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Tees CCPP Project

The Tees Combined Cycle Power Plant Project
Land at the Wilton International Site, Teesside

Volume 2 - Annex D3

Regulations – 6(1)(b) and 8(1)

Applicant: Sembcorp Utilities UK
Date: November 2017

Annex D3

Site Condition Report

Surrender Site Condition Report for Teesside Power Station

Teesside Power Station
Greystone Road
Middlesbrough
TS6 8JF

Prepared for:
GDF Suez Ltd

Prepared by:
ENVIRON
Manchester, UK

Date:
October 2015

Project Number:
UK22-21295

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Date:	October 2015

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A-E	Draft for Internal Review	22/10/2015	JPC	RM/KW
01	First Issue to Client	27/10/2015	JPC	RM/KW

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1 Site Details

1.1 Introduction

This report has been developed in accordance with the requirements set out in the Environment Agency's (EA) Horizontal Guidance Note 5, 'Site Condition Report – Guidance and Templates,' Version 3 dated April 2013.

1.2 Site Location

Table 1.1 – Site Details

Address:	Teesside Power Station, Greystone Road, Middlesbrough, TS6 8JF		
NGR:	456500, 520380	**Area:**	15 hectares (ha)
Site use:	A Closed Cycle Gas Turbine (CCGT) combined heat and power plant was operated on site generating electricity and steam from the early 1990s. Decommissioning of buildings, plant and infrastructure associated with the power station commenced in 2013.		
Current Site Layout	The site currently comprises a surface of concrete in the location of former structures and buildings, concrete road ways and a surface of gravel in locations that had been backfilled with graded site-won crush (such as voids, pits and sumps), or originally comprised gravel.		
Setting:	The site is located in the north east of England, approximately 6.5 km east of Middlesbrough Town Centre and approximately 6 km inland to the south west of the North Sea coast. The site is located at the south of the Wilton International, a multi-occupancy industrial processing and manufacturing complex Land in the vicinity of the site generally declines towards the north and north-east, in the direction of the River Tees. In the wider area (i.e. further than 2 km), land declines to the east in the direction of the Tees Estuary and the North Sea Coast line. The site is located at an elevation of approximately 19m above Ordnance Datum (AOD)		

1.3 Previous Reports

A list of reports relevant to this site are provided below.

Table 1.2 – Previous Reports

Date	Report Title and Author
6th July 1990	Environmental Assessment of Proposed Combined Heat and power Generating Facility, Summary Report, prepared by Cremer and Warner Ltd on behalf of Enron Power Company, dated, ref C3292/1 Report number 90180
6th July 1990	Environmental Assessment of Proposed Combined Heat and power Generating Facility, Technical Report, prepared by Cremer and Warner Ltd on behalf of Enron Power Company. ref C3292/1 Report number 90178
23rd July 1990	Examination of Potential Ground Contamination at Proposed Enron Site, Teesside, Cremer and Warner. ref: 90154
28th June 1991.	Application for an Authorisation from HM Inspectorate of Pollution under Integrated Pollution Controls, Teesside Power Ltd,
dated between 2001 and 2012	Environmental Incidents Investigation Reports, Teesside Power Station SHE Management System.
27th March 2006	Groundwater Monitoring Results for Boreholes MW1 to MW7, 'VANTAGE' Date Range Summary Report.

4th November 2011,	Site Protection and Monitoring Programme, prepared internally, ref: TPS/ENV/012
2008 to 2013	Groundwater Monitoring Results from Boreholes 1 to 7, analysed by Northumbrian Water Scientific Services / Analytical and Environmental Services (AES) Ltd.
August 2014,	Phase I Environmental Site Assessment Report for Teesside Power Station, ENVIRON. ref:UK22-19783
April 2015	Phase II Environmental Site Assessment, ENVIRON. ref: UK22-21295.
June 2015	Drainage Condition Report, Lanes Group Plc. Ref:PJ00192676

2 Condition of the Land at Permit Issue

2.1 Environmental Setting

Geology and Hydrogeology

The site is considered to be situated in an area of low to moderate sensitivity with respect to groundwater resources. The site is underlain by unproductive strata relating to superficial deposits of Till (across the majority of the site) and Glaciolacustrine Deposits (in the north-west of site). The drift deposits are underlain by a Secondary B Aquifer represented by the solid geology of Redcar Mudstone. Superficial deposits have been identified locally as at least 11m in thickness (although, not directly beneath the site). Groundwater flow towards the north based on average resting groundwater levels detected in the seven (7) monitoring wells on-site, and based on the topography of the site and surrounding land.

The groundwater beneath the site is classified as having ‘good’ quantitative status and ‘poor’ chemical status by the EA under the Water Framework Directive, considered likely to relate to the Secondary B Aquifer. Neither classification is anticipated to change in 2015.

The site is not located within a designated Source Protection Zone. There are no groundwater abstraction licenses within 2km of site.

The site is located within an area designated by the EA as having a low chance of flooding. There are no ecological designations within 2km of site. The nearest sensitive end-use is agricultural land to the south and allotments located 450m south.

Hydrology

The site is considered to be in an area of moderate vulnerability with respect to surface water resources due to the presence of the Kettle Beck located immediately off-site to the west, and the presence of a partially culverted unnamed drain running through the south of site from east to west, which discharges into the Kettle Beck.

A partially culverted unnamed secondary river, which appears to be a tributary of the Kettle Beck, is located approximately 20m north of the site at its closest point, and flows east to west into the Kettle Beck. Further sections of drainage are located to the east of site from c.60m, however the sections do not appear to be part of the wider drainage network.

The Kettle Beck appears to be connected to the Kinkerdale Beck at a point 500m north. The Kinkerdale Beck then flows in a north-easterly direction, towards the River Tees.

There are no licensed surface water abstractions within 2km of the site. The water quality of the Kettle Beck has not been classified by the Environment Agency and the Kettle Beck flows downgradient (i.e. north) through land used for predominantly industrial purposes.

Flooding and Ecological Designations

The site is located within an area designated by the EA as a Flood Zone 1 (low probability). This zone comprises land assessed as having a less than 1 in 1000 annual probability of river or sea flooding (<0.1% in any year). There are no ecological designations within 2km of site. The nearest sensitive end-use is agricultural land to the south and allotments located 450m south.

2.2 Pollution History

Intrusive Investigation prior to the construction of the Power Station (Cremer and Warner, 1990) identified relatively minor ground contamination in the north western corner of site.

Slightly elevated concentrations identified comprised metals (zinc, copper and nickel), dioxins and furans, which according to the report may have originated from the former application of sewage sludge, pesticides from agriculture or atmospheric deposits, and organic matter, identified by dichloromethane extraction which the report concluded may have been attributable to natural organic content of the ground.

Notable volumes of oils and chemicals have been stored and used on-site for the previous use as a gas turbine (GT) combined heat and power plant. Potential contaminants included the following;

- Chemicals for use in cooling and boiler water treatment, including solvent based cleaners, acids such as sulphuric acid, and inorganic compounds such as hydrazine.
- Petroleum hydrocarbons used in plant maintenance and operations, including lubricating oil, control oil, starter oil. Transformer oil used in the transformers on-site. Back-up fuel of naphtha is transferred via pipeline to the plant. Diesel is brought on site in tanks of subcontractor fleet vehicles, and small-scale refuelling activities are undertaken on-site.
- Waste oil collected in oily water sumps and the oil tank as part of the separator.

The site maintained an ISO14001 Environmental Quality System, and control measures to prevent the release of contaminants to the environment appeared to be operational, for example, tanks were bunded, the site maintained separators and interceptors and waste sumps and drainage have been inspected. Records of environmental incidents from 2001 until 2012 have been presented to ENVIRON for review; there have been instances where uncontrolled releases may have discharged to the land.

Previous groundwater monitoring[1] has identified moderate concentrations of total petroleum hydrocarbons and metals in groundwater, the source of which may have been current activities onsite. Documentation[2] provided by the site and reviewed by ENVIRON indicates that potential uncontrolled releases may have occurred, including from drainage or spill events.

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[1] Groundwater Monitoring Results for Boreholes MW1 to MW7, 'VANTAGE' Date Range Summary Report, dated 27th March 2006 and Groundwater Monitoring Results from Boreholes 1 to 7, analysed by Northumbrian Water Scientific Services / Analytical and Environmental Services (AES) Ltd, dating from 2008 to 2013.

[2] Environmental Incidents Investigation Reports, Teesside Power Station SHE Management System, dated between 2001 and 2012

Above referenced reports are reviewed in ENVIRON's Phase I Environmental Site Assessment Report for Teesside Power Station, dated August 2014 ref:UK22-19783

3 Permitted Activities

3.1 Permitted Activities

Teesside Power Station operated under an Integrated Pollution Prevention and Control Permit, the latest version of which is dated 7th April 2014 and referenced EPR/TP3935XX/V003.

The Power Station has been demolished; there are no permitted activities undertaken/remaining on site.

3.2 Non-permitted Activities

The Power Station has been demolished; there are no operational activities remaining on site.

4 Measures Taken to Protect Land

A Site Protection and Monitoring Plan was prepared by PX Ltd (former site owners) in February 2007 to satisfy the conditions of the permit. An update to the SPMP (dated 4th November 2011, reference TPS/ENV/012) and a Site Closure Plan (dated 1st June 2007 and updated version issued 30th September, reference 2013TPS-ENV-013), both prepared by GDF Suez.

According to the above documentation, biannual groundwater monitoring of the seven (7) existing groundwater monitoring wells on-site (BH01 to BH07) was undertaken between 1997 and 2013 as a requirement of the Environmental Permit. The seven (7) existing monitoring wells are distributed at the site periphery, the locations of which are shown in Figure 2 of Annex A.

Groundwater concentration ‘limits’ for the above determinands were provided within Annex E of the Site Protection and Monitoring Programme for Teesside Power Station dated February 2007; the context or derivation of the ‘limits’ is not provided within the report. According to verbal correspondence with the EA during a site meeting held on 25th February 2015 (discussed further in Section 8), the limits are applicable to the groundwater analytical results from monitoring of the seven (7) existing boreholes on site and were required to satisfy the Environmental Permit.

5 Pollution Incidents

The following records are summaries of environmental incidents recorded by the site as part of their Safety, Health and Environmental Management System between 2001 and 2012. The majority of incidents appear to have been contained and pollution control measures in places were sufficient to deal with the spillage at the time, however there are incidents that are considered to 'potentially' have resulted in an uncontrolled release to the environment. None of the incidents were deemed reportable to the Environment Agency by the site. A summary of each incident is provided below:

Table 5.1 Environmental Incidents

Date of Incident	Incident	Details	Location	Outcome
Operational Phase (records dated from 2001 to 2012)				
5th March 2001	Diesel spillage to storm drains.	A jerry can containing diesel for a generator had been tipped over releasing diesel to storm water drains.	North East Corner	Full investigation recommended. Condition of all jerry cans to be checked as the lid was in a poor condition. Storage of diesel containers in a safe location.
31st December 2001	Oil overflowing from X702 overflow drain, contained within a bund.	Drain line was frozen. All oily water drains shut down to reduce spillage. Line steam cleaned to remove blockage. Contents of bund pumped back into oily water system and pumps restarted.	North East corner	Drain to be lagged to prevent reoccurrence. Location of incident shown on Figure 2 of Annex A.
11th January 2002	Leaking diesel tank.	The diesel tank of a subcontractor's lorry developed a leak. Approx. 1 cup fully of diesel was leaked.	West Road	Absorption mats placed under tank. All leakage was contained. The filler cap was removed and re-fitted giving a greater seal. The lorry was then removed from site.
2nd June 2002	Leaking diesel tank, leaking over the bund.	Valve on the bottom of the tank had been left off following filling.	Refurb workshop	Review of procedures.
30th April 2003	Diesel spillage during refuelling of crane due to overfilling.	No further details.	Team building, adjacent to visitors centre	'Oil dry' applied to prevent seepage to the gravelled area. Recommended for subcontractors to carry more oil dry and auto filler should be considered during refuelling. Location of incident shown on Figure 2 of Annex A.

Date of Incident	Incident	Details	Location	Outcome
12th May 2003	Leak of lube oil system from turbine/generator	Occurred during recommissioning of the lube oil system. A leak was noted in the pipework and the pressure gauge was missing.	GT-107	Procedures / mechanisms to be reviewed.
9th July 2003	Spillage during refuelling of cranes	Sub-contractor fuel hose split near the nozzle causing a spillage (assumed to be diesel by ENVIRON). Covered with spill cloths and requested Capes to clean up.	GT-101	Used spill cloths and requested clean-up. Requested sub-contractors reviewed procedures.
28th August 2003	Unidentified waste removed from site by waste contractor.	No further details	Waste Area	Full investigation to be conducted.
21st October 2004	Spillage of Sodium Hypochlorite during delivery / offloading.	Chemical collected on the floor. Delivery stopped, chemical cleaned up and different hose was connected.	East Road	Complaint launched to the supplier as to the quality of their hoses. Quality procedures and risk assessment for delivery of product reviewed.
20th April 2005	Spillage of lubricating oil from broken pipework to the oil filter.	During a permit to work (assumed by ENVIRON to be for the repair to the broken pipework), oil from the pipe leaked onto scaffolding and girder work and into a lube oil bund. The spill equipment was insufficient to contain the spill.	ST-302	Unclear if the drain was repaired. The 'drain down' procedure for the pipework involved was reviewed.
7th March 2006	Oil found in effluent recovery excavation pit	Oil cleaned up immediately. No evidence of an oil leak found. Suspect that oil from a known previous spillage a number of years ago. Site contact suspected the incident related to the occurrence on 31st December 2001	North East Corner	Immediate action taken to pump oily water from pit & use spill kit material to clean any residual oil. Location of incident shown on Figure 2 of Annex A.

