant from LP compression
  - Dehydrated sludge from WwTP
  - Oily water from Installation interceptors

4.2 Pathways

The only pathway for any of the materials stored and used at site to impact on potential soil and groundwater would be the direct loss of materials to unsurfaced ground or permeable site surfacing.

4.3 Receptors

The environmental sensitivity of the Installation site is outlined in Table 3.

Table 3 Environmental Sensitivity of the Installation

Receptor	Sensitivity	Description
Groundwater	Low to very high sensitivity	• The Tidal Flat Deposits and Blown Sands beneath the site are classified as Secondary A Aquifers. Secondary A Aquifers are permeable strata capable of supporting water supplies at a **local scale**, rather than a strategic or regional scale. They can also contribute to river base flow in some cases. • Glacial Till is considered Unproductive Strata, • Redcar Mudstone Formation is a Secondary Undifferentiated Aquifer. This classification is applied where the geological formation shows variable characteristics, making it impossible to consistently classify as A or B. • Mercia Mudstone Group is a Secondary B Aquifer. Secondary B Aquifers are geological layers with predominantly low permeability. They can store and yield limited amounts of groundwater, but only where localised features exist.
Surface water	Moderate sensitivity	There is no surface water body within the boundary of the Installation. Within the vicinity there is the following: • North Sea • River Tees • The Fleet and Dabholm Gut • Several ponds in the surrounding vicinity of the Installation
Land use	Low sensitivity	The Installation is surrounded by industrial land.

4.4 Control Measures

4.4.1 Storage

Table 2 outlines the measures in place that contribute to the low risk of pollution to soil and groundwater associated with the use of the raw materials as well as the waste that is produced.

For liquids or solutions these will be delivered to the site via road vehicle and will be offloaded within designated unloading bays within a fuel/ chemical delivery area. The materials will then be transferred to their appropriate storage location. All raw materials and waste will be stored with containers that are appropriately designed to contain the incoming contents.

Dry and powdered materials will be contained within bags, sacks or other suitable smaller containers. All dry and powdered materials will be stored on suitably robust shelving/ pallets within the dedicated Storage Area inside the building which has an impermeable concrete floor.

All chemicals will be delivered in a sealed container and moved to the Chemical Storage Area located within a building. The exception to this are any chemicals being fed directly into the process. Diesel will also be stored in containment tanks, local the emergency diesel generators.

With the exception of infrequent waste that is produced during maintenance, all other waste will be stored in the Waste Storage Area. The Waste Storage Area has been designed to meet the relevant UK legislation. The Waste Storage Area will be located adjacent to the Chemical Storage Area both of which are located within a building with a sealed drainage system. The Waste Management Area will have clearly displayed signs for waste segregation, and packages will be properly labelled. The storage capacity will be labelled, and personnel will be instructed to not be exceeded, and maximum storage volume. The Waste Storage Area will include dedicated space for substances with special requirements, such as flammable materials or those sensitive to heat or light. All containers will be stored with lids, caps, and valves secured, and regular inspections are carried out on drums and small packages. Spill response procedures will be in place (as required by the EMS) to address damaged waste containers. The Waste Storage Area will also include the following controls for hazardous substances:

- Waste will be stored in a manner that prevents the commingling or contact between incompatible wastes and allows for inspection between containers to monitor leaks or spills.
- Waste will be stored in closed containers away from direct sunlight, wind and rain.
- Secondary containment systems will be constructed with materials appropriate for the wastes being contained and adequate to prevent loss to the environment.
- Secondary containment will be provided wherever liquid waste are stored in volumes greater than 220L. The available volume of secondary containment should be at least 110% of the largest storage container, or 25% of the total storage capacity (whichever is greater), in that specific location.
- Adequate ventilation will be provided where volatile wastes are stored if indoor.
- Fitted with a sealed drainage system

4.4.2 Secondary Containment

Road tanker unloading areas will have the kerbed/ bunded areas sized to hold the full inventory of the tanker, in line with the CIRIA guidance in the event of a full loss of containment.

All liquid raw materials will be stored over appropriately bunded areas either in the form of portable bunds, dedicated bunded storage cabinets or similar.

All containers holding substances which have the potential to cause a risk to the environment will be fitted with secondary containment which would be designed and constructed according to the requirements of CIRIA C736, API 650 and relevant Eurocodes.

The capacity of the bunding will be either 110% of the largest tank's volume or 25% of the total volume of all tanks within it.

The main Installation activities will all be undertaken within dedicated buildings. The concrete flooring and surrounding walls will provide containment for any spills within the area. All materials stored within the building will also be located over impermeable concrete hard standing which provides an impermeable barrier to pollution entering soil or groundwater.

Areas where chemicals are handled will comprise concrete hard standing of watertight construction and be kerbed/ bunded to ensure that spillages and/ or leaks in those areas are contained, manually cleaned up and removed for treatment off-site.

The Waste Storage Area has been designed to include appropriate kerbing, bunding, and lining to prevent the risk of pollution.

4.4.3 Management Procedures

In addition to the primary and secondary containment storage systems that are outlined in Table 2 the Site activities will also be managed in accordance with the EMS which will include procedures on the delivery of raw materials and removal of waste, transporting the materials within the Installation boundary, management of Storage Area s, spill response, incident response, and reporting and follow up of incidents. Access to Chemical and Waste Storage Areas will be limited to personnel who have received appropriate training in the handling of raw materials and waste. The EMS will also detail the requirements for inspections and maintenance of the Installation to ensure efficient operation.

The management and procedures within the EMS will be subject to periodic audit and update. All Site personnel will receive appropriate training on the implementation of the management procedures and controls. This will include regular Site inspections to identify signs of degradation of plant infrastructure and leaks of substances. All Storage Areas will also be subject to scheduled visual inspections to ensure that there are no leaks or losses from primary containment. Any spillages will be cleaned up at point of spillage using appropriate techniques depending on the type of spilled material.

4.5 Conclusions

Based on the findings of the Stage 1 – 3 Assessment the pollution risk of all raw materials and waste is low with the exception of the thermal reclaimer waste. It is recommended that in accordance with Application for C2, Question 5c that baseline reference data should be collected for this substance. This information will be collected to address the Pre-Operational condition PO9 that is in the existing Environmental Permit and will be provided to the EA outside of this Environmental Permit variation application.

5. CIRIA C736 Assessment

5.1 Qualitative Site Risk Assessment

The CIRIA C736 guidance outlines three levels of secondary containment classification (Classification 1, 2 and 3). A qualitative assessment of the criteria for the CIRIA 736 risk assessment methodology has been conducted and concludes that a Class 1 Secondary Containment Rating for the substances listed in Table 2 is appropriate.

A Class 1 containment system is suitable for low-risk scenarios involving non-flammable and low-toxicity substances. It typically includes simple structures like reinforced blockwork bunds, prefabricated units, or earth bunds with adequate impermeability. These systems are designed to contain spills from small volumes of relatively benign materials and must meet minimum capacity requirements — either 110% of the largest container or 25% of the total volume stored, whichever is greater. Class 1 systems do not require fire resistance, leak detection, or enhanced inspection regimes, making them appropriate where environmental sensitivity and the likelihood of containment failure are both low.

Class 2 and Class 3 containment systems are required where the risk of containment failure is medium or high. As such the CIRIA C736 guidance includes more detailed recommendations compared to Class 1. The guidance requires increased and more detailed level of requirements in relation to design, testing, inspection, and maintenance of the containment system to ensure ongoing integrity.

The determination of this classification rating is based on two scores, the Site Hazard Rating and the Site Risk Rating. The site hazard rating is defined in the CIRIA C736 guidance as a classification that reflects the potential environmental hazard posed by a combination of three key factors:

- Source – the nature and quantity of the hazardous inventory (e.g. chemicals, fuels, firewater, etc.).
- Pathway – the means by which a release could reach the environment (e.g. drains, soil, groundwater).
- Receptor – the sensitivity of the receiving environment (e.g. rivers, aquifers, protected habitats).

Each of these components is rated as High, Moderate, or Low, and the site hazard rating is determined by combining them. The highest individual rating among the combinations typically governs the overall site hazard rating. The site hazard rating is determined by using the Site Hazard Matrix outlined in Box 2.1 of CIRIA C736 an extract of which is shown in Figure 1.

Figure 1 Box 2.1 of CIRIA C736 Guidance Displaying the Site Hazard Risk Matrix

Environmental hazard ratings

H = High rating

M = Moderate rating

L = Low rating

Source (hazard rating)	**Pathway** (transport potential)	**Receptor** (damage potential)
May be H, M or L	May be H, M or L	May be H, M or L
Possible combination of ratings:		**Suggested consequent overall site hazard rating:**
HHH or HHM or HMM		**HIGH**
HHL or MMM or HML		**MODERATE**
MML or HLL or MILL or LLL		**LOW**

Table 4 CIRIA C736 Qualitative Risk Assessment

Component	Risk Rating	Justification	Overall Site Hazard Rating	Likelihood of loss of containment	Final Site Risk Rating	CIRIA C736 Containment Classification
Raw Materials						
CANSOLV DC-103 Fresh solvent						
Source	Moderate to high	Due to volume and CLP classification	Moderate	Low	Low to Moderate	Class 1
Pathway	Low	Robust containment				
Receptor	Moderate	Controlled if spilled. Unlikely to reach receptor.				
24.5% Ammonia Solution						
Source	Moderate to high	Due to volume and CLP classification	Moderate	Low	Low to Moderate	Class 1
Pathway	Low	Robust containment				
Receptor	Moderate	Controlled if spilled. Unlikely to reach receptor.				
47% Sodium hydroxide (caustic)						
Source	Moderate to high	Due to risk of environmental hazards if released	Low	Low	Low	Class 1
Pathway	Low	Robust containment				
Receptor	Low	Controlled if spilled. Unlikely to reach receptor.				
Sodium hypochlorite						
Source	Moderate to high	Due to risk of environmental hazards if released	Low	Low	Low	Class 1
Pathway	Low	Robust containment				
Receptor	Low	Controlled if spilled. Unlikely to reach receptor.				
Coagulant ($FeCl_3$)						
Source	Moderate to high	Due to risk of environmental hazards if released	Low	Low	Low	Class 1

Component	Risk Rating	Justification	Overall Site Hazard Rating	Likelihood of loss of containment	Final Site Risk Rating	CIRIA C736 Containment Classification
Pathway	Low	Robust containment				
Receptor	Low	Controlled if spilled. Unlikely to reach receptor.				
Sulphuric acid						
Source	Moderate	Due to CLP classification	Low	Low	Low	Class 1
Pathway	Low	Robust containment				
Receptor	Low	Controlled if spilled. Unlikely to reach receptor.				
Activated carbon						
Source	Moderate	Due to CLP classification	Low	Low	Low	Class 1
Pathway	Low	Robust containment				
Receptor	Low	Controlled if spilled. Unlikely to reach receptor.				
Diesel						
Source	Moderate to high	Due to CLP Classification and risk of environmental hazards if released.	Low	Low	Low	Class 1
Pathway	Low	Robust containment				
Receptor	Low	Controlled if spilled. Unlikely to reach receptor.				
Corrosion inhibitor						
Source	Moderate	Due to CLP Classification	Low	Low	Low	Class 1
Pathway	Low	Robust containment and drainage				
Receptor	Low	Controlled if spilled. Unlikely to reach receptor.				
Biocide						

Component	Risk Rating	Justification	Overall Site Hazard Rating	Likelihood of loss of containment	Final Site Risk Rating	CIRIA C736 Containment Classification
Source	Moderate	Due to CLP Classification	Low	Low	Low	Class 1
Pathway	Low	Robust containment and drainage				
Receptor	Low	Controlled if spilled. Unlikely to reach receptor.				
Lubrication oil						
Source	Moderate	Due to CLP Classification and risk of environmental hazards if released.	Low	Low	Low	Class 1
Pathway	Low	Robust containment and drainage				
Receptor	Low	Controlled if spilled. Unlikely to reach receptor.				
Biodispersant						
Source	Moderate to high	Due to risk of environmental hazards if released	Low	Low	Low	Class 1
Pathway	Low	Robust containment				
Receptor	Low	Controlled if spilled. Unlikely to reach receptor.				
Sodium Metabisulfite						
Source	Moderate to high	Due to risk of environmental hazards if released	Low	Low	Low	Class 1
Pathway	Low	Robust containment				
Receptor	Low	Controlled if spilled. Unlikely to reach receptor.				
Thermal reclaimer waste						
Source	High	Due to hazardous nature of the waste	Moderate	Low	Low to Moderate	Class 1
Pathway	Low	Robust containment and drainage				
Receptor	Moderate	Controlled if spilled. Unlikely to reach receptor. However, if it were to escape there would be significant effect on receptor				

Component	Risk Rating	Justification	Overall Site Hazard Rating	Likelihood of loss of containment	Final Site Risk Rating	CIRIA C736 Containment Classification
Solvent from solvent drain vessel						
Source	Moderate	Due to relatively hazardous nature of the waste	Low	Low	Low	Class 1
Pathway	Low	Robust containment, drainage system and low quantities				
Receptor	Low	Controlled if spilled. Unlikely to reach receptor.				
SCR catalyst						
Source	Moderate	Item is solid and unlikely to breakdown during removal from the process resulting in pollution.	Low	Low	Low	Class 1
Pathway	Low	Solid state and contained within process until removal during maintenance. Infrequent production.				
Receptor	Low	Unlikely to reach receptor				
Spent filter elements from the CCGT air intakes						
Source	Low	Item is solid and unlikely to breakdown during removal from the process resulting in pollution.	Low	Low	Low	Class 1
Pathway	Low	Solid state and contained within process until removal during maintenance. Infrequent production.				
Receptor	Low	Unlikely to reach receptor.				
Waste lubricants						
Source	Low	Low quantities and intermittent frequency of production.	Low	Low	Low	Class 1
Pathway	Low	Robust containment and drainage system, and management procedures. Controlled if spilled.				
Receptor	Low	Unlikely to reach receptor.				

Component	Risk Rating	Justification	Overall Site Hazard Rating	Likelihood of loss of containment	Final Site Risk Rating	CIRIA C736 Containment Classification
Spent filter cartridges from water treatment						
Source	Low	Solid state and low and intermittent frequency of production,	Low	Low	Low	Class 1
Pathway	Low	Robust containment and drainage system, and management procedures.				
Receptor	Low	Unlikely to reach receptor.				
Spent desiccant from LP compression						
Source	Low	Solid state and contained within the plant and removed only when spent.	Low	Low	Low	Class 1
Pathway	Low	Robust containment and drainage system, and management procedures. Controlled if spilled				
Receptor	Low	Unlikely to reach receptor.				
Dehydrated sludge from WwTP						
Source	Moderate	Due to potential materials/chemicals in the waste sludge.	Low	Low	Low	Class 1
Pathway	Low	Robust containment, drainage system and low quantities				
Receptor	Low	Controlled if spilled. Unlikely to reach receptor.				
Oily water from Installation interceptors						
Source	Moderate	Due to risk of environmental hazards if released.	Low	Low	Low	Class 1
Pathway	Low	Robust containment and drainage				
Receptor	Low	Controlled if spilled. Unlikely to reach receptor.				

6. Conclusions

A Stage 1–3 assessment has been undertaken in accordance with the European Commission Guidance under Article 22(2) of Directive 2010/75/EU and the Environment Agency's requirements for baseline reporting. The assessment considered the hazardous substances associated with the Installation. Based on the findings of the Stage 1 – 3 Assessment the pollution risk of all raw materials and waste is low with the exception of the thermal reclaimer waste. It is recommended that in accordance with Application for C2, Question 5c that baseline reference data should be collected for this substance. This information is currently not available as part of the application but can be made available following the issue of the permit variation.

Following the identification of the pollution risk rating and the information gathered from this assessment, the CIRIA Report C736—Containment systems for the prevention of pollution was used to inform a qualitative risk assessment to determine what level of classification of secondary containment is appropriate and the requirements of that level of classification. Based on the site-specific assessment, both the overall site hazard rating and the site risk rating are considered to be low. This is because the findings indicated that all relevant substances will be managed within appropriate containment systems, including integrally bunded tanks, and hardstanding with closed drainage connected to an effluent management system. These measures, combined with operational controls such as leak detection, alarms, and regular inspections, significantly reduce the likelihood of environmental release. Consequently, a Class 1 secondary containment classification is deemed appropriate for the substances assessed.

The proposed secondary containment design for the relevant substances at the Installation comply with the requirements of a Class 1 containment system classification.

Annex C

Material Safety Data Sheets (MSDS)

Safety Data Sheet

Shell Catalysts & Technologies

According to EC No 1907/2006 as amended as at the date of this SDS

Version: 2.2 **Revised On:** 09.02.2024 **Print Date:** 28.01.2025 **Date of last issue:** 26.05.2023

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product Identifier

Product Name: : **CANSOLV Absorbent DC-103**

SDS Number: : 21756

Unique Formula Identifier : PPMX-P1FW-Q00A-P9YJ

:

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product use : Absorbent

Restrictions on use : This product must not be used in applications other than those recommended in Section 1, without first seeking the advice of the supplier.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier : Shell Catalysts & Technologies LP
Shell Technology Center Houston
3333 Highway 6 South
Houston, TX 77082 (USA)
+1 281-544-8080

Email contact for SDS product.steward@shell.com

1.4 Emergency Telephone Number

: CHEMTREC (US): +1-800-424-9300

CHEMTREC (International): +1-703-527-3887

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification Regulation (EC) No 1272/2008 (CLP)

Skin irritation Category 2, H315: Causes skin irritation.

:

Serious eye damage	:	Category 1, H318: Causes serious eye damage.
Skin sensitizer	:	Category 1B, H317: May cause an allergic skin reaction
Respiratory sensitizer	:	Category 1B, H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

2.2 Label Elements

Labeling according to Regulation (EC) No 1272/2008

Hazard pictograms :



Signal Word : **Danger**

Hazard statements :

Physical hazards
None
Health Hazards
H318 Causes serious eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Environmental Hazards:
None

Precautionary Statements :

Prevention
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to

do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Storage
None

Disposal
None

2.3 Other Hazards

PBT/vPvB	:	The substance/ mixture does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB
Sensitiser	:	Contains a sensitising compound.
Ecological Information	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Toxicological information	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous Components			
Chemical Name	**Classification**	**Hazard Statement**	**Concentration (%w/w)**
Water Synonyms: H2O CAS: 7732-18-5 EC: 231-791-2	Not classified as hazardous under EU CLP criteria (EC 1272/2008).		>=48-<=52%

Cyclic Amine (3) CAS: Trade Secret	Skin Irrit. 2 Eye Dam. 1	H315 H318	>=46- <=49%
Cyclic Amine (2) CAS: Trade Secret	Flam. Sol. 1 Skin Corr. 1B Eye Dam. 1 Resp. Sens. 1B Skin Sens. 1B Repr. 2	H228 H314 H318 H334 H317 H361	>=1.75- <=2.25%
Cyclic Amine (1) CAS: Trade Secret	Eye Dam. 1	H318	0.25- <=0.75%
Ethanediol CAS: 107-21-1 EC: 203-473-3 REACH: 01-2119456816-28	Acute Tox. 4 STOT RE 2	H302 H373	<=0.5%

This mixture contains only ingredients which have been registered, or are exempt from registration, according to Regulation (EC) No. 1907/2006 (REACH).

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

Protection of first-aiders : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

Inhalation: : Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment. Artificial respiration may be required.

Skin Contact: : Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

Eye Contact: : Immediately flush eyes with plenty of water for 15 minutes while holding eyelids open. Remove contact lenses, if present and easy to do. Transport to the nearest medical facility for additional treatment.

Ingestion:	:	In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	:	Respiratory sensitisation signs and symptoms are asthma-like and may include difficulty breathing, sneezing, wheezing and/or collapse due to inability to breath. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. Skin sensitisation (allergic skin reaction) signs and symptoms may include itching and/or a rash. Corrosive to eyes. Contact can cause severe eye damage including chemical burns, pain, clouding of the eye surface, inflammation of the eye, and may result in permanent loss of vision. Ingestion may result in nausea, vomiting and/or diarrhoea. Swallowing of corrosive chemicals may cause immediate pain and burning in the mouth, throat, and stomach followed by vomiting and diarrhea. Burns and tearing of the esophagus and stomach are possible.

4.3 Indication of any immediate medical attention and special treatment needed

Advice to Physician	:	IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT! Call a doctor or poison control center for guidance. Artificial respiration and/or oxygen may be necessary. Exposed persons may be kept under medical observation for at least 48 hours because delayed effects may occur. If skin sensitisation has developed and a causal relationship has been confirmed, further exposure should not be allowed. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable Extinguishing Media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment (e.g. water spray, foam, carbon dioxide).
Unsuitable extinguishing media	:	There are no limitations of extinguishing media for this substance/ mixture.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	No specific hazards. Will not burn or support combustion. Ambient fire may liberate hazardous vapours.

5.3 Advice for fire-fighters

: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment (e.g. water spray, foam, carbon dioxide).

Special protective equipment for firefighters) : Wear full protective clothing and an approved self-contained breathing apparatus if material is in fire area.

SECTION 6: Accidental release measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

6.1.1 For Non-emergency Personnel : Wear an approved respirator if there is a possibility of exposures above the established occupational exposure limits. (See Section 8 for exposure limits.) Wear gloves, goggles and protective clothing to avoid exposure.

6.1.2 For Emergency Responders : For guidance on selection of personal protective equipment see Chapter 8.

6.2 Environmental Precautions

: Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

6.3 Methods and Material for Containment and Cleaning up

: Prevent further leakage or spillage and prevent from entering drains. Contain and recover spilled material, then place in a labeled, sealable container for subsequent safe disposal.

6.4 Reference to other sections

For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Safety Data Sheet.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling Recommendations:	:	Do not breathe fumes or vapor. Avoid contact with skin and eyes. Wear suitable protective clothing, gloves and eye/face protection. Use adequate ventilation to control exposures to materials to below the established exposure limits.
	:	Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Ensure that all local regulations regarding handling and storage facilities are followed.
	:	Keep container tightly closed and dry.
Precautions for safe handling	:	Handle and open container with care in a well-ventilated area. Do not empty into drains.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Dry. Tightly closed. Keep in well-ventilated place. Do not store together with combustible or fire supporting materials. Consume opened container immediately. Use only non-flammable containers that can be tightly sealed. Store in an area only accessible to authorized or qualified persons.
Storage Recommendations:	:	Keep containers closed when not in use.
Incompatibilities	:	For guidance of incompatible substance or mixture see section 10.
Storage Temperature:	:	< 50°C

7.3 Specific end use(s)

Apart from the uses mentioned in section 1 no other specific end uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control Parameters

Occupational Exposure Limits

Biological occupational exposure limits	:	No biological limit allocated.
Monitoring Methods	:	Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory. Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/ Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/ Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/ Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Component	End Use	Exposure Route	Potential Health Effects	Value
Ethanediol	Workers	Dermal	Long-term systemic effects	106 mg/kg bw/day
Ethanediol	Workers	Inhalation	Long-term local effects	35 mg/m³
Ethanediol	Consumers	Dermal	Long-term systemic effects	53 mg/kg bw/day
Ethanediol	Consumers	Inhalation	Long-term local effects	7 mg/m³

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Component	Exposure Route	Value	Remark
Ethanediol	Not applicable	Not applicable	Exposure assessments have not been presented for the environment therefore PNEC values not required.

8.2 Exposure Controls

Engineering Controls: : Technical measures and appropriate working operations should be given priority over the use of personal protective equipment!
Use sealed systems as far as possible.
Local exhaust ventilation is recommended.
Eye washes and showers for emergency use must be present.
Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking.
Routinely wash work clothing and protective equipment to remove contaminants.
Discard contaminated clothing and footwear that cannot be cleaned.
Practice good housekeeping.
Define procedures for safe handling and maintenance of controls.
Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or maintenance.
Retain drain downs in sealed storage pending disposal or subsequent recycle.

Personal Protective Equipment

Respiratory protection: 	:	Use appropriate respiratory protection.
Eye protection: 	:	Wear safety goggles or glasses to prevent eye contact.
Hand protection: 	:	Nitrile rubber gloves (Glove thickness : min. 0.11 mm, Break through time: >480 min.) For example: ANSELL TNT (TM) BLUE 92-670 Nitrile gloves, The protective gloves must be comply with the specifications mentioned in EC Directive 89/686/EEC and the related standard EN 374. Provide employee skin care programmes.
Skin and Body Protection 	:	Protective clothing which cover the skin and approved to EU Standard EN14605 or other comparable Standards. Provide employee skin care programmes.
Thermal Hazards	:	Not applicable
Protective Measures	:	The provided information is made in consideration of the PPE directive (89/686/EEC) and the European Committee for Standardisation (CEN) standards. Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Hygiene measures: : Wash hands before eating, drinking, smoking and using the toilet. Launder contaminated clothing before re-use.

Environmental exposure controls

Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation. Information on accidental release measures are to be found in section 6. Take appropriate measures to fulfill the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Chapter 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Colour	:	Colourless
Odour	:	Sweet
Odour threshold	:	Not applicable
Melting point:	:	-10 °C
Initial Boiling Point and Boiling Range	:	105 °C
Flammability (solid, gas)	:	Not flammable
Upper / lower Flammability or Explosion limits	:	Not applicable
Flash Point	:	No information available.
Auto-ignition temperature	:	No auto-ignition
pH:	:	12.3
Viscosity	:	18 mPa.s (30 °C)
Solubility(ies)	:	No information available.
Partition coefficient (n-octanol/water)	:	Not applicable
Vapour Pressure	:	< 0,13 hPa (20 °C)
Vapour Density	:	Not applicable
Relative density	:	No information available.

Particle characteristics

Particle Size: : No information available.

9.2 Other Information

Bulk density (for solids):	:	No information available
Evaporation Rate	:	0.16
Decomposition temperature	:	No information available.
Explosive Properties	:	No information available.
Oxidizing Properties	:	No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

: Further dangerous reactions in addition to those mentioned in the below sub-sections are not expected while handling the product in accordance to its intended use.

10.2 Chemical Stability

: Stable under ordinary conditions of use and storage.

10.3 Possibility of hazardous reactions

: Risk of formation of dangerous gases or strong exothermic reactions with: Strong acids, strong bases, strong oxidizing/ reducing agents.

10.4 Conditions to Avoid

: Avoid excessive temperatures (>50°C), excessive exposure to air, sparks, open flames or other ignition sources. Humidity.

10.5 Incompatible materials

: Strong acids, strong bases, strong oxidizing/ reducing agents

10.6 Hazardous Decomposition Products

: Does not decompose when used for intended uses. Also see section 5.

SECTION 11: Toxicological information

11.1 Information on Toxicological effects

Basis for Assessment : Information given is based on product data, a knowledge of the components and the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Information on likely routes of exposure
Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

Acute Toxicity

Route	Material Tested	LD/LC50	Species / Duration
Oral	Cyclic Amine (3)	LD50: 4244 mg/kg	Rat
Oral	Cyclic Amine (2)	LD50: 2600 mg/kg	Rat
Oral	Cyclic Amine (1)	LD50: 3730 mg/kg	Rat
Dermal	Cyclic Amine (3)	LD50: >5000 mg/kg	Rabbit
Dermal	Cyclic Amine (2)	LD50: 8300 mg/kg	Rabbit
Dermal	Cyclic Amine (1)	LD50: >10,000 mg/kg	Rabbit
Dermal	Ethanediol	LD50: >3500 mg/kg	Mouse
Inhalation	Ethanediol	LC50: >2.5 mg/l	Rat

Eye/Skin corrosion/irritation

Route	Material Tested	Description	Species
Eye	Cyclic Amine (3)	Corrosive.	Rabbit
Eye	Ethanediol	Not irritating	Rabbit
Dermal	Cyclic Amine (3)	Irritating	Rabbit
Dermal	Ethanediol	Not irritating to skin.	Rabbit

Respiratory or skin sensitization

Route	Material Tested	Description	Species
Dermal	Cyclic Amine (3)	Not a sensitiser	Guinea pig
Dermal	Ethanediol	Not a sensitiser	Guinea pig
Inhalation	Cyclic Amine (3)	Not a sensitiser	Guinea pig

Germ cell mutagenicity
Non mutagenic Based on available data, the classification criteria are not met.

Carcinogenicity:
Not a carcinogen.
Based on available data, the classification criteria are not met.

Reproductive Toxicity

Product
Based on available data, the classification criteria are not met. This product contains a material that may cause adverse reproductive effects.

STOT - single exposure

Product
Based on available data, the classification criteria are not met.

STOT - repeated exposure

Product
Based on available data, the classification criteria are not met.