Date of Incident	**Incident**	**Details**	**Location**	**Outcome**
18th March 2006	Leak of an unknown substance from a skip following heavy rainfall.	No further details provided.	Team Building	Investigation report to be supplied from Cleanaway. No further details provided.
17th November 2007	Spill of contaminated water from the oily water sump.	While pumping out the north oily water sump ready for maintenance a coupling failed on the discharge line. A small volume of contaminated water spilled onto the centre road. The spill was contained and washed down into oily water manhole OW7.	ST-301	Conduct investigation into spillage and make recommendations to prevent reoccurrence.
10th January 2009	Leak from phosphate tanks into storm water drains.	Phosphate drain valve left open.	Boiler Chemical treatment	Recommended actions were: a review of local area to change drain connection points, procedural review of opening critical drain line, review of area for water leaks and change route of rain water downpipe (guttering) in local area.
19th December 2012	A leak of the sulphuric acid tank or the associated equipment which is housed within the tank bund area.	Contents of the tank (17 m^3) were lost to the bund. Product was contained within the bund; however acid may have caused possible loss of bund integrity and damage to equipment due to the acid. The tank alarm was not set to the appropriate level.	Balance of Plant Area	Acid removed from bund. The tank, equipment and bund were not repaired. Review of chemical storage and checking process recommended. Full investigation report outstanding.
28th December 2012	Damage to acid IBC causing spillage to floor outside of the bund area.	While the acid filled IBCs were being loaded onto a wagon for off-site disposal, the fork lift truck damaged the IBC causing a small amount of spillage.	Balance of Plant Area	The IBC was emptied into the acid tank bund. The floor on which the acid was spilt was washed down and made safe. The effected IBC was washed and taken with the other IBCs.

Date of Incident	Incident	Details	Location	Outcome
Demolition (2013 to 2014)				
Date not provided (verbal information from GDF Suez during site meeting dated 25th February 2015)	Leak of oil from a machine operated by the demolition contractor to unsurfaced ground	No further details provided	north-eastern corner of site	According to verbal information from GDF Suez during site meeting, impacted soil was reportedly removed and disposed off-site. No visible impact observed at the surface by ENVIRON.

6 Groundwater Monitoring

A Site Protection and Monitoring Plan was prepared by PX Ltd (former site owners) in February 2007 to satisfy the relevant condition of the permit. An update to the SPMP (dated 4th November 2011, reference TPS/ENV/012), a Site Closure Plan (dated 1st June 2007 and updated version issued 30th September, reference 2013TPS-ENV-013), both prepared by GDF Suez.

According to the above documentation, biannual groundwater monitoring of the seven (7) existing groundwater monitoring wells on-site (BH01 to BH07) was undertaken between 1997 and 2013 as a requirement of the Environmental Permit. The seven (7) existing monitoring are distributed at the site periphery.

ENVIRON has been provided with reference data obtained during the operational phase of the power station. This comprised summary data (i.e. maximum, average and minimum concentrations) from up to 16 sampling visits dating from 16th October 1997 to 19th October 2005, and laboratory certificates from samples tested on up to ten sampling visits dating from 2006 to 2013; dated 23/05/2006, 22/11/2006, 16/07/2007, 20/12/2007, 10/04/2008, 10/12/2008, 23/04/2009, 23/11/2009, 17/05/2010 and 15/04/2013. Not all boreholes were tested on all occasions.

Analytical testing comprised metals (arsenic, cadmium, chromium, copper, lead, nickel, mercury, and zinc), sulphide, chloride, sulphate, total cyanide, monohydric phenols, cyclohexane extractable matter, toluene extractable matter, Diesel Range Organics (DROs) and ammonia. Volatile organic compounds and semi-volatile organic compounds were not included as part of the suite.

The 2015 groundwater results were compared with groundwater reference data obtained during the operational phase of the power station between 1997 and 2013, and the ‘limits’ presented in the Application Site Protection and Monitoring Plan (SPMP) Report (dated February 2007). Concentrations detected in 2015 did not exceed the concentrations obtained during the operational phase. The SPMP ‘limits’ were exceeded during the operational phase for some metals (mercury, nickel and zinc), sulphide and diesel range organics (i.e. aliphatic and aromatic hydrocarbons in the range C10-C28), no exceedances of the limits were detected post-decommissioning in 2015. Further discussion is presented in Section 8.

7 Decommissioning and Removal of Pollution Risk

A decommissioning contractor, Brown and Mason (BAM), were appointed by GDF Suez to decommission buildings, plant and infrastructure associated with the power station. Decommissioning was commenced in 2013 and completed in 2015, during which time all above ground structures were removed to ground level.

The following below-ground measures were undertaken by the contractor during and post decommissioning to remove and/or address the potential pollution risk:

7.1 Sub-Surface Voids

The following sub-surface voids were washed-down, visually inspected, outlets were 'plugged' and the voids infilled with clean crushed material by the demolition contractor during the demolition phase:

- Oily water pits
- Cable pull pits
- Transformer bunds
- Cooling tower base
- Deluge valve chamber
- Condenser pits
- Steam pits
- Unspecified voids

A photographic record of each void, post-cleaning, was documented and 'signed-off' by a representative from GDF Suez. Photographic records have been provided to ENVIRON for review. A plan of the sub-surfaces voids that were cleaned and in-filled is presented in Annex B.1. An example photographic record is presented in Annex B.2.

7.2 Sub-Surface Drainage Condition

GDF Suez commissioned a third party (Lanes for Drains, part of Lanes Group Ltd) to clean the storm water and oily water drainage systems using high pressure jet washing and complete a CCTV survey of both systems. Cleaning and surveying of the storm water drains was undertaken during decommissioning, whilst the oily water drains were cleaned and surveyed after decommissioning due to accidental infilling of the oily water drains which required additional cleaning. Copies of the reports for the storm water drainage (Lanes for Drains report referenced PJ142724, dated 23/10/2013) and oily water drainage system (Lanes for Drains, ref: PJ00192676 dated 23rd June 2015) were provided to ENVIRON for review

Both the storm water and oily water drainage systems were noted to be left in a 'cleaned' condition.

7.3 Sub-Surface Ground Condition

The Phase II Site Investigation provided in Annex C was undertaken post demolition by ENVIRON. The aim of the investigation was to identify potential 'environmental' incidents that may have occurred during the decommissioning works, and provide a 'condition report,' at the site closure.

8 Ground Investigation

ENVIRON was commissioned by GDF Suez Ltd to undertake a Phase II Intrusive soil and groundwater investigation of the former Teesside Power Station. The investigation was undertaken as a requirement condition to surrender both the Environmental Permit and the lease. The objectives of the investigation were to establish the nature of the ground conditions on-site in relation to contamination, and to compare the findings of the soil results with previous soil and groundwater data to assess if the condition of the ground has deteriorated as a result of site activities.

Proposed drilling and soil and groundwater sampling locations were discussed and verbally agreed with the Environment Agency during a site meeting on 25th February 2015, prior to commencing with the Phase II intrusive investigation.

ENVIRON's site investigation was undertaken in March 2015 and comprised 19 window sample boreholes, of which 12 were drilled to a maximum depth of 3.0m bgl and backfilled on completion to assess soil conditions, and seven (7) were drilled to a maximum depth of 5.0m bgl and installed as groundwater monitoring wells to facilitate assessment of the groundwater conditions on-site. A groundwater monitoring visit was undertaken to collect samples from the seven (7) existing wells on site and seven (7) newly installed wells for laboratory analysis.

Soil and groundwater samples were analysed by a UKAS and MCERTS accredited laboratory (SAL, Manchester), for a wide range of determinands associated the former power station: metals, total petroleum hydrocarbon (TPH), polycyclic aromatic hydrocarbons (PAH), semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), phenol, cyanide, sulphate and pH.

Following the ground investigation undertaken by ENVIRON in March 2015 the following conclusions were made.

- In **soil**, low concentrations of metals, TPH, SVOCs (carbazole) and PAH were detected. Comparison of soil analytical results from the 2015 investigation against ENVIRON generic assessment criteria ("GAC") for a commercial end-use identified no exceedances. The conceptual site model and risk assessment identified a **low risk** to human health from concentrations detected in soil on-site
- The soil 2015 results were compared with the soil investigation reported by Cremer and Warner in 1990 prior to construction of Teesside Power Station. Concentrations detected in soil in 2015 **did not exceed** those detected in the 1990 investigation, indicating no observable deterioration in soil conditions as a result of the activities of Teesside Power Station.
- In **groundwater**, concentrations of metals, sulphate, TPH and PAH exceeded laboratory method detection limits. When compared with relevant UK generic assessment criteria (Environmental Quality Standards (EQS) and Drinking Water Standards (DWS)), certain metals (hexavalent chromium and selenium), a range of PAH and aliphatic and aromatic fractions of TPH were found to exceed the relevant UK guidelines. The concentrations were generally localised (i.e. detected in less than half the sampling locations). Heavy-end aliphatic petroleum hydrocarbons in the range C21-C35 were detected more widespread across site (i.e. in 10 of 14 locations), however they were not detected

consistently in all locations. Groundwater analytical results were also compared with the ENVIRON GAC for a volatilisation pathway which assesses risk to human health from inhalation via contaminant vapour from groundwater. Aliphatic TPH in the range C12-C16 in one (1) sample exceeded the relevant volatilisation GAC. ENVIRON do not consider the results to indicate a risk via the vapour pathway as the concentration was localised (i.e. only detected at one location) no buildings are currently present in the vicinity of MW07, there is no opportunity for concentrations to accumulate in confined spaces. Concentrations detected in groundwater are not considered to represent significant widespread contamination in groundwater. The conceptual site model and risk assessment identified a **low risk** to controlled waters receptors.

- The 2015 groundwater results were compared with groundwater reference data obtained during the operational phase of the power station between 1997 and 2013, and the 'limits' presented in the Application Site Protection and Monitoring Plan (SPMP) Report (dated February 2007). Concentrations detected in 2015 **did not exceed** the concentrations obtained during the operational phase. The SPMP 'limits' were exceeded during the operational phase for metals (mercury, nickel and zinc), sulphide and diesel range organics (i.e. aliphatic and aromatic hydrocarbons in the range C10-C28), but **no exceedances** of the limits were detected post-decommissioning in 2015.

The Phase II Environmental Site Investigation Report (dated April 2015, reference RUK22-21295_01) is presented in Annex C.

9 Statement of Site Condition

Decommissioning of buildings, plant and infrastructure associated with the power station commenced in 2013 and was completed in 2015. All above ground structures have been removed to ground level. Sub-surface voids were cleaned and infilled with clean imported crushed material.

Soil samples recovered as part of ENVIRONs ground investigation (March 2015) did not identify concentrations that exceed those detected previously in 1990 study or exceeded the current industrial GAC.

The conceptual site model and risk assessment identified a low risk to human health from concentrations detected in soil on-site; no deterioration in soil conditions was identified as a result of the operational activities of Teesside Power Station.

The conceptual site model and risk assessment identified a low risk to controlled waters receptors. Concentrations detected in 2015 did not exceed the concentrations obtained during the operational phase of the power station; no deterioration in the condition of controlled waters conditions was identified as a result of the operational activities of Teesside Power Station.

Annex C: Ground Investigation Report (April 2015)

Phase II Environmental Site Assessment

Teesside Power Station,
Greystone Road,
Middlesbrough,
TS6 8JF

Prepared for:
GDF Suez Ltd

Prepared by:
ENVIRON
Manchester, UK

Date:
April 2015

Project Number:
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Contract No:	UK22-21295
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Date:	April 2015

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A - C	Draft for Internal Review	29.04.15	JPC	KW
01	First Issue for Comment	30.04.15	JPC	KW

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1 Introduction

1.1 Background

ENVIRON was instructed by GDF Suez Ltd (the “Client”) to undertake a Phase II Environmental Site Assessment at Teesside Power Station, Greystone Road, Middlesbrough, TS6 8JF (‘The Site’). The location of the facility is presented in Figure 1 of Annex A. This report presents a summary of the findings of the assessment.

The site investigation was required in support of surrender of the facility’s environmental permit and return of the lease to the landowner SembCorp, prior to site exit.

This report follows a Phase I Environmental Site Assessment Report (reference RUK22-19783_01) prepared by ENVIRON in August 2014 which identified the potential for soil and groundwater contamination to be present associated with the use and storage of oils and chemicals on-site during the operation of the Power Station.

1.2 Objectives

The Phase II investigation was undertaken to satisfy two requirements:

a) ‘Requirements for the surrender of the site operating permit under the Environmental Permitting Regulations (EPR); specifically the future requirement for decommissioning, decontamination and disposal evidence to be submitted to the Environment Agency.’

b) ‘Requirements of the conditions for the surrender of the lease,’

The objectives were

- the Phase II Investigation aimed to establish, in the first instance, the nature and extent of ground contamination, if present, on the site at the point where decommissioning was predominantly complete and no further activities are to occur on the site; and
- a secondary objective was to provide a comparison with previous soil and groundwater data to assess if contamination has been caused as a result of Teesside Power Station’s activities.

The terms of the agreement are outlined in ENVIRON’s proposals, reference JPC/KW/LUKP22-19584-01 (soils) and JPC/KW/LUKP22-19584-03 (groundwater), both dated 5th February 2015, and subsequently agreed with the Environment Agency at a site meeting on 25th February 2015.

1.3 Scope of Works

The following scope of works was commenced in March 2015:

- production of a health and safety plan by ENVIRON, including a description of risks related to investigation activities and preventative measures to be taken;
- an underground utility check, undertaken by a specialist contractor, to determine the location of underground services at the facility prior to intrusive work commencing. Utility plans were obtained from site and local utility companies;

- the soil investigation comprised drilling of up to thirteen (13) boreholes by window sampling methods to a maximum depth of 3.0m bgl to assess soil conditions on-site and backfilled upon completion;
- the groundwater investigation comprised drilling of up to six (6) boreholes by window sampling methods to a maximum depth of 5.0m bgl, all of which will be installed as groundwater monitoring wells to a maximum depth of 5.0m bgl to assess groundwater conditions on-site;
- on-site screening of soil samples for volatile organic compounds (VOCs) using a photo-ionisation detector (PID);
- on-site logging of ground conditions including soil structure, visual / olfactory evidence of contamination (if present);
- a select number of soil samples (approximately twenty eight (28)) soil samples were obtained, primarily from soil borings or if field evidence of contamination was identified in groundwater borings. Samples were submitted to an independent MCERTS accredited laboratory for chemical analysis for a comprehensive range of determinands associated with former activities on-site;
- groundwater monitoring of the seven (7) existing wells and seven (7) newly installed wells. Newly installed wells were purged and developed prior to sampling. Existing wells were purged prior to sampling. Samples were extracted using a dedicated bailer; and
- a total of fourteen (14) groundwater samples were submitted to an independent MCERTS accredited laboratory for chemical analysis for a range of wide range of determinands; and
- the production of an interpretative report, to include comparison of the analytical results with Generic Assessment Criteria derived in accordance with UK guidance on risk assessment, a qualitative source-pathway-receptor risk assessment (based on a continued use of the site in its current configuration) and production of a conceptual site model.

Field activities and an assessment of laboratory results were undertaken in broad accordance with guidance documents, including but not limited to:-

- BS5930+A2:2010 Code of practice for site investigations;
- CLR11 Model Procedures for the Management of Land Contamination
- BS 10175:2013 Investigation of Potentially Contaminated Sites - Code of Practice.

1.4 Limitations

This Phase II ESA report has been prepared exclusively for use by GDF Suez Ltd.

The interpretation of the geological and environmental conditions at the subject site is based on an extrapolation of targeted point-source information using geological experience. There is a degree of subjectivity in any interpretation. In addition, certain indicators of the presence of contamination may not have been apparent at the time of the site investigation and may become apparent under different site conditions.

1.5 Report Layout

The report is structured in the following way:

Section 1:	describes the background to the report and sets out the objectives of the investigation;
Section 2:	describes the current site layout and summarises information from the Phase I Assessment;
Section 3:	introduces a preliminary conceptual site model for the site, which has been used in designing the investigation strategy and sets out the sampling and analysis rationale;
Section 4:	describes the site investigation strategy and findings of the investigation, including the ground and groundwater conditions and summarises field evidence of contamination;
Section 5:	summarises the laboratory chemical analysis results for soils and screens the data against risk based generic assessment criteria (GAC) for human health devised by ENVIRON. A comparison with previous soil data is also undertaken;
Section 6:	summarises the laboratory chemical analysis results for groundwater and screens the data against environmental quality standards in the first instance and drinking water standards secondarily. Groundwater results are compared with previous monitoring data;
Section 7:	presents the revised conceptual site model, updated using information obtained during the investigation and sets out a qualitative source-pathway-receptor risk assessment; and
Section 8:	presents the summary and conclusions of the investigation.

2 Site Description

2.1 Site Setting

The site is located in the north east of England, approximately 6.5 km east of Middlesbrough Town Centre and approximately 6 km inland to the south west of the North Sea coast, at National Grid Reference 456500, 520380, shown in Figure 1, Annex A.

The site is approximately rectangular in shape, with a total site area of approximately 15 hectares. The permit boundary which forms the focus of this investigation is shown in Figure 2 of Annex A. The site is accessed from Greystone Road (A1053) to the south-west of site via an access road.

A Closed Cycle Gas Turbine (CCGT) combined heat and power plant was operated on site generating electricity and steam from the early 1990s. Decommissioning of buildings, plant and infrastructure associated with the power station commenced in 2013. At the time of the investigation, decommissioning of the Power Station itself was complete. All above ground structures had been removed to ground level. There is plant and equipment currently undergoing decommissioning (for example the naphtha pipeline) but these are located external to the installation boundary and are not covered by this report.

The site currently comprises a surface of concrete in the location of former structures and buildings, concrete road ways and a surface of gravel in locations that had been backfilled with graded site-won crush (such as voids, pits and sumps), or originally comprised gravel.

Approximately 60-70% of the site surface within the permit boundary comprises concrete, and the remainder comprises gravel (approximately 30-35%) with soft landscaping at the site peripheries (less than 5%).

There are two electricity sub-stations owned by National Grid; Greystone A and Greystone B, located within the site boundary (in the south east and south west of site, respectively). The sub-stations are owned and maintained by National Grid, and the land on which they are situated is leased from Sembcorp by National Grid. The two sub-stations are to be retained by National Grid.

Land in the vicinity of the site generally declines towards the north and north-east, in the direction of the River Tees. In the wider area (i.e. further than 2 km), land declines to the east in the direction of the Tees Estuary and the North Sea Coast line. The site is located at an elevation of approximately 19m above Ordnance Datum (AOD).

Surrounding Area

The site is located at the south of the Wilton International, a multi-occupancy industrial processing and manufacturing complex, previously owned by ICI since the 1950s. Immediately north of the site is a strip of land occupied by an electricity sub-station and above ground electric and naphtha cables, beyond which (approximately 80m north) is a vacant plot of land formerly occupied by ICI Nylon Works.

To the east is a bioethanol refinery occupied by Ensus. To the south is undeveloped agricultural land and to the west is Kettle Beck (which runs north to south), embankments and Greystone Road, beyond which (approximately 190m west) is undeveloped agricultural land.

The nearest residential properties are located approximately 500m south and 550m west.

2.2 Site Operations

Teesside Power Station operated under an Integrated Pollution Prevention and Control Permit, the latest version of which is dated 7th April 2014 and referenced EPR/TP3935XX/V003. It is anticipated that TPS will surrender the permit upon demolition of the Power Station and surrender the lease by 31st July 2015.

2.3 Operational Documentation

Relevant operational documentation provided to ENVIRON for review comprised:

- a Site Protection and Monitoring Plan was prepared by PX Ltd (former site owners) in February 2007 to satisfy the conditions of the permit;
- an update to the SPMP (dated 4th November 2011, reference TPS/ENV/012); and
- a Site Closure Plan (dated dated 1st June 2007 and updated version issued 30th September, reference 2013TPS-ENV-013), both prepared by GDF Suez.

According to the above documentation, biannual groundwater monitoring of the seven (7) existing groundwater monitoring wells on-site (BH01 to BH07) was undertaken between 1997 and 2013 as a requirement of the Environmental Permit. The seven (7) existing monitoring are distributed at the site periphery, the locations of which are shown in Figure 2 of Annex A.

ENVIRON has been provided with reference data obtained during the operational phase of the power station. This comprises summary data (i.e. maximum, average and minimum concentrations) from up to 16 sampling visits dating from 16th October 1997 to 19th October 2005, and laboratory certificates from samples tested on up to ten sampling visits dating from 2006 to 2013; dated 23/05/2006, 22/11/2006, 16/07/2007, 20/12/2007, 10/04/2008, 10/12/2008, 23/04/2009, 23/11/2009, 17/05/2010 and 15/04/2013. Not all boreholes were tested on all occasions.

Analytical testing comprised metals (arsenic, cadmium, chromium, copper, lead, nickel, mercury, zinc), sulphide, chloride, sulphate, total cyanide, monohydric phenols, cyclohexane extractable matter, toluene extractable matter, Diesel Range Organics (DROs) and ammonia. Volatile organic compounds and semi-volatile organic compounds were not included as part of the suite.

Groundwater concentration 'limits' for the above determinands were provided within Annex E of the Site Protection and Monitoring Programme for Teesside Power Station dated February 2007. The context or the source of the 'limits' is not discussed within the report. According to correspondence with the EA, the limits are applicable to the groundwater analytical results from monitoring of the seven (7) existing boreholes on site and were required to satisfy the Environmental Permit. EA correspondence entitled Compliance assessment report (CAR1) form dated 6th March 2007, reference WP3133LP/CHW7, indicates that the February 2007 SPMP report was updated. ENVIRON has not been provided with a copy of the updated report.

2.4 Summary of Previous Reports

A summary of reports relevant to this Phase II Environmental Site Assessment is provided below.

2.4.1 ENVIRON Reports

ENVIRON Phase I Environmental Site Assessment Report for Teesside Power Station, reference UK22-19783 dated August 2014.

The findings of ENVIRON's Phase I Report identified a potential risk to land and groundwater from activities undertaken on the site. Notable volumes of oil and chemicals have been stored and used within the power station. Pollution prevention measures, including the management and control of oil and chemicals appear to have been implemented and well documented, based on information provided to ENVIRON by the site, however, spillages and uncontrolled releases are known to have occurred. There is the potential for uncontrolled releases to the environment to continue to occur during the decommissioning phase. Groundwater monitoring results from seven (7) groundwater monitoring wells on-site in peripheral areas, generally on an annual basis, between 1997 and 2013 identified slightly elevated levels of metals and petroleum hydrocarbons in the shallow groundwater.

The majority of site is located on superficial deposits of Till with the north-west of site situated on Glaciolacustrine Deposits, both classified as Unproductive Strata, overlying a Secondary B Aquifer present within the solid geology of the Redcar Mudstone. The nearest surface water feature, Kettle Beck, is located immediately adjacent to the western site boundary. There are no sensitive surface or groundwater abstractions within 2km of the site.

Previous groundwater monitoring identified moderate concentrations of total petroleum hydrocarbons and metals in groundwater, the source of which may have been associated with the use of the site as a Power Station. Groundwater levels ranged from 0.55m below ground level (bgl) in the south-east to 1.9m bgl in the north-west of site. Documentation provided by the site and reviewed by ENVIRON indicates that potential uncontrolled releases to soil and groundwater may have occurred during the operational stage, including drainage or spill events. A Phase II Intrusive Investigation was recommended.

2.4.2 Third Party Reports

Examination of Potential Ground Contamination at Proposed Enron Site, Teesside, Cremer and Warner, dated 23rd July 1990, reference 90154).

The report provided details of a preliminary ground contamination study for the proposed power station at Wilton to firstly identify potential contamination that may affect the proposed development and secondly to provide a baseline study for future comparison during the lifecycle of the power station. The investigation comprised five trial pits to 2.0m bgl, with 20 soil samples obtained from pits, and 43 surface samples obtained from across the site.

Soil samples were primarily analysed for compounds associated with air emissions (dioxins, furans, metals), chemical spills (dichloromethane extract as an assessment for organic compounds), or application of contaminated sewage sludge to land (PCBs and metals).

Soil analytical results were compared with guideline values issued by ICRCL threshold concentrations for domestic gardens and allotments (the most sensitive end use), and open spaces, and HMIP values, where available, both are now superseded.

Metal concentrations in shallow soils generally did not exceed ICRCL trigger concentrations for an open space end-use, with the exception of zinc, copper and nickel, which were slightly elevated in up to three locations in the north west of site[1]; the maximum concentrations were as follows: 3,200 mg/kg of zinc, 430 mg/kg of copper and 95 mg/kg of nickel. Lead was slightly elevated in the north west of site, above concentrations detected across the remainder of the site with a maximum concentration of 710 mg/kg, however this did not exceed the ICRCL trigger value for open space. An open space end-use was recognised as a less sensitive end use to industrial, for which no ICRCL values were available. The remainder of metals (selenium, mercury, hexavalent chromium) did not exceed ICRCL trigger values for domestic gardens and allotments, while arsenic exceeded the ICRCL for domestic gardens and allotments but not for open spaces, with a maximum concentration of 26 mg/kg in the centre / north-west of site. When compared to current ENVIRON GACs for a commercial / industrial end use, no concentrations were exceed. Phenols and PCBs were below instrument limits of detection.

Concentrations of dioxins and furans in the soil were compared with published UK mean concentrations, and were found to be elevated, however the levels identified on-site were not considered to be unexpected given the urban and industrial setting of the site. Levels were attributed to the possible application of sewage sludge and pesticides from agriculture or atmospheric deposition from neighbouring industry.

The dichloromethane extract analysis identified slightly elevated concentrations (i.e. above the general spread of concentrations across the site) of hydrocarbon compounds within the soil at two locations in the north west of site; at concentrations of 1,013 mg/kg and 2,233 mg/kg. The elevated concentrations were not deemed significant for a commercial / industrial end-use and it was considered possible that the results are partly due to the presence of natural ‘organic’ compounds.

It was concluded that the elevated metal concentrations (zinc, copper and nickel) may pose a phytotoxic risk if vegetation is planted in the north west of the site, however the concentrations of contaminants detected were not considered to be a human health risk and should not ‘prevent the development of the site as proposed’.

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[1] The exact location of the sampling points in which elevated metals were detected is unclear but overlaying a plan provided with the Cremer and Warner report (1990) with the current site layout indicates that the elevated metals were detected on-site, in the north-west.

3 Preliminary Conceptual Site Model

The following preliminary conceptual site model (PCSM) was prepared as part of ENVIRON's Phase I Environmental Site Assessment Report (reference RUK22-19783_01) in August 2014, and has been updated to reflect changes that have occurred between August 2014 and the date of this report. The PCSM has been used to undertake an initial Qualitative Risk Assessment and identify potential pollutant linkages at the site, in the context of continuation of the site in its current configuration (i.e. a decommissioned power station currently a vacant plot of land).

The preliminary conceptual site model is a simplified representation of the environmental conditions at the site, and in the vicinity, and is used to initially identify potentially sensitive receptors and potential pollutant linkages. Information obtained during the environmental site investigation, described in the following sections of this report, is then used to refine and update this preliminary conceptual model.

Table 3.1: Preliminary Conceptual Site Model

Site Description

The site was predominantly undeveloped agricultural land with drains until c. 1993 when Teesside Power Station (TPS) was constructed.

The site operated as a combined heat and gas power station until 2013/2014 when decommissioning commenced, completed in March 2015.

The site is currently vacant open land, with approximately 60-70% surface cover of hardstanding (concrete and tarmac access roads and parking areas) and the remainder gravel or unsurfaced ground.

Two electricity sub-stations have been retained within the site boundary ('Greystone A' and 'Greystone B') which are owned and maintained by National Grid. The land on which the sub-stations are situated is also tenanted by National Grid, and is not the responsibility of GDF Suez. Maintenance engineers must cross land occupied by the former power station to access the sub-stations.

Surrounding Area Description

Teesside Power Station is in a mixed setting; the immediate surrounding areas to the north and east is occupied by industry relating to the former ICI Wilton Site dating from the late 1950s, which remains as a multi-occupancy chemical manufacturing site at present. To the south and west is agricultural land, beyond which are residential properties, approximately 500m south and 550m west.

The former ICI Wilton Chemical Works was located immediately north and east from the 1950s, subsequently becoming a multi-occupancy chemical manufacturing site from the 1990s. Industry within 250m of the site included ICI / Dupont Nylon Works c. 30m north of TPS (closed in late 2000s), and more recently, Ensus bioethanol plant immediately east of the site (constructed c. mid to late 2000s), prior to which was agricultural land. Allotments are located 450m south west and residential properties from 500m south and 550m west.

Geology and Hydrogeology

The site is considered to be situated in an area of low to moderate sensitivity with respect to groundwater resources. The site is underlain by Unproductive Strata relating to the superficial deposits of Till (across the majority of the site) and Glaciolacustrine Deposits (in the north-west of site), which in turn is underlain by a Secondary B Aquifer represented by the solid geology of Redcar Mudstone. Superficial deposits have been identified locally as at least 11m in thickness (although, not directly beneath the site). Groundwater flow is anticipated to be towards the north based on average resting groundwater levels detected in the seven (7) monitoring wells on-site, and based on the topography of the site and surrounding land.