Aspiration toxicity
Based on available data, the classification criteria are not met.

11.2 Further information

Endocrine disrupting properties

Product

Assessment	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information

Basis for Assessment	:	Ecotoxicological data have not been determined specifically for this material. The information given below is based on a knowledge of the components and the ecotoxicology of similar products.

12.1 Toxicity

Product

Toxicity to fish (Acute toxicity)	:	LC50 >100 mg/l
Toxicity to daphnia and other aquatic invertebrates (Acute toxicity)	:	EC50 >100 mg/l
Toxicity to algae (Acute toxicity)	:	EC50 >100 mg/l
Toxicity to bacteria (Acute toxicity)	:	EC50 >100 mg/l
Acute toxicity - other organisms	:	No information available.

No information available.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC > 10 mg/l

12.2 Persistence and degradability

Product
Not readily biodegradable.

12.3 Bioaccumulative Potential

Product
Not bioaccumulative

12.4 Mobility in soil

Product

Mobility:	:	Does not adsorb to soil

12.5 Result of the PBT and vPvB assessment

Product

Assessment	:	Not PBT or vPvB

12.6 Endocrine disrupting properties

Product

Assessment	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other Adverse Effects

Product

Additional ecological information	:	Discharge into the environment must be avoided due to the potential dangerousness for drinking water supplies. Does not have ozone depletion potential, photochemical ozone creation potential or global warming potential.

SECTION 13: Disposal considerations

13.1 Waste Treatment Methods

Product disposal:	Recover or recycle, if possible. Otherwise: Send to an approved contractor for regeneration or metal recovery or dispose with a licensed disposal contractor.
Waste disposal:	It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses Waste product should not be allowed to contaminate soil or water.
Container disposal:	Empty containers may contain residues. Ensure container is properly cleaned. Remove all packaging for recovery or waste disposal. DO NOT USE CONTAINER FOR OTHER PURPOSES.
Regulatory Controls:	Comply with applicable regional, national, and local laws and regulations about the handling and disposal of wastes.

SECTION 14: Transport information

ADR/RID/ADN

14.1	UN Number	Not regulated as a dangerous good
14.2	Proper Shipping Name	Not regulated as a dangerous good
14.3	Transport Hazard Class	Not regulated as a dangerous good
14.4	Packing Group	Not regulated as a dangerous good
	Tunnel Restriction Code	Not regulated as a dangerous good
14.5	Environmental Hazards	None
14.6	Special Precautions for Users	Refer to Section 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

IMDG

14.1	UN Number	Not regulated as a dangerous good
14.2	Proper Shipping Name	Not regulated as a dangerous good
14.3	Transport Hazard Class	Not regulated as a dangerous good
14.4	Packing Group	Not regulated as a dangerous good
14.5	Environmental Hazards	None
14.6	Special Precautions for Users	Refer to Section 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.
14.7	Maritime transport in bulk according to IMO instruments	Not applicable

ICAO/IATA

14.1	UN Number	Not regulated as a dangerous good
14.2	Proper Shipping Name	Not regulated as a dangerous good
14.3	Transport Hazard Class	Not regulated as a dangerous good
14.4	Packing Group	Not regulated as a dangerous good
14.5	Environmental Hazards	None
14.6	Special Precautions for Users	Refer to Section 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Other regulations

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), annex XIV.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), annex XVII.

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work and its amendments.

Directive 1994/33/EC on the protection of young people at work and its amendments.
Council Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding and its amendments.

SEVESO Product is not subject to SEVESO III

The components of this product are reported in the following inventories:

National Authority	Country	Status
EINECS/ELINCS	EC	All components listed.
TSCA	USA	All components listed.
DSL/NDSL	Canada	All components listed.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: Other information

Indication of changes
Amendments from the previous version of the SDS are indicated by two vertical bars in the left margin and the section is highlighted.

Abbreviations and Acronyms

ACGIH = American Conference of Governmental Industrial Hygienists
ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road
AIIC = Australian Inventory of Industrial Chemicals
BEL = Biological exposure limits
CAS = Chemical Abstracts Service
CEFIC = European Chemical Industry Council
CLP = Classification Packaging and Labelling
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
DSL = Canada Domestic Substance List
EC = European Commission
EC50 = Effective Concentration fifty
ECETOC = European Center on Ecotoxicology and Toxicology Of Chemicals
ECHA = European Chemicals Agency
EINECS = The European Inventory of Existing Commercial Chemical Substances
EL50 = Effective Loading fifty
ENCS = Japanese Existing and New Chemical Substances Inventory
EWC = European Waste Code
GHS = Globally Harmonised System of Classification and Labelling of Chemicals
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IC50 = Inhibitory Concentration fifty
IL50 = Inhibitory Level fifty
IMDG = International Maritime Dangerous Goods
IECSC = Inventory of Existing Chemical Substances in China
KECI = Korea Existing Chemicals Inventory
LC50 = Lethal Concentration fifty
LD50 = Lethal Dose fifty per cent.
LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading
LL50 = Lethal Loading fifty
MARPOL = International Convention for the Prevention of Pollution From Ships
NOEC/NOEL = No Observed Effect Concentration / No Observed Effect Level
OE_HPV = Occupational Exposure - High Production Volume
PBT = Persistent, Bioaccumulative and Toxic
PICCS = Philippine Inventory of Chemicals and Chemical Substances
PNEC = Predicted No Effect Concentration
REACH = Registration Evaluation And Authorisation Of Chemicals

RID = Regulations Relating to International Carriage of Dangerous Goods by Rail
SKIN_DES = Skin Designation
STEL = Short term exposure limit
TRA = Targeted Risk Assessment
TSCA = US Toxic Substances Control Act
TWA = Time-Weighted Average
vPvB = very Persistent and very Bioaccumulative
MFSU = Manufacture, Formulation, Supply & Use
Kow = Partition coefficient (n-octanol/water)

Key literature references and sources for data The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Product Stewardship, material suppliers' data, UN Purple book, 3E, EU IUCLID date base, EC 1272 regulation, etc)

Regulation (EC) No 1272/2008 (CLP)	Classification procedure
Skin irritation, Category 2, H315	Calculation method
Serious eye damage, Category 1, H318	Calculation method
Skin sensitizer, Category 1B, H317	Calculation method
Respiratory sensitizer, Category 1B, H334	Calculation method

Full text of H-Statements

H315	Causes skin irritation.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Full text of other abbreviations

Skin Irrit.	Skin irritation
Eye Dam.	Serious eye damage
Flam. Sol.	Flammable solid
Skin Corr.	Skin corrosion
Resp. Sens.	Respiratory sensitizer
Skin Sens.	Skin sensitizer
Repr.	Toxic to reproduction
Eye Dam.	Serious eye damage
Acute Tox.	Acute toxicity
STOT RE	Specific target organ toxicity - repeated exposure

Revision Date 09.02.2024

Country/Language Great Britain - English

Training advice
The information in this document should be made available to all who may handle the product.
Provide adequate information, instruction and training for operators.

Disclaimer:
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not, therefore, be construed as guaranteeing any specific property of the product.

DOCUMENT TYPE: Working document **SAFETY DATA SHEET AMMONIA WATER 24.5%** Code: FDS-BM-06-005-013	Version 1/31.05.2023 Original

According to Regulation (EC) no. 1907/2006 (REACH)/ Regulation (EC) no. 1272/2008/ Regulation (EC) no. 2020/878.

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Name: AMMONIA WATER 24.5%
Other names: AMMONIUM HYDROXIDE, AQUEOUS AMMONIA SOLUTION
IUPAC name: AMMONIUM HYDROXIDE
Chemical formula: NH_4OH
The substance does not require registration as it is considered by ECHA to be the hydrate of ammonia.
Anhydrous ammonia is registered and has the following identification data:
UN NUMBER: 2672
CAS number: 7664-41-7
EINECS number: 231-635-3
ECHA registration number: 01-2119488876-14-0066

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Industrial use - As an auxiliary agent, diluent, in photochemical processes, inks and toners, coatings, thinners and paint removers, an extraction agent in NOx, SOx reduction, processing aid in the food and beverage industry, neutralizing agent, textile paint, water treatment, washing and cleaning products, textile treatment, in cellulose/paper treatment, leather treatment, metal surface treatment, rubber/latex treatment, semiconductor/electronics manufacturing, in the manufacture of putties and adhesives, polymer preparations, preservatives, air care products.
Professional use - As a laboratory chemical, water treatment chemical, fertilizer, thinner or paint remover, as a photochemical, cleaning product, leather or other surface treatment product, pH regulator or neutralizing agent, a processing aid for nutrition.
Household use - In paints, dyes, thinners and detergents, in sealants and plasters, washing and cleaning products, in cosmetics and personal care products.

Uses advised against - Use of the substance should be limited to those specified in the Exposure Scenarios.

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1.3. Details of the supplier of the safety data sheet

Manufacturer:
Azomureș S.A.Tg.-Mureș, 300 Gheorghe Doja St., Phone 0040-265 253 700, Romania
Fax: 0040-265 252 986, e-mail: office@azomures.com, www.azomures.com
e-mail (competent person responsible for SDS): fds.azo@azomures.com

1.4. Phone number that can be called in case of emergency

The body responsible for informing in emergency situations regarding health is the National Institute of Public Health through the Office for International Sanitary Regulations and Toxicological Information.
Phone: 0040-21.318.36.06, operating hours: Monday-Friday from 8^{00}-15^{00}

Section 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Ammonia water is an inorganic, mono-constituent substance considered hazardous because it is toxic if inhaled, corrosive and dangerous to aquatic life.

Classification according to EC Regulation no. 1272/2008 (CLP)

Hazard classes/categories:

Specific target organ toxicity – single exposure, Category 3
Acute toxicity (inhalation), Category 3
Corrosive / irritating to the skin, Category 1B
Hazardous to aquatic life, acute hazard, category 1
Hazard statements H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic environment.

Human health hazards

Ammonia water is toxic by inhalation, corrosive to all parts of the body, and splashing ammonia can cause burns.
Skin contact: vapors cause irritation.
Eye contact: may cause damage to eye tissue.
Ingestion: due to its corrosive properties, it can cause severe gastrointestinal disturbances
Inhalation: ammonia is felt at concentration levels between 5-25 ppm (parts per million); at concentration levels between 50-100 ppm it can cause mild irritation in case of prolonged exposure; at concentration levels between 400-700 ppm it immediately causes irritation of the eyes, nose and throat with mild symptoms in the upper respiratory tract. Symptoms persist after the exposure period; concentration levels exceeding 1000 ppm lead to severe damage to the eyes and upper

respiratory tract even after short-term exposure; exposure to concentration levels exceeding 2000 ppm (0.2%) can become fatal (pulmonary edema may develop).

Environmental hazards:

Ammonia water is toxic to aquatic life.

2.2. Labeling elements

Labeling according to the CLP Regulation

Substance name: AMMONIA WATER

Index number from Annex VI to the CLP Regulation: 007-001-01-2

ECHA reference number: 01-2119488876-14-0066

EINECS number: 231-635-3

Manufacturer:

Azomureș S.A.Tg.-Mureș, 300 Gheorghe Doja, phone 0040-265 253 700, Romania
Fax: 0040-265 252 986, e-mail: office@azomures.com, www.azomures.com

Emergency phone number:

0040-21.318.36.06, operating hours: Monday-Friday from 8.00 to 15.00.

Hazard labels: symbols

GHS05 - corrosion

GHS07 - eye irritation

GHS09 - medium



GHS07
Eye irritation, categ. 2



GHSO5
Skin corrosion 1B



GHSO9
Aquatic toxicity

Hazard statements: H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

H412 Harmful to aquatic environment with long lasting effects.

Additional hazard information: Properties regarding health

EUH 071 - Corrosive to the respiratory tract

Precautionary statements: Prevention

P 261 - Avoid breathing vapors

P 264 - Wash hands thoroughly after handling

P 271 - Use only outdoors or in a well-ventilated area

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P 273 - Avoid release to the environment

P 280 - Wear protective gloves (nitrile rubber, crosnitrile, with cotton lining, permeability resistance 5) / protective clothing (chemical resistant protective suits) / eye protection equipment (safety goggles) / face protection equipment (protective mask with filter cartridge)/ hearing protection (earmuffs).

Intervention

P 301+ P 330 + P 331 - IF SWALLOWED: rinse mouth. Do not induce vomiting.

P 305 + P 351 + P 338 - IF IN EYES: rinse carefully with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P 303 + P 361 + P 353 - IF ON SKIN (or hair): Remove all contaminated clothing immediately. Rinse skin with water/shower.

P 304 + P 340 - Move the victim to fresh air and keep them at rest in a position comfortable for breathing.

P 310 - Call a POISON CENTER or doctor immediately.

P 321 - Specific treatment (see additional first aid instructions)

P 363 - Wash contaminated clothing before reuse.

P 391 - Collect spilled product.

Storage

P 405 - Locked warehouse.

P 403 + P 233 - Store in a well-ventilated area. Keep container tightly closed.

Disposal

P 501 - Discard the contents/container in places specially designed for these types of waste, until disposal by an authorized company.

2.3. Other hazards

A substance is identified as a PBT or vPvB substance if it meets all three PBT criteria or two vPvB criteria respectively.
PBT and vPvB assessment is not relevant and not required for inorganic substances.
Ammonia water is not a PBT or vPvB substance.

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Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Substances

The product should be considered: Substance
CAS number: 1336-21-6
EINECS number: 231-635-3
INDEX no. (Annex 2-Government Decision no. 1408/2008): 007-001-01-2
IUPAC name: ammonium hydroxide
Molecular formula: H4NOH
Molecular mass: 35.04
ECHA reference number: 01-2119488876-14-0066
Degree of purity of the substance: 25-30% (w/w)
Typical concentration: >24 - <24.99% (w/w)

Section 4. FIRST AID MEASURES

4.1. Description of first aid measures

The speed of action is essential: immediately remove the affected person from the exposed area, give first aid and urgently request specialized medical assistance.

4.1.1 First aid instructions are provided according to the relevant routes of exposure.
Skin contact: Rinse the affected area with plenty of water for at least 15 minutes, then wash the affected area thoroughly with soap and water. If symptoms of irritation or pain persist, seek medical attention.
Eye contact: Rinse the affected area with plenty of water for at least 15 minutes.
If the symptoms of irritation, swelling, abundant tearing, or mild sensitivity persist, the patient should contact medical service, and possibly an ophthalmologist.
Ingestion: Consult a doctor. If the victim is conscious, give milk or drinking water immediately. Do not induce vomiting.
Inhalation: Move victim to fresh air. Monitor the victim for symptoms of respiratory distress. If the victim has bouts of coughing or difficulty in breathing, they should be consulted for possible irritation of the respiratory tract, bronchitis or pneumonitis. If you are trained to do so, administer oxygen with assisted ventilation if necessary. If the patient is not breathing, perform artificial respiration maneuvers.

4.1.2 Recommendations:
Use protective equipment, gas mask with ammonia cartridge.

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4.2. Most important symptoms and effects, both acute and delayed

After inhalation:

Nose and throat irritation, cough, difficulty breathing (hyperpnea), nausea, subsequent inflammation of the airways, possibly asthma-like symptoms; following massive inhalation, risk of glottic edema, laryngo/bronchospasm, reflexive respiratory/cardiac arrest, pulmonary edema, pneumonia. Following skin contact: Irritation up to corrosion (after exposure to 20–25% solution after only a few minutes). Following eye contact: extent of damage may only be apparent after a latency period: corneal edema, corneal epithelial damage (often loss of epithelium), iritis, glaucoma, fixed pupils, cataracts, corneal opacity, additional irreversible damage (scarring). After ingestion: Painful corrosion of the mouth/ throat/ oesophagus/ stomach/ intestines (danger of perforation, peritonitis!), acute risk also through effects on the respiratory system (spasm, oedema, see above) and cardiovascular reactions (collapse, shock).

4.3. Indication of any immediate medical attention and special treatment needed

We have no data available.

Section 5. FIRE-FIGHTING MEASURES

5.1. Fire extinguishing means

Appropriate extinguishing media

Extinguishing methods appropriate to local conditions and the surrounding environment shall be used.

Can be used: inert gases, water curtain, mist, mechanical foam.

Unsuitable extinguishing media: we have no information.

5.2. Special hazards arising from the substance or mixture

In case of burning it can produce toxic vapors of nitrogen oxides (NOx).

The product itself does not burn.

When heated, it can release dangerous gases (ammonia).

5.3. Recommendations for firefighters

Special fire extinguishing methods

If the product is in pressure containers, remove the containers from the fire area, if possible without exposing yourself to risks. Apply cooling water to the side of containers exposed to flames, continue this procedure long after the fire is out. Keep clear of tank ends as there is a risk of explosion when tanks are involved in fire. Isolate the area until the gas has dispersed. Use water jets or foam to

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control vapors. A self-contained breathing apparatus should be used when there is a possibility of inhalation of vapors and/or fumes.
Appropriate protective equipment should be worn for working with ammonia involved in fire, gas tight suit and self-contained breathing apparatus.
Note: The water involved in extinguishing the fire must not be discharged into sewers or watercourses.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For personnel assigned to other than emergency situations
(a) Protective equipment
Hand protection:
Protective gloves (nitrile rubber, crosnitrile, with cotton lining) resistant in contact with chemical agents - liquid ammonia, permeability resistance 5.
Eye protection:
Tight protective goggles (plastic case, polycarbonate lenses) and resistant to liquid ammonia chemical agents.
Protective visor (polycarbonate screen) resistant in contact with chemical agents - liquid ammonia.
Skin protection
Protective clothing:
Protective suit (workwear cotton overall - bib pants, jacket), resistant to chemical agents - gaseous or liquid ammonia.
Shirt (natural fibers, 100% cotton)
Protective footwear:
Protective boots (rubber, PVC) resistant in contact with corrosive caustic agents - liquid ammonia.
Protective boots (leather with rubber soles) resistant in contact with chemical agents - liquid ammonia, with antistatic properties that allow use in explosive environments.
(b) Prevent the product from spreading over a larger area (for example: by creating obstacles).
Carry out the absorption of released gases with a water jet rain sprayed.

Use gas mask with ammonia cartridge.
Ventilate the area to disperse the vapors.
Extinguish or remove all sources of fire.
(c) Emergency procedures
Evacuate personnel from the downwind area, in a direction perpendicular to the wind direction, if necessary.
If not, the population must stay inside the buildings, close the windows, ensure the tightness of the buildings, unplug the electrical installations that could cause a fire.

6.1.2. For emergency responders

It is recommended to wear chemical-resistant protective suit - rubberized on a textile support for the protection of workers who are part of the intervention and rescue teams, used with a compressed air breathing apparatus for interventions in an environment with liquid ammonia that strongly irritates the skin and penetrates through the skin;

Protective footwear: protective boots (rubber, PVC) resistant in contact with corrosive caustic agents - liquid ammonia; protective boots (leather with rubber soles) resistant in contact with chemical agents - liquid ammonia, with antistatic properties that allow use in explosive environments.

6.2. Environmental precautions

In case of spills, avoid contaminating watercourses as far as possible, to avoid pollution.
Inform the competent local authorities in case of contamination of watercourses or sewage pipes.

6.3. Methods and material for fire containment and clean up

Large-quantity spill: Collect large quantities of the spilled liquid in appropriately labeled containers for disposal. Use absorbent materials for the amounts of solution that cannot be collected.

Small-quantity spill: Use an absorbent for chemicals. Use a tool to pick up the solid or absorbed material and place it in an appropriately labeled waste container. Dilute, if necessary, by mixing carefully in water. Neutralize with hydrochloric acid until the pH value is 6 - 8. Place in collecting containers for salty solutions or for toxic inorganic residues as well as the heavy metal salts and their solutions. Collection containers must be clearly and permanently labelled.

6.4. References to other sections

Note: See chapter Exposure controls/Personal protection for information on personal protective equipment and chapter Waste disposal considerations.

Section 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. Recommendations for safe handling

Avoid contact with skin, eyes and inhalation of vapors.
Ventilate the area adequately.
Control the gas level in the atmosphere under the permissible limits (16-27%).
Use protective mask with ammonia cartridge and full protective equipment in case of accidental releases.
Avoid contact with sparks, flames or other sources of ignition.
Avoid gas leaks in the work atmosphere.

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7.1.2. Advice on general hygiene at work
(a) No smoking, eating or drinking in the work area. “NO SMOKING” signs shall be placed in the work area.
(b) Wash hands thoroughly after use.
(c) Contaminated clothing and protective equipment will be removed before entering dining areas.

7.2. Safe storage conditions, including possible incompatibilities

Technical measures and storage conditions:
Keep in the original container as long as possible. Containers must be clearly and permanently labeled. Keep container tightly closed. Keep the container in a well-ventilated place. Storage at room temperature is recommended.
Do not store in escape routes, work rooms or in their immediate vicinity. Provide an emergency shower or washing facility near the workplace.

Requirements for storage rooms and vessels:
The floor must be resistant to alkaline substances. Ammonia can escape at room temperature. Use vent valve closures. Preferably use unbreakable containers rather than glass containers. Place fragile vessels in shatter-resistant outer containers. Store smaller vessels in cabinets with collecting tubs.

Additional information on storage conditions:
Non-combustible corrosive substance. Co-storage with the following substances is prohibited: pharmaceutical products, food and animal feed, including additives, infectious, radioactive and explosive materials, other explosive substances of storage class 4.1, flammable solid substances or desensitized substances of storage class 4.1, spontaneously flammable substances, substances releasing flammable gases in contact with water, strongly oxidizing substances of storage class 5.1, organic peroxides and self-reactive substances.

7.3 Specific end use(s)

The specific end uses of ammonia water are mentioned in the exposure scenarios attached to the safety data sheet.

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Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

The permissible limit values for professional (occupational) exposure (OEL), according to GD no. 1218/2006, Annex no. 1 and Directive 2000/39/EC, for ammonia are:
Route of exposure
- inhalation - short-term DNEL - 36mg/m^3, 50 ppm / 15 minutes respectively
- long-term DNEL -14mg/m^3, 20 ppm / 8 hours respectively
NOAEL -18 mg/m^3, 18 ppm respectively
- dermal - short- and long-term DNEL value - 68 mg/kg of body weight/day

The values of the relevant DNEL / DMEL levels and NOAEL values are provided in the CSA, depending on the type of exposure for workers in industrial, professional environments and for consumers.
DNEL / DMEL and NOAEL values for the type of exposure:
Acute toxicity - oral - local: N/A
- systemic: 68 mg/kg of body weight/day NOAEL
6.8 mg/kg of body weight/day DNEL/DMEL
- dermal - local: N/A
- systemic: 68 mg/kg of body weight/day NOAEL
68 mg/kg of body weight/day DNEL/DMEL
- inhalation - local: 36 mg/m^3 (humans) NOAEC
36 mg/m^3 DNEL/DMEL
- systemic: 68 mg/kg of body weight/day NOAEL
47.6 mg/m^3 DNEL/DMEL

Irritation / corrosivity - respiratory tract - local: 36 mg/m^3 DNEL/DMEL
Repeated dose toxicity - oral - local: N/A
- systemic: 68 mg/kg of body weight/day NOAEL
6.8 mg/kg of body weight/day DNEL/DMEL
- dermal - local: N/A
- systemic: 68 mg/kg of body weight/day NOAEL
68 mg/kg of body weight/day DNEL/DMEL
- inhalation - local: N/A
- systemic: 68 mg/kg of body weight/day NOAEL
47.6 mg/m^3 DNEL/DMEL

8.2. Exposure controls

Exposure control information is provided in the Exposure Scenarios attached to the Safety Data Sheet.

8.2.1 Appropriate technical controls

Exposure must be limited using technological control systems (storage in tanks, tankers, local ventilation system) and appropriate protective equipment (gloves, goggles/visor, protective clothing). Technological control systems must be maintained to keep the ammonia concentration

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within acceptable limits for exposure control, and a protective mask must be used to reduce the effects of inhalation exposure.

General measures at unit level

It was established at CSSM (committee for safety and health at work) unit level, in the meetings of which the risk factors for accidents and occupational diseases existing at workplaces are analysed.

The assessment of the risks of accidents and occupational diseases at workplaces was carried out, by the committees established by the decision of the management, following which preventive measures were established in order to eliminate or reduce the risks that cannot be avoided, with the aim of occupational safety and health, reducing work accidents and occupational diseases.

Chemical plant:

- Assessment of risks when using dangerous chemical agents
- Ammonia Plant Kellogg III-IV, NH3 Storage (exploitation - chemists);

Following the analysis and assessment of workplace risks:

The prevention and protection plan at unit level was developed and approved.

Records are kept of workplaces with high hazard and with imminent danger of injury.

Records are kept of the chemicals and hazardous substances used in the work process.

Pollutants from chemical agents present in the work environment are monitored.

The health status of personnel exposed to chemical agents is supervised and monitored.

Occupational safety and health audits are carried out at workplaces, establishing non-conformities with the legislation in force and measures for ensuring compliance.

Statistical data on work accidents and occupational diseases in which dangerous chemical agents are involved is compiled.

Intervention - rescue teams in the event of a chemical accident are organized at unit level, whose workers are regularly trained.

Workplaces are checked according to the operational procedure, by designated workers within the internal prevention and protection service.

The explosion protection document is developed according to GD no. 1058/2006 for Ammonia, Nitric Acid, Ammonium Nitrate facilities.

The pieces of equipment that operate in environments with a risk of explosion are certified when due.

Workers have their own instructions on the use of hazardous chemical agents.

- The personnel are equipped with personal protective equipment
- Means of collective protection are provided

Collective protection measures at the source of risk

Technical measures

System for monitoring the main parameters of the machines' safe operation (pressure, temperature, concentration, flow rate, level, etc.), with the possibility of acoustic and/or optical warning of their malfunction.

Toxic gas, fire and/or explosion detectors.

Protection devices - guards on flanges on all routes with hazardous fluids.

Paint works in conventional colors on ammonia, nitric acid routes.

Occupational safety and health signaling according to GD no. 971/2006 (security markings for warning, prohibition, compulsoriness, delimitation of danger zones).

Ventilation installations.

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Rescue showers, for danger of splashing with corrosive chemical agents.
Water sources with upward jet (for washing eyes in case of splashes).
Periodic ISCIR checks of equipment working under pressure.
Pollutant level control.
Organization and provision of insulating personal protective equipment.
Provision and organization of specialized medical aid in case of gassing.

Organizational measures

Manufacturing regulation, Operating procedures and instructions OSH-FPFF.
Safety data sheets for hazardous substances.
Organization of information system for surveillance and intervention:

- Fire intervention plan.
- Internal emergency plan (IEP)
- Emergency evacuation plan
- Earthquake action plan
- Road safety plan (RSP)

Position/job authorization of workers carrying out exploitation activities, maintenance and repairs (mechanical, electrical, automation) in technological installations.
OSH training of Azomureș workers, all phases (on employment, at workplace, periodic, additional) and OSH training of workers from companies providing services on a contract basis or of persons within the company with the employer's permission regarding:

- risks of accidents and occupational diseases specific to the workplace
- minimum safety and health requirements at work provided by the legal and internal regulations applicable to the specific activity of the workplace
- duties and responsibilities of workers at the workplace
- ways of using work equipment, personal protective equipment
- preventive and protective measures, mode of action in case of danger
- providing first aid to work-related injured people

Health risk management measures

When characterizing human health risks associated with the manufacture of anhydrous ammonia, dermal and inhalation exposures estimated using the ECETOC TRA model for workers in the industry performing routine activities were compared to derived no-effect level (DNEL) values.
Acute, short-term and chronic, long-term inhalation or dermal exposures to ammonia can induce local and systemic effects. The most important local effect after acute or long-term inhalation exposure to ammonia is irritation of the respiratory tract. For acute and chronic exposures of workers, local DNEL values of 36 mg/m^3 și 14 mg/m^3 following inhalation were determined. The most important local effects following dermal exposure to ammonia are eye and skin irritation and corrosiveness. A DNEL value has not been determined for these effects.
Because ammonia is corrosive, and skin effects will manifest as local irritation or corrosion (in the contact area), significant systemic toxicity is unlikely.
Based on the estimates from the exposure assessment and risk characterization, it can be concluded that the processes associated with the manufacture of anhydrous ammonia are unlikely to present unacceptable health risks to workers in the industry when dermal and inhalation exposures are controlled using appropriate operating conditions (e.g. duration of operations, use of ventilation)

and implementing risk management measures so that exposures do not exceed the specified DNEL values.