The groundwater beneath the site is classified as having ‘good’ quantitative status and ‘poor’ chemical status by the EA under the Water Framework Directive, considered likely to relate to the Secondary B Aquifer. Neither classification is anticipated to change in 2015.

The site is not located within a designated Source Protection Zone. There are no groundwater abstraction licenses within 2km of site.

The site is located within an area designated by the EA as having a low chance of flooding. There are no ecological designations within 2km of site. The nearest sensitive end-use is agricultural land to the south and allotments located 450m south.

Hydrology

The site is considered to be in an area of moderate vulnerability with respect to surface water resources due to the presence of the Kettle Beck located immediately off-site to the west, and the presence of a partially culverted unnamed drain running through the south of site from east to west, which discharges into the Kettle Beck.

A partially culverted unnamed secondary river, which appears to be a tributary of the Kettle Beck, is located approximately 20m north of the site at its closest point, and flows east to west into the Kettle Beck. Further sections of drainage are located to the east of site from c.60m, however the sections do not appear to be part of the wider drainage network.

The Kettle Beck appears to be connected to the Kinkerdale Beck at a point 500m north. The Kinkerdale Beck then flows in a north-easterly direction, towards the River Tees.

There are no licensed surface water abstractions within 2km of the site. The water quality of the Kettle Beck has not been classified by the Environment Agency and the Kettle Beck flows downgradient (i.e. north) through land used for predominantly industrial purposes.

Flooding and Ecological Designations

The site is located within an area designated by the EA as a Flood Zone 1 (low probability). This zone comprises land assessed as having a less than 1 in 1000 annual probability of river or sea flooding (<0.1% in any year). There are no ecological designations within 2km of site. The nearest sensitive end-use is agricultural land to the south and allotments located 450m south.

Potential Contaminant Sources Identified in the Phase I Report

The Site

Historical Contamination

Intrusive Investigation prior to the construction of the Power Station (Cremer and Warner, 1990) identified relatively minor ground contamination in the north western corner of site. Slightly elevated concentrations identified comprised metals (zinc, copper and nickel), dioxins and furans, which according to the report may have originated from the former application of sewage sludge, pesticides from agriculture or atmospheric deposits, and organic matter, identified by dichloromethane extraction which the report concluded may have been attributable to natural organic content of the ground.

Contamination from Current Use

Notable volumes of oils and chemicals have been stored and used on-site for the current use as a gas turbine (GT) combined heat and power plant. Potential contaminants include the following;

- Chemicals for use in cooling and boiler water treatment, including solvent based cleaners, acids such as sulphuric acid, inorganic compounds such as hydrazine.
- Petroleum hydrocarbons used in plant maintenance and operations, including lubricating oil, control oil, starter oil. Transformer oil used in the transformers on-site. Back-up fuel of naphtha is transferred via pipeline to the plant. Diesel is brought on site in tanks of sub-contractor fleet vehicles, and small-scale refuelling activities are undertaken on-site.
- Waste oil collected in oily water sumps and the oil tank as part of the separator.

The site maintained an ISO14001 Environmental Quality System, and control measures to prevent the release of contaminants to the environment appeared to be operational, for example, tanks were bunded, the site maintained separators and interceptors and waste sumps and drainage have been inspected. Records of environmental incidents from 2001 until 2012 have been presented to ENVIRON for review; there have been instances where uncontrolled releases may have discharged to the land.

Previous groundwater monitoring has identified moderate concentrations of total petroleum hydrocarbons and metals in groundwater, the source of which may have been current activities on-site. Documentation provided by the site and reviewed by ENVIRON indicates that potential uncontrolled releases may have occurred, including from drainage or spill events.

The Surrounding Area

Historical Contamination

The former ICI Wilton Chemical Works was located immediately north and east from the 1950s, subsequently becoming a multi-occupancy chemical manufacturing site from the 1990s. Industry within 250m of the site included ICI / Dupont Nylon Works c. 30m north of TPS (closed in late 2000s), and Ensus bioethanol plant immediately east of the site (constructed c. mid to late 2000s), prior to which was agricultural land.

Potential contaminants from industrial activities in the surrounding area may include various organic chemicals, such as alcohols, polymers, amines, or fuels and oils used in maintenance and operation of plant, inorganic chemicals such as chromic acid during the production of nylon intermediates, polymers and polyethylene terephthalate (PET) resin.

There is the potential for ground gas generation was identified in the Phase I report from the two (2) former landfills within 250m of site, located approximately 70m south and 120m west, both named Wilton Perimeter Mounds, comprising industrial waste landfills; the license holder for both was Imperial (ICI) Chemicals and Polymers Ltd. No details of deposited waste, dates or information regarding capping, monitoring or gas mitigation measures are provided. No further assessment of ground gas will be undertaken in the 2015 investigation as there are no on-site receptors based on a continued use of the site in its current configuration. The requirement for ground gas monitoring should be reassessed in the event of redevelopment.

Potential Pathways

The following potential pathways for exposure to and migration of contaminants may be present in the context of a continued use of the site in its current configuration (i.e. as a vacant plot of land).

- Direct contact and ingestion of potentially contaminated soils by construction workers during redevelopment and / or future site users in landscaped areas;

- Outdoor inhalation of soil particulates during redevelopment and for a future industrial use;
- Ingestion and direct contact with potentially contaminated groundwater;
- Migration of contaminants into potable water pipes;
- Migration of contaminants via preferentially permeable sub-surface structures such as drainage runs, sumps;
- Vertical migration of potential contaminants in soil impacting groundwater underlying the site (Controlled Water);
- Inhalation of vapours from concentrations in the soil and / or groundwater; and
- Off-site migration of contaminants in groundwater.

Potential Receptors

The following potential receptors to contamination have been identified at the site:

- Site users (including visitors, and maintenance workers who are required to cross the site to access the two electricity substations present within the site boundary but not on land tenanted by GDF Suez);
- Groundwater underlying the site present in the superficial deposits (gravel and sand lenses in the Till and Glaciolacustrine Deposits), classified as Unproductive Strata (Controlled Waters);
- Groundwater underlying the site present in the solid geology of Redcar Mudstone, classified as a Secondary B Aquifer (Controlled Waters);
- Nearest surface water course, the Kettle Beck (Controlled Waters), located immediately off-site to the west;
- Off-site property (neighbouring buildings (including the two sub-stations), structures and services).

3.1 Preliminary Qualitative Risk Assessment

Following the development of the PCSM a qualitative risk assessment has been undertaken, presented in Table 3.2 below. This provides a simple representation of the hypothesised relationships between potential contamination sources, potential pathways for the movement of such contamination (if present) and potential receptors which could be adversely affected. This allows the identification of potential pollutant linkages and, therefore, an interpretation of the potential for significant harm and/or pollution of controlled waters in relation to the site.

Table 3.2: Preliminary Source-Pathway-Receptor Risk Assessment

Source	***Pathway*[2]**	***Receptor*[3]**	**Risk of Contaminant Linkage[4]**
Potential sources of contamination relating to historic use of site as agricultural land, and from the operation and decommissioning of Teesside Power Station from the early 1990s to 2015.	Direct contact with contaminated soils, inhalation of soil and dust and ingestion of soil.	Site visitors and maintenance workers	*Low to Moderate*. Previous intrusive investigation prior to construction of the power station identified low to modest levels of contamination, considered unlikely to pose a risk to human health for an industrial use of the site. Potential for soil contamination associated with the operation and decommissioning of Teesside Power Station identified.
	Direct contact with contaminated groundwater	Site visitors and maintenance workers	*Low to Moderate.* Potential for groundwater contamination identified, however previous monitoring undertaken during the operational phase of Teesside Power Station identified groundwater resting levels generally below 1.0m with the exception of in the south of site (0.8m bgl in MW6).
	Leaching to Groundwater & Groundwater Flow.	Groundwater present within lenses / bands of gravel and sand within the superficial deposits of Till.	*Low - Moderate*. Potential for contamination identified during operational and decommissioning phases. Moderate metal and TPH concentrations have been detected in shallow groundwater. However, groundwater present in superficial deposits is likely to be perched and discontinuous and the site is situated in an area of poor chemical groundwater quality.
		Groundwater (Secondary B Aquifer) in the solid geology of Redcar Mudstone Formation	*Low to Moderate*. Potential for contamination identified. Moderate metal and TPH concentrations have been detected in shallow groundwater. The presence of underlying low permeability deposits of clay is likely to limit downward migration of contaminants. There

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[2] Pathway: mechanism or route by which a contaminant comes into contact with, or otherwise effects, a receptor.

[3] Receptor: persons, living organisms, ecological systems and controlled waters that could be adversely affected by the contaminants.

[4] Risk: probability of the occurrence of, and magnitude or the consequences of, an unwanted adverse effect on a receptor.

Table 3.2: Preliminary Source-Pathway-Receptor Risk Assessment

Source	***Pathway*[2]**	***Receptor*[3]**	**Risk of Contaminant Linkage[4]**
			are no groundwater abstraction licenses within 2km of site. The site is situated in an area of poor chemical groundwater quality.
	Surface water run-off.	Surface water as controlled water (Kettle Beck located c.30m west of site).	*Low to Moderate*. Potential for contamination identified during operation and decommissioning. The majority of the site comprises a hardstanding surface, therefore potential for releases to unsurfaced ground are limited.
	Migration via drainage pipes		*Low to Moderate*. Potential for contamination identified.
	Migration via groundwater present in the superficial deposits.		*Low - Moderate*. Potential for contamination identified during operation and decommissioning. Modest contamination by metals and TPH has been identified in shallow groundwater. Groundwater is likely to be perched and discontinuous in nature; however, given close proximity to Kettle Beck a pathway is viable.
Potential current and historical off-site contamination sources in the vicinity of the site	Leaching onto site in Groundwater & Groundwater Flow.	Groundwater present within lenses / bands of gravel and sand within the superficial deposits of Till.	*Low to Moderate*: Potential contamination sources from off-site activities to the north and east identified. Shallow groundwater is likely to be perched and discontinuous, and groundwater flow direction likely to be away from site (i.e. to the north).
		Groundwater (Secondary B Aquifer) in the solid geology of Redcar Mudstone Formation	*Low to Moderate*. Potential contamination sources from off-site activities to the north and east identified. Groundwater flow direction likely to be away from site (i.e. to the north).
	Volatilisation	Human health via volatilisation pathway and accumulation in off-site buildings	*Low*. If contaminants are present in groundwater on-site and have the potential to migrate to neighbouring buildings (including the electricity sub-stations and the Ensus bioethanol plant) there is the potential for a complete pollutant linkage. However, both buildings are industrial in nature and are likely to have few confined spaces to allow for build-up of gases.

4 Site Investigation Strategy

4.1 Site Investigation Works

The intrusive site investigation was undertaken between the 10th and 13th of March 2015 and was supervised by Kate Whitworth and Richard Moakes of ENVIRON. One round of groundwater monitoring was undertaken on the 13th, 16th and 16th March 2015 which incorporated sampling of the seven existing monitoring wells (BH01 to BH07) and the seven wells installed by ENVIRON during this investigation (MW01 to MW07).

A summary of the scope of the investigation undertaken at the site is presented in Table 3.2 below. Exploratory locations are shown on Figure 2, Annex A. Borehole logs (including monitoring well details) are provided in Annex B.1.

Further details regarding the work undertaken are provided in the following subsections.

4.1.1 Service Tracing

Prior to intrusive works, a specialist service location contractor, RP Drilling Ltd (Doncaster) accompanied by ENVIRON site personnel, 'cleared' each proposed borehole location of underground services.

4.1.2 Sample Location Rational

Windowless sampling ('window sampling') techniques were selected as the most appropriate drilling technique, for reasons including practicality (due to a predominant site-wide surface of concrete), to undertake soil sampling for laboratory analysis to enable a comparison with the findings of the 1990 Cremer and Warner report, and to install groundwater monitoring wells for the groundwater assessment. The locations were agreed with the Environment Agency during at walk over of the site on 25th February 2015.

Where possible, window sample locations were attempted to be positioned on surfaces of gravel to target areas where a pathway may have been present for contaminants to enter the ground during the power station's operational phase, and also for ease of drilling. Monitoring well locations were generally positioned on concrete to ensure protection of the monitoring well from on-site plant during the final stages of decommissioning.

The rationale for positioning the sampling locations is described in Table 3.1 below. The locations have been designed to provide sufficient site-wide coverage to allow for a comparison with the findings of the 1990 Cremer and Warner investigation. The positions of each investigation location are shown in Figure 2, Annex A.

Table 3.1: Exploratory Hole Rationale

Exploratory Hole	Rationale	Proposed Depth (m bgl)	Depth Achieved (m bgl)
Window Sample Location (no monitoring well installation)			
WS01	General site coverage: to determine the soil conditions in the west of the site.	3.0m	3.0m
WS02	Targeting transformers and a previous incident (reference Inc03/24*): Overfilling of crane tank and spillage onto gravel surface dated 30/04/2003	3.0m	3.0m

Table 3.1: Exploratory Hole Rationale

Exploratory Hole	Rationale	Proposed Depth (m bgl)	Depth Achieved (m bgl)
WS03, WS04	To determine soil in the south-east of the site in the vicinity of the mock freight railway fire training area.	3.0m	3.0m
WS05	General site coverage: to determine the soil conditions on the northern site boundary	3.0m	3.0m
WS06	Targeting a former above ground oil store	3.0m	1.7 (refused on obstruction)
WS07	Targeting transformers and for general site coverage in the north of site	3.0m	3.0m
WS08	Targeting transformers, lube oil cooler and for general site coverage: to determine the soil conditions in the centre of the site.	3.0m	0.7m (refused on obstruction)
WS09	General site coverage: to determine the soil conditions in the north of the site.	3.0m	3.0m
WS10	Targeting a former waste oil storage area	3.0m	3.0m
WS11	Approximately targeting the petrol interceptors	3.0m	0.8m (refused on obstruction)
WS12	Targeting a previous incident (reference PxInc-98*) where oil was found in effluent recovery excavation pit dated 07/03/2006	3.0m	3.0m
Monitoring Well Locations			
MW01	General site coverage: to determine the groundwater conditions in the west of the site.	5.0m	5.0m
MW02	General site coverage: to determine the groundwater conditions in the centre west of the site and to target oily water sump.	5.0m	5.0m
MW03	General site coverage: to determine the groundwater conditions in the centre south of the site and to target oily water sump.	5.0m	5.0m
MW04	Targeting a previous incident where a leak of the sulphuric acid tank resulted in contents (17 m^3) being lost to the bund. Product was contained within the bund; however acid may have caused possible loss of bund integrity and damage to equipment due to the acid. Incident dated 19th December 2012.	5.0m	2.2m (refused on obstruction)
MW05	Targeting oily water separators, waste oil collection tank and a previous incident (reference INC02/02*) where oil overflowed from a drain dated 31/12/2001	5.0m	5.0m
MW06	Targeting former waste skip storage area and transformers	5.0m	5.0m

Table 3.1: Exploratory Hole Rationale

Exploratory Hole	Rationale	Proposed Depth (m bgl)	Depth Achieved (m bgl)
MW07	General site coverage: to determine the groundwater conditions in the east of the site	5.0m	5.0m

Notes

*References refer to Environmental Incidents Investigation Reports, Teesside Power Station SHE Management System, dated between 2001 and 2012, as reported in ENVIRON's Phase I Report (reference RUK22-19783 dated August 2014).

4.1.3 Intrusive Investigation Works

A window sampling 'Competitor' rig was used to advance nineteen (19) window sample boreholes, of which twelve (12) (WS1 – WS12) were drilled to a maximum depth of 3.0 metres below ground level and backfilled with arisings upon completion, and the remaining seven (7) were drilled to a maximum depth of five (5) m bgl and installed as groundwater monitoring wells (MW01-MW07).

Three (3) of the window sample locations were not progressed to the proposed depth of 3.0m bgl due to obstructions in the ground. In all instances, the boreholes were relocated twice within a marked zone which had been 'cleared' of services. WS06 refused at 1.7m bgl, WS08 refused at 0.8m bgl and WS11 refused at 0.8m bgl.

One (1) of the monitoring well locations (MW04) was not progressed to its proposed depth of 5.0m bgl due to an obstruction at 2.2m bgl. The borehole was relocated twice within the cleared area, but the second and third attempts refused at the same depth. A shallow well was installed to 2.0m bgl, but it was considered unlikely to yield water as the arisings were noted to be dry during drilling.

MW04 could not be progressed to its proposed depth of 5.0m bgl, therefore the closest window sample location (not originally intended to be installed as a monitoring well) was installed to 5.0m bgl (MW07) to ensure a groundwater sample could be obtained from the centre west of site.

The wells comprised a 50mm diameter HDPE access tube, slotted (screened) to target groundwater present within the superficial deposits and surrounded by a granular filter. The well casing was sealed with bentonite and capped with a flush well cover.

The well designs are detailed within the borehole logs presented in Annex B.1.

4.1.4 Soil Sampling

During the site investigation, samples recovered from each exploratory hole location, examined visually and logged in accordance with BS 5930+A2:2010.

Samples were collected in accordance with BS10175:2011 and were stored within appropriate sample containers and forwarded to an independent ENVIRON approved MCERTS accredited analytical laboratory (SAL Ltd, Manchester). A total of thirty three (33) soil samples were obtained, of which twenty four (24) were obtained from window sample locations and nine (9) were from monitoring well locations. Up to two soil samples from each sampling location were submitted for selected laboratory analysis. Selected soil samples were analysed for a predetermined suite of contaminants (Section 3.5), designed to be reflective of the site's previous uses.

A set of subsamples were also screened by dynamic headspace analysis for the presence of volatile organic compounds (VOCs) using a photo-ionisation detector (PID), calibrated in accordance with ENVIRON's Quality Management procedures. Each soil sample tested was placed into a sealed plastic bag and agitated. The PID was then inserted into the headspace and the total VOC reading recorded. The PID screens for a wide range of VOCs but does not indicate a specific compound; therefore, the results of the PID screening provide a semi-quantitative indication of the concentration of VOCs present in soil pore spaces. The results summary of the 'headspace' testing is presented within the borehole logs and discussed in Section 4.3.

4.2 Sample Collection

4.2.1 Soil Samples

Samples were obtained from each location, examined visually and logged in accordance with BS 5930+A2:2010. Samples were obtained from a range of strata (including Made Ground and superficial deposits) to reflect the ground conditions encountered, summarised in Section 4.6.

Selected samples were placed in containers supplied by the laboratory appropriate to the type of analysis being undertaken and stored in cool boxes with ice packs. All samples were dispatched accompanied by chain of custody documentation to SAL (Scientific Analytic Laboratory) Ltd, Manchester.

Selected soil samples were tested on-site for the presence of volatile organic compounds (VOCs) using a photo-ionisation detector (PID), calibrated in accordance with ENVIRON's Quality Management procedures. Each soil sample tested was placed into a sealed plastic bag and agitated. The PID was then inserted into the headspace and the total VOC reading recorded. The PID screens for a wide range of VOCs but does not indicate a specific compound; therefore, the results of the PID screening provide a semi-quantitative indication of the concentration of VOCs present in soil pore spaces. The results of the PID screening are discussed in Section 4.7.

4.2.2 Groundwater Samples

A groundwater monitoring visit was undertaken on 13th March 2015 and sampling was undertaken on 16th March 2015 for the majority of sample. Three (3) wells (MW02, MW04 and MW05) were found to be dry or contain an insufficient volume of water for sampling during the first sampling visit on 16th March, therefore the site was revisited on 26th March 2015 to obtain samples from these wells. The depth to water and the base of the well were monitored in all fourteen (14) monitoring wells using a dual phase oil-water interface probe, which tested for the potential presence of free phase hydrocarbons.

The rate of recharge of water into the wells was variable. The majority of wells, both installed by ENVIRON and those existing, had a low yield which is typically expected of low permeability superficial deposits of clay encountered across the site. It was generally not possible to fully purge and develop prior to sampling due to the insufficient recharge rate of water. The exceptions were MW03 and BH06, both of which were fully developed and purged prior to sampling. In the majority of locations, the wells purged dry and were left to recharge after which a sample of groundwater was extracted. Where insufficient quantities of groundwater were encountered in wells, a 'grab' sample was obtained (i.e. no or little purging or developing was undertaken prior to sampling). 'Grab' samples were obtained from four (4) of the new wells (MW01, MW04, MW05 and MW07).

Samples were extracted from all 14 monitoring wells using a dedicated disposable bailer and stored in appropriate sample containers supplied by the laboratory, prior to being scheduled for analysis. The recovered samples were placed in containers supplied by the laboratory appropriate to the type of analysis being undertaken and stored in cool boxes with ice packs. All samples were dispatched accompanied by chain of custody documentation to a subcontracted and suitably accredited laboratory (SAL Ltd) for analysis.

All 14 samples were selected for analysis by Scientific Analytical Laboratory (SAL Ltd) based on chemicals used on-site, shown in Table 3.2 presented in Section 3.2.3 below.

4.2.3 Analytical Rational

Table 3.4 shows the analytical schedule for soil and groundwater samples together with the rationale for analysis.

Table 3.2: Analytical Strategy

Analytical Suite	Rationale	Number of soil samples submitted	Number of groundwater samples submitted
Metals: arsenic, cadmium, chromium, boron, barium, beryllium, mercury, copper, nickel, zinc and vanadium	Associated with some of the liquids previously used on site. Enables a comparison with the findings of the Cremer and Warner Report (dated 23rd July 1990, reference 90154)	27	13*
Total Petroleum Hydrocarbons Carbon Working Group (TPH CWG) including BTEX	Typically associated with fuels and oils. Enables a comparison with the findings of the Cremer and Warner Report (dated 23rd July 1990, reference 90154)	27	14
Polycyclic Aromatic Hydrocarbons (PAH) (USEPA 16)	Typically associated with fuels and oils.	27	14
Volatile Organic Compounds	Selected samples were analysed to detect for the presence of unforeseen contamination.	17	8
Semi-Volatile Organic Compounds	Selected samples were analysed to detect for the presence of unforeseen contamination.	17	8
Polychlorinated biphenyls (PCBs)	Associated with historic transformers. Enables a comparison with the findings of the Cremer and Warner Report (dated 23rd July 1990, reference 90154)	5	7
Total Organic Carbon (TOC)	Required to determine the natural ability of the soil to generate ground gas and is also	5	n/a

Table 3.2: Analytical Strategy

Analytical Suite	Rationale	Number of soil samples submitted	Number of groundwater samples submitted
	required if a detailed quantitative risk assessment is needed.		
pH	An abnormal pH may be an indicator of contamination	27	14
Asbestos screen and quantification (if required)	To confirm the presence or absence of asbestos in Made Ground samples	14	n/a

Notes

*MW04 was intended for a full metals analysis but there was insufficient volume of water to complete the analysis so only hexavalent chromium analysis was completed.

4.3 Data Quality Assurance

The laboratory selected to perform the analysis is accredited by UKAS to ISO 17025 and MCerts standards. Internal quality assurance checks are carried out by the laboratory data prior to the laboratory certificates being issued.

4.4 Waste Classification

Upon completion of the Phase II Investigation, waste arisings from drilling were stored in two dedicated 205 litre drums. In line with waste classification and disposal procedures, a sample was obtained from each drum for laboratory analysis for the following a range of contaminants:

- Metals: arsenic, cadmium, total chromium and hexavalent chromium, lead, nickel, selenium, mercury, copper, zinc, vanadium, molybdenum, iron, manganese, tin, barium and beryllium;
- sixteen speciated polyaromatic hydrocarbons, which includes benzo(a)pyrene to a lower detection limit of 0.1mg/kg;
- TPH CWG (including a laboratory interpretation of the chromatograms, with particular reference to whether the sample could contain petrol or diesel)
- monohydric phenol;
- pH;
- moisture content;
- total sulphate;
- total organic carbon (TOC); and
- loss on ignition (LOI).

The results were subject to waste classification using an online tool, HazWasteOnline. The arisings were found to be non-hazardous. ENVIRON's waste management sub-contractor, Acorn Waste Management, were provided with the relevant documentation for off-site disposal. Waste transfer notes will be retained by ENVIRON.

4.5 Site Investigation Findings

4.6 Ground Conditions Encountered

A detailed summary of the ground conditions encountered during the investigation works is provided in the appended borehole logs (Annex B.1), and are summarised below:

- **Surface**:

  A surface of concrete was present at 14 of the 19 locations, ranging in thickness from 0.12m (WS08) to 0.4m (WS09). At one (1) location (WS01) the surface comprised grass over clay to 0.3m bgl and at the remaining four (4) locations (WS02, WS03, WS10 and MW07), the surface comprised sandy gravel comprising varying proportions of ash, slag concrete, limestone and brick to depths ranging from 0.3m bgl (MW07 and WS10) to 0.7m bgl (WS03).

- **Made Ground**:

  Gravel: Underlying the surface at all locations to depths ranging from 0.4m (WS02) to 2.0m (MW03), sandy gravel (fill) was encountered with varying proportions of man-made fragments of ash, slag, brick and concrete.

  Reworked Clay: in all but three (3) locations (WS01, WS02 and WS07) a band of reworked slightly sandy gravelly clay was encountered beneath the gravel from 0.3m in MW07 and WS10 to a maximum depth of 2.0m in MW04. The clay comprised man-made fragments of brick, coal, ash and slag in addition to natural gravel of mudstone, limestone and sandstone. In MW01, man-made constituents were absent. In two locations (WS06 and WS09) there was an underlying band of reworked clay from depths ranging from 1.0m to 2.0m bgl that appeared to be reworked however the man-made constituents were absent.

  Silt: A narrow band of greenish brown silt considered to be possible relict topsoil was encountered in MW04 (2.0m – 2.2m), MW05 (1.15m to 1.4m) and WS12 (1.45m to 1.5m) above the Till.

- **Superficial Deposits**:

  Strata considered to represent Till according to BGS published geology was encountered at 15 of the 19 locations. The remaining four (4) locations (MW04, WS06, WS08, WS11) were terminated in Made Ground or possible Made Ground due to refusal on obstructions. The Till was encountered at depths ranging from 0.4m bgl (WS02) to 2.0m bgl (MW01) and comprised slightly sandy slightly gravelly Clay. Sand bands of up to 1.0m in thickness were encountered within the Till in MW02 and WS05. Till was proven to a maximum depth of 5.0m bgl in six (6) locations (MW01, MW02, MW03, MW05, MW06, MW07). The base of the Till was not encountered during the investigation.

The solid geology of the Redcar Mudstone Formation was not considered to be encountered during this investigation. The Glaciolacustrine Deposits depicted in the west and north-western corner of site are not considered to have been encountered during the investigation.

4.7 Visual and Olfactory Observations

Ash and slag were recorded in the Made Ground in all nineteen boreholes during the drilling investigation. No other visual or olfactory evidence of significant contamination was identified in the soil during drilling.

During groundwater monitoring, a stale odour was noted in MH3 during developing, purging and sampling. The water was observed to be dark brown in colour which differed from the general reddish brown colour of the groundwater generally encountered in wells on-site. A 'rapid' rate of groundwater recharge was noted in the well during sampling, which also differed from the conditions encountered in other wells on-site. The discolouration, odour and rapid recharge rate may be attributed to a nearby leaking drain; the foul, storm water and oily water drainage systems all operate in the vicinity of the monitoring well location.

Samples were analysed by the PID and head space readings were considered to be low (i.e. less than 10ppm). The highest reading was 3.4 ppm detected in WS11 at a depth of 0.6m to 0.8m bgl. This reading is considered to be low.

PID readings are presented in the borehole logs in Annex B.1, and in groundwater is presented in the groundwater monitoring field record in Annex B.2.

4.8 Groundwater

A distinct groundwater strike was encountered in two (2) of the nineteen (19) boreholes during drilling as follows:

- a strike was encountered between 2.0m and 3.0m bgl MW02 located in the centre / north-west of site, rests within the superficial deposits of Till comprising sand bands with clay; and
- two separate strikes were encountered in MW03 located in the centre / south-west of site. The strikes were encountered at depths of 1.6m, which rests within the base of the Made Ground comprising gravel and 4.6m, which rests within the superficial deposits of slightly sandy clay.

Water was present within voids surrounding gravel within the clay strata in MW05 at 4.0m to 5.0m in the superficial deposits. No groundwater strike was encountered in the remaining boreholes during drilling.

No logs are available from the installation of the seven (7) existing monitoring wells (BH01 to BH07) in 1997, therefore it is not clear if groundwater strikes were encountered during drilling, nor is the strata known in which the resting groundwater lies at these locations.