8.2.2 Personal protection measures, such as personal protective equipment

(a) Respiratory protection:

Personal gas mask for breathing protection (balaclava type) with specific filter cartridge for ammonia gas (used only in contaminated atmospheres where oxygen does not drop below 17%). For atmospheres with low oxygen content (below 17%) - danger of suffocation: self-contained insulating apparatus for respiratory protection with compressed air, with open circuit or overpressure of compressed air or with adduction of compressed air.

(b) Hand protection:

Protective gloves (nitrile rubber, crosnitrile, with cotton lining) resistant in contact with chemical agents - liquid ammonia, permeability resistance 5

Hygienic - sanitary materials: protective ointment

(c) Eye protection:

Tight protective goggles (plastic case, polycarbonate lenses) and resistant to liquid ammonia chemical agents.

Protective visor (polycarbonate screen) resistant in contact with chemical agents - liquid ammonia.

(d) Skin protection

Protective clothing:

Protective suit (workwear cotton overall - bib pants, jacket) resistant to chemical agents - gaseous or liquid ammonia.

Chemical-resistant protective suit (rubberized on a textile support) for the protection of workers who are part of the intervention and rescue teams, used with a compressed air breathing apparatus for interventions in an environment with liquid ammonia that strongly irritates the skin and penetrates through the skin.

Shirt (natural fibers, 100% cotton);

Protective footwear: protective boots (rubber, PVC) resistant in contact with corrosive caustic agents - liquid ammonia; protective boots (leather with rubber soles) resistant in contact with chemical agents - liquid ammonia, with antistatic properties that allow use in explosive environments.

8.2.3 Environmental exposure control

Ammonia is a gaseous substance - in the environment it reacts with water or moisture, existing mainly in the form of ammonia water.

Ammonia is naturally present in the environment. Industrial activity can cause regional and local increases in atmospheric concentrations and emissions.

In the aquatic environment, ammonia will be present in non-ionized form (NH_3) and in the form of ammonium ions (NH_4^+); the relative proportions of the two forms depending on pH and (to a lesser extent) temperature. At pH values between 5 and 8, the predominant form is NH_4^+. At higher pH values, the proportion of NH_3 increases.

Data collected for total ammonia revealed a mean value of <0.18 mg/L for most surface waters and one around 0.5 mg/L in waters around large urban areas. In underground waters, ammonia concentrations are reduced, as a consequence of ammonium ion adsorption in soil or bacterial oxidation to nitrates, both processes limiting its mobility in soil. In the soil, ammonia is found in a dynamic equilibrium with nitrates and other substances in the nitrogen cycle.

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Ammonia is easily transformed by bacteria into nitrates, through the process of nitrification. Nitrification is important in preventing the persistence or accumulation of high levels of ammonia in waters where sewage or agricultural effluents are discharged.
In soil, ammonia is readily converted by a variety of bacteria, actinomycetes, and fungi into ammonium ions (NH_4^+) through the process of ammonification or mineralization. Ammonium ions are rapidly converted to nitrates. Nitrates are then taken up and used by plants and return to the atmosphere through denitrification, the process of metabolic reduction of nitrate to nitrogen or nitrous oxide. The most likely transformation of ammonium ions in the soil is the conversion to nitrates through nitrification.
The substance is classified as very toxic to the environment due to its effects on fish.
Environmental exposure to the substance must be minimal. This is practically achieved by discharging the wastewater containing this substance into the STP before it is discharged into the surface waters.
Ammonia removal in sewage treatment plants (STP) is very efficient, being first removed by nitrification to nitrate, followed by denitrification with the release of nitrogen gas.

Environmental risk management measures

The substance is classified as corrosive, flammable, toxic by inhalation and very toxic to aquatic organisms.
The product is stored in closed tanks and tankers and is transferred in closed system. A standard general and controlled ventilation is applied while performing maintenance activities. Personal protective equipment (e.g. eye/face protection, protective helmet, gloves, boots and overalls) will be worn if there is a possibility of contact with the substance.
All technological devices shall have an appropriate quality certificate and shall be checked and maintained regularly to avoid accidental ammonia leaks.
Good occupational hygiene and exposure control measures shall be implemented to minimize the possibility of operator exposure. Where natural ventilation is inadequate, mechanical (general) or local (LEV) ventilation shall be provided. Tankers shall be equipped with ventilation systems (e.g. protective casing). Personal protective equipment (e.g. face, eye, ear protection, helmet, gloves, boots and overalls) shall be worn in situations where contact is possible. Workers unloading product from storage tanks or conveyances wear tight-fitting, non-vented safety goggles and a face shield to protect against splashes. In case of spillage of a large amount of liquid or vapor clouds, grade A protective clothing (full coveralls and protective mask) will be used. Waterproof clothing and rubber gloves shall be worn for small spills and for routine loading and unloading operations. The areas where the product is handled and stored shall be equipped with emergency showers and an eyewash system. Protective masks with filters shall be worn in case of accidental leaks of ammonia.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

a) Physical state: liquid
b) Color: colorless at room temperature
c) Odor: pungent, suffocating

Ref. no.	Specification of physical and chemical properties of the substance/ mixture	UM	Value Substance / mixture	Remarks
(a)	Physical state		liquid	
(b)	Color		colourless	
c)	Odor		pungent, suffocating	
d)	Melting point / Freezing point	ºC	-69.2	Solution conc. 28%
e)	Boiling point/ Boiling temperature range	ºC	36	Solution conc. 30%
f)	Flammability	% vol		Non-flammable.
g)	Solubility in water	g/L	510-531	At 20 ºC
h)	Partition coefficient n-octanol/water	log Kow (Pow)	0.23	At 20 ºC
i)	Vapor pressure	Pa	41690	At 20 ºC
j)	Density	kg/m3	0.717	At normal temperature and pressure
k)	Particle size distribution			The study is not necessary because the substance is not sold in solid or granular form.
l)	Explosiveness			There is no group of chemicals associated with explosive properties.
m)	Oxidising properties			Does not have oxidizing properties.
n)	pH		≈11	

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9.2. Other information

Dissociation constant: pKa = 4.77 at 25 °C.

Section 10. STABILITY AND REACTIVITY

10.1. Reactivity

Ammonia water reacts violently with acids, with oxidizing agents, with bromine salts, halide compounds with gold, silver, tellurium, mercury, ethylene oxide, hypochloric acid, hypochlorites, metals (attacks copper, zinc, aluminum and their alloys); by dissolving in water it gives off large amounts of heat.

10.2. Chemical stability

The substance is stable; no dangerous polymerization process takes place.
Decomposition: If the substance is heated above 454 ºC, hydrogen is released. The decomposition temperature can be reduced to 300 °C by contact with certain metals, such as nickel.

10.3. Possibility of hazardous reactions

Ammonia burns mixed with oxygen, forming nitrogen and water, with a yellow flame.
At 690 ºC, or in the presence of an electric spark, ammonia decomposes into nitrogen and hydrogen, which can form an explosive mixture in the presence of air.
Ammonia also burns in air, and an air mixture with 16-25% NH_3 can explode when ignited.

10.4. Conditions to avoid

Temperature - Heating of containers with ammonia water
- Contact with heat sources
Shock - Mechanical shocks of containers

10.5. Incompatible materials

Ammonia can have explosive or violent reactions in contact with interhalogen compounds, strong oxidizers, fluoride and nitrogen oxide. Ammonia forms sensitive, explosive mixtures with air and hydrocarbons, ethanol and silver nitrate and chlorine. Explosive products are formed by the reaction of ammonia with silver chloride, silver oxide, bromine, iodine, gold, mercury and tellurium halides. Ammonia is incompatible or has hazardous reactions with silver, acetaldehyde, acrylic aldehyde, boron, halogens, perchlorate, chloric acid, chlorine monoxide, chlorites, NO_2, tin, sulfur.

10.6. Hazardous decomposition products

Nitrogen and hydrogen oxides.

Section 11. TOXICOLOGICAL INFORMATION

Toxicokinetics (absorption, metabolism, distribution and elimination)

Absorption - oral - Ammonia is generated by the bacterial flora of the gastrointestinal tract (~ 4 /day) and, as a very small, water-soluble molecule, is likely to be rapidly and extensively absorbed.

- inhalation - The results of rat studies indicate that the gaseous substance is absorbed into the blood following inhalation exposure; this is consistent with the water solubility and small molecular size of the substance.
- dermal - according to the exposure scenario, dermal absorption in large quantities is not possible, unless the skin is compromised
  For the purposes of risk assessment, a value of 10% is assumed.

Distribution - Ammonia is distributed in all body tissues and is capable of crossing the blood-brain barrier.

Metabolism - no studies on metabolism are available; ammonia is very well characterized as a product of normal metabolism. Ammonia is rapidly detoxified in the liver through the urea cycle.

11.1. Information on the hazard classes defined in Regulation (EC) no. 1272/2008

The **relevant hazard classes** for which information is provided are:

(a) Acute toxicity
(b) Skin corrosion / irritation
(c) Serious eye damage / eye irritation
(d) Respiratory or skin sensitization
(e) Germ cell mutagenicity
(f) Carcinogenicity
(g) Reproductive toxicity
(h) STOT (specific target organ toxicity) – single exposure
(i) STOT (specific target organ toxicity) – repeated exposure
(j) Aspiration hazard

11.1.1 Information for each hazard class

(a) Acute toxicity

Oral - in rats - LD50: 350 mg/kg

Inhalation - was investigated in several studies in rats and mice using non-standard short exposure periods. No further studies are proposed as the substance is corrosive.

Several non-standard acute inhalation toxicity studies in rats and mice indicated that the substance is toxic by inhalation.

Dermal - ammonia is classified H314: Causes severe skin burns. Skin exposure

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to anhydrous ammonia will show local effects in the skin contact area, significant systemic toxicity being unlikely. Other tests are not justified due to the corrosive properties of ammonia.

Other routes - ammonia toxicity has been well characterized by other (more relevant) exposure routes. Further studies are not justified from a scientific point of view and for animal health.

Repeated dose toxicity

Inhalation: At concentrations of 100 ppm and occasionally 200 ppm no effects on general health were observed. No relationship between exposure duration and lung effects was observed.

The substance is classified as corrosive: skin effects will be manifested by irritation and local corrosion (contact area): no significant systemic toxicity is expected.

The primary effect of exposure to inhaled anhydrous ammonia is local irritation of the respiratory tract.

Value used for CSA (oral route): NOAEL: 68 mg/kg of body weight/day

Value used for CSA (inhalation route): NOAEC: 63 mg/m³

(b) Skin corrosion/irritation

Anhydrous ammonia is classified according to the CLP Regulation as corrosive to the skin 1B (Hazard statement: H314: Causes severe skin burns and eye diseases) skin irritation testing is not scientifically justified for animal health reasons.

Value used for CSA: Skin irritation / corrosion: corrosive

(c) Serious eye damage / eye irritation

No information is available, however, the substance can be assumed to cause serious eye irritation according to the CLP Regulation.

Value used for CSA: eye irritation: very irritating

(d) Respiratory or skin sensitization

Results of acute inhalation toxicity studies in animals and humans indicate irritation of the respiratory tract.

Value used for CSA: respiratory tract irritation: irritant

Skin sensitization - No data available. Local skin effects of the substance will mainly manifest as irritation/corrosion, sensitization is considered unlikely.

Value used for CSA: does not sensitize the skin.

Respiratory system sensitization - ammonia is considered unlikely to sensitize the respiratory system. The local effects of the substance on the respiratory tract are mainly those of irritation.

Value used for CSA: does not sensitize the respiratory system

(e) Mutagenicity - Ammonia is not mutagenic in the Ames Salmonella tests.

Anhydrous ammonia is not considered genotoxic based on in vivo and in vitro test results.

(f) Carcinogenicity - It does not appear in any records of products suspected of being carcinogenic.

Value used for CSA (route: oral): NOAEL: 67 mg/kg of body weight/day

(g) Reproductive toxicity - No evidence of effects on fertility.

Value used for CSA (route: oral): NOAEL: 408 mg/kg of body weight/day

(h) STOT – single exposure – findings not sufficient for classification

(i) STOT – repeated exposure – findings not sufficient for classification

(j) Aspiration hazard – findings not sufficient for classification

11.1.2 The data in this subsection applies to anhydrous ammonia – available in the Chemical Safety Report.

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11.1.3 Results of critical studies used depending on route of exposure:

Acute toxicity after oral administration – ammonia is a gas; therefore this is not a relevant route of exposure. However, extrapolation studies with other compounds are available and are assessed they would provide useful information on the systemic toxicity of ammonia and its salts. A 4-week study in rats with diammonium phosphate (HLS, 2002) showed only minor effects on weight gain and clinical chemistry parameters.

A NOAEL value of 250 mg/kg body weight/day equivalent to 68 mg/kg/body/ammonia was determined for this study. A 90-day study in rats with ammonium sulfate showed only minor effects at high doses; determining a NOAEL value of 886 mg/kg body weight/day equivalent to 225 mg/kg/body/ammonia.

Acute toxicity after inhalation administration – studies were conducted in rats and mice using non-standard short-term exposure periods. Acute toxicity by ammonia inhalation was assessed by exposing groups of male and female rats to atmospheric ammonia for 10, 20, 40 and 60 minutes.

At 60 minutes - LC50 in male rats was 9850 mg/m^3 of air

- LC50 in female rats was 13770 mg/m3 of air

Acute toxicity by ammonia gas inhalation in rats was determined at single exposures during 5-, 15-, 30- and 60-minute periods. Ammonia concentrations ranged from 6000 to 100 mg/m^3. Ammonia poisoning in high concentrations (6000, 3000, 1000 mg/m^3) was characterized by dyspnea, irritation of the respiratory tract and eyes, and cyanosis of the limbs.

LC50 upon exposure for 5 and 15 minutes respectively was 18693 mg/m^3 and 12160 mg/m^3.

LC50 upon exposure for 30 and 60 minutes respectively was 7035 mg/m^3 and 7939 mg/m^3.

Non-standard acute inhalation toxicity studies in rats and mice indicate that the substance is toxic by inhalation.

Value used for CSA: LD50: 350 mg/kg

Anhydrous ammonia is classified according to the CLP Regulation as: toxic by inhalation (hazard statement H331) with Acute toxicity category 3. This classification is consistent with available data. Acute inhalation toxicity studies have also been performed on humans with results indicating irritation of the respiratory tract.

Acute toxicity after dermal administration – the substance is a gas; dermal exposure generating effects dominated by local corrosion / irritation and significant systemic toxicity is not predicted.

11.1.4 For hazard classes: STOT – single exposure, STOT – repeated exposure, aspiration hazard - findings not sufficient for classification.

11.1.5 Information on likely routes of exposure

Routes of exposure are: inhalation and skin/eye exposure.

Health effects from anhydrous ammonia through skin/eye exposure are severe skin burns and eye diseases; ammonia being classified according to the CLP Regulation: corrosive to skin 1B (Hazard statement: H314: Causes severe skin burns and eye diseases).

The primary effect of ammonia inhalation exposure is local irritation of the respiratory tract.

Short-term exposure to ammonia at a level of 50 ppm (36 mg/m^3) was tolerated without signs of definite irritation, and the long-term NOAEL of 25 ppm (18 mg/m^3).

Anhydrous ammonia is classified according to the CLP Regulation as: toxic by inhalation (hazard statement H331) with Acute toxicity category 3.

11.1.6 Symptoms related to physico-chemical and toxicological characteristics

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Ammonia exposure, potential adverse reactions and symptoms are recorded in the Exposure Scenario.

11.1.7 Known delayed and immediate effects, as well as chronic effects induced by long-term exposure and short-term exposure

Toxicological testing was performed on rats, mice and humans. Skin/eye, respiratory tract irritation tests were performed on humans.

Effects of short-term and long-term exposure are recorded in the Exposure Scenario.

11.1.8 Interactive effects

No data available.

11.1.9 Absence of specific data

No data available.

11.1.10 The classification criteria are not met.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Ammonia has no endocrine disrupting properties.

11.2.2. Other information

No data available.

Section 12. ECOLOGICAL INFORMATION

12.1. Toxicity

Aquatic environment (including sediments)

Toxicity data

The toxicity of ammonia on aquatic organisms depends to a great extent on physico-chemical factors, especially on pH. The acute toxicity of ammonia is influenced, to a lesser extent, by temperature and by carbon dioxide, by dissolved oxygen in water, and by salinity. In aqueous solution, ammonia exists primarily in two forms, non-ionized ammonia (NH_3) and ammonium ions (NH_4^+), under an equilibrium state. As the pH increases, the fraction of total un-ionized ammonia increases. This is the form generally considered to be the main cause of toxicity in aquatic environments. Free (non-ionized) ammonia is toxic to aquatic life, yet the ammonium ion that predominates in most waters is not toxic. If the water is contaminated with ammonia, the ammonium salts that are formed do not pose a toxic hazard.

LC 50 (96 hours) < 1 mg/L (0.6-1.1 mg/L of un-ionized ammonia causes mortality).

Fish studies show that repeated exposure produces adverse effects at elevated concentrations above 0.0024 mg/L EC50 (Daphnia magna) (48 hours) 24.4-189 mg/L.

LC 50 (48 hours) for algae is 2.94 mg NH_3 N/L

The LC50 values for algae and Daphnia classify the tested substance in: "toxic to aquatic organisms".

LC 50 (mouse, inhalation) = 4837 mg/kg (1h)

In the case of rats, by inhalation, exposure duration >=5 - <=60 minutes at concentrations of 6000, 3000, 1000, 300, 100 mg/m^3 causes convulsions and death.

The substance is toxic by inhalation.
Value used for CSA: LD50 (oral): 350 mg/kg of body weight
Short-term toxicity to fish
Values used for CSA: LC50 for stream fish: 0.89 mg/L non-ionized ammonia
Long-term toxicity to fish
The following information shall be taken into account for the determination of PNEC in the case of acute toxicity to fish: the lowest concentration of un-ionized ammonia at which long-term effects have been observed is 0.022 mg/L NH_3.
Short-term toxicity to aquatic invertebrates
The acute toxicity of ammonia was tested in Daphnia magna.
LC50 at 48 hours of 101 mg/L.
Value used for CSA: EC50/LC50 freshwater invertebrates: 110 mg/L
Long-term toxicity to aquatic invertebrates
Long-term study in Daphnia magna revealed the NOEC: 0.79 mg/L
Value used for CSA: EC10/LC10 or NOEC freshwater invertebrates: 0.79 mg/L
Algae and aquatic plants
An EC50 value of 2700 mg/L was calculated for Chlorella vulgaris.
Value used for CSA: EC50/LC50 for freshwater algae: 2700 mg/L
Effects on aquatic plants other than algae: ammonia is assimilated by aquatic plants, being a source of nitrogen for them, therefore, it is expected to have low toxicity.
Organisms from sediments
Ammonia does not accumulate and determination of PNEC values in sediment organisms is not required.
Other aquatic organisms
No additional data is required.
Calculation of PNEC - PNEC water (fresh water): 0.0011 mg/L

- PNEC salt water: 0.0011 mg/L
- PNEC water - intermittent discharges: 0.089 mg/L
- PNEC sediment - ammonia does not accumulate in sediments, therefore, determination of PNEC is not required.

Microbiological activity in sewage treatment systems
Toxicity to aquatic microorganisms
Ammonia is produced by bacteria present in sewage treatment plants (STPs) that come from other sources, including nitrogen-containing wastewater. STPs contain ammonia generated by bacteria from other sources, so a toxicity study is not required.
PNEC value for sewage treatment plants (STP) - Ammonia is used as a source of nitrogen for microorganisms, being also a result of decomposition from other nitrogen products. For these reasons, a PNEC value is not required for STPs (sewage treatment plants).
Terrestrial environment
Toxicity to terrestrial macro-organisms
Ammonia applied directly to the soil is quickly transformed into other compounds by bacteria in the nitrogen cycle. Therefore, no exposure of macro-organisms in the soil is foreseen.
Toxicity to terrestrial arthropods

Ammonia applied directly to the soil is quickly transformed into other compounds by bacteria in the nitrogen cycle. Therefore, no exposure of terrestrial arthropods is foreseen.

Toxicity to terrestrial plants

Ammonia is used as a semi-finished product to obtain fertilizers, therefore, it is not necessary to evaluate the toxicity on terrestrial plants.

Toxicity to terrestrial microorganisms

Toxicity to microorganisms in the soil is unlikely: ammonia is part of the nitrogen cycle.

Atmospheric environment - no data required.

Specific effects relevant to the food chain (secondary poisoning)

Toxicity to birds - no data available.

Toxicity to mammalians **-** no data other than those in the toxicology chapter of the CSR are available.

Oral PNEC value **-** determination of the PNEC for protection against secondary poisoning is not required, as the condition that the logKow value is >3 is not met, the logKow value being 0.23.

12.2. Persistence and degradability

Degradation - abiotic

Hydrolysis - Ammonia does not hydrolyze. It is very soluble in water, ammonia and ammonium ions being under an equilibrium influenced by concentration and pH.

Photolysis - in air - in atmosphere, it can be degraded by photolysis or neutralization with the help of acidic impurities in the air.

- in water and soil - no data available and not required

Biodegradation - in water - is rapidly biodegradable in water

- in soil - ammonia is quickly oxidized by microorganisms, into nitrate ions

- it is biodegradable through the process of ammonification or mineralization

Value used for CSA: Biodegradation in water: readily biodegradable.

12.3. Bioaccumulative potential

Ammonia is not bioaccumulative and is a product of normal metabolism.

Secondary poisoning

There is very limited potential for secondary poisoning given the lack of bioaccumulation and the omnipresence of ammonia in the environment as a normal product of metabolism.

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12.4. Mobility in soil

Adsorption/desorption
Ammonia is strongly adsorbed in soil, sediments and colloidal matter in water.
Volatility
Volatility studies report the following values of the Henry's law constant for ammonia:
$1.6x10^{-5}$ atm-m³/mol (25 °C)
$7.3x10^{-6}$ atm-m³/mol (pH 7; 23.4 °C)
$1.60x10^{-5}$ atm-m³/mol (25 °C)
$5.01x10^{-6}$ atm-m³/mol (5 °C)
Distribution modeling
No data available or requested.

12.5. Results of PBT and vPvB assessment

Ammonia is not a PBT or vPvB substance.

12.6. Endocrine disrupting properties

Ammonia has no endocrine disrupting properties.

12.7. Other adverse effects

We have no information on other adverse effects on the environment.

Section 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste considerations
EWC codes used for waste that may be generated:
06 02 03*
15 01 10*
Waste must be disposed of in accordance with national and local regulations and must not be discharged into surface waters without prior treatment in sewage treatment plants.
Relevant provisions of EU and harmonized national legislation on waste
National legislation in force:
GEO 92/2021 on the waste regime.
Law 265/2006 – Environmental protection law.
Law 249/2015 regarding the management of packaging and packaging waste.
GD 856/2002 - Records of waste management with subsequent amendments and additions.
Occupational safety and health law no. 319/2006, GD no. 1425/2006 for the approval of the Methodological Norm for the application of the provisions of the Occupational safety and health

law no. 319/2006 and GD no. 355/2007 regarding the supervision of workers' health with subsequent amendments and additions.
GD no. 1061/2008 regarding the transport of hazardous and non-hazardous waste on the territory of Romania, with subsequent amendments and additions.
EU legislation in force:
Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the registration, evaluation, authorization and restriction of chemicals (REACH), with subsequent amendments and additions.
Regulation (EC) No. 1272/2008 of the European Parliament and of the Council on the classification, labeling and packaging of substances and mixtures, with subsequent amendments and additions.
European Agreement concerning the international carriage of dangerous goods by road (ADR).
Regulation concerning the international carriage of dangerous goods by rail (RID).

Section 14. TRANSPORT INFORMATION

Information on the classification for:

Transport by road (ADR):

14.1. UN number or identification number: 2672
14.2. UN proper shipping name: AMMONIA IN AQUEOUS SOLUTION of a density between 0.880 and 0.957 at 15^0C containing more than 10% but not more than 35% ammonia.
14.3. Transport hazard class(es): hazard class 8 – classification code – C5
14.4. Packaging group: III
14.5. Special provisions: 543

Transport by rail (RID):

14.1. UN number or identification number: 2672
14.2. UN proper shipping name: *AMMONIA IN AQUEOUS SOLUTION of a density between 0.880 and 0.957 at 15°C containing more than 10% but not more than 35% ammonia*
14.3. Transport hazard class(es): hazard class 8
14.4. Packaging group: III
14.5 Special provisions: 543

Maritime transport (IMDG/IMO code):

14.1. UN number or identification number: 2672
14.2. UN proper shipping name: *AMMONIA IN AQUEOUS SOLUTION of a density between 0.880 and 0.957 at 15°C containing more than 10% but not more than 35% ammonia*
14.3. Transport hazard class(es): risk class 8
14.4. Packaging group: III

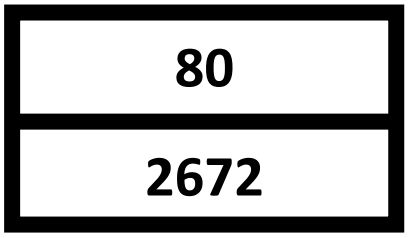
14.5. Environmental hazards

According to the criteria of the IMDG code, ammonia is a pollutant for the marine aquatic environment.

14.6. Special precautions for users

The transport of ammonia water is subject to the legislation in force corresponding to dangerous substances; the RID, ADR, IMDG provisions and ISCIR norms will be observed.
According to the provisions of Regulation (EC) no. 1272/2008 - Annex II, art. 3.1.1., "Packaging of whatever capacity containing a substance or mixture delivered to the general public and classified for acute toxicity, categories 1-3 or for skin corrosion category 1, shall be fitted with child-resistant fastenings and with a tactile warning system for danger".
Personnel transporting ammonia must be trained and examined periodically, in this sense, by the company they are belonging to and are obliged to use the appropriate personal protective equipment.
It is forbidden to transport any other goods in motor vehicles carrying ammonia water.
Tanker type motor vehicles, which transport ammonia water, must be signaled by applying **2 orange reflective, rectangular plates** (in the front and at the back), on which the hazard identification number is written on the upper part and the hazardous substance identification number (UN) on the lower part, of the dimensions specified in the legislation in force (ADR), inscribed in such a way that, in the event of a fire, they remain legible for 15 minutes (see fig.1).

Fig.1



In addition to the signaling plates **2 label plates** will be applied, in the present case: **corrosive** - conventional sign - liquids flowing from 2 glass test tubes and attacking the hand and the black metal on a white (upper half) and black (lower half) background with the number "8" in the lower corner (see fig.3) and the **marking**: **hazardous substances for the environment -** conventional sign - a black tree and a fish - black on a white background (see fig.4) exposed to view on the sides and rear of the vehicle, applied in such a way that they cannot be removed.



fig. 2



fig.3

In accordance with the provisions of Regulation (EC) no. 1272/2008, packaging labeling will include the following legible indications: name of the substance, full name and address of the manufacturer, nominal quantity, product identifiers, symbols referring to danger pictograms, signal words, hazard statements (H), precautionary statements (P).

Motor vehicles transporting ammonia will not park in crowded places, but only in car parks specially intended for this purpose, supervised and in complete safety.
All shipments must be accompanied by transport documents specific to the dangerous products transported, in accordance with the legislation in force.

14.7. Shipping in bulk under IMO instruments

Not the case.

Section 15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture concerned

Relevant information on national legislation
Occupational safety and health law no. 319/2006, GD no. 1425/2006 for the approval of the Methodological Norm for the application of the provisions of the Occupational safety and health law no. 319/2006 and GD no. 355/2007 regarding the supervision of workers' health with subsequent amendments and additions.
Law no. 265/2006 for the approval of GEO no. 195/2005 on environmental protection.
Decision no. 1391/2006 for the approval of the Regulation for the application of the Government Emergency Ordinance no. 195/2002 regarding traffic on public roads, with subsequent amendments and additions.
ISCIR technical regulations in force.
Order no. 2737/17.12.2012 for the approval of the Procedure regarding the designation of the bodies that carry out the issuance of approval certificates and conformity certificates with the prototype according to the European Agreement concerning the international carriage of dangerous goods by road (ADR), as well as the inspection for certification in the purpose of maintaining compliance in operation of specialized superstructures mounted on road vehicles intended for the road transport of dangerous goods and of packaging intended for the road transport of dangerous goods.
Law no. 59/2016 on the control of major accident hazards involving dangerous substances.
Decision no. 1175/2007 for the approval of the Norms for carrying out the activity of road transport of dangerous goods in Romania.
Law no. 360/2003 regarding the regime of dangerous substances and preparations, republished on 12.03.2014.
Law no. 278/2013 on industrial emissions.
Law no. 49/2018 regarding explosives precursors, as well as for the amendment and addition of some normative acts.
Relevant information on EU legislation
Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the registration, evaluation, authorization and restriction of chemicals (REACH), with subsequent amendments and additions.

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Regulation (EC) No. 1272/2008 of the European Parliament and of the Council on the classification, labeling and packaging of substances and mixtures, with subsequent amendments and additions.
Regulation (EU) No. 286/2011 of the Commission of 10.03.2011 amending Regulation (EC) No. 1272/2008.
Regulation (EU) No. 2019/521 of the Commission of 27.03.2019 amending Regulation (EC) No. 1272/2008.
Regulation (EU) no. 2020/878 of 18 June 2020 amending Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the registration, evaluation and restriction of chemicals (REACH).
Directive 2012/18/EU of the European Parliament and of the Council of 04.07.2012 on the control of major accidents involving dangerous substances (SEVESO III).
Regulation no. 1148 of 20 June 2019 regarding the marketing and use of explosives precursors, amending Regulation (EC) no. 1907/2006 and repealing Regulation (EU) no. 98/2013.
European Agreement concerning the international carriage of dangerous goods by road (ADR), 2023 edition.
Regulation concerning the international carriage of dangerous goods by rail (RID), 2023 edition.
Regulations concerning the international maritime carriage of dangerous goods, 2022 edition.

Other regulations

“This product is not subject to Regulation (EU) 2019/1148”.

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15.2 Chemical safety assessment

A Chemical safety assessment (CSA) was carried out, and a Chemical safety report (CSR) was drawn up.
An assessment of potential exposures to liquid and anhydrous ammonia associated with industrial, professional and consumer uses was performed. As ammonia is used in many areas, it is not the purpose of this report to present a detailed assessment of all possible use scenarios. An exposure assessment was performed for 6 general exposure scenarios: ES 1 - Production of anhydrous ammonia, ES 2 - Distribution and formulation, ES3 - Use of ammonia as an intermediate in chemical synthesis, ES 4 - Industrial end use of ammonia, ES 5 - Wide dispersive uses: Professional uses and ES 6 – Wide dispersive uses: consumer uses. To ensure that ammonia uses are addressed as thoroughly as possible in this exposure assessment, for each exposure scenario, exposures were determined for various operating conditions, taking into account the impact of different risk management measures.

Section 16. OTHER INFORMATION

a) Clear highlighting of information that has been added, deleted or modified

Version number (revision, edition)	Date	Page number	Evolution of information
0	23.09.2022	-	Initial version
1	31.05.2023	24	Change of name to RID and IMDG transport and update of ADR, RID, IMDG editions

b) Legend of abbreviations and acronyms used in the safety data sheet

ADR - European Agreement concerning the international carriage of dangerous goods by road, 2023 edition
EC - European Commission
CSA - Chemical safety assessment
CSR - Chemical safety report
DNEL - Derived no-effect level
DMEL - Derived minimal effect level
ECETOC - European Centre for Ecotoxicology and Toxicology of Chemicals
ECHA - European Chemicals Agency
ES - Exposure scenario

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ESIS	-	European Chemical Substances Information System
EUSES	-	European Union System for the Evaluation of Substances
SDS	-	Safety Data Sheet
FE (EFMA)	-	Fertilizers Europe (European Chemical Fertilizer Manufacturers Association)
GESTIS	-	German Information System regarding dangerous substances
GD	-	Government Decision
IBC	-	International code for the construction and equipment of ships carrying dangerous chemicals in bulk
IMDG	-	Regulations concerning the international maritime carriage of dangerous goods, 2022 edition
IPPC	-	integrated pollution prevention and control
ISCIR	-	State Inspection for the Control of Boilers, Pressure Vessels and Lifting Installations
LC50	-	Lethal concentration for 50% of the test population
LD50	-	Lethal dose for 50% of the test population
LEV	-	Local ventilation
MRR	-	Risk reducing measures
N/A	-	Not applicable
NOAEC	-	No-observed-adverse-effect concentration
NOAEL	-	No-observed-adverse-effect level
OEL	-	Acceptable limit values for professional (occupational) exposure
IMO	-	International Maritime Organization
UN	-	United Nations Organization
GEO	-	Government Emergency Ordinance
PBT	-	Persistent, Bioaccumulative, Toxic
PNEC	-	Predicted no-effect concentration
FPFF	-	Fire Prevention and Fire Fighting
PVC	-	Polyvinyl Chloride
REACH	-	Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the registration, evaluation, authorization and restriction of chemicals
RID	-	International Regulation concerning the carriage of dangerous goods by rail, 2023 edition
SCOEL	-	Scientific Committee on Occupational Exposure Limits
SEVESO III	-	Directive of the Council of Europe no. 2012/18/EU of 4 July 2012 on the control of the risks of major accidents involving dangerous substances
OSH	-	Occupational Safety and Health
STEL	-	Short-term exposure limit
STOT	-	Specific target organ toxicity
STP	-	Sewage treatment plant
QSAR	-	Quantitative structure-activity relationship
vPvB	-	Very Persistent, Very Bioaccumulative

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c) References

GESTIS database - Material Safety Data Sheets
Amuliu Proca, Gabriel Stănescu - Substanțe și produse utilizate în industria chimică-pericol de incendiu - pericol de explozie - toxicitate, 1984
Studies according to the Chemical Safety Report
Guidance for safe use - Joint / individual ECHA registration dossier of the substance
Official Journal of the European Union - Regulation (EU) no. 2020/878 of the EC of 18.06.2020
EFMA - Guide for the preparation of safety data sheets.
ESIS - European Chemical Substances Information System
Official Journal of the European Union - Regulation (EC) no. 1907/2006 of the European Parliament and of the Council regarding the registration, evaluation, authorization and restriction of chemicals (REACH).
ADR - European Agreement concerning the international carriage of dangerous goods by road, 2023 edition
RID - International Regulation concerning the carriage of dangerous goods by rail, 2023 edition
IMDG - Regulations concerning the international maritime carriage of dangerous goods, 2022 edition

d) Relevant hazard statements / precautionary statements

H 221 - Flammable gas
H 314 - Causes severe skin burns and eye damage
H 331 - Toxic by inhalation
H 400 - Very toxic to aquatic life
Precautionary statements: Prevention
P 210 - Keep away from heat sources, hot surfaces, sparks, open flames or other sources of ignition. No smoking.
P 260 - Do not breathe gas / vapors
P 264 - Wash hands thoroughly after use
P 271 - Use only outdoors or in well-ventilated areas
P 273 - Avoid release to the environment
P 280 - Wear protective gloves (nitrile rubber, crosnitrile, with cotton lining, permeability resistance 5) / protective clothing (chemical resistant protective suit) / eye protection equipment (tight goggles) / face protection equipment (protective mask with filter cartridge) / hearing protection (earmuffs).
Intervention
P 301+ P 330 + P 331 - If swallowed, rinse the mouth. Do not induce vomiting.
P 305 + P 351 + P 338 - In case of eye contact, rinse thoroughly with water for several minutes. Remove contact lenses, if necessary and easy to do. Continue rinsing.
P 303 + P 361 + P 353 - In case of skin (or hair) contact immediately remove all contaminated clothing. Rinse skin with water / take a shower.

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P 304 + P 340 - In case of inhalation, move the victim to fresh air and keep them at rest in a position comfortable for breathing.
P 310 - Call a Poison Information Center or doctor immediately.
P 321 - Specific treatment (see additional first aid instructions).
P 363 - Wash contaminated clothing before use.
P 377 - Fire caused by a gas leak: do not attempt to extinguish unless the leak can be safely stopped.
P 381- Eliminate all sources of ignition if safe to do so.
P 391 - Collect spilled product.

Storage

P 405 - Store locked up.
P 403 + P 233 - Store in a well-ventilated area. Keep container tightly closed.
P 410 - Protect from sunlight.
P 410 + P403 - Protect from sunlight. Store in a well-ventilated area.

Disposal

P 501 - Dispose of the contents / container at places specially designated for these types of waste, until disposal by an authorized company.

Note:

Information contained in this sheet is based on the data available at the time of preparation. The client and user assume all risks regarding the use, handling and storage of this product. There are no warranty conditions for the product in the case of handling, transport and storage that do not comply with the specifications in the technical sheet and the safety data sheet of the product.

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BIOSPECTRA
Premium Pharmaceutical Ingredients

Sodium Hydroxide 25% Solution

Safety Data Sheet
According to Regulation (EC) 1272/2008
Issue Date: 07/19/22 Revision date: 07/19/25

SECTION 1 – Chemical Product and Company Identification

1.1 Product Identifiers

Product Name	:	Sodium Hydroxide 25% Solution
CAS#	:	1310-73-2
EC#	:	215-185-5
REACH#	:	01-2119457892-27-0273

1.2 Recommended Use of the Chemical and Restrictions of Use

Chemical manufacturing

1.3 Supplier Details

Supplier	:	BioSpectra, Inc. 100 Majestic Way Bangor, PA 18013 T: 610-599-3400 ra@biospecta.us

1.4 Emergency Numbers

Emergency Numbers	:	US & Canada: 1-800-424-9300 Outside the US & Canada: +1 703-527-3887

SECTION 2 – Hazards Identification

2.1 Classification of the Substance or Mixture

HCS Classification in accordance with 29 CFR 1910.1200

Skin Irritation	:	Category 1A
Eye Irritation	:	Category 1
Aquatic Toxicity	:	Category 3

2.2 GHS Label Element Including Precautionary Statements

Pictogram :



Signal Word : Danger

Hazard Statement(s):

: H290 - May be corrosive to metals.
: H314 - Causes severe skin burns and eye damage.
: H402- Harmful to Aquatic Life

Precautionary Statement(s):

: P233 - Keep container tightly closed
: P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
: P264 - Wash skin thoroughly after handling.

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: P273 - Avoid release to the environment.

: P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do not induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortablefor breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER/doctor/physician.
P363 - Wash contaminated clothing before reuse.
P390 - Absorb spillage to prevent material-damage.
P406 - Store in corrosive resistant container/container with a resistant inner liner.
P501 - Dispose of contents/container in accordance with local regulations.

2.3 Hazards not Classified or not covered by the GHS

No other hazards identified.

SECTION 3 – Composition, Information on Ingredients

3.1 Substances

Component	Formula	CAS-No	Weight %
Water	H_20	7732-18-5	73-77%
Sodium Hydroxide	NaOH	1310-73-2	23-27%

SECTION 4 – First Aid Measures

4.1 Description of Necessary First Aid Measures

General Advice : If feeling unwell, seek medical attention immediately.

Eyes : Immediately flush eye with tepid water for at least 15 minutes, lifting lower andupper eyelids occasionally. Seek medical attention immediately.

Skin : Immediately wash affected skin area with soap and water while removing contaminated clothing and shoes. Flush the area with large amounts of water forat least 15 minutes. Wash clothing before reuse. Seek medical attention for severe exposures.

Ingestion : Do not induce vomiting. If the person is able to swallow, give them large quantities of water to dilute the solution Never give anything by mouth to an unconscious person Perforation of the esophagus and stomach is possible. Seekmedical attention immediately.

Inhalation : Move the exposed person to fresh air immediately. If breathing has stopped, perform artificial respirations. Seek medical attention immediately.

4.2 Most Important Symptoms/Effects, Acute and Delayed

Severe exposures could lead to destruction of skin at the site of contact and varying degrees of irritation to the respiratory system. Effects may be delayed.

4.3 Indication of Immediate Medical Attention and Special Treatment

Seek medical attention immediately if unintentional skin or eye contact has been made.

4.4 Note to Physician

Perform endoscopy if ingestion occurred. Continual monitoring and general supportive measures should be taken.

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SECTION 5 – Firefighting Measures

5.1 Extinguishing Media

Substance is not a fire hazard, use appropriate extinguishing media for surrounding environment.

5.2 Specific Hazards Associated with this Chemical

Sodium Hydroxide Solution can react with certain metals, such as aluminum, to create hydrogen gas.CAUTION: Adding water to caustic generates significant heat.

5.3 Special Equipment/Precautions for Firefighters

Wear NIOSH approved self-contained breathing apparatus and full protective clothing.

SECTION 6 – Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Appropriate Personal Protective Equipment (PPE) must be worn when handling this product. Personnel not wearing personal protective equipment must remain clear of this solution. Avoid contact with unprotected skin or eyes. Seek immediate medical attention if contact is made.

6.2 Environmental Precautions

Prevent spillage from entering drains. Report release to Federal or local regulatory authorities as required.

6.3 Methods and Materials for Containment and Cleaning Up

Neutralize the spill with a weak acid. Absorb the spill with noncombustible absorbent material such as vermiculite. Place material insuitable container for disposal. Clean surfaces thoroughly with dilute acetic and water to remove residual contamination. Dispose of all materials in accordance with regulations.

SECTION 7 – Handling and Storage

7.1 Precautions for Safe Handling

Wear appropriate personal protection equipment as outlined in Section 8. Keep container closed when not in use.

7.2 Conditions for Storage Including any Incompatibilities

Store in cool, well ventilated and dry area. Keep above 16°C (60°F) to prevent freezing. Keep away from incompatible materials suchas metals, strong acids, and strong oxidizers.

SECTION 8 – Exposure Controls, Personal Protection

8.1 Control Parameters

Component	Exposure Limits	Basis	Source
NaOH	2.0 mg/m^3	PEL	OSHA
NaOH	2.0 mg/m^3	TLV	ACGIH

PEL : Permissible Exposure Limit
TLV : Threshold Limit Value

8.2 Personal Protective Measures

Eyes
Chemical safety goggles or safety glasses and a face shield.

Skin
Skin should be covered at all times with chemically resistant materials and fabrics.

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Hands
Chemically resistant protective gloves

Respiratory
Wear full NIOSH approved respiratory equipment if proper ventilation cannot be achieved.

SECTION 9 – Physical and Chemical Properties

9.1 Chemical Property Information

Appearance	:	Colorless to slightly gray liquid
Odor	:	Odorless
Odor Threshold	:	No information available
pH	:	14.0
Melting Point	:	N/A
Boiling Point	:	110°C
Evaporation Rate	:	No information available
Auto-ignition temperature	:	No information available
Upper/Lower Flammability Limit	:	N/A
Vapor Pressure	:	No information available
Vapor Density	:	>1.0
Specific Gravity/Density	:	1.28
Solubility	:	Soluble in water
Flash Point	:	N/A
Flammability	:	N/A
Decomposition Temperature	:	No information available

SECTION 10 – Stability and Reactivity

10.1 Chemical Stability

Stable under normal storage conditions.

10.2 Conditions to Avoid

Storage in high heat due to accelerated corrosion.

10.3 Incompatibilities with Other Materials

Water, acids, metals.

10.4 Hazardous Decomposition Products

None expected under normal storage and use

SECTION 11 – Toxicological Information

11.1 Toxicological Effects

LD50/LC50	:	No information available
Carcinogenicity	:	Not proven to be a carcinogen by IARC, NTP, OSHA, or ACGIH.
Potential Health Effects	:	Severity of the damage will depend on the length of time of exposure. Eyes may burn, skin may burn, respiratory symptoms may include burning and choking, ingestion may create nausea and vomiting along with severe pain.
Respiratory or Skin Sensitization	:	No information available
Epidemiology	:	No information available
Skin Irritation	:	Corrosive! Contact with skin can cause irritation or severe burns and scarring with greater exposures.
Eye Contact	:	Corrosive! Causes irritation of eyes, and with greater exposures it can cause burns that may result in permanent eye damage, even blindness.

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Ingestion	:	Corrosive! Swallowing may cause severe burns of mouth, throat, and stomach.Severe scarring of tissue and death may occur. Symptoms may include diarrhea, vomiting, drop in blood pressure, or bleeding. Damage may appear days after exposure.
Inhalation	:	Severe irritant. Effects from inhalation of mist vary from mild irritation to serious damage of the upper respiratory tract depending on exposure. Symptoms may include sneezing, sore throat, running nose, shortness of breath. Severe pneumonia may occur.
Teratogenicity	:	No information available
Reproductive Effects	:	No information available
Neurotoxicity:	:	No information available
Mutagenicity	:	No information available

SECTION 12 – Ecological Information

12.1 Ecotoxicity

Harmful to aquatic life due to its ability to alter pH.

12.2 Persistence and Degradability

Expected to readily biodegrade.

12.3 Bio Accumulative Potential

No information available

12.4 Mobility in Soil

Likely mobile in soil due to its solubility in water.

12.5 Result of PBT and vPvB assessment

No information available

12.6 Other Adverse Effects

Not Applicable

SECTION 13 – Disposal Considerations

13.1 Disposal Methods

Whatever cannot be saved for recovery or recycled should be managed in an appropriate waste facility. Dispose of container and contents in accordance to local/state/federal regulations.

SECTION 14 – Transport Information

Regulations	US DOT	IATA	IMDG
Shipping Name	Sodium Hydroxide Solution	Sodium Hydroxide Solution	Sodium Hydroxide Solution
Hazard Class	8	8	8
UN Number	UN1824	UN1824	UN1824
Packing Group	II	II	II

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SECTION 15 – Regulatory Information

15.1 EHS Chemical Specific Regulations

Federal, State, & International Regulations

Ingredient	Sodium Hydroxide	Water
	1310-73-2	7732-18-5
SARA 302 RQ	NO	NO
SARA 302 TPQ	NO	NO
SARA 313 List Chemical	NO	NO
SARA 313 Category	NO	NO
RCRA CERCLA	1000	NO
RCRA 261.33	NO	NO
TSCA INVENTORY	YES	YES
TSCA 8(d)	NO	NO

SECTION 16 – Additional Information

16.1 Hazard Ratings

HMIS Classification	
Health	3
Fire	0
Reactivity	1
Personal	H

NFPA Rating	
Health	3
Fire	0
Reactivity	1

The information conveyed in this Safety Data Sheet is only a representation of what BioSpectra has found to be accurate based on the current information that is available in regards to this compound. BioSpectra makes no warranty, expressed or implied, with respect to such information, and therefore assumes no liability resulting from product usage. It is strongly recommended that users of this product perform their own investigations to determine the accuracy and suitability of theinformation for their specific purposes. In no way will BioSpectra assume liability for any claims, losses, damages to any third party, any lost profits or any special, indirect, incidental, consequential or exemplary damages that may arise, even if BioSpectra has been advised of the possibility of such damages.

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Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Sodium hypochlorite, 13% active chlorine

Version number: GHS 4.1
Replaces version of: 2020-06-03 (GHS 3)

Revision: 2020-07-15

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name	**Sodium hypochlorite, 13% active chlorine**
Registration number (REACH)	not relevant (mixture)
CAS number	7681-52-9
Alternative name(s)	sodium hypochlorite
Article number	A0287962

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	General use
Uses advised against	Do not use for squirting or spraying. Do not use for products which come into direct contact with the skin.

1.3 Details of the supplier of the safety data sheet

Chemos GmbH & Co. KG
Sonnenring 7
84032 Altdorf
Germany

Telephone: +49 871-966346-0
Telefax: +49 871-966346-13
e-mail: chemos@chemos.de
Website: http://www.chemos.de/

e-mail (competent person)	chemos@chemos.de

1.4 Emergency telephone number

Emergency information service	+49 89 1 92 40

Poison centre

Country	Name	Postal code/ city	Telephone	Telefax
United Kingdom	National Poison Information Centre Medical Toxicology Unit	SE14 5ER London	+44 171 635 91 91	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.16	substance or mixture corrosive to metals	1	Met. Corr. 1	H290
3.2	skin corrosion/irritation	1B	Skin Corr. 1B	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
4.1A	hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400

Section	Hazard class	Category	Hazard class and category	Hazard statement
4.1C	hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- Signal word danger

- Pictograms

GHS05, GHS09



- Hazard statements

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H410	Very toxic to aquatic life with long lasting effects.

- Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P390	Absorb spillage to prevent material damage.
P391	Collect spillage.
P501	Dispose of contents/container to industrial combustion plant.

- Supplemental hazard information

EUH031	Contact with acids liberates toxic gas.

- Hazardous ingredients for labelling: Sodium hypochlorite 12% chlorine, sodium hydroxide

2.3 Other hazards

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Sodium hypochlorite, 13% active chlorine

Version number: GHS 4.1
Replaces version of: 2020-06-03 (GHS 3)

Revision: 2020-07-15

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

Identifiers

CAS No	7681-52-9
EC No	231-668-3
Molar mass	74.44 $^{g}/_{mol}$

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Sodium hypochlorite 12% chlorine	CAS No 7681-52-9 EC No 231-668-3	5 – 15	Met. Corr. 1 / H290 Skin Corr. 1 / H314 Eye Dam. 1 / H318 STOT SE 3 / H335 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	
sodium hydroxide	CAS No 1310-73-2 EC No 215-185-5 Index No 011-002-00-6	1 – < 2	Met. Corr. 1 / H290 Skin Corr. 1A / H314 Eye Dam. 1 / H318 Aquatic Chronic 3 / H412	

For full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Substance or mixture corrosive to metals.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

- Handling of incompatible substances or mixtures

Do not mix with acids.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

- Specific designs for storage rooms or vessels

Do not keep the container sealed.

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
GB	sodium hydroxide	1310-73-2	WEL				2				EH40/2005

Notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Human health values

Relevant DNELs and other threshold levels

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	1.55 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	3.1 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects

Relevant DNELs and other threshold levels

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	1.55 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
DNEL	3.1 mg/m³	human, inhalatory	worker (industry)	acute - local effects

Relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Sodium hypochlorite 12% chlorine	7681-52-9	DNEL	1.55 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Sodium hypochlorite 12% chlorine	7681-52-9	DNEL	3.1 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
Sodium hypochlorite 12% chlorine	7681-52-9	DNEL	1.55 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
Sodium hypochlorite 12% chlorine	7681-52-9	DNEL	3.1 mg/m³	human, inhalatory	worker (industry)	acute - local effects
sodium hydroxide	1310-73-2	DNEL	1 mg/m³	human, inhalatory	worker (industry)	chronic - local effects

Environmental values

Relevant PNECs and other threshold levels

Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	0.21 µg/l	aquatic organisms	freshwater	short-term (single instance)
PNEC	0.042 µg/l	aquatic organisms	marine water	short-term (single instance)
PNEC	4.69 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)

Relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Sodium hypochlorite 12% chlorine	7681-52-9	PNEC	0.21 µg/l	aquatic organisms	freshwater	short-term (single instance)
Sodium hypochlorite 12% chlorine	7681-52-9	PNEC	0.042 µg/l	aquatic organisms	marine water	short-term (single instance)
Sodium hypochlorite 12% chlorine	7681-52-9	PNEC	4.69 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Colour	yellowish
Odour	characteristic

Other safety parameters

pH (value)	12 – 13 (20 °C) (base)
Melting point/freezing point	-28.9 °C at 1,013 hPa
Initial boiling point and boiling range	98 °C
Flash point	>111 °C at 101.3 kPa
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)
Explosive limits	not determined
Vapour pressure	23 hPa at 20 °C
Density	1.24 $^{g}/_{cm^3}$ at 20 °C
Vapour density	this information is not available

Solubility(ies)

- Water solubility	1,000,000 $^{mg}/_{l}$ at 25 °C

Partition coefficient

- n-octanol/water (log KOW)	-3.42 (pH value: 12.5, 20 °C) (ECHA)

Auto-ignition temperature	not determined
Decomposition temperature	>111 °C

Viscosity

- Kinematic viscosity	2.258 $^{mm^2}/_{s}$ at 20 °C
- Dynamic viscosity	2.8 mPa s at 20 °C

Explosive properties	none
Oxidising properties	none

9.2 Other information

Surface tension	82.4 $^{mN}/_{m}$ (20 °C) (ECHA)
Solvent content	15 %
Solid content	2 %

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". Substance or mixture corrosive to metals.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

There is no additional information.

Release of toxic materials with:

Acids

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

Sodium hypochlorite, 13% active chlorine

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Shall not be classified as acutely toxic.

- Acute toxicity estimate (ATE)

Oral 1,100 $^{mg}/_{kg}$

Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
Sodium hypochlorite 12% chlorine	7681-52-9	oral	1,100 $^{mg}/_{kg}$

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Sodium hypochlorite, 13% active chlorine

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute)

Endpoint	Value	Species	Exposure time
EC50	141 µg/l	aquatic invertebrates	48 h
ErC50	0.036 mg/l	algae	72 h

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Sodium hypochlorite 12% chlorine	7681-52-9	EC50	141 µg/l	aquatic invertebrates	48 h
Sodium hypochlorite 12% chlorine	7681-52-9	ErC50	0.036 mg/l	algae	72 h
sodium hydroxide	1310-73-2	EC50	40.4 mg/l	aquatic invertebrates	48 h

Aquatic toxicity (chronic)

Endpoint	Value	Species	Exposure time
LC50	0.05 mg/l	fish	120 h
EC50	563 mg/l	microorganisms	3 h

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Sodium hypochlorite 12% chlorine	7681-52-9	LC50	0.05 mg/l	fish	120 h
Sodium hypochlorite 12% chlorine	7681-52-9	EC50	563 mg/l	microorganisms	3 h

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Sodium hypochlorite 12% chlorine	7681-52-9		-3.42 (pH value: 12.5, 20 °C)	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment-relevant information

Recycling/reclamation of other inorganic materials.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	1791
14.2	**UN proper shipping name**	HYPOCHLORITE SOLUTION
14.3	**Transport hazard class(es)**	
	Class	8 (corrosive substances) (environmentally hazardous)
14.4	**Packing group**	II (substance presenting medium danger)
14.5	**Environmental hazards**	hazardous to the aquatic environment

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

UN number	1791
Proper shipping name	HYPOCHLORITE SOLUTION
Class	8
Classification code	C9
Packing group	II
Danger label(s)	8, fish and tree

Sodium hypochlorite, 13% active chlorine



Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	521
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	E
Hazard identification No	80
Emergency Action Code	2X

International Maritime Dangerous Goods Code (IMDG)

UN number	1791
Proper shipping name	HYPOCHLORITE SOLUTION
Class	8
Marine pollutant	yes (P) (hazardous to the aquatic environment)
Packing group	II
Danger label(s)	8, fish and tree



Special provisions (SP)	274, 900
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-A, S-B
Stowage category	B
Segregation group	8 - Hypochlorites

International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	1791
Proper shipping name	Hypochlorite solution
Class	8
Environmental hazards	yes (hazardous to the aquatic environment)
Packing group	II
Danger label(s)	8



Special provisions (SP)	A3
Excepted quantities (EQ)	E2
Limited quantities (LQ)	0,5 L

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant provisions of the European Union (EU)

Deco-Paint Directive (2004/42/EC)

VOC content	0 %

Directive on industrial emissions (VOCs, 2010/75/EU)

VOC content	0 %

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.1		Classification according to Regulation (EC) No 1272/2008 (CLP): change in the listing (table)	yes
2.2		- Pictograms: change in the listing (table)	yes
2.2		- Hazard statements: change in the listing (table)	yes
3.2		Description of the mixture: change in the listing (table)	yes
11.1	Acute toxicity: Harmful if swallowed.	Acute toxicity: Shall not be classified as acutely toxic.	yes
16		Abbreviations and acronyms: change in the listing (table)	yes
16		List of relevant phrases (code and full text as stated in chapter 2 and 3): change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor

Sodium hypochlorite, 13% active chlorine

Abbr.	Descriptions of used abbreviations
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
log KOW	n-Octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
Met. Corr.	Substance or mixture corrosive to metals
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals

Abbr.	Descriptions of used abbreviations
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of: United States of America

Revision date 02-Oct-2023 **Revision Number** 1

1. Identification

Product identifier

Product Name **POLYOX™ WSR Coagulant RS**

Product Code(s) **12027769**

Recommended use of the chemical and restrictions on use

Recommended use Industrial

Restrictions on use None under normal use conditions

Details of the supplier of the safety data sheet

Supplier Address
Nutrition & Biosciences USA 1, LLC
3490 Winton Place
Rochester, New York 14623
USA
+ 1 800 255 6837 (General Information)

E-mail address
sds.genencor@iff.com

Emergency telephone number
Local (Washington DC): +1 703-741-5970
Toll Free: 1-800-424-9300

2. Hazard(s) identification

Classification

Combustible dust	Yes

Label elements

Signal word: Warning

May form combustible dust concentrations in air

Hazards not otherwise classified (HNOC)
No hazards not otherwise classified were identified.

Other information
No information available.

3. Composition/information on ingredients

Mixture

Chemical name	CAS No	Weight-%
Poly(ethylene oxide)	25322-68-3	95 - 100

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice When in doubt or if symptoms are observed, get medical advice.

Inhalation IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact IF ON SKIN: Wash with plenty of water and soap. If skin irritation occurs: Get medical advice/attention.