During the initial monitoring visit on 13th and16th March 2015, groundwater was encountered in four (4) of the seven (7) monitoring wells installed during the 2015 investigation (MW01, MW03, MW06 and MW07) and all seven (7) existing monitoring wells (BH01 to BH07). Three (3) newly installed wells were found to be dry or contained very little water not considered representative of groundwater on-site; MW02, MW04 and MW05, therefore they were left to recharge and a later monitoring visit was made on 26th March 2015. During this visit groundwater was encountered in all three (3) wells (MW02, MW04 and MW05).

The groundwater level was recorded in all monitoring wells[5], and ranged from 0.44m bgl in MW06 (15.78m AOD) to 4.12m bgl in MW05 (12.134m AOD). This is considered likely to represent perched groundwater present within the superficial deposits. There may be some continuity between groundwater, for example where sand was encountered but the differing groundwater elevations and absence of a distinct groundwater strike during drilling indicates that the groundwater is likely to be perched and discontinuous across the site. Solid geology of Redcar Mudstone was not encountered during the investigation and the groundwater

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[5] With the exception of BH02 due to restricted access, therefore groundwater elevation from a previous monitoring visit (13/03/15) was used.

encountered is not considered likely to represent the Secondary B Aquifer present within the solid geology.

According to a groundwater flow contour plot produced based on the groundwater levels detected during newly installed wells during the monitoring visit, perched groundwater is shown to predominantly flow towards the north of site, which is consistent with fall of the land and the direction of the River Tees. The groundwater in the north-west of site is shown to flow towards the west. Given the groundwater is perched there is likely to be localised differences in flow direction based on the topography in that particular area.

Groundwater levels recorded during monitoring are presented in Annex B.2. The groundwater contour plot is presented as Figure 3 of Annex A.

5 Soil Assessment

5.1 Generic Quantitative Risk (Screening) Assessment

This section is structured to provide a summary of the soil results and a comparison with existing data. The discussion of the laboratory analytical data set ‘screens’ samples with concentrations that exceed the laboratories detection limit. Samples containing concentrations less than these criteria are generally not discussed further.

5.2 Criteria For Interpretation of Results

5.2.1 Soil

Under Part 2A of the Environmental Protection Act 1990 Section 78A(2), “contaminated land” is defined as “land which appears… to be in such a condition, by reason of substances in, on or under the land, that –

a) significant harm is being caused or there is a significant possibility of such harm being caused; or

b) significant pollution of controlled waters is being caused or there is a significant possibility of such pollution being caused”[6] .

Revised statutory guidance (“the Guidance”) for local authorities on how to implement the regime, including the decision-making process on whether land is contaminated land in the legal sense, has been published by Defra and entered into force in April 2012. “Significant harm” is defined in the Guidance on risk based criteria and must be the result of one or more relevant ‘contaminant linkages’ relating to the land. The presence of a contaminant linkage relies on the Source-Pathway-Receptor concept, where all three factors must be present and potentially or actually linked for a potential risk to exist.

The Guidance introduced a new four-category system for classifying land under Part 2A, where Category 1 land poses an unacceptable risk to human health and Category 4 includes land where the level of risk posed is acceptably low. For six common contaminants (benzo(a)pyrene, cadmium, arsenic, benzene, hexavalent chromium and lead), a set of screening values have been developed and endorsed for use by Defra[7] (the Category 4 Screening Levels, or C4SLs) that describe a level of risk just below the Category 3/4 boundary set in the Statutory Guidance, i.e. where concentrations are below the C4SL, there is no risk or the level of risk is acceptably low.

The pollution of controlled waters is defined in Section 78A(9) of the Act as “the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter”. The new Guidance stresses that the Part 2A regime is designed to identify and deal with ‘significant pollution’ and not lesser levels of pollution.

The risk assessment presented in this report is based on the C4SLs for those contaminants where values are available and a set of generic criteria (the ENVIRON GAC) for other contaminants, considered to be threshold-based screening concentrations at which a

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[6] Water Act 2003 (Commencement No. 11) Order 2012

[7] SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document, Defra, revised December 2014

significant risk is not considered to be present to the relevant receptors. Details on the derivation of the ENVIRON GAC are provided in Annex E.

A continued use of the site in its current configuration (i.e. as a vacant plot of land) has been assumed.

5.3 Soil Analytical Results

A comparison of the soil sample analysis from the Phase II Investigation with the relevant ENVIRON GAC for a commercial / industrial scenario are presented in Annex D.1, with the associated laboratory certificates of chemical analysis provided in Annex D.2. Exceedance of a GAC does not infer that an unacceptable risk is necessarily present; however an assessment is made considering the site setting and on-going/proposed activities.

A total of 27 soil samples obtained from 15 boreholes during the Phase II Intrusive Investigation were analysed for a suite of metals, total petroleum hydrocarbons (criteria working group methodology) and polycyclic aromatic hydrocarbons. A reduced number of samples (17) were selected for volatile organic compounds, semi-volatile organic compounds. A total of 14 samples of Made Ground were selected for asbestos screening, and five (5) soil samples were selected for polychlorinated biphenyl (PCB) analysis.

Metals

Of the 27 soil samples analysed for a suite of metals, concentrations were detected above laboratory method reporting limits for one or more of arsenic, beryllium, boron, chromium, copper, lead, nickel, vanadium and zinc in all 27 samples. Concentrations detected were low; when compared to ENVIRON's human health Generic Assessment Criteria (GACs) for a commercial scenario, none exceeded the relevant GACs.

Total Petroleum Hydrocarbons (TPH)

A total of 27 soil samples were analysed for TPH, of which concentrations were detected above laboratory method reporting limits in 11 samples. In these samples, aliphatic and aromatic TPH detected were generally the heavier-end fractions, between C12 and C44. When compared to the relevant GACs, no concentrations exceeded.

Polycyclic Aromatic Hydrocarbons

Of the 27 soil samples analysed for polycyclic aromatic hydrocarbons, concentrations were detected above laboratory method reporting limits in nine (9) samples. No concentrations detected exceeded the relevant GAC.

Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs)

Seventeen samples were analysed for VOCs and SVOCs. The laboratory detection limit was not exceeded in any of the samples analysed for VOCs. The SVOCs suite identified concentrations exceeding laboratory method detection limits for PAHs in two samples and carbazole in one sample. No concentrations exceeded the relevant ENVIRON GAC for a commercial scenario.

Polychlorinated Biphenyls (PCBs)

Of the five (5) samples analysed for PCBs, no concentrations exceeded laboratory method detection limits or ENVIRON GACs.

Asbestos

Asbestos fibres were not detected in any of the 14 soil samples analysed. No evidence of asbestos was observed on-site during drilling.

5.3.1 Discussion of Soil Analytical Results

No concentrations of determinands analysed exceeded relevant ENVIRON GACs for the protection of human health in relation to a commercial end use. No further discussion or action is considered necessary in relation to the concentrations detected in soil samples on-site in relation to a continued site use.

5.4 Comparison with Previous Soil Investigation Data

For the purposes of permit and lease surrender, the section below compares previous soil data obtained prior to construction of the power station, presented in the 1990 Cremer and Warner report with the findings of this soil investigation (2015) to assess whether the activities of the power station may have resulted in a deterioration of ground condition in relation to contamination.

The third party 1990 investigation comprised five trial pits, with samples obtained to 2.0m bgl and the collection of 43 surface samples on an approximate 75m by 50m from across the site. Samples were analysed by a laboratory for heavy metals, polychlorinated biphenyls, total cyanide, phenols, dichloromethane extract, sulphide, pH, dioxins and furans. Dioxins and furans were not analysed in the 2015 investigation as there is no evidence that these were used on-site during its operation.

A more detailed summary of the 1990 investigation is presented in Section 2.3.2.

The 2015 soil investigation is not a direct replication of the 1990 Cremer and Warner investigation for a number of reasons. The site is currently covered predominantly in hardstanding therefore the investigation techniques used in 1990 (trial pitting and surface sampling) are impractical. Additionally, the site was evidently ‘built up’ to create a level platform for development (based on the site elevation at the northern site boundary being approximately 1m to 2m higher than the adjacent land to the north), therefore it is not possible to replicate the exact depths sampled in the previous investigation.

Previous concentrations from the 1990 soil investigation have been compared with maximum soil concentrations detected in the 2015 investigation, presented in Table 6.2 below.

Table 5.1: Soil Concentrations 2015 Compared with Previous Soil Data (1990)

Analyte	Previous Maximum Concentration and Location (Cremer and Warner, 1990)		Maximum Concentration and Location (2015 Investigation)
	Trial Pits	Surface Samples	
Metals (mg/kg)			
Arsenic	26 (ETP5 at 0m- located in the west of site)	25 (ESS37 – located in the north-west of site)	20 (WS5 0.3 - 0.6m)
Cadmium	0.6 (ETP5 at 0m- located in the west of site)	204 (ESS36 - located in the north-west of site)	< DL
Chromium	120 (ETP3 at 0m – located in the centre of site)	220 (ESS36 - located in the north-west of site)	93 (WS03 0.0 - 0.3m)
Hexavalent Chromium	0.4 (ETP5 at 1.0m – located in the west of site)	2.7 (ESS28 – located in the south-west corner of site)	n/a
Copper	35 (ETP1 at 0.m and ETP2 at 0m located in the south-west and north-west of site respectively)	430 (ESS37 – located in the north-west of site)	62 (WS03 0.0 - 0.3m)
Lead	130 (ETP1 at 0m- located in the south-west of site)	710 (ESS37– located in the north-west of site)	110 (WS07 0.2 - 0.5m)
Mercury (Inorganic Hg2+)	< DL	<DL	<DL
Nickel	55 (ETP2 at 1.0m- located in the north-west of site)	95 (ESS37– located in the north-west of site)	97 (WS03 0.0 - 0.3m)
Selenium	< DL	<DL	<DL
Zinc	190 (ETP3 at 0m –located in the centre of site)	3,200 (ESS37– located in the north-west of site)	910 (WS03 0.0 - 0.3m)

Table 5.1: Soil Concentrations 2015 Compared with Previous Soil Data (1990)

Analyte	Previous Maximum Concentration and Location (Cremer and Warner, 1990)		Maximum Concentration and Location (2015 Investigation)
	Trial Pits	Surface Samples	
Others (ug/l)			
Total cyanide	< DL	(ESS37– located in the north-west of site)	< DL
Phenols	< DL	< DL	< DL
PCBs	< DL	n/a	< DL
Dichloromethane Extract	293 (ETP2 at 0m - located in the north-west of site)-	2,233 (ESS37 - located in the north-west of site)	130 (WS13 0.3 – 0.6m)* TPH C8-C40
Sulphide	1.2 (ETP2 at 1.0m – located in the north-west of site)	21.4 (ESS36 – located in the north-west of site)	n/a**

Notes:

<DL – Less than laboratory method detection limits

n/a – not analysed

*Petroleum hydrocarbon analysis in the 2015 investigation has been undertaken by TPH CWG methodology rather than the outdated dichloromethane (DCM) extract analysis. For the purposes of this comparison, DCM extract results from the 1990 Cremer and Warner Investigation have been compared with the sum of TPH C8-C40 results from the 2015 investigation.

**Sulphide is not considered to be a contaminant of concern and was not analysed in the 2015 investigation.

5.5 Discussion of Soil Condition

The above table shows the concentrations detected in the soil in 2015 did not exceed those detected in the 1990 investigation, indicating no evidence of deterioration in soil conditions as a result of the activities of Teesside Power Station.

6 Groundwater Assessment

6.1 Generic Assessment Criteria

In the absence of relevant published water assessment criteria, the potential risk to human health from contaminated surface and groundwater and the potential risk to the aquatic environment from entry of pollutants (either directly or via a groundwater pathway) has been assessed using commonly accepted UK guidelines including the Water Supply (Water Quality) (England) Regulations 2000 (known as the Drinking Water Standards, or DWS) and the Environmental Quality Standards (EQS) defined in European legislation such as the Water Framework Directive (WFD) (2000/60/EC).

Revised EQS were published in December 2009 under the Priority Substances Directive (PSD) (2008/105/EC), a daughter directive of the WFD. The PSD establishes EQS for Priority Substances which have been set at levels of concentration which are safe for the aquatic environment and for human health. A list of such dangerous substances (including those from other European legislation e.g. the Dangerous Substances Directive (76/464/EC)) and EQS has been established and is listed in the August 2010 Direction to the Environment Agency, the River Basin Districts Typology, Standards and Groundwater Threshold Values (Water Framework Directive) (England and Wales) Direction 2010. The EQS are detailed in Part 4 (Specific Pollutants) and Part 5 (Priority Substances) of the Directions.

For those determinands included in the analytical suite which do not have a corresponding UK screening criteria derived from the above sources, reference is made to a hierarchy of international guidance in accordance with Environment Agency guidance.

The EQS have been applied in the first instance given the presence of Kettle Beck on the western site boundary. The underlying groundwater is classified as Secondary B Aquifer of poor chemical quality, therefore not particularly sensitive, and there are no groundwater abstractions within 2km, hence the DWS and international guidance have only been applied in the absence of EQS.

An ENVIRON GAC has also been derived for the contaminant volatilisation pathway from groundwater to human receptors. This has been calculated using the RBCA Tool Kit V2.6 model. The RBCA model has been altered where necessary to reflect the current UK approach to human health risk assessment, as detailed above.

6.2 Groundwater Analytical Results

A total of 14 groundwater samples were analysed for a suite of metals[8], total petroleum hydrocarbons (criteria working group methodology) (TPH) and polycyclic aromatic hydrocarbons (PAH). A reduced number of samples (eight (8)) were selected for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs). Seven (7) groundwater samples were selected for polychlorinated biphenyl (PCB) analysis.

Concentrations of metals, sulphate, TPH and PAH exceeded laboratory method detection limits. When compared with relevant generic assessment criteria, certain metals (hexavalent

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[8] Only 13 full metal suites were completed; MW05 could not be tested for a full range of metals due to insufficient volume of water in the well, and was only tested for hexavalent chromium.

chromium and selenium), a range of PAH and aliphatic and aromatic fractions of TPH were found to exceed.

No concentrations of VOCs, SVOCs or PCBs exceeded laboratory method detection limits and hence did not exceed relevant assessment criteria.

The groundwater analytical results obtained as part of the Phase II Intrusive Investigation are presented in Annex E.1, with the associated laboratory certificates of chemical analysis provided in Annex E.2.