Ingestion IF SWALLOWED: Never give anything by mouth to an unconscious person. Drink plenty of water. Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed

Symptoms Get medical attention if irritation or other symptoms occur.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media Foam. Dry powder. Water spray. Carbon dioxide (CO2).

Unsuitable extinguishing media Keep product and empty container away from heat and sources of ignition. Do not use water jetstream.

Specific hazards arising from the chemical Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Hazardous combustion products Smoke production.

Explosion data
Sensitivity to mechanical impact No.

Revision Number
International Inventories

Sensitivity to static discharge Yes.

Special protective equipment for fire-fighters Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Use personal protection recommended in Section 8. Sweep up to prevent slipping hazard.

For emergency responders Use personal protection recommended in Section 8.

Methods and material for containment and cleaning up

Methods for containment Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Dispose of in accordance with local regulations.

Methods for cleaning up Use industrial vacuum cleaners approved for combustible dust and area electrical classification.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Avoid generation of dust and aerosols. Avoid contact with eyes, skin and clothing. Minimize dust generation and accumulation. Combustible dust clouds may be created where operations produce fine material (dust). Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA- 654).

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep/store only in original container. Keep container tightly closed in a dry and well-ventilated place.

8. Exposure controls/personal protection

Control parameters

Exposure Limits Based on data available for ingredients

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Dust, non-specific	TWA: 10 mg/m^3 inhalable particles, recommended TWA: 3 mg/m^3 respirable	TWA: 15 mg/m^3 total dust TWA: 5 mg/m^3 respirable fraction	-

	particles, recommended	(vacated) TWA: 15 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction TWA: 15 mppcf respirable fraction TWA: 50 mppcf total dust	

Appropriate engineering controls

Engineering controls Ensure adequate ventilation. Avoid generation of dust and aerosols.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear protective gloves.

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection If exposure limits are likely to be exceeded or if irritation or other symptoms are experienced, NIOSH/MSHA or EN 136 approved respiratory protection should be worn.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Powder
Physical state	Solid
Color	White to off-white
Odor	ammoniacal
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	8 - 10	aqueous solution
Melting point / freezing point	No data available	Thermal hazards Decomposes without melting
Initial boiling point and boiling range	No data available	Solids Not applicable to
Flash point	No data available	CC (closed cup) Key literature references and sources for data
Evaporation rate	No data available	Not applicable
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		to Not applicable Solids
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	bioconcentration : None known
Autoignition temperature	345	Key literature references and sources for data
Decomposition temperature	> 300	Differential Scanning Calorimetry (DSC)

		Decomposes on heating
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

Explosive properties	No data available
Oxidizing properties	No information available
Molecular weight	> 1000

10. Stability and reactivity

Reactivity Not expected.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid Heat, flames and sparks. May form combustible dust concentrations in air.

Incompatible materials Keep away from heat, flames and sparks.

Hazardous decomposition products No hazardous decomposition products known.

11. Toxicological information

Information on likely routes of exposure

Product Information

Acute toxicity

Inhalation	No information or data specific to the product on this toxicological (health) effect is available.
Eye contact	No information or data specific to the product on this toxicological (health) effect is available.
Skin contact	No information or data specific to the product on this toxicological (health) effect is available.
Ingestion	No information or data specific to the product on this toxicological (health) effect is available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Get medical attention if irritation or other symptoms occur.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

Numerical measures of toxicity

Component Information Based on data available for ingredients

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Poly(ethylene oxide) 25322-68-3	>4000 mg/kg (Rat)	>5000 mg/kg (Rabbit)	-

Poly(ethylene oxide) 25322-68-3

Eye irritation	Not expected
Skin irritation	Not expected
Respiratory irritation	Not expected
Sensitization	Not expected
Reproductive effects	Not expected
Mutagenic effects	Not expected
Systemic Toxicity	Not expected
Carcinogenicity	Not expected
Teratogenicity	Not expected

12. Ecological information

Ecotoxicity Based on data available for ingredients

Persistence and degradability Based on data available for ingredients.

Bioaccumulative potential Based on data available for ingredients.

Chemical name	Biodegradation	Bioaccumulation/Accumulation
Poly(ethylene oxide) 25322-68-3		No bioaccumulation potential Molecular weight >1,000

Mobility in soil No information available.

Other adverse effects No information available.

13. Disposal considerations

Waste from residues/unused products Dispose of wastes in an approved waste disposal facility. Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable.

Contaminated packaging Dispose of empty containers and wastes safely. Dispose of waste product or used containers according to local regulations.

14. Transport information

DOT Not regulated

IATA Not regulated

IMDG Not regulated

15. Regulatory information

International Inventories Based on data available for ingredients

Chemical name	AICS	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS
Poly(ethylene oxide) 25322-68-3	X	X	X	X	X	X	X

US Federal Regulations

TSCA A food, food additive, drug, cosmetic, or device, when manufactured, processed or distributed in commerce for use as a food, food additive, drug, cosmetic, or device is not subject to the notification requirements of the United States of America regulation 40 CFR 720.

Chemical name	CAS No	US TSCA Inventory listing	US TSCA active/inactive designation
Poly(ethylene oxide)	25322-68-3	Present	Active

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations
Based on data available for ingredients

16. Other information

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Revision date	02-Oct-2023
Revision Number	1
Revision Note	***Indicates updated data since last publication.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU

Iron(III) chloride solution 40 %

article number: **7750**
Version: **8.0 en**
Replaces version of: 2024-10-10
Version: (7)

date of compilation: 2016-12-01
Revision: 2025-02-19

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Identification of the substance	**Iron(III) chloride solution** 40 %
Article number	7750
Registration number (REACH)	not relevant (mixture)
Unique formula identifier (UFI)	07V2-10WJ-800E-4P3P

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses:	Laboratory chemical Laboratory and analytical use
Uses advised against:	Do not use for private purposes (household). Food, drink and animal feedingstuffs.

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

Telephone:+49 (0) 721 - 56 06 0
Telefax: +49 (0) 721 - 56 06 149
e-mail: sicherheit@carlroth.de
Website: www.carlroth.de

Competent person responsible for the safety data sheet:	Department Health, Safety and Environment
e-mail (competent person):	**sicherheit@carlroth.de**

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Centre Beaumont Hospital	Beaumont Road	Dublin 9	+353 1 809 2166	https://www.poisons.ie/

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.16	Substance or mixture corrosive to metals	1	Met. Corr. 1	H290
3.1O	Acute toxicity (oral)	4	Acute Tox. 4	H302
3.2	Skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.4S	Skin sensitisation	1	Skin Sens. 1	H317

For full text of abbreviations: see SECTION 16

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word **Danger**

Pictograms

GHS05, GHS07



Hazard statements

H290	May be corrosive to metals
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage

Precautionary statements

Precautionary statements - prevention

P280	Wear protective gloves/eye protection

Precautionary statements - response

P302+P352	IF ON SKIN: Wash with plenty of water
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310	Immediately call a POISON CENTER/doctor

Hazardous ingredients for labelling: Iron(III) chloride, Nickel dichloride, Hydrochloric acid ...%

Labelling of packages where the contents do not exceed 125 ml
Signal word: **Danger**
Hazard pictogram(s):



H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
P280	Wear protective gloves/eye protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
contains:	Iron(III) chloride, Nickel dichloride, Hydrochloric acid ...%

Labelling of packages where the contents do not exceed 10 ml
Signal word: Not required

Hazard pictogram(s):



Hazard statements:	Not required
Precautionary statements:	Not required

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0,1%.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

SECTION 3: Composition/information on ingredients

3.1 Substances

not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Iron(III) chloride	CAS No 7705-08-0 EC No 231-729-4 REACH Reg. No 01-2119497998-05-xxxx	39 – 41	Met. Corr. 1 / H290 Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Eye Dam. 1 / H318		
Hydrochloric acid ...%	CAS No 7647-01-0 EC No 231-595-7 Index No 017-002-01-X REACH Reg. No 01-2119484862-27-xxxx	≤ 1	Met. Corr. 1 / H290 Skin Corr. 1B / H314 Eye Dam. 1 / H318 STOT SE 3 / H335		B GHS-HC IOELV
Nickel dichloride	CAS No 7718-54-9 EC No 231-743-0 Index No 028-011-00-6	< 0,1	Acute Tox. 3 / H301 Acute Tox. 3 / H331 Skin Irrit. 2 / H315 Resp. Sens. 1 / H334 Skin Sens. 1 / H317 Muta. 2 / H341 Carc. 1A / H350i Repr. 1B / H360D STOT RE 1 / H372 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410		GHS-HC IOELV

Notes

B: Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid ... %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.

GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)

IOELV: Substance with a community indicative occupational exposure limit value

Name of substance	Identifier	Specific Conc. Limits	M-Factors	ATE	Exposure route
Iron(III) chloride	CAS No 7705-08-0 EC No 231-729-4	-	-	500 $^{mg}/_{kg}$	oral
Hydrochloric acid ...%	CAS No 7647-01-0 EC No 231-595-7 Index No 017-002-01-X	Met. Corr. 1; H290: C ≥ 0,1 % Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Dam. 1; H318: C ≥ 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 % STOT SE 3; H335: C ≥ 10 %	-	-	
Nickel dichloride	CAS No 7718-54-9 EC No 231-743-0 Index No 028-011-00-6	Skin Irrit. 2; H315: C ≥ 20 % Skin Sens. 1; H317: C ≥ 0,01 % STOT RE 1; H372: C ≥ 1 % STOT RE 2; H373: 0,1 % ≤ C < 1 %	M-factor (acute) = 1 M-factor (chronic) = 1	200 $^{mg}/_{kg}$ 0,593 $^{mg}/_{l}$/4h	oral inhalation: dust/mist

Remarks
For full text of abbreviations: see SECTION 16

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes
Take off immediately all contaminated clothing.

Following inhalation
Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact
Rinse skin with water/shower. After contact with skin, wash immediately with plenty of water. In case of skin reactions, consult a physician. In case of skin irritation, consult a physician.

Following eye contact
In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Following ingestion
Rinse mouth immediately and drink plenty of water. Rinse mouth with water (only if the person is conscious). Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed
Irritation, Allergic reactions, Vomiting, Corrosion, Gastric perforation, Risk of serious damage to eyes, Risk of blindness

4.3 Indication of any immediate medical attention and special treatment needed
none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media
co-ordinate firefighting measures to the fire surroundings!
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO_2)

Unsuitable extinguishing media
water jet

5.2 Special hazards arising from the substance or mixture
Non-combustible.

5.3 Advice for firefighters
In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel
Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

6.2 Environmental precautions
Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. The product is an acid. Before discharge into sewage plants the product normally needs to be neutralised.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill
Covering of drains.

Advice on how to clean up a spill
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Other information relating to spills and releases
Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections
Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Handle and open container with care.

Advice on general occupational hygiene
Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Keep only in original container.

Incompatible substances or mixtures

Observe hints for combined storage. Incompatible materials: see section 10.

Consideration of other advice:

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
EU	hydrogen chloride	7647-01-0	IOELV	5	8	10	15				2000/39/EC
EU	nickel compounds	7718-54-9	IOELV		0,1					Ni, i	2022/431/EU
IE	hydrogen chloride	7647-01-0	OELV	5	8	10	15				S.I. No. 619 of 2001
IE	nickel compounds	7718-54-9	OELV		0,1					i	S.I. No. 619 of 2001

Notation

Ceiling-C	Ceiling value is a limit value above which exposure should not occur
i	Inhalable fraction
Ni	Calculated as Ni (nickel)
STEL	Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant DNELs of components

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Iron(III) chloride	7705-08-0	DNEL	2,8 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Hydrochloric acid ...%	7647-01-0	DNEL	8 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
Hydrochloric acid ...%	7647-01-0	DNEL	15 mg/m³	human, inhalatory	worker (industry)	acute - local effects
Nickel dichloride	7718-54-9	DNEL	50 µg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Nickel dichloride	7718-54-9	DNEL	12,8 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects

Relevant DNELs of components

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Nickel dichloride	7718-54-9	DNEL	50 µg/m³	human, inhalatory	worker (industry)	chronic - local effects
Nickel dichloride	7718-54-9	DNEL	1,6 mg/m³	human, inhalatory	worker (industry)	acute - local effects
Nickel dichloride	7718-54-9	DNEL	0,44 µg/cm²	human, dermal	worker (industry)	chronic - local effects

Relevant PNECs of components

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Nickel dichloride	7718-54-9	PNEC	7,1 µg/l	aquatic organisms	freshwater	short-term (single instance)
Nickel dichloride	7718-54-9	PNEC	8,6 µg/l	aquatic organisms	marine water	short-term (single instance)
Nickel dichloride	7718-54-9	PNEC	0,33 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Nickel dichloride	7718-54-9	PNEC	109 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Nickel dichloride	7718-54-9	PNEC	109 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Nickel dichloride	7718-54-9	PNEC	29,9 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



• hand protection

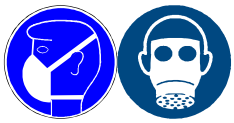
Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

• type of material

NBR (Nitrile rubber)

- **material thickness**
  ≥0,3 mm
- **breakthrough times of the glove material**
  >480 minutes (permeation: level 6)
- **other protection measures**
  Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: B-P2 (combined filters for acidic gases and particles, colour code: Grey/White).

Environmental exposure controls
Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	dark brown
Odour	stinging
Melting point/freezing point	-12 °C
Boiling point or initial boiling point and boiling range	not determined
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	not determined
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	<1 (20 °C)
Kinematic viscosity	6,993 $^{mm^2}/_s$ at 20 °C
Dynamic viscosity	10 mPa s at 20 °C
Solubility(ies)	
Water solubility	miscible in any proportion
Partition coefficient	
Partition coefficient n-octanol/water (log value):	not relevant (inorganic)
Vapour pressure	not determined

Density and/or relative density	
Density	1,43 $^{g}/_{cm^3}$ at 20 °C
Relative vapour density	Information on this property is not available.
Particle characteristics	not relevant (liquid)
Other safety parameters	
Oxidising properties	none

9.2 Other information

Information with regard to physical hazard classes:	
Corrosive to metals	category 1: corrosive to metals
Other safety characteristics:	
Miscibility	completely miscible with water

SECTION 10: Stability and reactivity

10.1 Reactivity
Substance or mixture corrosive to metals.

10.2 Chemical stability
The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: Alkali (lye), Metals

10.4 Conditions to avoid
Keep away from heat.

10.5 Incompatible materials
different metals

Release of flammable materials with
Metals, Light metals (due to the release of hydrogen in an acid/alkaline medium)

10.6 Hazardous decomposition products
Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
Test data are not available for the complete mixture.

Classification procedure
The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity
Harmful if swallowed.

Acute toxicity estimate (ATE) of components			
Name of substance	**CAS No**	**Exposure route**	**ATE**
Iron(III) chloride	7705-08-0	oral	500 $^{mg}/_{kg}$
Nickel dichloride	7718-54-9	oral	200 $^{mg}/_{kg}$
Nickel dichloride	7718-54-9	inhalation: dust/mist	0,593 $^{mg}/_{l}$/4h

Acute toxicity of components					
Name of substance	**CAS No**	**Exposure route**	**Endpoint**	**Value**	**Species**
Iron(III) chloride	7705-08-0	oral	LD50	500 $^{mg}/_{kg}$	rat
Iron(III) chloride	7705-08-0	dermal	LD50	>2.000 $^{mg}/_{kg}$	rat
Nickel dichloride	7718-54-9	oral	LD50	200 $^{mg}/_{kg}$	rat
Nickel dichloride	7718-54-9	inhalation: dust/mist	LC50	0,593 $^{mg}/_{l}$/4h	rat

Skin corrosion/irritation
Causes skin irritation.

Serious eye damage/eye irritation
Causes serious eye damage.

Respiratory or skin sensitisation
May cause an allergic skin reaction.

Germ cell mutagenicity
Shall not be classified as germ cell mutagenic.

Carcinogenicity
Shall not be classified as carcinogenic.

Reproductive toxicity
Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure
Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure
Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard
Shall not be classified as presenting an aspiration hazard.

Endocrine disruptor for human health
Shall not be classified as an endocrine disruptor for human health.

Symptoms related to the physical, chemical and toxicological characteristics

- **If swallowed**
vomiting, nausea, Liver and kidney damage
- **If in eyes**
Causes serious eye damage, risk of blindness
- **If inhaled**
irritant effects
- **If on skin**
causes skin irritation, May produce an allergic reaction, pruritis, localised redness

• **Other information**
none

11.2 Information on other hazards
There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity
Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Nickel dichloride	7718-54-9	LC50	15,3 mg/l	fish	96 h
Nickel dichloride	7718-54-9	EC50	685,8 µg/l	aquatic invertebrates	48 h
Nickel dichloride	7718-54-9	ErC50	≤1.120 µg/l	algae	72 h

Aquatic toxicity (chronic) of components

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Nickel dichloride	7718-54-9	ErC50	8.363 µg/l	fish	40 d
Nickel dichloride	7718-54-9	LC50	204 µg/l	aquatic invertebrates	21 d
Nickel dichloride	7718-54-9	EbC50	6,2 µg/l	aquatic invertebrates	30 d
Nickel dichloride	7718-54-9	EC50	≤108 µg/l	aquatic invertebrates	21 d
Nickel dichloride	7718-54-9	NOEC	40 µg/l	fish	8 d
Nickel dichloride	7718-54-9	LOEC	0,12 mg/l	fish	32 d

12.2 Persistence and degradability
Data are not available.

12.3 Bioaccumulative potential
Data are not available.

Bioaccumulative potential of components

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Iron(III) chloride	7705-08-0		-4 (24 °C)	
Nickel dichloride	7718-54-9	86		

12.4 Mobility in soil
Data are not available.

12.5 Results of PBT and vPvB assessment
Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0,1%.

12.6 Endocrine disrupting properties
Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

12.7 Other adverse effects
Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Properties of waste which render it hazardous
HP 4 irritant - skin irritation and eye damage
HP 6 acute toxicity

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1 UN number or ID number

ADRRID	UN 2582
IMDG-Code	UN 2582
ICAO-TI	UN 2582

14.2 UN proper shipping name

ADRRID	FERRIC CHLORIDE SOLUTION
IMDG-Code	FERRIC CHLORIDE SOLUTION
ICAO-TI	Ferric chloride solution

14.3 Transport hazard class(es)

ADRRID	8
IMDG-Code	8
ICAO-TI	8

14.4 Packing group

ADRRID	III
IMDG-Code	III
ICAO-TI	III

14.5 Environmental hazards — non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)Additional information

Proper shipping name	FERRIC CHLORIDE SOLUTION
Particulars in the transport document	UN2582, FERRIC CHLORIDE SOLUTION, 8, III, (E)
Classification code	C1
Danger label(s)	8



Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Tunnel restriction code (TRC)	E
Hazard identification No	80

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)Additional information

Classification code	C1
Danger label(s)	8



Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Hazard identification No	80

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	FERRIC CHLORIDE SOLUTION
Particulars in the shipper's declaration	UN2582, FERRIC CHLORIDE SOLUTION, 8, III
Marine pollutant	-
Danger label(s)	8



Special provisions (SP)	223
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-A, S-B
Stowage category	A
Segregation group	1 - Acids

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name	Ferric chloride solution
Particulars in the shipper's declaration	UN2582, Ferric chloride solution, 8, III
Danger label(s)	8



Special provisions (SP)	A3
Excepted quantities (EQ)	E1
Limited quantities (LQ)	1 L

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Dangerous substances with restrictions (REACH, Annex XVII)

Name of substance	Name acc. to inventory	CAS No	Restriction	No
Iron(III) chloride solution	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3	3
Nickel dichloride	nickel compounds		R27	27
Nickel dichloride	carcinogenic		R28-30	28
Nickel dichloride	toxic for reproduction		R28-30	30
Nickel dichloride	substances in tattoo inks and permanent make-up		R75	75
Hydrochloric acid ...%	substances in tattoo inks and permanent make-up		R75	75

Legend

R27 1. Shall not be used:
(a) in any post assemblies which are inserted into pierced ears and other pierced parts of the human body unless the rate of nickel release from such post assemblies is less than 0,2 µg/cm2/week (migration limit);
(b) in articles intended to come into direct and prolonged contact with the skin such as:
- earrings,
- necklaces, bracelets and chains, anklets, finger rings,
- wrist-watch cases, watch straps and tighteners,
- rivet buttons, tighteners, rivets, zippers and metal marks, when these are used in garments,
if the rate of nickel release from the parts of these articles coming into direct and prolonged contact with the skin is greater than 0,5 µg/cm2/week.
(c) in articles referred to in point (b) where these have a non-nickel coating unless such coating is sufficient to ensure that the rate of nickel release from those parts of such articles coming into direct and prolonged contact with the skin will not exceed 0,5 µg/cm2/week for a period of at least two years of normal use of the article.

Legend

2. Articles which are the subject of paragraph 1 shall not be placed on the market unless they conform to the requirements set out in that paragraph.
3. The standards adopted by the European Committee for Standardisation (CEN) shall be used as the test methods for demonstrating the conformity of articles to paragraphs 1 and 2.

R28-30 1. Shall not be placed on the market, or used,
- as substances,
- as constituents of other substances, or,
- in mixtures,
for supply to the general public when the individual concentration in the substance or mixture is equal to or greater than:
- either the relevant specific concentration limit specified in Part 3 of Annex VI to Regulation (EC) No 1272/2008, or,
- the relevant generic concentration limit specified in Part 3 of Annex I of Regulation (EC) No 1272/2008.
Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of such substances and mixtures is marked visibly, legibly and indelibly as follows:
'Restricted to professional users'.
2. By way of derogation, paragraph 1 shall not apply to:
(a) medicinal or veterinary products as defined by Directive 2001/82/EC and Directive 2001/83/EC;
(b) cosmetic products as defined by Directive 76/768/EEC;
(c) the following fuels and oil products:
- motor fuels which are covered by Directive 98/70/EC,
- mineral oil products intended for use as fuel in mobile or fixed combustion plants,
- fuels sold in closed systems (e.g. liquid gas bottles);
(d) artists' paints covered by Regulation (EC) No 1272/2008;
(e) the substances listed in Appendix 11, column 1, for the applications or uses listed in Appendix 11, column 2. Where a date is specified in column 2 of Appendix 11, the derogation shall apply until the said date;
(f) devices covered by Regulation (EU) 2017/745.

R3 1. Shall not be used in:
- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
2. Articles not complying with paragraph 1 shall not be placed on the market.
3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
— can be used as fuel in decorative oil lamps for supply to the general public, and
— present an aspiration hazard and are labelled with H304.
4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
5. Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
(a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil – or even sucking the wick of lamps – may lead to life-threatening lung damage";
(b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter fluid may lead to life threatening lung damage';
(c) lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.';

R75 1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances:
(a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
(b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
(c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
(d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than:
(i) 0,1 % by weight, if the substance is used solely as a pH regulator;
(ii) 0,01 % by weight, in all other cases;
(e) in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (*1), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
(f) in the case of a substance for which a condition of one or more of the following kinds is specified in column g (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight:
(i) "Rinse-off products";
(ii) "Not to be used in products applied on mucous membranes";
(iii) "Not to be used in eye products";
(g) in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column;
(h) in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix.
2. For the purposes of this entry use of a mixture "for tattooing purposes" means injection or introduction of the mixture into a person's skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly

Legend

referred to as permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body.
3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance.
4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023:
(a) Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8);
(b) Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6).
5. If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification.
6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made.
7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information:
(a) the statement “Mixture for use in tattoos or permanent make-up”;
(b) a reference number to uniquely identify the batch;
(c) the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. “Ingredient” means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation;
(d) the additional statement “pH regulator” for substances falling under point (d)(i) of paragraph 1;
(e) the statement "Contains nickel. Can cause allergic reactions." if the mixture contains nickel below the concentration limit specified in Appendix 13;
(f) the statement "Contains chromium (VI). Can cause allergic reactions." if the mixture contains chromium (VI) below the concentration limit specified in Appendix 13;
(g) safety instructions for use insofar as they are not already required to be stated on the label by Regulation (EC) No 1272/2008.
The information shall be clearly visible, easily legible and marked in a way that is indelible.
The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise.
Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use.
Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph.
8. Mixtures that do not contain the statement “Mixture for use in tattoos or permanent make-up” shall not be used for tattooing purposes.
9. This entry does not apply to substances that are gases at temperature of 20 °C and pressure of 101,3 kPa, or generate a vapour pressure of more than 300 kPa at temperature of 50 °C, with the exception of formaldehyde (CAS No 50-00-0, EC No 200-001-8).
10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning. Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the requirements of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively.

List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list

none of the ingredients are listed

Seveso Directive

2012/18/EU (Seveso III)

No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes
	not assigned		

Deco-Paint Directive

VOC content	0 %
VOC content (Water content was discounted)	0 g/l

Industrial Emissions Directive (IED)

VOC content	0 %
VOC content (Water content was discounted)	0 g/l

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

Water Framework Directive (WFD)

List of pollutants (WFD)

Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Nickel dichloride	nickel compounds		b)	
Nickel dichloride	nickel compounds		c)	
Nickel dichloride	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Nickel dichloride	Metals and their compounds		a)	
Iron(III) chloride	Metals and their compounds		a)	

Legend

a) Indicative list of the main pollutants
b) List of priority substances in the field of water policy
c) Environmental Quality Standards for Priority Substances and certain other pollutants

Regulation on the marketing and use of explosives precursors

none of the ingredients are listed

Regulation on drug precursors

Name of substance	CAS No	Wt%	Classification	CN Code	Threshold level
Hydrochloric acid ...%	7647-01-0	1	Category 3	2806 10 00	

Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

Regulation concerning the export and import of hazardous chemicals (PIC)

none of the ingredients are listed

Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances

Name of substance	CAS No	Listed in	HS code
Hydrochloric acid ...%	7647-01-0	Table II	2806.10

National inventories

Country	Inventory	Status
AU	AIIC	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	all ingredients are listed
JP	ISHA-ENCS	not all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed (ACTIVE)

Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
ISHA-ENCS	Inventory of Existing and New Chemical Substances (ISHA-ENCS)
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical safety assessment

According to REACH, Article 14 (1) a chemical safety assessment has been carried out for this substance or components of this mixture when the substance has been registered in quantities of 10 tonnes or more per year per registrant.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
15.1		National inventories: change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2000/39/EC	Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC
2022/431/EU	Directive (EU) 2022/431 of the European Parliament and of the Council of 9 March 2022 amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
Acute Tox.	Acute toxicity
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CN Code	Combined Nomenclature
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EbC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye

Abbr.	Descriptions of used abbreviations
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HS	Harmonized Commodity Description and Coding System (Harmonized System, drawn up by the World Customs Organisation)
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LOEC	Lowest Observed Effect Concentration
log KOW	n-Octanol/water
Met. Corr.	Substance or mixture corrosive to metals
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
Muta.	Germ cell mutagenicity
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity
Resp. Sens.	Respiratory sensitisation
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
S.I. No. 619 of 2001	Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitisation
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure
SVHC	Substance of Very High Concern
TWA	Time-weighted average

Abbr.	Descriptions of used abbreviations
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.
Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties. The classification is based on tested mixture.
Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350i	May cause cancer by inhalation.
H360D	May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

SECTION 1. IDENTIFICATION

Product identifier

Trade name : Drewfloc™ 2611 FLOCCULANT
™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Solenis LLC 500 Hercules Road Wilmington, Delaware 19808 United States of America (USA) RegulatoryRequestsNA@solenis.com	1-844-SOLENIS (844-765-3647) **Product Information** Contact your local Solenis representative

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

GHS label elements

This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).
This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

General advice : No hazards which require special first aid measures.

If inhaled	:	If breathed in, move person into fresh air. If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.
In case of eye contact	:	Remove contact lenses. Protect unharmed eye.
If swallowed	:	Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways) Cough Shortness of breath
Notes to physician	:	No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray Foam Carbon dioxide (CO2) Dry chemical
Specific hazards during firefighting	:	If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release. Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon monoxide Carbon dioxide (CO2) Nitrogen oxides (NOx) Ammonia sulfur oxides
Specific extinguishing methods	:	Product is compatible with standard fire-fighting agents.
Further information	:	Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Comply with all applicable federal, state, and local regulations.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8.
Conditions for safe storage	:	Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.
Materials to avoid	:	No materials to be especially mentioned.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures	:	General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection	:	No personal respiratory protective equipment normally

required.

Eye protection	:	Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.
Skin and body protection	:	Wear as appropriate: Safety shoes Wear resistant gloves (consult your safety equipment supplier).
Hygiene measures	:	General industrial hygiene practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	yellow
Odour	:	none
Odour Threshold	:	No data available
pH	:	3 - 4 (20 °C) Concentration: 10 g/l
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	100 °C
Flash point	:	> 100 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Self-ignition	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	1.1 (20 °C)
Density	:	1.1 g/ml

Solubility(ies)
Water solubility : soluble, With a rise in viscosity

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Decomposition temperature : No data available

Viscosity
Viscosity, dynamic : 7,400 - 16,500 cps (-4 - 35 °C)

Viscosity, kinematic : No data available

Oxidizing properties : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Product will not undergo hazardous polymerization.

Conditions to avoid : Heat, flames and sparks.

Incompatible materials : chlorates
nitrates
Oxidizing agents
strong bases
Peroxides

Hazardous decomposition products : **Carbon monoxide**
Carbon dioxide (CO2)
Nitrogen oxides (NOx)
Ammonia
Sulphur oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Skin corrosion/irritation

Not classified based on available information.

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Remarks: Unlikely to cause eye irritation or injury.

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2.73 mg/l
Exposure time: 96 h
Method: EPS 1/RM/9
GLP: no

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 4.5 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Ecotoxicology Assessment

Acute aquatic toxicity : Acute aquatic toxicity Category 2; Toxic to aquatic life.

Chronic aquatic toxicity : Not classified based on available information.

Persistence and degradability

Product:

Biodegradability : Result: Not readily biodegradable.

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

Not dangerous goods

U.S. DOT - RAIL

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

TRANSPORT CANADA - ROAD

Not dangerous goods

TRANSPORT CANADA - RAIL

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

Not dangerous goods

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		no

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

ammonium sulphate	7783-20-2	2 %

California Prop. 65

Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

DSL	:	This product contains one or more components that are not on the Canadian DSL and have annual quantity limits.
AICS	:	On the inventory, or in compliance with the inventory
ENCS	:	Not in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	On TSCA Inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 05/09/2018

Full text of other abbreviations

Further information

Other information : The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by the Solenis Environmental Health and Safety Department.

Sources of key data used to compile the Safety Data Sheet
Key literature references and sources of data
SOLENIS Internal data
SOLENIS internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic

Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

US / EN

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 6.16
Revision Date 06.03.2024
Print Date 01.07.2025
GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Sulfuric acid

Product Number : 339741
Brand : Aldrich
Index-No. : 016-020-00-8
REACH No. : 01-2119458838-20-XXXX
CAS-No. : 7664-93-9

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Merck Life Science S.A.S
80 Rue de Luzais
F-38297 SAINT QUENTIN FALLAVIER CEDEX

Telephone : +33 (0)1 85 16 94 34
E-mail address : servicetechnique@merckgroup.com

1.4 Emergency telephone

Emergency Phone # : +33 (0)9 75 18 14 07 (CHEMTREC)
+33 (0)1 45 42 59 59 (I.N.R.S.)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Corrosive to Metals, (Category 1)	H290: May be corrosive to metals.
Skin corrosion, (Sub-category 1A)	H314: Causes severe skin burns and eye damage.
Serious eye damage, (Category 1)	H318: Causes serious eye damage.

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2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal Word	Danger
Hazard Statements	
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
Precautionary Statements	
P234	Keep only in original packaging.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P363	Wash contaminated clothing before reuse.
Supplemental Hazard Statements	none

Reduced Labeling (<= 125 ml)

Pictogram



Signal Word	Danger
Hazard Statements	
H314	Causes severe skin burns and eye damage.
Precautionary Statements	
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P363	Wash contaminated clothing before reuse.
Supplemental Hazard Statements	none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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Ecological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Toxicological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula	:	H_2O_4S
Molecular weight	:	98,08 g/mol
CAS-No.	:	7664-93-9
EC-No.	:	231-639-5
Index-No.	:	016-020-00-8

Component		Classification	Concentration
sulphuric acid			
CAS-No. EC-No. Index-No.	7664-93-9 231-639-5 016-020-00-8	Met. Corr. 1; Skin Corr. 1A; Eye Dam. 1; H290, H314, H318 Concentration limits: >= 15 %: Skin Corr. 1A, H314; 5 - < 15 %: Skin Irrit. 2, H315; 5 - < 15 %: Eye Irrit. 2, H319; >= 0,3 %: Met. Corr. 1, H290;	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air. Call in physician.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

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If swallowed
After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Sulfur oxides
Not combustible.
Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® H^+, Merck Art. No. 101595). Dispose of properly. Clean up affected area.

6.4 Reference to other sections
For disposal see section 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
No metal containers.
Tightly closed.

Storage class
Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Full contact
Material: Viton®
Minimum layer thickness: 0,7 mm
Break through time: 480 min
Material tested:Vitoject® (KCL 890 / Aldrich Z677698, Size M)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Splash contact
Material: butyl-rubber
Minimum layer thickness: 0,7 mm

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Break through time: 120 min
Material tested:Butoject® (KCL 898)

Body Protection
Acid-resistant protective clothing

Respiratory protection
Recommended Filter type: Filter type P2

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure
Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Physical state	clear, liquid
b)	Color	colorless
c)	Odor	odorless
d)	Melting point/freezing point	Melting point: 10,31 °C
e)	Initial boiling point and boiling range	290 °C - lit.
f)	Flammability (solid, gas)	No data available
g)	Upper/lower flammability or explosive limits	No data available
h)	Flash point	No data available
i)	Autoignition temperature	No data available
j)	Decomposition temperature	No data available
k)	pH	1,2 at 5 g/l
l)	Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 23 mPa.s at 20 °C
m)	Water solubility	soluble
n)	Partition coefficient: n-octanol/water	Not applicable for inorganic substances
o)	Vapor pressure	1,33 hPa at 145,8 °C
p)	Density	1,84 g/cm3 at 25 °C - lit.
	Relative density	No data available

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q)	Relative vapor density	No data available
r)	Particle characteristics	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	none

9.2 Other safety information

Surface tension	55,1 mN/m at 20 °C
Relative vapor density	3,39 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions
A risk of explosion and/or of toxic gas formation exists with the following substances:
Water
Alkali metals
alkali compounds
Ammonia
Aldehydes
acetonitrile
Alkaline earth metals
alkalines
Acids
alkaline earth compounds
Metals
metal alloys
Oxides of phosphorus
phosphorus
hydrides
halogen-halogen compounds
oxyhalogenic compounds
permanganates
nitrates
carbides
combustible substances
organic solvent
acetylidene
Nitriles
organic nitro compounds
anilines

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Peroxides
picrates
nitrides
lithium silicide
iron(III) compounds
bromates
chlorates
Amines
perchlorates
hydrogen peroxide

10.4 Conditions to avoid
no information available

10.5 Incompatible materials
animal/vegetable tissuesContact with metals liberates hydrogen gas.

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - male and female - 2.140 mg/kg
Remarks: (ECHA)
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Skin - Rabbit
Result: Extremely corrosive and destructive to tissue.
Remarks: (IUCLID)

Serious eye damage/eye irritation
Remarks: Causes serious eye damage.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Remarks: (HSDB)

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

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Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

RTECS: WS5600000
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Pulmonary edema. Effects may be delayed.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After inhalation of aerosols: damage to the affected mucous membranes. After skin contact: severe burns with formation of scabs. After eye contact: burns, corneal lesions. After swallowing: severe pain (risk of perforation!), nausea, vomiting and diarrhoea. After a latency period of several weeks possibly pyloric stenosis.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)

12.2 Persistence and degradability
The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential
No data available

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12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties
Product:

Assessment	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects
Biological effects:
Harmful effect due to pH shift.
Caustic even in diluted form.
Does not cause biological oxygen deficit.
Endangers drinking-water supplies if allowed to enter soil and/or waters in large quantities.
Neutralisation possible in waste water treatment plants.
Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
No data available

SECTION 14: Transport information

14.1 UN number
ADR/RID: 1830 IMDG: 1830 IATA: 1830

14.2 UN proper shipping name
ADR/RID: SULPHURIC ACID
IMDG: SULPHURIC ACID
IATA: Sulphuric acid

14.3 Transport hazard class(es)
ADR/RID: 8 IMDG: 8 IATA: 8

14.4 Packaging group
ADR/RID: II IMDG: II IATA: II

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14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

Tunnel restriction code : (E)

Further information : No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors : sulphuric acid

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Full text of H-Statements

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.

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Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Activated Carbon Ph. Eur.

article number: **274P**
Version: **1.0 en**

date of compilation: 2024-07-15

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Identification of the substance	**Activated Carbon** Ph. Eur.
Article number	274P
EC number	931-328-0
CAS number	7440-44-0

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses:	Laboratory chemical Laboratory and analytical use
Uses advised against:	Do not use for private purposes (household). Food, drink and animal feedingstuffs.

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

Telephone:+49 (0) 721 - 56 06 0
Telefax: +49 (0) 721 - 56 06 149
e-mail: sicherheit@carlroth.de
Website: www.carlroth.de

Competent person responsible for the safety data sheet:	Department Health, Safety and Environment
e-mail (competent person):	**sicherheit@carlroth.de**

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Service City Hospital	Dudley Rd	B187QH Birming- ham	844 892 0111	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS
This substance does not meet the criteria for classification.

2.2 Label elements

Labelling
not required

2.3 Other hazards

Dust explosion hazards.

Results of PBT and vPvB assessment
According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine disrupting properties
Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	Activated Carbon
Molecular formula	C
Molar mass	12,01 $^{g}/_{mol}$
CAS No	7440-44-0
EC No	931-328-0

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes
Take off contaminated clothing.

Following inhalation
Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact
Rinse skin with water/shower.

Following eye contact
Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion
Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed
Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed
none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media
co-ordinate firefighting measures to the fire surroundings!
water, foam, dry extinguishing powder, ABC-powder

Unsuitable extinguishing media
water jet

5.2 Special hazards arising from the substance or mixture

Danger of dust explosion.

Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO_2)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Control of dust.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains. Take up mechanically.

Advice on how to clean up a spill

Take up mechanically.

Other information relating to spills and releases

Place in appropriate containers for disposal.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

No special measures are necessary.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice:

Ventilation requirements

Use local and general ventilation.

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [mg/m³]	STEL [mg/m³]	Ceiling-C [mg/m³]	Notation	Source
GB	dust		WEL	10			i	EH40/2005
GB	dust		WEL	4			r	EH40/2005
GB	graphite	7440-44-0	WEL	10			i, dust	EH40/2005
GB	graphite	7440-44-0	WEL	4			r	EH40/2005

Notation

Ceiling-C	Ceiling value is a limit value above which exposure should not occur
dust	As dust
i	Inhalable fraction
r	Respirable fraction
STEL	Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Human health values

Relevant DNELs and other threshold levels

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	1,84 mg/m³	human, inhalatory	worker (industry)	chronic - local effects

Environmental values

Relevant PNECs and other threshold levels

End-point	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	10 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



- **hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

- **type of material**

NBR (Nitrile rubber)

- **material thickness**

>0,11 mm

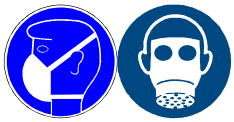
- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	solid
Form	powder
Colour	black
Odour	odourless
Melting point/freezing point	>3.500 °C
Boiling point or initial boiling point and boiling range	not determined
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	50 g/m³ (UEL)
Flash point	not applicable
Auto-ignition temperature	560 °C
Decomposition temperature	not relevant
pH (value)	not applicable (neutral)
Kinematic viscosity	not relevant
Solubility(ies)	
Water solubility	not determined

Partition coefficient	
Partition coefficient n-octanol/water (log value):	0,78 (Lit.)
Vapour pressure	not determined
Density and/or relative density	
Density	2,31 $^{g}/_{cm^3}$ at 20 °C (ECHA)
Relative vapour density	not relevant (solid)
Bulk density	350 – 450 $^{kg}/_{m^3}$
Particle characteristics	
Particle size	20 – 60 µm
Other safety parameters	
Oxidising properties	none

9.2 Other information

Information with regard to physical hazard classes:	hazard classes acc. to GHS (physical hazards): not relevant
Other safety characteristics:	
Dust explosion class	ST 1 Weak explosive (rate of pressure; Kst > 0 - < 200 bar m/s)
Maximum explosion pressure	7,2 bar

SECTION 10: Stability and reactivity

10.1 Reactivity
Dust can form an explosive mixture with air.

10.2 Chemical stability
The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: strong oxidiser, Peroxides

10.4 Conditions to avoid
There are no specific conditions known which have to be avoided.

10.5 Incompatible materials
There is no additional information.

10.6 Hazardous decomposition products
Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS
This substance does not meet the criteria for classification.

Acute toxicity
Shall not be classified as acutely toxic.
GHS of the United Nations, annex 4. May be harmful if swallowed.

Acute toxicity					
Exposure route	**Endpoint**	**Value**	**Species**	**Method**	**Source**
oral	LD50	>2.000 $^{mg}/_{kg}$	rat		ECHA

Skin corrosion/irritation
Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation
Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation
Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity
Shall not be classified as germ cell mutagenic.

Carcinogenicity
Shall not be classified as carcinogenic.

Reproductive toxicity
Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure
Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure
Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard
Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

- **If swallowed**
Data are not available.
- **If in eyes**
Data are not available.
- **If inhaled**
cough, breathing difficulties
- **If on skin**
Data are not available.
- **Other information**
none

11.2 Endocrine disrupting properties
Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

11.3 Information on other hazards
There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity
Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability
Theoretical Oxygen Demand: 2,664 $^{mg}/_{mg}$
Theoretical Carbon Dioxide: 3,664 $^{mg}/_{mg}$

12.3 Bioaccumulative potential
Does not significantly accumulate in organisms.

n-octanol/water (log KOW)	0,78 (Lit.)

12.4 Mobility in soil
Data are not available.

12.5 Results of PBT and vPvB assessment
Data are not available.

12.6 Endocrine disrupting properties
Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

12.7 Other adverse effects
Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods


Consult the appropriate local waste disposal expert about waste disposal.

Sewage disposal-relevant information
Do not empty into drains.

Waste treatment of containers/packagings
Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

13.2 Relevant provisions relating to waste
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 Remarks
Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1	**UN number or ID number**	not subject to transport regulations
14.2	**UN proper shipping name**	not assigned
14.3	**Transport hazard class(es)**	none

14.4	**Packing group**	not assigned
14.5	**Environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user
There is no additional information.

14.7 Maritime transport in bulk according to IMO instruments
The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

International Maritime Dangerous Goods Code (IMDG) - Additional information
Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information
Not subject to ICAO-IATA.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant provisions of the European Union (EU)

Seveso Directive

2012/18/EU (Seveso III)			
No	**Dangerous substance/hazard categories**	**Qualifying quantity (tonnes) for the application of lower and upper-tier requirements**	**Notes**
	not assigned		

Deco-Paint Directive

VOC content	0 %
VOC content	0 $^{g}/_{l}$

Industrial Emissions Directive (IED)

VOC content	0 %
VOC content	0 $^{g}/_{l}$

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)
not listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)
not listed

Water Framework Directive (WFD)
not listed

Regulation on the marketing and use of explosives precursors
not listed

Regulation on drug precursors
not listed

Regulation on substances that deplete the ozone layer (ODS)
not listed

Regulation concerning the export and import of hazardous chemicals (PIC)
not listed

Regulation on persistent organic pollutants (POP)
not listed

National regulations(GB)

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list
not listed

Restrictions according to GB REACH, Annex 17
not listed

Other information
Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National inventories

Country	Inventory	Status
AU	AIIC	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed (ACTIVE)
VN	NCI	substance is listed

Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NCI	National Chemical Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
ED	Endocrine disruptor
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
UEL	Upper explosion limit (UEL)
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and

is solely intended for this product.

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **NO. 2 DIESEL FUEL**
Product Description: Hydrocarbons and Additives
Product Code: 123455-22, 123455-29, 152017-00
Intended Use: Diesel engine fuel, Heating Oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Flammable liquid: Category 3.
Acute inhalation toxicant: Category 4. Skin irritation: Category 2. Carcinogen: Category 2. Specific target organ toxicant (repeated exposure): Category 2. Aspiration toxicant: Category 1.

LABEL:
Pictogram:



Signal Word: Danger

Hazard Statements:

H226: Flammable liquid and vapor. H304: May be fatal if swallowed and enters airways. H315: Causes skin irritation. H332: Harmful if inhaled. H351: Suspected of causing cancer. H373: May cause damage to organs through prolonged or repeated exposure. Bone marrow, Liver, Thymus

Precautionary Statements:
P101: If medical advice is needed, have product container or label at hand. P102: Keep out of reach of children. P103: Read label before use.P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking. P233: Keep container tightly closed. P240: Ground / bond container and receiving equipment. P241: Use explosion-proof electrical, ventilating, and lighting equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P260: Do not breathe mist / vapours. P264: Wash skin thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection.P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308 + P313: IF exposed or concerned: Get medical advice/ attention. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P331: Do NOT induce vomiting. P332 + P313: If skin irritation occurs: Get medical advice/ attention. P362 + P364: Take off contaminated clothing and wash it before reuse. P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish. P391: Collect spillage.P403 + P235: Store in a well-ventilated place. Keep cool. P405: Store locked up.P501: Dispose of contents and container in accordance with local regulations.

Contains: DIESEL OIL..C9-20

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

HEALTH HAZARDS

May cause central nervous system depression. High-pressure injection under skin may cause serious damage. Under conditions of poor personal hygiene and prolonged repeated contact, some polycyclic aromatic compounds (PACs) have been suspected as a cause of skin cancer in humans. May be irritating to the eyes, nose, throat, and lungs.

ENVIRONMENTAL HAZARDS

Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID:	Health:	2	Flammability:	2	Reactivity:	0
HMIS Hazard ID:	Health:	2*	Flammability:	2	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
DIESEL OIL..C9-20	68334-30-5	80 - > 99%	H226, H304, H332, H351, H315, H373, H401, H411

Hazardous Constituent(s) Contained in Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
ETHYL BENZENE	100-41-4	0.1 - 1%	H225, H304, H332, H373, H401, H412
NAPHTHALENE	91-20-3	0.1 - 1%	H228(2), H302, H351, H400(M factor 1), H410(M factor 1)

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

NOTE: Composition may contain up to 0.5% performance additives and / or dyes.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Remove contaminated clothing. Dry wipe exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

Contains hydrocarbon solvent/petroleum hydrocarbons; skin contact may aggravate an existing dermatitis.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Flammable. Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >38°C (100°F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 0.6 UEL: 7.0
Autoignition Temperature: >200°C (392°F)

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H2S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to aromatic hydrocarbons are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact

with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Water Spill: Stop leak if you can do it without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10 degrees C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid all personal contact. Do not siphon by mouth. Do not use as a cleaning solvent or other non-motor fuel uses. For use as a motor fuel only. It is dangerous and/or unlawful to put fuel into unapproved containers. Do not fill container while it is in or on a vehicle. Static electricity may ignite vapors and cause fire. Place container on ground when filling and keep nozzle in contact with container. Do not use electronic devices (including but not limited to cellular phones, computers, calculators, pagers or other electronic devices, etc.) during safety critical tasks, such as bulk fuel loading or unloading operations, or in storage areas where vapors may be present, unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be grounded and bonded. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge. Keep away from incompatible materials.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
DIESEL OIL..C9-20	Stable Aerosol.	TWA	5 mg/m3		Skin	ExxonMobil
DIESEL OIL..C9-20	Vapor.	TWA	200 mg/m3		Skin	ExxonMobil
DIESEL OIL..C9-20 [total hydrocarb, vapor&aerosol]	Inhalable fraction and vapor	TWA	100 mg/m3		Skin	ACGIH
ETHYL BENZENE		TWA	435 mg/m3	100 ppm	N/A	OSHA Z1
ETHYL BENZENE		TWA	20 ppm		N/A	ACGIH
NAPHTHALENE		TWA	50 mg/m3	10 ppm	N/A	OSHA Z1
NAPHTHALENE		TWA	10 ppm		Skin	ACGIH

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological limits

Substance	Specimen	Sampling Time	Limit	Determinant	Source
ETHYL BENZENE	Creatinine in urine	End of shift	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	ACGIH BELs (BEIs)
NAPHTHALENE	No Biological Specimen provided	End of shift	Not Assigned	1-Naphthol, with hydrolysis + 2-Naphthol, with hydrolysis	ACGIH BELs (BEIs)

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use

with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
Half-face filter respirator

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Eye Protection: If contact with material is likely, chemical goggles are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
Chemical/oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Clear (May Be Dyed)
Odor: Petroleum/Solvent
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.81 - 0.87
Density (at 15 ºC): 810 kg/m³ (6.76 lbs/gal, 0.81 kg/dm³) - 876 kg/m³ (7.31 lbs/gal, 0.88 kg/dm³)
Flammability (Solid, Gas): N/A

Flash Point [Method]: >38°C (100°F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 0.6 UEL: 7.0
Autoignition Temperature: >200°C (392°F)
Boiling Point / Range: 145°C (293°F) - 370°C (698°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: 0.067 kPa (0.5 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 1.7 cSt (1.7 mm2/sec) at 40 °C - 4.1 cSt (4.1 mm2/sec) at 40 °C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: < -6°C (21°F)

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Halogens, Strong Acids, Strong Bases, Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: (Rat) 4 hour(s) LC50 4100 mg/m3 (Vapor and aerosol)	Moderately toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.
Ingestion	
Acute Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401
Skin	
Acute Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 434
Skin Corrosion/Irritation (Rabbit): Data	Irritating to the skin. Based on test data for structurally similar

available.	materials. Test(s) equivalent or similar to OECD Guideline 404
Eye	
Serious Eye Damage/Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: Data available.	Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406
Aspiration: Data available.	May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 475
Carcinogenicity: Data available.	Caused cancer in laboratory animals, but the relevance to humans is uncertain. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 451
Reproductive Toxicity: Data available.	Not expected to be a reproductive toxicant. Test(s) equivalent or similar to OECD Guideline 414
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: Data available.	Concentrated, prolonged or deliberate exposure may cause organ damage. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 410 413

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
ETHYL BENZENE	Inhalation Lethality: 4 hour(s) LC50 17.8 mg/l (Vapor) (Rat); Oral Lethality: LD50 3.5 g/kg (Rat)
NAPHTHALENE	Inhalation Lethality: 4 hour(s) LC50 > 0.4 mg/l (Max attainable vapor conc.) (Rat); Oral Lethality: LD50 533 mg/kg (Mouse)

OTHER INFORMATION

For the product itself:

Target Organs Repeated Exposure: Bone marrow, Liver, Thymus

Vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.

Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Diesel fuel: Caused cancer in animal tests. Caused mutations in vitro. Repeated dermal exposures to high concentrations in test animals resulted in reduced litter size and litter weight, and increased fetal resorptions at maternally toxic doses. Dermal exposure to high concentrations resulted in severe skin irritation with weight loss and some mortality. Inhalation exposure to high concentrations resulted in respiratory tract irritation, lung changes/infiltration/accumulation, and reduction in lung function.

Diesel exhaust fumes: Carcinogenic in animal tests. Inhalation exposures to exhaust for 2 years in test animals resulted in lung tumors and lymphoma. Extract of particulate produced skin tumors in test animals. Caused mutations

in vitro.

Contains:
NAPHTHALENE: Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. Naphthalene caused cancer in laboratory animal studies, but the relevance of these findings to humans is uncertain.
ETHYLBENZENE: Caused cancer in laboratory animal studies. The relevance of these findings to humans is uncertain.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
ETHYL BENZENE	100-41-4	5
NAPHTHALENE	91-20-3	2, 5

--REGULATORY LISTS SEARCHED--

1 = NTP CARC
2 = NTP SUS
3 = IARC 1
4 = IARC 2A
5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

More volatile component -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

High molecular wt. component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

Atmospheric Oxidation:

More volatile component -- Expected to degrade rapidly in air

ECOLOGICAL DATA

Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - Acute Toxicity	48 hour(s)	Daphnia magna	EL50 1 - 1000 mg/l: data for similar materials
Aquatic - Acute Toxicity	96 hour(s)	Fish	LL50 1 - 100 mg/l: data for similar materials
Aquatic - Acute Toxicity	72 hour(s)	Pseudokirchneriella subcapitata	EL50 1 - 100 mg/l: data for similar materials
Aquatic - Chronic Toxicity	72 hour(s)	Pseudokirchneriella subcapitata	NOELR 1 - 10 mg/l: data for similar materials

Persistence, Degradability and Bioaccumulation Potential

Media	Test Type	Duration	Test Results
Water	Ready Biodegradability	28 day(s)	Percent Degraded < 60 : similar material

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: DIESEL FUEL
Hazard Class & Division: COMBUSTIBLE LIQUID
ID Number: NA1993
Packing Group: III
Marine Pollutant: Yes
ERG Number: 128
Label(s): NONE

Transport Document Name: NA1993, DIESEL FUEL, COMBUSTIBLE LIQUID, PG III, MARINE POLLUTANT

Footnote: The flash point of this material is greater than 100 F. Regulatory classification of this material varies. DOT: Flammable liquid or combustible liquid. OSHA: Combustible liquid. IATA/IMO: Flammable liquid. This material is not regulated under 49 CFR in a container of 119 gallon capacity or less when transported solely by land, as long as the material is not a hazardous waste, a marine pollutant, or specifically listed as a hazardous substance.

LAND (TDG)

Proper Shipping Name: GAS OIL
Hazard Class & Division: 3
UN Number: 1202
Packing Group: III
Special Provisions: 88, 150

SEA (IMDG)

Proper Shipping Name: GAS OIL
Hazard Class & Division: 3
EMS Number: F-E, S-E
UN Number: 1202
Packing Group: III
Marine Pollutant: Yes
Label(s): 3
Transport Document Name: UN1202, GAS OIL, 3, PG III, (>38°C c.c.), MARINE POLLUTANT

AIR (IATA)

Proper Shipping Name: GAS OIL
Hazard Class & Division: 3
UN Number: 1202
Packing Group: III
Label(s) / Mark(s): 3
Transport Document Name: UN1202, GAS OIL, 3, PG III

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, IECSC, KECI, PICCS, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Acute Toxicity (any route of exposure), Aspiration Hazard, Carcinogenicity, Flammable (gases, aerosols, liquids, or solids), Skin Corrosion or Irritation, Specific Target Organ toxicity (single or repeated exposure)

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
ETHYL BENZENE	100-41-4	0.1 - 1%
NAPHTHALENE	91-20-3	0.1 - 1%

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
DIESEL OIL..C9-20	68334-30-5	1, 18
ETHYL BENZENE	100-41-4	1, 4, 10, 17, 19
NAPHTHALENE	91-20-3	1, 4, 10, 17, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov. Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm are created by the combustion of this product.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights.

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H225: Highly flammable liquid and vapor; Flammable Liquid, Cat 2
H226: Flammable liquid and vapor; Flammable Liquid, Cat 3
H302: Harmful if swallowed; Acute Tox Oral, Cat 4
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
H332: Harmful if inhaled; Acute Tox Inh, Cat 4
H351: Suspected of causing cancer; GHS Carcinogenicity, Cat 2
H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H401: Toxic to aquatic life; Acute Env Tox, Cat 2

H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2
H412: Harmful to aquatic life with long lasting effects; Chronic Env Tox, Cat 3

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Component Table information was modified.
Section 07: Handling and Storage - Handling information was modified.
Section 12: information was modified.
Section 14: Special Provisions information was added.
THIS MSDS COVERS THE FOLLOWING MATERIALS: DIESEL EFFICIENT | DIESEL NO. 2 | ESSO DIESEL FUEL | EXXON DIESEL FUEL | EXXON SYNERGY DIESEL EFFICIENT | LOW SULFUR DIESEL | MARINE DIESEL FUEL | MOBIL DIESEL EFFICIENT | MOBIL DIESEL FUEL | MOBIL SYNERGY DIESEL EFFICIENT | ULTRA LOW SULFUR DIESEL | WINTERIZED DIESEL FUEL

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SAFETY DATA SHEET

Hydrogen

Section 1. Identification

GHS product identifier : Hydrogen

Chemical name : hydrogen

Other means of identification : Not available.

Product type : Gas.

Product use : Synthetic/Analytical chemistry.

SDS # : 001026

Supplier's details : Airgas USA, LLC and its affiliates
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253
Inside the US: 1-800-424-9300 (Chemtrec, 24 hours)
Outside the US: 1-703-527-3887 (Chemtrec, 24 hours)

24-hour telephone : Airgas Emergency Response Center 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE GASES - Category 1
GASES UNDER PRESSURE - Compressed gas

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.
Burns with invisible flame.
May form explosive mixtures with air.

Precautionary statements

General : Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Approach suspected leak area with caution.

Prevention : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response : P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - In case of leakage, eliminate all ignition sources.

Storage : P410 + P403 - Protect from sunlight. Store in a well-ventilated place.