Groundwater results exceeding relevant assessment criteria are presented in Table 6.1 below. Exceedance of assessment criteria does not infer that an unacceptable risk is necessarily present; however an assessment is made considering the site setting and on-going/proposed activities. Further discussion is presented in Section 6.4.

Table 6.1: Exceedances of Groundwater Assessment Criteria

Determinand	Assessment Criteria	Source	Number of samples analysed	Maximum Concentration (ug/l)	Number and location of exceedances
Metals					
Hexavalent Chromium	3.4	EQS	14	10 (MW06)	**2**: MW06, MW07
Selenium	10	DWS	13	73 (MW05)	**7**: MW01, MW02, MW03, MW05, MW06, MW07, BH03
Polycyclic Aromatic Hydrocarbons (PAHs)					
Anthracene	0.1	EQS	14	0.5 (MW03)	**1**: MW03
Fluoranthene	0.1	EQS	14	1.2 (MW03)	**2**: MW03, MW04
Benzo(a)Anthracene	0.029	RSL	14	0.08 (MW05)	**2**: MW03, MW04
Benzo(b)fluoranthene	0.03	EQS	14	0.2 (MW05)	**3**: MW03, MW04, MW05
Benzo(k)fluoranthene					
Benzo(a)Pyrene	0.05	EQS	14	0.07 (MW05)	**1**: MW04
Benzo(ghi)Perylene	0.002	EQS	14	0.08 (MW05)	**3**: MW03, MW04, MW05
Indeno(123-cd)Pyrene					
Dibenzo(ah)Anthracene	0.0029	RSL	14	0.02 (MW03)	**1**: MW03
Total Petroleum Hydrocarbons					
Aliphatic Hydrocarbons					
TPH (C12-C16 aliphatic)	10	DWS	14	100 (MW07)	**1**:MW7
TPH (C16-C21 aliphatic)			14	130 (MW07)	**2**: MW7, MW5
TPH (C21-C35 aliphatic)			14	110 (MW07)	**10**:MW02, MW03, MW04, MW05, MW06, MW07, BH01, BH02, BH04, BH07
TPH (C35-C44 aliphatic)			14	20 (MW07)	**1**: MW7
Aromatic Hydrocarbons					
TPH (C10-C12 aromatic)	10	DWS	14	20 (MW03)	**1**: MW03

TPH (C12-C16 aromatic)			14	50 (WS03)	**6:** MW01, MW02, MW03, MW05, MW06, MW07,
TPH (C16-C21 aromatic)			14	60 (MW05)	**6:** MW01, MW02, MW03, MW05, MW06, MW07,
TPH (C21-C35 aromatic)			14	40 (MW07)	**3:** MW02, MW03, MW07
Total Aliphatic and Aromatic (C5-C44)					
Total TPH	NC	n/a	14	360 (MW07)	**10:** MW02, MW03, MW04, MW05, MW06, MW07, BH01, BH02, BH04, BH07

Notes:
NC – no criteria
n/a – not applicable
EQS – Environmental Quality Standard – UK criteria protective of surface water
DWS – Drinking Water Standard – UK criteria protective of human health via drinking water

6.3 Volatilisation Pathway

Groundwater analytical results were also compared with the ENVIRON GAC for a volatilisation pathway which assesses risk to human health from inhalation via contaminant vapour from groundwater.

Concentrations in one (1) sample exceeded the relevant volatilisation GAC; this was in MW07, where aliphatic TPH in the range C12-C16 exceeded the GAC of 0.76 ug/l at a concentration of 100 ug/l. ENVIRON do not consider the results to indicate a risk via the vapour pathway as the concentration was localised (i.e. only detected at one location) and no buildings are currently present in the vicinity of MW07, therefore there is no opportunity for concentrations to accumulate in confined spaces. Furthermore, no free phase hydrocarbon product (i.e. oil resting on the surface of the water) was detected during monitoring (the presence of which generally indicates an increased volatilisation risk).

6.4 Discussion – Groundwater Results

The findings of the 2015 groundwater investigation identified concentrations of metals (hexavalent chromium and selenium), polycyclic aromatic hydrocarbons (PAHs) and total petroleum hydrocarbons (TPH) in excess of the relevant assessment criteria.

Metals considered to be relatively localised, being identified seven or less of the 14 samples. Hexavalent chromium and selenium were detected generally centrally, and on the southern site boundary in BH06 and MW03. Metals were generally absent from the northern site boundary with the exception of one location (MW05) indicating that metals are unlikely to be migrating off-site. The maximum concentrations detected (10 ug/l for hexavalent chromium and 78 ug/l for selenium) are not considered to be significant for an industrial setting in this location.

PAH concentrations detected in excess of relevant assessment criteria are also considered to be localised, exceeding in three (3) of the 14 locations (MW03, MW04, MW05); located in a diagonal line from centre south to north-west. The maximum total PAH detected was 8.9 ug/l in MW03.

Only aliphatic total petroleum hydrocarbons (TPH) in the range C21-C35 aliphatic identified in more than half the locations (10 samples). The samples found to exceed were distributed across the site, but they were not identified extensively in all locations, indicating that the sources may have been localised. The maximum total TPH concentration encountered was 360 ug/l in MW07.

The samples obtained from four (4) of the new wells (MW01, MW04, MW05 and MW07) were ‘grab’ samples, as they had not undergone purging and development due to low yields, and therefore they generally provide increased concentrations not necessarily representative of true groundwater conditions on-site. Elevated concentrations were generally detected in the newly installed wells, rather than the existing wells (with the exception of TPH in BH01, BH02, BH04 and BH07, sulphate in BH06 and selenium in BH03).

Given that free phase hydrocarbon contamination was not encountered at the site as part of either the soil or groundwater monitoring and analysis, and considering the current site use as a vacant site, the recorded concentrations are not considered representative of significant widespread contamination in an industrial / commercial setting.

6.5 Comparison with Previous Groundwater Monitoring Data

According to the Site Protection and Monitoring Plan (February 2007), biannual groundwater monitoring of the seven (7) existing groundwater monitoring wells on-site (BH01 to BH07) was undertaken between 1997 and 2013 as a requirement of the Environmental Permit. The seven (7) existing monitoring are distributed at the site periphery, the locations of which are shown in Figure 2 of Annex A.

A summary of the SPMP is presented in Section 2.2.1.

No baseline data is available from pre-construction of the power station. Groundwater concentrations from the 2015 investigation have therefore been compared with the previous groundwater data during the operational phase of the power station from 1997 to 2013, both compared with SPMP ‘limits’ is provided in Table 6.2 below.

Table 6.2: Groundwater Concentrations Comparison with Previous Data and Limits

Analyte	Permit 'Limit' (µg/l)	Operational Phase (1997 – 2013)		Post Decommissioning (2015)	
		Maximum Concentration, Location and Date (µg/l)	Number of exceedances and Location	Maximum concentration detected and Location 2015 (µg/l)	Number of exceedances and Location
Metals					
Arsenic	30	29 (BH02:1997-2005)	0	9.3 (MW03)	0
Cadmium	15	8 (BH04: 1997-2005)	0	0.19 (MW4)	0
Total Chromium (dissolved)	500	200 (BH04: 1997-2005)	0	10 (MW06)	0
Copper	1400	120 (BH05: 23/04/2009)	0	25 (MW04)	0
Lead	100	100 (BH03: 1997 – 2005)	0	3.7 (MW01)	0
Mercury (Inorganic Hg2+)	5	10 (BH04: 1997-2005)	1: BH04	0.05 (MW01)	0
Nickel	50	90 ((BH07: 20/12/2007)	2: BH02 (1997-2005); BH07 (20/12/2007)	17 (MW07)	0
Zinc	500	890 (BH07 20/12/2007)	1: BH07 (20/12/2007)	17 (MW04)	0
Others					
Cyanide (total)	450	70 (BH02: 1997-2005)	0	<DL	0
Phenol	4,500	110 (BH01: 1997-2005)	0	4.2 (MW03)	0
Sulphate	1,500,000	1,500,000 (BH02: 1997-2005)	0	1,400,000 (MW04)	0
Sulphide	250	780 (BH02 23/04/2009)	1: BH02 23/04/2009	n/a[1]	n/a[1]

Table 6.2: Groundwater Concentrations Comparison with Previous Data and Limits

Analyte	Permit 'Limit' (µg/l)	Operational Phase (1997 – 2013)		Post Decommissioning (2015)	
		Maximum Concentration, Location and Date (µg/l)	Number of exceedances and Location	Maximum concentration detected and Location 2015 (µg/l)	Number of exceedances and Location
Chloride	350,000	320,000 (BH07 1997-2005)	0	n/a[1]	n/a[1]
Ammonia	18,000	235 (BH03: 1997-2005)	0	n/a	n/a
Total Petroleum Hydrocarbons (ug/l)					
C10 to C28	10,000	31,000 (BH02:1997-2005)	1: BH02:1997-2005	450 (MW07)*	0
Cyclohexane Extractable Matter	100,000	88,000 (BH07: 23/04/2009)	0	n/a[3]	n/a[3]
Toluene Extractable Matter	2,000	54,000 (BH07 20/12/2007)	All[2]	n/a[3]	n/a[3]

Notes:

<DL – Less than laboratory method detection limits

* – aliphatic and aromatic hydrocarbons in the C10-C35 ranges used to derive DRO value.

1 Not considered to be contaminants of concern therefore not analysed in the 2015 investigation.

2 almost all results from each of the seven monitoring wells exceed the permit limit for toluene extractable matter.

3 cyclohexane extractable matter and toluene extractable matter not analysed in 2015 investigation.

6.6 Discussion of Groundwater Condition

The above table shows the concentrations detected in the groundwater in the 2015 investigation did not exceed the concentrations obtained from groundwater sampling during the operational phase of the power station between 1997 and 2013. During the operational phase, the SPMP 'limits' were exceeded by approximately twice the relevant limits for metals (mercury, nickel and zinc), and by approximately three times the relevant limits for sulphide and diesel range organics (i.e. aliphatic and aromatic hydrocarbons in the range C10-C28). No exceedances of the limits were detected post-decommissioning in 2015.

Table 6.4 above demonstrates no deterioration in groundwater conditions on-site post-decommissioning compared with the conditions during the operational phase.

7 Source-Pathway-Receptor Risk Assessment

7.1 Revised Conceptual Site Model

Using information obtained during this site investigation (2015), the preliminary conceptual site model presented in Section 3.1 has been refined and is presented in Table 7.1 below.

Table 7.1: Revised Conceptual Site Model
Geology Four main soil types were encountered during the investigation: **Surface:** The surface at the majority of locations comprised concrete (up to 0.4m in thickness). At the remainder of locations the surface comprised gravel or grass. **Made Ground**: **Gravel over Reworked Clay:** Underlying the surface at all locations to depths ranging from 0.4m (WS02) to 2.0m (MW03), sandy gravel (fill) was encountered with man-made fragments of ash, slag, brick, concrete, frequently but not extensively over reworked clay also including man-made fragments of brick, coal, ash and slag. A narrow band of silt (possible relict topsoil) was encountered at three locations at the base of the Made Ground. . **Superficial Deposits:** strata considered to represent Till comprising slightly sandy slightly gravelly Clay was encountered at 15 of the 19 locations. The remaining four (4) locations (MW04, WS06, WS08, WS11) were terminated in Made Ground or possible Made Ground due to refusal on obstructions. Sand bands of up to 1.0m in thickness were encountered within the Till in MW02 and WS05. Till was proven to a maximum depth of 5.0m bgl in six (6) locations. The base of the strata was not encountered. Solid geology of the Redcar Mudstone Formation was not encountered during the investigation.
Hydrogeology Groundwater strikes were not generally encountered during drilling. During monitoring, resting groundwater was encountered in all seven (7) existing wells and seven (7) newly installed wells at depths ranging from 0.44m bgl in MW06 (15.78m AOD) located in the south of site to 4.12m bgl in MW05 (12.134m AOD) located in the north. This is considered likely to represent perched groundwater present within the superficial deposits. There may be some continuity between groundwater, for example where sand was encountered but the differing groundwater elevations, recharge rates, and absence of a distinct groundwater strike during drilling indicates that the groundwater is likely to be perched and discontinuous across the site. Solid geology of Redcar Mudstone was not encountered during the investigation and the groundwater encountered is not considered likely to represent the Secondary B Aquifer present within the solid geology. The site is underlain by Unproductive Strata relating to the superficial deposits of Till (across the majority of the site) and Glaciolacustrine Deposits (in the north-west of site; not considered to have been encountered during the investigation), which in turn is underlain by a Secondary B Aquifer represented by the solid geology of Redcar Mudstone. Groundwater flow is generally to the north, as indicated by groundwater elevations obtained during the investigation.

The groundwater beneath the site is classified as having ‘good’ quantitative status and ‘poor’ chemical status by the EA under the Water Framework Directive, considered likely to relate to the Secondary B Aquifer.

The site is not located within a designated Source Protection Zone. There are no groundwater abstraction licenses within 2km of site.

Hydrology

The site is considered to be in an area of moderate vulnerability with respect to surface water resources due to the presence of the Kettle Beck located immediately off-site to the west, and the presence of a partially culverted unnamed drain running through the south of site from east to west, which discharges into the Kettle Beck.

A partially culverted unnamed secondary river, which appears to be a tributary of the Kettle Beck, is located approximately 20m north of the site at its closest point, and flows east to west into the Kettle Beck. Further sections of drainage are located to the east of site from c.60m, however the sections do not appear to be part of the wider drainage network.

The Kettle Beck appears to be connected to the Kinkerdale Beck at a point 500m north. The Kinkerdale Beck then flows in a north-easterly direction, towards the River Tees.

There are no licensed surface water abstractions within 2km of the site. The water quality of the Kettle Beck has not been classified by the Environment Agency and the Kettle Beck flows downgradient (i.e. north) through land used for predominantly industrial purposes.

Flooding and Ecological Designations

The site is located within an area designated by the EA as a Flood Zone 1 (low probability). This zone comprises land assessed as having a less than 1 in 1000 annual probability of river or sea flooding (<0.1% in any year). There are no ecological designations within 2km of site. The nearest sensitive end-use is agricultural land to the south and allotments located 450m south.

Potential Contaminant Sources Identified in the Phase II Investigation

On the basis of this site investigation, the following contaminants have been identified, assuming continued use of the site in its current configuration:

Soil

Low concentrations of metals, polycyclic aromatic hydrocarbons, total aliphatic and aromatic hydrocarbons and semi-volatile organic compounds (carbazole) were detected in soil samples, including shallow soil samples from locations not surfaced with hardstanding.