Disposal : Not applicable.

Hazards not otherwise classified : In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Chemical name : hydrogen

Other means of identification : Not available.

Product code : 001026

Ingredient name	%	CAS number
Hydrogen	100	1333-74-0

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur.

Ingestion : As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : No known significant effects or critical hazards.

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Frostbite : Try to warm up the frozen tissues and seek medical attention.

Ingestion : As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Hazardous thermal decomposition products : No specific data.

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Large spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Use only non-sparking tools. Avoid contact with eyes, skin and clothing. Empty containers retain product residue and can be hazardous. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

Section 7. Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
hydrogen	**California PEL for Chemical Contaminants (*Table AC-1*) (United States)** Oxygen depletion [asphyxiant].

Biological exposure indices

No exposure indices known.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Section 8. Exposure controls/personal protection

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Gas. [Compressed gas.]

Color : Colorless.

Odor : Odorless.

Odor threshold : Not available.

pH : Not applicable.

Melting point/freezing point : -259.15°C (-434.5°F)

Boiling point or initial boiling point and boiling range : -253°C (-423.4°F)

Flash point : Not applicable.

Evaporation rate : Not available.

Flammability (solid, gas) : Extremely flammable in the presence of the following materials or conditions: oxidizing materials.

Lower and upper explosive (flammable) limits : Lower: 4%
Upper: 76%

Vapor pressure : Not available.

Relative vapor density : 0.07 [Air = 1]

Specific Volume (ft^3/lb) : 12.0482

Gas Density (lb/ft^3) : 0.00523

Relative density : Not applicable.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : 500 to 571°C (932 to 1059.8°F)

Decomposition temperature : Not available.

Flow time (ISO 2431) : Not available.

Molecular weight : 2.02 g/mole

Aerosol product

Heat of combustion : -116486080 J/kg

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Section 10. Stability and reactivity

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Oxidizers

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Skin corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Section 11. Toxicological information

Not available.

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Not available.

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : No known significant effects or critical hazards.

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Ingestion : As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary [Product] : Not available.

Section 11. Toxicological information

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

N/A

Section 12. Ecological information

Toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Persistence and degradability

Not available.

Conclusion/Summary [Product] : Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/Water partition coefficient : Not available.

Other adverse effects

No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1049	UN1049	UN1049	UN1049	UN1049
UN proper shipping name	HYDROGEN, COMPRESSED	HYDROGEN, COMPRESSED	Hydrogen, compressed	HYDROGEN, COMPRESSED	HYDROGEN, COMPRESSED
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Additional information

DOT Classification : **Limited quantity** Yes.
Quantity limitation Passenger aircraft/rail: Forbidden. Cargo aircraft: 150 kg.

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).
Explosive Limit and Limited Quantity Index 0.125
ERAP Index 3000
Passenger Carrying Vessel Index Forbidden
Passenger Carrying Road or Rail Index Forbidden

IATA : **Quantity limitation** Passenger and Cargo Aircraft: Forbidden. Cargo Aircraft Only: 150 kg.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations :

TSCA 8(a) CDR Exempt/Partial exemption: This material is listed or exempted.
Clean Air Act (CAA) 112 regulated flammable substances: hydrogen

TSCA 12(b) - Chemical export notification

Not applicable.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

Section 15. Regulatory information

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

State regulations

Massachusetts : This material is listed.

New York : This material is not listed.

New Jersey : This material is listed.

Pennsylvania : This material is listed.

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : This material is listed or exempted.

Canada : This material is listed or exempted.

China : This material is listed or exempted.

Eurasian Economic Union : **Russian Federation inventory**: Not determined.

Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): Not determined.

New Zealand : This material is listed or exempted.

Philippines : This material is listed or exempted.

Republic of Korea : This material is listed or exempted.

Taiwan : This material is listed or exempted.

Thailand : This material is listed or exempted.

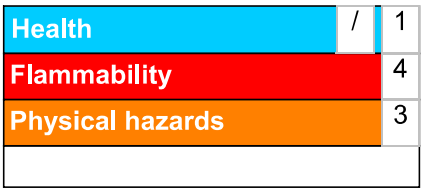
Turkey : Not determined.

United States : This material is active or exempted.

Viet Nam : This material is listed or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE GASES - Category 1 GASES UNDER PRESSURE - Compressed gas	Expert judgment According to package

History

Date of printing : 4/11/2025

Date of issue/Date of revision : 4/11/2025

Date of previous issue : 4/11/2025

Version : 8.02

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Notice to reader

Section 16. Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

NALCO Champion
An Ecolab Company

SAFETY DATA SHEET

3D TRASAR™ 3DT184

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	3D TRASAR™ 3DT184
Other means of identification	:	Not applicable.
Recommended use	:	CORROSION INHIBITOR
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Champion Company 7705 Highway 90-A Sugar Land, Texas 77478 USA TEL: (281) 263-7000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	02/04/2016

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Inhalation)	:	Category 4
Skin corrosion	:	Category 1B
Serious eye damage	:	Category 1

GHS Label element

Hazard pictograms :



Signal Word : Danger

Hazard Statements : Causes severe skin burns and eye damage.
Causes serious eye damage.
Harmful if inhaled.

Precautionary Statements : **Prevention:**
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/ physician. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF

INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Wash contaminated clothing before reuse.
Storage:
Store locked up.

Other hazards : Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Phosphoric Acid	7664-38-2	30 - 60

Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed : Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : None known.

Specific hazards during firefighting : Not flammable or combustible.

Hazardous combustion products : Decomposition products may include the following materials: Oxides of phosphorus

Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation. Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions for safe storage	:	Keep away from strong bases. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
Unsuitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Stainless Steel 304

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Phosphoric Acid	7664-38-2	TWA	1 mg/m3	ACGIH
		STEL	3 mg/m3	ACGIH
		TWA	1 mg/m3	NIOSH REL
		STEL	3 mg/m3	NIOSH REL
		TWA	1 mg/m3	OSHA Z1

Engineering measures	:	Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection	:	Safety goggles Face-shield
Hand protection	:	Wear protective gloves. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Skin protection	:	Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
Respiratory protection	:	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	brown
Odour	:	odourless
Flash point	:	> 93.3 °C
pH	:	1.0, 100 %
Odour Threshold	:	no data available
Melting point/freezing point	:	FREEZING POINT: -22.5 °C
Initial boiling point and boiling range	:	100 °C
Evaporation rate	:	no data available
Flammability (solid, gas)	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	56 mm Hg (38 °C)
Relative vapour density	:	no data available
Relative density	:	1.24 (15.6 °C)
Density	:	1.24 g/cm3 10.4 lb/gal
Water solubility	:	completely soluble

Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition temperature	:	no data available
Viscosity, dynamic	:	3 mPa.s (25 °C)
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	0 % Calculation method

Section: 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions to avoid	:	None known.
Incompatible materials	:	Bases
Hazardous decomposition products	:	Decomposition products may include the following materials: Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes	:	Causes serious eye damage.
Skin	:	Causes severe skin burns.
Ingestion	:	Causes digestive tract burns.
Inhalation	:	Harmful if inhaled. May cause nose, throat, and lung irritation.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	Redness, Pain, Corrosion
Ingestion	:	Corrosion, Abdominal pain

Inhalation	:	Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	Acute toxicity estimate : 2.61 mg/l Exposure time: 4 h
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Components

Acute oral toxicity	:	Phosphoric Acid LD50 rat: > 2,600 mg/kg

Components

Acute dermal toxicity	:	Phosphoric Acid LD50 rabbit: > 2,000 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	LC50 Pimephales promelas (fathead minnow): 3,660 mg/l Exposure time: 96 hrs Test substance: Similar Product LC50 Inland Silverside: > 5,000 mg/l Exposure time: 96 hrs Test substance: Product LC50 Oncorhynchus mykiss (rainbow trout): > 5,000 mg/l Exposure time: 96 hrs Test substance: Product NOEC Inland Silverside: 5,000 mg/l Exposure time: 96 hrs Test substance: Product NOEC Oncorhynchus mykiss (rainbow trout): 5,000 mg/l Exposure time: 96 hrs Test substance: Product
Toxicity to daphnia and other aquatic invertebrates	:	LC50 Mysid Shrimp (Mysidopsis bahia): 2,237 mg/l Exposure time: 96 hrs Test substance: Product LC50 Daphnia magna (Water flea): 3,536 mg/l Exposure time: 48 hrs Test substance: Product NOEC Mysid Shrimp (Mysidopsis bahia): 1,250 mg/l Exposure time: 96 hrs Test substance: Product NOEC Daphnia magna (Water flea): 2,500 mg/l Exposure time: 48 hrs Test substance: Product
Toxicity to fish (Chronic toxicity)	:	EC25 / IC25: 1,972 mg/l Exposure time: 7 Days Species: Fathead Minnow Test substance: Similar Product NOEC: 1,250 mg/l Exposure time: 7 Days Species: Fathead Minnow Test substance: Similar Product

Components

Toxicity to algae	:	Phosphoric Acid EC50 Desmodesmus subspicatus (green algae): > 100 mg/l Exposure time: 72 h

Persistence and degradability

The organic portion of this preparation is expected to be readily biodegradable.

Total Organic Carbon (TOC) : 1,000 mg/l

Chemical Oxygen Demand (COD): 3,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
5 d	2,460 mg/l	Product

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	:	<5%
Water	:	30 - 50%
Soil	:	50 - 70%

The portion in water is expected to be soluble or dispersible.

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous Waste:	:	D002
Disposal methods	:	Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

The presence of an RQ component (Reportable Quantity for U.S. DOT) in this product causes it to be regulated with an additional description of RQ for road, or as Environmentally hazardous for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Proper shipping name	:	PHOSPHORIC ACID SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1805
Transport hazard class(es)	:	8
Packing group	:	III
Reportable Quantity (per package)	:	13,543 lbs
RQ Component	:	Phosphoric Acid

Air transport (IATA)

The presence of an RQ component (Reportable Quantity for U.S. DOT) in this product causes it to be regulated with an additional description of RQ for road, or as Environmentally hazardous for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Proper shipping name	:	PHOSPHORIC ACID SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1805
Transport hazard class(es)	:	8
Packing group	:	III
Reportable Quantity (per package)	:	13,543 lbs
RQ Component	:	Phosphoric Acid

Sea transport (IMDG/IMO)

Proper shipping name	:	PHOSPHORIC ACID SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1805
Transport hazard class(es)	:	8
Packing group	:	III

Section: 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Phosphoric Acid	7664-38-2	5000	13543

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302	:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

INTERNATIONAL CHEMICAL CONTROL LAWS :

TOXIC SUBSTANCES CONTROL ACT (TSCA)
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

AUSTRALIA
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

CHINA
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

JAPAN
All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

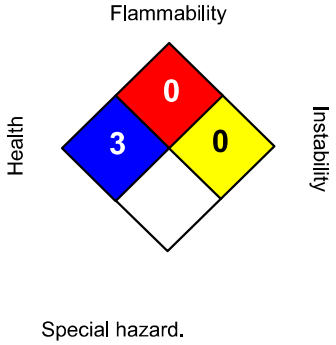
KOREA
All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

NEW ZEALAND
All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996,and are listed on or are exempt from the New Zealand Inventory of Chemicals.

PHILIPPINES
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	02/04/2016
Version Number	:	1.3
Prepared By	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
For additional copies of an SDS visit www.nalco.com and request access.

SAFETY DATA SHEET

PRODUCT

NALCO® 7330

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **NALCO® 7330**

APPLICATION : BIOCIDE

COMPANY IDENTIFICATION : Nalco Company
1601 W. Diehl Road
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 3 / 3* FLAMMABILITY : 0 / 0 INSTABILITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme * = Chronic Health Hazard

2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
Magnesium Nitrate	10377-60-3	1.0 - 5.0
5-Chloro-2-Methyl-4-Isothiazolin-3-one	26172-55-4	1.0 - 5.0
2-Methyl-4-Isothiazolin-3-one	2682-20-4	0.1 - 1.0

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

DANGER
CORROSIVE. CAUSES IRREVERSIBLE EYE DAMAGE OR SKIN BURNS. HARMFUL IF INHALED, SWALLOWED OR ABSORBED THROUGH SKIN. Do not get in eyes, on skin or on clothing. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.
Mixers, loaders, and others exposed to this product must wear: long-sleeved shirt and long pants; chemical resistant gloves such as nitrile or butyl rubber; shoes plus socks; goggles and face shield; and chemical resistant apron. Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling the product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly. Do not apply this product in a way that will contact workers or other persons.
May evolve oxides of carbon (COx) under fire conditions. May evolve HCl under fire conditions. May evolve oxides of nitrogen (NOx) and sulfur (SOx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
Corrosive. Will cause eye burns and permanent tissue damage.

SKIN CONTACT :
Corrosive; causes permanent skin damage. May cause sensitization by skin contact. Skin irritation effects can be delayed for hours. Harmful if absorbed through skin.

INGESTION :
Not a likely route of exposure. Corrosive; causes chemical burns to the mouth, throat and stomach. Harmful if swallowed.

INHALATION :
Elevated temperatures or mechanical action may form vapors, mists or fumes which may be irritating to the eyes, nose, throat and lungs. Harmful by inhalation.

AGGRAVATION OF EXISTING CONDITIONS :
A review of available data does not identify any worsening of existing conditions.

HUMAN HEALTH HAZARDS - CHRONIC :
No adverse effects expected other than those mentioned above.

4. FIRST AID MEASURES

IF IN EYES: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

If Swallowed: Call a poison control center or a doctor immediately for treatment advice. DO NOT INDUCE VOMITING. Do not give anything to drink.

IF ON SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or ambulances, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice

NOTE TO PHYSICIAN :
Probable mucosal damage may contraindicate the use of gastric lavage. Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : None

EXTINGUISHING MEDIA :
Not expected to burn. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD :
May evolve oxides of carbon (COx) under fire conditions. May evolve HCl under fire conditions. May evolve oxides of nitrogen (NOx) and sulfur (SOx) under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ventilate spill area if possible. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Notify appropriate government, occupational health and safety and environmental authorities.

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Soak up with inert absorbent material. Transfer contaminated material to suitable containers for disposal. Contaminated surfaces should be swabbed with deactivation solution, let stand for 30 minutes and rinse thoroughly with clean water. DO NOT add deactivation solution to the waste container to deactivate the absorbed material.
*DEACTIVATION SOLUTION - prepare fresh a solution of 5% Sodium bicarbonate and 5% Sodium hypochlorite in water. Use a ratio of 10 volumes decontamination solution per estimated volume of residual spill. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
This pesticide is toxic to fish and wildlife. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters, unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA. Do not contaminate water by cleaning of equipment or disposal of waste. Apply this pesticide only as specified on this label. Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING :
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Avoid generating aerosols and mists. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled.

STORAGE CONDITIONS :
Store the containers tightly closed. Store separately from oxidizers. Store in suitable labeled containers.

SUITABLE CONSTRUCTION MATERIAL :
Hastelloy C-276, Polyethylene, HDPE (high density polyethylene), EPDM, Plexiglass, Stainless Steel 316L, Nylon, PTFE, Perfluoroelastomer, Polytetrafluoroethylene/polypropylene copolymer

UNSUITABLE CONSTRUCTION MATERIAL :
Mild steel, Carbon Steel C1018, Stainless Steel 304, Copper, Aluminum, Brass, Buna-N, Polypropylene, PVC, Ethylene propylene, Neoprene, Polyurethane, Fluoroelastomer, Chlorosulfonated polyethylene rubber Shipping and long term storage compatibility with construction materials can vary; we therefore recommend that compatibility is tested prior to use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
This product contains the following component(s) with a recognised or recommended OEL value:

Substance(s)	Category:	ppm	mg/m3	Non-Standard Unit
5-Chloro-2-Methyl-4-Isothiazolin-3-one	Manufacturer's Recommendation/TWA		0.076	
	Manufacturer's Recommendation/STEL		0.23	
2-Methyl-4-Isothiazolin-3-one	Manufacturer's Recommendation/TWA		1.5	
	Manufacturer's Recommendation/STEL		4.5	

ENGINEERING MEASURES :
General ventilation is recommended. Use local exhaust ventilation if necessary to control airborne mist and vapor.

RESPIRATORY PROTECTION :
If significant mists, vapors or aerosols are generated an approved respirator is recommended. A suitable filter material depends on the amount and type of chemicals being handled. Consider the use of filter type: Multi-contaminant cartridge. with a Particulate pre-filter. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

HAND PROTECTION :
When handling this product, the use of chemical gloves is recommended. The choice of work glove depends on work conditions and what chemicals are handled. Please contact the PPE manufacturer for advice on what type of glove material may be suitable. Gloves should be replaced immediately if signs of degradation are observed.

SKIN PROTECTION :
Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots. A full slicker suit is recommended if gross exposure is possible.

EYE PROTECTION :
Wear a face shield with chemical splash goggles.

HYGIENE RECOMMENDATIONS :
Use good work and personal hygiene practices to avoid exposure. Eye wash station and safety shower are necessary. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

HUMAN EXPOSURE CHARACTERIZATION :
Based on our recommended product application and personal protective equipment, the potential human exposure is: Moderate

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Light green Light yellow
ODOR	Mild

SPECIFIC GRAVITY	1.026
DENSITY	8.5 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	3.0 - 5.0
FREEZING POINT	25 °F / -4 °C
BOILING POINT	/ 100 °C
VOC CONTENT	0.80 % EPA Method 24

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Freezing temperatures.

MATERIALS TO AVOID :
Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon, Oxides of nitrogen, Oxides of sulfur, HCl

11. TOXICOLOGICAL INFORMATION

The following results are for the product along with results on the active substances.

ACUTE ORAL TOXICITY :
Species: Rat
LD50: 3,810 mg/kg
Test Descriptor: Product

ACUTE DERMAL TOXICITY :
Species: Rabbit
LD50: > 5,000 mg/kg
Test Descriptor: Product

ACUTE INHALATION TOXICITY :
Species: Rat
LC50: 13.7 mg/l (4 hrs)
Test Descriptor: Product

PRIMARY SKIN IRRITATION :
Remarks: A 1.5% active solution is corrosive to skin, a 0.6% active solution is a severe skin irritant, a 0.3% active solution is a moderate skin irritant and a 0.06% active solution is a non-irritant.

PRIMARY EYE IRRITATION :
Remarks: A 1.5% active solution is corrosive to the eyes, a 0.3% active solution is an eye irritant and 0.06% active solution is a non-irritant.

SENSITIZATION :
Repeated or prolonged contact may cause sensitization in some individuals. A Guinea pig (Buehler Technique) sensitization study with an induction dosage of 90 ppm of active ingredients followed by an insult of 429 ppm of active ingredients was positive. A human repeated insult patch study of 28 ppm active ingredients followed by an insult of 56 ppm of active ingredients resulted in no effect to the subjects tested.

CHRONIC TOXICITY DATA :
A 90-day dietary study in dogs of 840 ppm of isothiazolinone resulted in no mortalities or pathological findings. A 90-day dermal study in rabbits of 0.4 mg/kg/day of isothiazolinone resulted in irritation but no pathological effects. A 30-month skin painting study with mice using 400 ppm isothiazolinone three times per week showed no increased tumor frequency over control. A teratology study with rabbits and rats was negative using dosages of 1.5 to 15 mg/kg isothiazolinone. Mutagenicity results have been equivocal.

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION :
Based on our hazard characterization, the potential human hazard is: High

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the product along with results on the active substances.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Sheepshead Minnow	96.00 hrs	32.000 mg/l	Product
Bluegill Sunfish	96 hrs	18.67 mg/l	Product
Fathead Minnow	144 hrs	8 mg/l	Product (estimated)
Rainbow Trout	96 hrs	12.67 mg/l	Product
Inland Silverside	96 hrs	16.62 mg/l	Product

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Ceriodaphnia dubia	48 hrs	15 mg/l		Product (estimated)
Mysid Shrimp (Mysidopsis bahia)	96.00 hrs	18.000 mg/l		Product
Daphnia magna	48 hrs	8.7 - 12 mg/l		Product (estimated)
Blue Mussel	48 hrs	865 mg/l		Product (estimated)
American Oyster	48 hrs	1,730 mg/l		Product (estimated)

AVIAN RESULTS :

Species	Exposure	LC50	Test Descriptor
Bobwhite Quail	8 Days	> 60 mg/kg > 560 ppm	Active Substance

PERSISTENCY AND DEGRADATION :

Total Organic Carbon (TOC) : 7,850 mg/l

Chemical Oxygen Demand (COD) : 20,000 mg/l

The degradation of the major active substance begins with ring opening and elimination of chloride ion. Degradation leads to the formation of a variety of small organic acids, methylamine, carbon dioxide and elemental sulfur. The half life of each active substance is dependent upon the initial concentration.

MOBILITY :
The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is

intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	Water	Soil/Sediment
<5%	30 - 50%	50 - 70%

The portion in water is expected to be soluble or dispersible.

BIOACCUMULATION POTENTIAL
This preparation or material is not expected to bioaccumulate.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: Moderate
Based on our recommended product application and the product's characteristics, the potential environmental exposure is: Moderate

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

The presence of an RQ component (Reportable Quantity for U.S. EPA and DOT) in this product causes it to be regulated with an additional description of RQ for road, or as a class 9 for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

LAND TRANSPORT :

Proper Shipping Name :	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical Name(s) :	ISOTHIAZOLINONE MICROBIOCIDE
UN/ID No :	UN 3265
Hazard Class - Primary :	8
Packing Group :	II

Flash Point :	None
Reportable Quantity (per package) :	132,270 lbs
RQ Component :	CUPRIC NITRATE

AIR TRANSPORT (ICAO/IATA) :

The presence of an RQ component (Reportable Quantity for U.S. EPA and DOT) in this product causes it to be regulated with an additional description of RQ for road, or as a class 9 for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Proper Shipping Name :	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical Name(s) :	ISOTHIAZOLINONE MICROBIOCIDE
UN/ID No :	UN 3265
Hazard Class - Primary :	8
Packing Group :	II
Reportable Quantity (per package) :	132,270 lbs
RQ Component :	CUPRIC NITRATE

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical Name(s) :	ISOTHIAZOLINONE MICROBIOCIDE
UN/ID No :	UN 3265
Hazard Class - Primary :	8
Packing Group :	II

15. REGULATORY INFORMATION

This section contains additional information that may have relevance to regulatory compliance. The information in this section is for reference only. It is not exhaustive, and should not be relied upon to take the place of an individualized compliance or hazard assessment. Nalco accepts no liability for the use of this information.

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Magnesium Nitrate : Oxidizer
5-Chloro-2-Methyl-4-Isothiazolin-3-one : Corrosive, Sensitizer
2-Methyl-4-Isothiazolin-3-one : Corrosive, Sensitizer

CERCLA/SUPERFUND, 40 CFR 302 :
This product contains the following Reportable Quantity (RQ) Substance. Also listed is the RQ for the product.

RQ Substance	RQ
Cupric Nitrate	132,270 lbs

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following indicated EPA hazard categories:

X	Immediate (Acute) Health Hazard
-	Delayed (Chronic) Health Hazard
-	Fire Hazard
-	Sudden Release of Pressure Hazard
-	Reactive Hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product contains the following substance(s), (with CAS # and % range) which appear(s) on the List of Toxic Chemicals

Hazardous Substance(s)	CAS NO	% (w/w)
Magnesium Nitrate	10377-60-3	1.0 - 5.0

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
This product is exempted under TSCA and regulated under FIFRA. The inerts are on the Inventory List.

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act :
When use situations necessitate compliance with FDA regulations, this product is acceptable under : 21 CFR 176.300 Slimicides 21 CFR 176.170 Components of paper and paperboard in contact with aqueous and fatty foods and 21 CFR 176.180 Components of paper and paperboard in contact with dry foods. 21 CFR 176.170 Components of paper and paperboard in contact with aqueous and fatty foods and 21 CFR 176.180 Components of paper and paperboard in contact with dry foods.

The following limitations apply:

Maximum dosage	Limitation
FOR 176.300: 0.125% (ACTIVES)	of dry weight fiber
FOR 176.170/180: 1675 PPM	as an antimicrobial agent for finished coating formulations and for additives used in the manufacture of paper and paperboard, including fillers, binders, pigment sluries and sizing solutions
FOR 176.170/180: 3350 PPM	as an antimicrobial agent for polymer latex emulsions in paper coatings

NSF NON-FOOD COMPOUNDS REGISTRATION PROGRAM (former USDA List of Proprietary Substances & Non-Food Compounds) :
NSF Registration number for this product is : 062419

This product is acceptable for treating boilers, steam lines, and/or cooling systems where neither the treated water nor the steam produced may contact edible products in and around food processing areas, excluding such use in areas where meat and poultry are processed (G10).

FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT (FIFRA) :
EPA Reg. No. 1706-153

In all cases follow instructions on the product label.

This product has been certified as KOSHER/PAREVE for year-round use INCLUDING THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :
This product may contain trace levels (<0.1% for carcinogens, <1% all other substances) of the following substance(s) listed under the regulation. Additional components may be unintentionally present at trace levels.

Substance(s)	Citations
• Cupric Nitrate	Sec. 307, Sec. 311
• Nitric Acid	Sec. 311

CLEAN AIR ACT, Sec. 112 (Hazardous Air Pollutants, as amended by 40 CFR 63), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

CALIFORNIA PROPOSITION 65 :
Substances listed under California Proposition 65 are not intentionally added or expected to be present in this product.

MICHIGAN CRITICAL MATERIALS :
This product contains the following substances listed in the regulation. Additional components may be unintentionally present at trace levels.

Copper

STATE RIGHT TO KNOW LAWS :
The following substances are disclosed for compliance with State Right to Know Laws:

Copper	7440-50-8
Magnesium Nitrate	10377-60-3

INTERNATIONAL CHEMICAL CONTROL LAWS :

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
Substances regulated under the Pest Control Products Act are exempt from CEPA New Substance Notification requirements.

AUSTRALIA
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

CHINA
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on the Inventory of Existing Chemical Substances China (IECSC).

EUROPE
The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

JAPAN
All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

KOREA
All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

NEW ZEALAND
All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996,and are listed on or are exempt from the New Zealand Inventory of Chemicals.

PHILIPPINES
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

16. OTHER INFORMATION

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: Moderate

* The environmental risk is: Moderate

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should

be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS™ CD-ROM Version),
Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH,
(TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight™ (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : Product Safety Department
Date issued : 02/14/2011
Version Number : 2.0

SAFETY DATA SHEET

PROPYLENE GLYCOL

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	PROPYLENE GLYCOL
Other means of identification	:	Not applicable
Recommended use	:	Cleaning product
Restrictions on use	:	Reserved for industrial and professional use.
Product dilution information	:	No dilution information provided.
Company	:	Aspen Veterinary Resources 3155 Heartland Drive Liberty, Missouri USA 64068 1-800-203-5620
Emergency health information	:	1-800-424-9300
Issuing date	:	05/28/2020

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS label elements

Precautionary Statements : **Prevention:**
Wash hands thoroughly after handling.
Response:
Get medical advice/ attention if you feel unwell.
Storage:
Store in accordance with local regulations.

Other hazards : None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical name	CAS-No.	Concentration (%)
Propylene glycol	57-55-6	60 - 100

SECTION 4. FIRST AID MEASURES

In case of eye contact	:	Rinse with plenty of water.
In case of skin contact	:	Rinse with plenty of water.
If swallowed	:	Rinse mouth. Get medical attention if symptoms occur.
If inhaled	:	Get medical attention if symptoms occur.
Protection of first-aiders	:	No special precautions are necessary for first aid responders.
Notes to physician	:	No specific measures identified.

Most important symptoms and effects, both acute and delayed	:	See Section 11 for more detailed information on health effects and symptoms.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Not flammable or combustible.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides
Special protective equipment for fire-fighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Wash hands after handling. For personal protection see section 8.
Conditions for safe storage	:	Keep out of reach of children. Store in suitable labeled containers.
Storage temperature	:	-20 °C to 40 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Propylene glycol	57-55-6	TWA	10 mg/m3	AIHA WEEL

Engineering measures	:	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye protection	:	No special protective equipment required.
Hand protection	:	No special protective equipment required.
Skin protection	:	No special protective equipment required.
Respiratory protection	:	No personal respiratory protective equipment normally required.
Hygiene measures	:	Wash hands before breaks and immediately after handling the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	clear, colorless
Odor	:	odorless
pH	:	Not applicable
Flash point	:	98 °C closed cup, Sustains combustion
Odor Threshold	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	> 100 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	1.037
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Thermal decomposition	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available
VOC	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	None known.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes	:	Health injuries are not known or expected under normal use.
Skin	:	Health injuries are not known or expected under normal use.
Ingestion	:	Health injuries are not known or expected under normal use.
Inhalation	:	Health injuries are not known or expected under normal use.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact	:	No symptoms known or expected.
Skin contact	:	No symptoms known or expected.
Ingestion	:	No symptoms known or expected.
Inhalation	:	No symptoms known or expected.

Toxicity

Product

Acute oral toxicity	:	No data available
Acute inhalation toxicity	:	No data available
Acute dermal toxicity	:	No data available
Skin corrosion/irritation	:	No data available
Serious eye damage/eye irritation	:	No data available
Respiratory or skin sensitization	:	No data available
Carcinogenicity	:	No data available
Reproductive effects	:	No data available

Germ cell mutagenicity	:	No data available
Teratogenicity	:	No data available
STOT-single exposure	:	No data available
STOT-repeated exposure	:	No data available
Aspiration toxicity	:	No data available

Components

Acute oral toxicity	:	Propylene glycol LD50 Rat: 22,000 mg/kg

Components

Acute inhalation toxicity	:	Propylene glycol 4 h LC50 Rat: > 158.5 mg/l Test atmosphere: dust/mist

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	No data available
Toxicity to daphnia and other aquatic invertebrates	:	No data available
Toxicity to algae	:	No data available

Components

Toxicity to fish	:	Propylene glycol 96 h LC50: > 10,000 mg/l

Components

Toxicity to daphnia and other aquatic invertebrates	:	Propylene glycol 48 h EC50: 18,340 mg/l

Components

Toxicity to algae	:	Propylene glycol 96 h EC50: 19,000 mg/l

Persistence and degradability

Readily biodegradable.

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods	:	Diluted product can be flushed to sanitary sewer.
Disposal considerations	:	Dispose of in accordance with local, state, and federal regulations.

SECTION 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)
Not dangerous goods

Sea transport (IMDG/IMO)

Not dangerous goods

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards	:	No SARA Hazards
SARA 302	:	This material does not contain any components with a section 302 EHS TPQ.
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

California Cleaning Product Right to Know Act of 2017 (SB 258)
This regulation does not apply to this product.

The ingredients of this product are reported in the following inventories:

United States TSCA Inventory :
All substances listed as active on the TSCA inventory

Canadian Domestic Substances List (DSL) :
All components of this product are on the Canadian DSL

Australia Inventory of Chemical Substances (AICS) :
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemical Substances :

not determined

Japan. ENCS - Existing and New Chemical Substances Inventory :
On the inventory, or in compliance with the inventory

Korea. Korean Existing Chemicals Inventory (KECI) :
On the inventory, or in compliance with the inventory

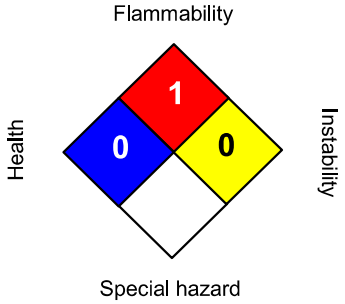
Philippines Inventory of Chemicals and Chemical Substances (PICCS) :
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances in China (IECSC) :
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI) :
On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Issuing date	:	05/28/2020
Version	:	1.2
Prepared by	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 6.5
Revision Date 02.11.2023
Print Date 01.07.2025
GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Carbon dioxide

Product Number : 295108
Brand : Aldrich
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No. : 124-38-9

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Merck Life Science S.A.S
80 Rue de Luzais
F-38297 SAINT QUENTIN FALLAVIER CEDEX

Telephone : +33 (0)1 85 16 94 34
E-mail address : servicetechnique@merckgroup.com

1.4 Emergency telephone

Emergency Phone # : +33 (0)9 75 18 14 07 (CHEMTREC)
+33 (0)1 45 42 59 59 (I.N.R.S.)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Gases under pressure (Liquefied gas), H280

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

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Pictogram	
Signal Word	Warning
Hazard statement(s) H280	Contains gas under pressure; may explode if heated.
Precautionary statement(s) P410 + P403	Protect from sunlight. Store in a well-ventilated place.
Supplemental Hazard Statements	none

Reduced Labeling (<= 125 ml)

Pictogram	
Signal Word	Warning
Hazard statement(s)	none
Precautionary statement(s)	none
Supplemental Hazard Statements	none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

May displace oxygen and cause rapid suffocation.

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula	:	CO_2
Molecular weight	:	44,01 g/mol
CAS-No.	:	124-38-9
EC-No.	:	204-696-9

Component	Classification	Concentration

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carbon dioxide			
CAS-No. EC-No.	124-38-9 204-696-9	Press. Gas Liquefied gas; H280	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact
After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed
After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Carbon oxides
Not combustible.
Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters
In the event of fire, wear self-contained breathing apparatus.

5.4 Further information
none

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe gas. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

6.2 Environmental precautions

No special precautionary measures necessary.

6.3 Methods and materials for containment and cleaning up

Observe possible material restrictions (see sections 7 and 10). Stop flow of gas, move leaking cylinder to open air if without risk.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Tightly closed. Keep away from combustible materials and sources of ignition.

Contents under pressure. Avoid heating above: 50°C

Storage class
Storage class (TRGS 510): 2A: Gases

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

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The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact
Material: butyl-rubber
Minimum layer thickness: 0,3 mm
Break through time: 480 min
Material tested:Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact
Material: Chloroprene
Minimum layer thickness: 0,6 mm
Break through time: 30 min
Material tested:Camapren® (KCL 722 / Aldrich Z677493, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection
protective clothing

Respiratory protection
Recommended Filter type: Self-contained breathing apparatus (EN 133)

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure
No special precautionary measures necessary.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Physical state	Liquefied gas
b)	Color	No data available
c)	Odor	No data available
d)	Melting point/freezing point	Melting point/range: -78,5 °C - lit.
e)	Initial boiling point and boiling range	No data available
f)	Flammability (solid, gas)	The product is not flammable.
g)	Upper/lower	No data available

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	flammability or explosive limits	
h)	Flash point	Not applicable
i)	Autoignition temperature	No data available
j)	Decomposition temperature	No data available
k)	pH	No data available
l)	Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m)	Water solubility	No data available
n)	Partition coefficient: n-octanol/water	No data available
o)	Vapor pressure	57.249 hPa at 20 °C
p)	Density	1,56 g/cm3 at -79 °C
	Relative density	No data available
q)	Relative vapor density	No data available
r)	Particle characteristics	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	none

9.2 Other safety information

Relative vapor density	1,52 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Risk of explosion with:
Powdered metals
Peroxides
(sodium salt)
Risk of ignition or formation of inflammable gases or vapours with:
acetylidene
barium peroxide
metallic oxides

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Lithium
lithium aluminium hydride
sodium
Exothermic reaction with:
Amines
Ammonia
Strong bases
acryl aldehyde
polymerisable

10.4 Conditions to avoid
no information available

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

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11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

RTECS: FF6400000
Nausea, Dizziness, Headache, Low to medium concentrations of carbon dioxide can:, affect regulation of blood circulation, affect the acidity of body fluids, respiratory difficulties, At high concentrations:, Breathing difficulties, Increased pulse rate, change in body acidity, Very high concentrations can cause:, Unconsciousness, death
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties
Product:

Assessment	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects
No data available

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Pressurised gas bottle: dispose of only in empty condition! See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1013 IMDG: 1013 IATA: 1013

14.2 UN proper shipping name

ADR/RID: CARBON DIOXIDE
IMDG: CARBON DIOXIDE
IATA: Carbon dioxide

14.3 Transport hazard class(es)

ADR/RID: 2.2 IMDG: 2.2 IATA: 2.2

14.4 Packaging group

ADR/RID: - IMDG: - IATA: -

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

Tunnel restriction code : (C/E)

Further information : No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H280 Contains gas under pressure; may explode if heated.

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Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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INEOS Calabrian

Safety Data Sheet
SODIUM METABISULFITE

Section 1 - Product and Company Identification

Product Name: Sodium Metabisulfite
Chemical Formula: $Na_2S_2O_5$
CAS Number: 007681-57-4
Other Designations: Sodium Pyrosulfite, Disodium Pyrosulfite, Pyrosulfurous Acid, Disodium Salt, Sodium Disulphite.
General Use: Food preservative, pharmaceutical manufacture, water dechlorination agent, lab reagent and other chemical process applications.
Manufacturer: INEOS Calabrian Corporation
5500 Hwy. 366
Port Neches, Texas77651

Telephone: 409-727-1471
Fax: 409-727-5803
Emergency Contact: CHEMTREC 800-424-9300

Section 2 - Hazards Identification

Emergency Overview
Target Organs: Respiratory system, eyes, skin
GHS Classification: Acute Toxicity, Oral (Category 4)
Acute Toxicity, Dermal (Category 5)
Serious Eye Irritant (Category 2A)

GHS Label Elements: Signal Word – Warning

Pictogram



Corrosive



Irritant

Hazard Statements: H302 – Harmful if swallowed
H313 – May be harmful to skin
H319 – Causes serious eye irritation

Precautionary Statements: P281 – Wear protective equipment for hands, eyes, face and respiratory tract
P305, P351 and P338 – IF IN EYES: Rinse with water for several minutes. Remove contact lenses if present and continue rinsing.
Other Hazards: Contact with acids or water liberates toxic sulfur dioxide gas.

HMIS Classification: Health Hazard 2
Flammability 0
Physical 0

NFPA Rating:	Health Hazard	2
	Fire	0
	Reactivity	0

Potential Health Effects:	Inhalation:	Irritant to respiratory tract
	Eye:	Irritant
	Skin:	Irritant
	Ingestion:	Harmful if swallowed
	Aggravated Medical Condition:	Capable of provoking bronchospasm in sulfite sensitive individuals with asthma.

Section 3 - Composition / Information on Ingredients

Composition	CAS Number	% wt *or* vol
Sodium Metabisulfite	007681-57-4	98 %(wt)
Sodium Sulfite	007757-83-7	1 %(wt)
Sodium Sulfate	007757-82-6	1 %(wt)

Section 4 - First Aid Measures

Exposure Route	Symptom	Treatment
Inhalation:	Sore throat, shortness of breath coughing, and congestion.	Remove from exposure to fresh air. Seek medical attention in severe cases or if recovery is not rapid.
Eye Contact:	Irritation to eyes and mucous membranes.	Irrigate with water until no evidence of chemical remains. Obtain medical attention.
Skin Contact:	Irritation, itching, dermatitis	Wash with soap and drench with water. Remove contaminated clothing and wash before reuse.
Ingestion:	Irritation to mucous membranes.	Give large quantities of water or milk immediately. Obtain medical attention.

Seek appropriate medical attention *and provide this SDS to attending doctor*

Note to physician: **Exposure may aggravate acute or chronic asthma, emphysema and bronchitis.**

Section 5 - Fire-Fighting Measures

Flammability:	Not Flammable or combustible
Extinguishing Media:	Dry Powder is recommended
Hazardous Products:	May release hazardous gas with fire or water.
Fire-Fighting Instructions:	Do not release runoff from fire control methods to sewers or waterways.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

Section 6 - Accidental Release Measures

Spill / Leak Procedures: Wear appropriate PPE - See Section 8.
Small Spills / Leaks: Spills can be neutralized with an alkaline material such as caustic soda. Leaks may be located by spraying the area with ammonium hydroxide solution which forms a white fume in the presence of sulfur dioxide.
Large Spills / Leaks: Large spills should be handled according to a predetermined plan.
Containment: For large spills, dike far ahead of contaminated runoff for later disposal

Section 7 - Handling and Storage

Handling Precautions: Avoid contact with product. Do not breathe dust or vapor.
Storage Requirements: Store in areas, away from heat and moisture and protect from *physical* damage. Segregate from acids and oxidizers.

Section 8 - Exposure Controls / Personal Protection:

Components	CAS Number	TWA	STEL	IDLH
Sodium Metabisulfite	007681-57-4	5 mg/m^3	*	*
Sodium Sulfite	007757-83-7	*	*	*
Sodium Sulfate	007757-82-6	*	*	*

* None established.

TWA – Time Weighted Average based on 8 hour exposure days and a 40 hour week.
STEL – Short Time Exposure Limit
IDLH - Immediately Dangerous to Life or Health

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA limits (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at the source.

Respiratory Protection: Follow OSHA respirator regulations (29 CFR 1910.134) and if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or on-routine operations (cleaning spills, reactor vessels, or storage tanks), wear a SCBA. ***Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.***

Protective Clothing / Equipment:	Wear protective gloves, boots, and clothing when necessary to prevent excessive skin contact. Wear protective eyeglasses or goggles, per OSHA eye and face protection regulations (29CFR 1910.133).
Safety Stations:	Make emergency eyewash stations, showers, and washing facilities available in the work area.
Contaminated Equipment:	Remove this material from personal protective equipment as needed.
Comments:	Do not eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before food or beverage consumption

Section 9 - Physical and Chemical Properties

Physical State:	Solid crystal	**Water Solubility:**	45 % @ 20 ^{o} C
Appearance:	White	**Other Solubility:**	NA
Odor Threshold:	pungent SO_2 odor	**Boiling Point:**	
Vapor Pressure:		**Freezing Point:**	
Vapor Density (Air=1):		**Melting Point:**	150 ^{o}C / 302 ^{o}F
Formula Weight:	190.11	**Evaporation Rate:**	Normal.
Density:	NA	**pH:**	4.0 – 4.5 (10 % Soln.)
Specific Gravity (H_2O=1):	1.5	**% Volatile:**	NA

Section 10 - Stability & Reactivity

Stability:	Stable under normal conditions.
Polymerization:	Hazardous polymerization will not occur.
Chemical Incompatibilities:	In the presence of water, or acid, Sodium Metabisulfite (and solutions) may release toxic and hazardous fumes of sulfur oxides, including sulfur dioxide. Acute poisoning from sulfur dioxide is rare because the gas is easily detected. It is so irritating that contact cannot be tolerated. Symptoms include coughing, hoarseness, sneezing, tearing, and breathing difficulty. However, workers who cannot escape high accidental exposure may suffer severe pulmonary damage which can be fatal. Contact with powdered potassium, sodium metals, alkali, and oxidizing agents produce violent reactions. Reacts with water and steam to form corrosive sulfurous acid. Reacts with chlorates to form unstable chlorine dioxide.
Conditions to Avoid:	Avoid excessive heat, open flame, and moisture.
Hazardous Decomposition:	May release hazardous sulfur dioxide gas.

Section 11 - Toxicological Information

Eye Effects (rabbit):	Not available.
Skin Effects (rabbit):	Non-corrosive.
Acute Inhalation Effects (rat):	Not available.
Acute Oral Effects (rat):	LD50 = 1131 mg/kg
Acute Dermal Effects (rat):	LD50 = > 2000 mg/kg
Carcinogenicity:	IARC, NTP, and OSHA do not list Sodium Metabisulfite as a carcinogen.

Chronic Effects: Prolonged or repeated exposure may cause dermatitis, and sensitization reactions. Exposure to asthmatic, atopic and sulfite sensitive individuals can result in expiratory volume. Decomposition of sodium metabisulfite and solutions may release toxic and hazardous fumes of sulfur oxides, including sulfur dioxide, which may cause permanent pulmonary impairments from acute and chronic exposure. The Immediately Dangerous to Life or Health (IDLH) level for SO2 is 100 ppm.

Skin: Contact with skin may result in irritation. Sulfite sensitive individuals may show signs of allergic contact dermatitis from repeated or prolonged skin exposure.

Eyes: Exposure to dust may cause severe eye irritation with possible permanent damage.

Inhalation: Inhalation of dust may result in respiratory tract irritation. May cause asthma-like symptoms in sensitive individuals.

Ingestion: Swallowing can result in nausea, vomiting, diarrhea and abdominal pain. May also cause allergic reactions in sulfite sensitive individuals

Section 12 - Ecological Information

Ecotoxicity: Sodium Metabisulfite is a non hazardous solid commonly used as a waste water dechlorination agent. High concentrations will contribute to elevated chemical oxygen demand in aquatic environments.

96 hour LC50 (fish):	150-220 mg/L
48 hour IC50 (algae):	48 mg/L
24 hour EC50 (water flea):	89 mg/L

Environmental Transport: Soluble in water.
Environmental Degradation: Rapid biological decomposition.
Soil Absorption/Mobility: Slight.

Section 13 - Disposal Considerations

Disposal: Waste determinations typically consider Sodium Metabisulfite contaminated materials to be non-hazardous.
Disposal Regulatory Requirements: Follow applicable Federal, state and local regulations.
Container Cleaning and Disposal: Follow applicable Federal, state and local regulations.

Section 14 - Transport Information

DOT Transportation Data (49 CFR 172.101)

Shipping Name: Sodium Metabisulfite, non-regulated material
Shipping Symbols: NA

Hazard Class:	NA
Subsidiary Hazard:	NA
ID No.:	NA (No Placard Required)
Packing Group:	NA
Label:	GHS label
Special Provisions:	NA

Section 15 - Regulatory Information

EPA Regulations:	
RCRA Hazardous Waste Classification (40 CFR 261):	Not listed.
CERCLA Hazardous Substance (40 CFR 302.4):	Not listed
CERCLA Reportable Quantity (RQ):	NA
SARA Title III: Section 302:	Not listed.
Section 313:	Not listed.
FIFRA:	Not regulated.
TSCA:	Inventory listed chemical; PAIR Reportable Not listed in Toxic Substances Chemical Index
Other Regulations:	
FDA (GRAS)	Regulated when used as a food preservative
California Prop 65	Not Listed
IARC, NTP and OSHA Carcinogenicity:	Not Listed
WHMIS Classification (Canada):	D2B

Other Foreign Chemical Control Inventory Listing:

Canada DSL, Australia AICS, Chinese IECSC, European Union EINEC, Japanese MITI, Korean KECL and Philippines PICCS

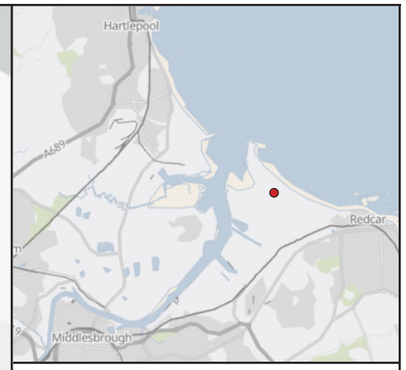
Section 16 - Other Information

This product is NSF certified to NSF/ANSI Standard 60 and is subject to a maximum use limit (MUL) of 15 mg/L for potable water dechlorination applications.

Previous SDS issue date:	January, 2015
Current SDS issue date:	September, 2016
Reason for current revision:	Company name change

The information herein is believed to be reliable. However, no warranty, expressed or implied, is made as to its accuracy or completeness and none is made as to the fitness of this material for any purpose. The manufacturer shall not be liable for damages to person or property resulting from its use. Nothing herein shall be construed as a recommendation for use in violation of any patent.

Annex D - Figures



Legend

- Environmental Permit Installation Boundary
- High Pressure Compressor Boundary

Rev	Date	By	Chkd	Appd
02	27/01/2026	IM	HW	

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Client
Net Zero Teesside Power Limited

Project Title
Net Zero Teesside Power Station and Carbon Capture Plant

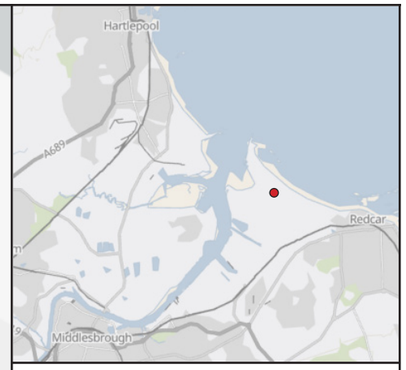
Drawing Title
Figure 1: Site Location Plan and Existing Installation Boundary

Role
Environmental Permit Variation

Arup Job No.
305719-70

Name
308822-ARP-NZT-EP-DR-0001

Scale
1:50,000 @ A3



Legend

- Environmental Permit Installation Boundary
- High Pressure Compressor Boundary

Rev	Date	By	Chkd	Appd
01	28/01/2026	IM	HW	

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Client

Net Zero Teesside Power Limited

Project Title

Net Zero Teesside Power Station and Carbon Capture Plant

Drawing Title

Figure 2: Revised Installation Boundary

Role

Environmental Permit Variation

Arup Job No.

308822-00

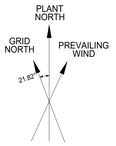
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Scale

1:50,000 @ A3





No.	PLANT DESCRIPTION
01	LER SUBSTATION 01
02	LER SUBSTATION 02
03	LER SUBSTATION 03
04	TURBINE HALL
05	FIREWATER PUMP SHELTER
06	ADMINISTRATION / CCR BUILDING
07	LABORATORY BUILDING
08	REFUGE BUILDING B30
09	REFUGE BUILDING C50
10	MIXED BED POLISHER PACKAGE
11	ULTRAFILTRATION & RO SYSTEM PACKAGE
12	PROCESS EFFLUENT TREATMENT PLANT No.1 PACKAGE
13	PROCESS EFFLUENT TREATMENT PLANT No.2 PACKAGE
14	WASTE WATER TREATMENT PACKAGE
15	RAW WATER TREATMENT PACKAGE
16	HAZARDOUS CHEMICAL STORAGE
17	GATE HOUSE
18	WORKSHOP WAREHOUSE

SCALE 1 : 1500 (METERS)
IN A0 SIZE DRAWING

GENERAL NOTES

NOTES

LEGEND

- PROPERTY BOUNDARY FENCE
- BUILDING IDENTIFIER
- CURRENT PACKAGES
- TANKS
- INSTALLATION PERMIT BOUNDARY
- HIGH PRESSURE COMPRESSOR SITE BOUNDARY
- AIR EMISSION POINTS
- WATER DISCHARGE POINT

REFERENCE DRAWINGS

HOLDS

INDICATIVE SITE LAYOUT PLAN

	POWER PLANT INFORMATION
	PROCESS INFORMATION
	T.EN CONFIDENTIAL INFORMATION
	NOT APPLICABLE
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Rev.	Date DD/MM/YYYY	STATUS	WRITTEN BY (Name & visa)	CHECKED BY (Name & visa)	APPROVED BY (Name &visa)
A01	21/10/2025	IFR-ISSUED FOR REVIEW	ACH	MHE	CDI

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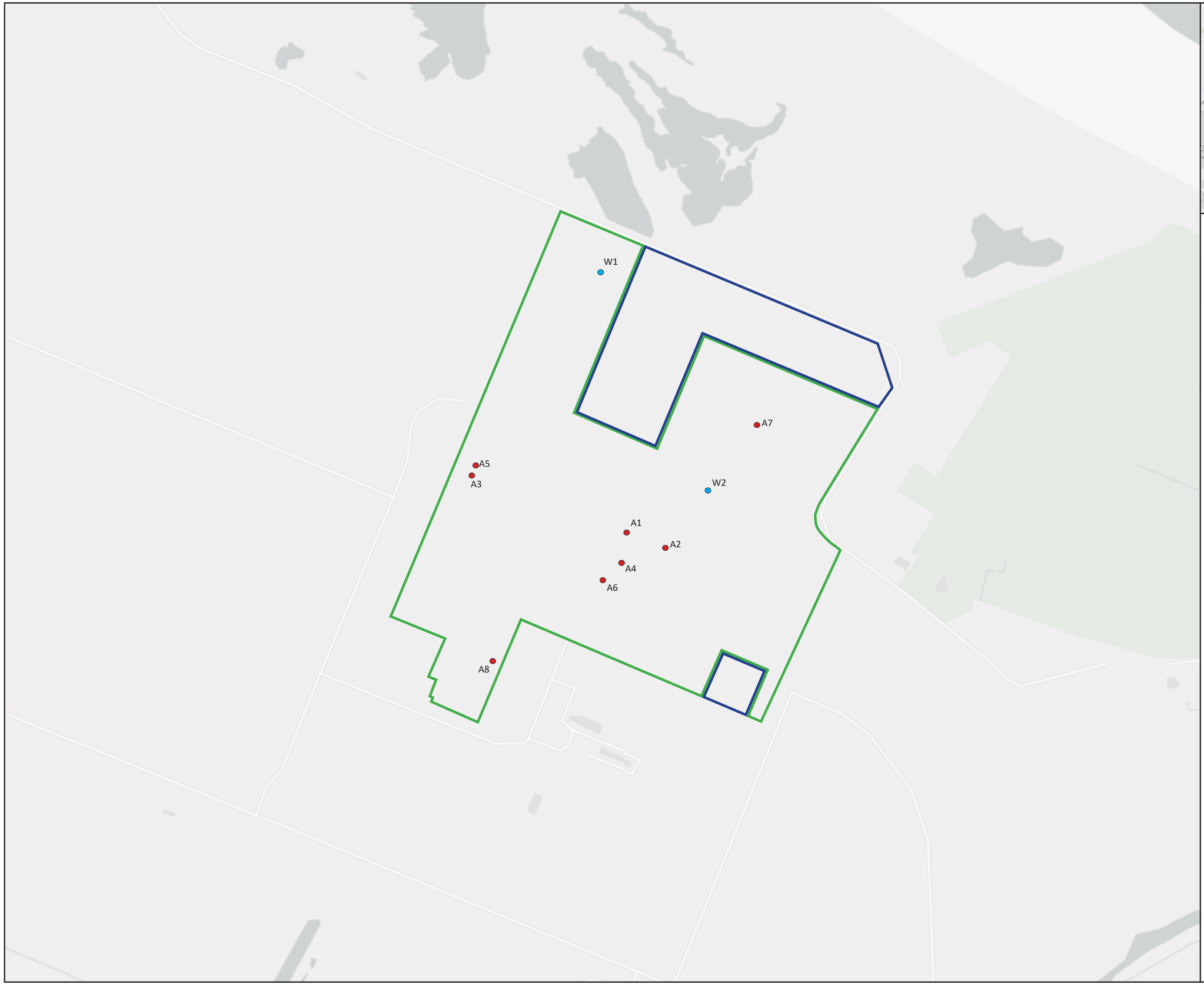
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Net Zero Teesside

OVERALL PLOT PLAN
MAJOR FUNCTIONAL AREAS

SCALE:	1:1500	SHEET:	1 OF 1			
T.EN DOC. REF.	Project n° - Unit 217994C-A00	Doc. Type DW	Eng./Mat. Code xxxx	Serial n° xxxx	REVISION A01	FORMAT A0
CLIENT DOC. REF.	NS051-PI-PPL-xxx-xxx-xxxxx-xxx					





Legend

- Environmental Permit Installation Boundary
- High Pressure Compressor Boundary
- Air Emission point
- Water Discharge Point

Rev	Date	By	Chkd	Appd
01	26/11/2025	IM	HW	

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Net Zero Teesside Power Limited

Project Title
Net Zero Teesside Power Stationand Carbon Capture Plant

Drawing Title
Figure 4 - Installation Emission Points

Role
Environmental Permit Variation

Arup Job No.
305719-70

Name
308822-ARP-NZT-EP-DR-0004

Scale
1:50,000 @ A3



GENERAL NOTES

- PLANT DATUM = BRITISH NATIONAL GRID CO-ORDINATES E: 456594.418, N: 525094.095.
- GRADE HPP ELEVATION 100.000 = 7.5M ABOVE ORDNANCE SURVEY DATUM.
- ALL COORDINATES ARE IN METERS UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS ARE IN MILLIMETERS (mm).
- FINISHED PAVING LEVEL FOR THIS AREA IS AS FOLLOW HIGH POINT PAVING (HPP): +100.000
- U/G PIPING AND OPEN DITCTH ARE NOT SHOWN ON THIS DRAWING.

NOTES

LEGEND

- ROAD AREA
- GRAVEL AREA
- BUILDING AREA
- PAVING AREA
- GREEN AREA

REFERENCE DRAWINGS

POWER PLANT INFORMATION
PROCESS INFORMATION
T.EN CONFIDENTIAL INFORMATION
NOT APPLICABLE
CONFIDENTIALITY

Rev.	Date DD/MM/YYYY	STATUS	WRITTEN BY (Name & visa)	CHECKED BY (Name & visa)	APPROVED BY (Name &visa)
2	02/02/2026	ISSUED FOR INFORMATION	JD	---	---
A	29/11/2024	ISSUED FOR INFORMATION	TDS	---	---

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Net Zero Teesside

Figure 6 - Drainage Plan

SCALE:	1:1500	SHEET:	1 OF 1
T.EN DOC. REF.	DCO-21774C-007	REVISION	FORMAT
CLIENT. DOC. REF.	DCO-21774C-007	2	A0

Figure 6 Drainage Schematic Diagram