No asbestos fibres were identified in soil samples.

Groundwater

Concentrations of metals (hexavalent chromium), polycyclic aromatic hydrocarbons (PAHs) and certain heavy-end aliphatic and aromatic total petroleum hydrocarbon fractions have been detected in excess of the relevant screening criteria, generally in localised areas on-site (i.e. less than half of sampling locations).

Concentrations of aliphatic hydrocarbons in the range C12-C16 have been identified in ten of the fourteen sampling locations in excess of the relevant assessment criteria, and exceeded the volatilisation GAC in one (1) location (MW07). No free phase hydrocarbon product was identified during the intrusive investigation.

Potential Pathways

The following potential pathways for exposure to and migration of contaminants have been identified in the context of an ongoing use as vacant land (nb no buildings are currently present on-site):

- Direct contact, ingestion and inhalation of dust from potentially contaminated soils by site users;
- Indoor and outdoor inhalation of soil particulates during redevelopment and for a future industrial use;
- Ingestion and direct contact with potentially contaminated groundwater;
- Migration of contaminants into potable water pipes;
- Migration of contaminants via preferentially permeable sub-surface structures such as drainage runs, sumps;
- Vertical migration of potential contaminants in soil impacting groundwater underlying the site (Controlled Water);
- Inhalation of vapours from concentrations in the soil and / or groundwater; and
- Off-site migration of contaminants in groundwater.

Potential Receptors

The following potential receptors to contamination have been identified at the site:

- Site users (including visitors / maintenance workers to the two electricity substations present on-site);
- Groundwater underlying the site present in the superficial deposits (gravel and sand lenses in the Till and Glaciolacustrine Deposits), classified as Unproductive Strata (Controlled Waters);
- Groundwater underlying the site present in the solid geology of Redcar Mudstone, classified as a Secondary B Aquifer (Controlled Waters);
- Nearest surface water course, the Kettle Beck (Controlled Waters), located immediately off-site to the west;
- Off-site property (neighbouring buildings (including the two existing sub-stations), structures and services).

7.2 Preliminary Qualitative Risk Assessment

Following the development of the PCSM a qualitative risk assessment has been undertaken, presented in Table 3.2 below. This provides a simple representation of the hypothesised relationships between potential contamination sources, potential pathways for the movement of such contamination (if present) and potential receptors which could be adversely affected. This allows the identification of potential pollutant linkages and, therefore, an interpretation of the potential for significant harm and/or pollution of controlled waters in relation to the site. In the event of redevelopment for a more sensitive end-use (such as residential), the CSM and risk assessment should be revised.

Table 7.2: Revised Source-Pathway-Receptor Risk Assessment

Source	**Pathway**[9]	**Receptor**[10]	**Risk of Contaminant Linkage**[11]
Localised metals, TPH and PAH in the soil. TPH and localised metals in the groundwater	Direct contact with contaminated soils, inhalation of soil and dust and ingestion of soil.	Site visitors and maintenance workers	*Low:* Concentrations detected in soil samples did not exceed ENVIRON's GACs for a commercial / industrial end use.
	Direct contact with contaminated groundwater	Site visitors and maintenance workers	*Low.* Site is predominantly covered with hardstanding which will break the contaminant pathway. Groundwater was encountered at depths of 0.5m or greater, therefore there should be no contact with groundwater at the surface.
	Leaching to Groundwater & Groundwater Flow.	Groundwater present within lenses / bands of gravel and sand within the superficial deposits of Till.	*Low:* Concentrations detected in soil were low. Groundwater present in superficial deposits is considered likely to be perched and may be discontinuous. The site is situated in an area of poor chemical groundwater quality.
		Groundwater (Secondary B Aquifer) in the solid geology of Redcar Mudstone Formation	*Low*: Low permeability superficial deposits of Clay (Till) was proven to a depth of 5.0m bgl. The base of the strata was not encountered during the investigation. The clay is likely to limit downward migration of contaminants to the Secondary B Aquifer. There are no groundwater abstraction licenses within 2km of site.
	Surface water run-off.	Surface water as controlled water (Kettle Beck located c.30m west of site).	*Low:* Concentrations identified in soil were low. Surface water is directed from areas of hardstanding via surface water drains therefore the potential for surface water run-off to contact with soil is low.

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[9] Pathway: mechanism or route by which a contaminant comes into contact with, or otherwise effects, a receptor.

[10] Receptor: persons, living organisms, ecological systems and controlled waters that could be adversely affected by the contaminants.

[11] Risk: probability of the occurrence of, and magnitude or the consequences of, an unwanted adverse effect on a receptor.

Table 7.2: Revised Source-Pathway-Receptor Risk Assessment

Source	Pathway[9]	Receptor[10]	Risk of Contaminant Linkage[11]
	Migration via drainage pipes		*Low:* CCTV survey of surface water and foul water drains showed them to be in a good condition. CCTV survey of oily water drains has been undertaken (and the findings are awaited from GDF Suez.
	Migration via groundwater present in the superficial deposits.		*Low:* Concentrations in groundwater were detected above the relevant controlled waters assessment criteria for metals (selenium and hexavalent chromium) and TPH, however exceedances were generally localised. Groundwater is considered to be perched and may be discontinuous in nature, and information obtained from the intrusive investigation indicates it flows towards the north therefore a direct pathway to the Beck is unlikely. .
	Vapours	Human health via volatilisation pathway and accumulation in off-site buildings	*Low.* One (1) localised concentration of aliphatic TPH (C12-C16) exceeded the relevant ENVIRON's GAC for volatilisation. This was in MW07, which is not in the vicinity of buildings.

8 Findings and Recommendations

8.1 Findings of the Phase II Investigation

ENVIRON was commissioned by GDF Suez Ltd to undertake a Phase II Intrusive soil and groundwater investigation of the former Teesside Power Station. The investigation was undertaken as a requirement condition to surrender both the Environmental Permit and the lease. The objectives of the investigation were to establish the nature of the ground conditions on-site in relation to contamination, and to compare the findings of the soil results with previous soil and groundwater data to assess if the condition of the ground has deteriorated as a result of site activities.

At the time of the investigation, the Power Station had predominantly been decommissioned; all buildings and structures within the installation boundary had been demolished to slab level. Two electricity substations (Greystones A and B) have been retained which are owned and operated by National Grid. The land on which they are located is considered to be outside the site boundary.

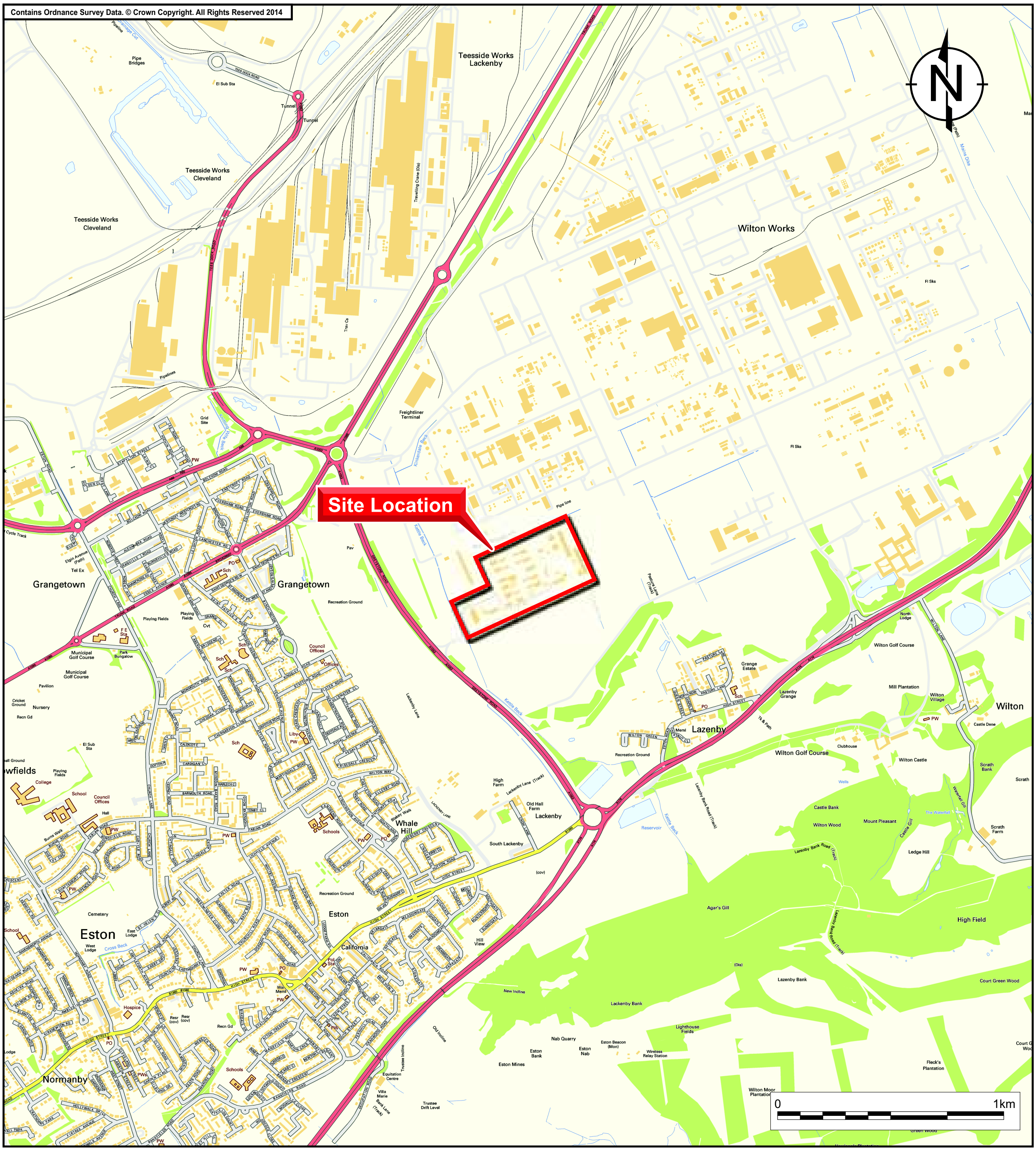
ENVIRON's site investigation was undertaken in March 2015 and comprised 19 window sample boreholes, of which 12 were drilled to a maximum depth of 3.0m bgl and backfilled on completion to assess soil conditions, and seven (7) were drilled to a maximum depth of 5.0m bgl and installed as groundwater monitoring wells to facilitate assessment of the groundwater conditions on-site. A groundwater monitoring visit was undertaken to collect samples from the seven (7) existing wells on site and seven (7) newly installed wells for laboratory analysis.

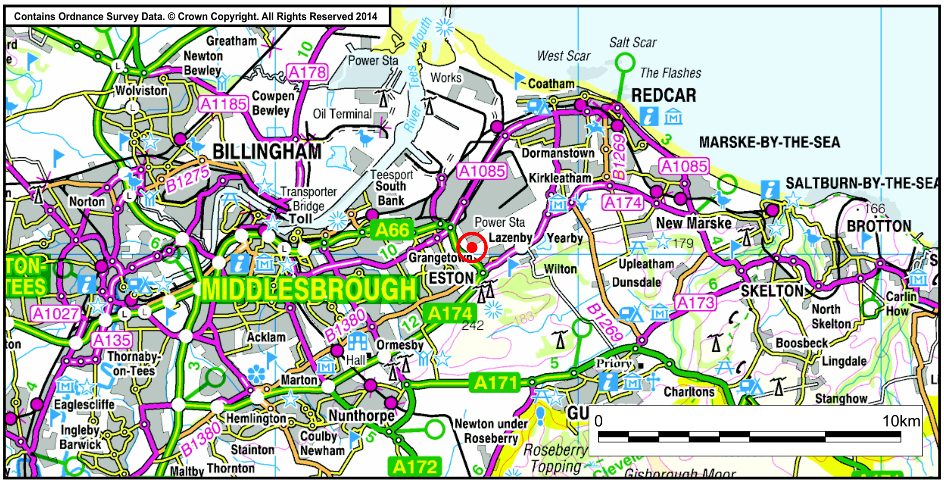
The key 'technical' findings of the Phase II investigation are discussed below:

- The surface in the investigation area comprised concrete in the majority of locations to a maximum depth of 0.4m bgl, and gravel or grass elsewhere. Underlying the surface generally was Made Ground comprising gravel over reworked clay, both strata comprising man-made fragments of coal, slag, ash, brick and concrete to depths ranging from 0.4m to 2.0m. The Made Ground was underlain across the site by superficial deposits of slightly sandy slightly gravelly Clay, likely to represent the published geology of Till, encountered to a maximum depth of 5.0m bgl. The solid geology of Redcar Mudstone Formation was not encountered during the drilling investigation. No visual or olfactory evidence of significant soil contamination was identified during the investigation.
- Groundwater strikes were encountered in two (2) of the nineteen (19) boreholes during drilling. During monitoring, resting groundwater was encountered in all seven (7) existing wells and seven (7) newly installed wells at depths ranging from 0.44m bgl in MW06 (15.78m AOD) located in the south of site to 4.12m bgl in MW05 (12.134m AOD) located in the north. This is considered likely to represent perched groundwater present within the superficial deposits. There may be some continuity between groundwater, for example where sand was encountered but the differing groundwater elevations, recharge rates, and absence of a distinct groundwater strike during drilling indicates that the groundwater is likely to be perched and discontinuous across the site. Groundwater flow was indicated towards the north based on levels detected. No evidence of free phase hydrocarbon product (i.e. oil), odours or sheens were noted on the surface of the groundwater during monitoring. A stale 'drain-type' odour was noted in MW03 during developing and sampling.

- Soil and groundwater samples were analysed by a UKAS and MCERTS accredited laboratory (SAL, Manchester), for a wide range of determinands associated the former power station: metals, total petroleum hydrocarbon (TPH), polycyclic aromatic hydrocarbons (PAH), semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), phenol, cyanide, sulphate and pH.
- In **soil**, low concentrations of metals, TPH, SVOCs (carbazole) and PAH were detected. Comparison of soil analytical results from the 2015 investigation against ENVIRON generic assessment criteria ("GAC") for a commercial end-use identified no exceedances. The conceptual site model and risk assessment identified a **low risk** to human health from concentrations detected in soil on-site.
- The soil 2015 results were compared with the soil investigation reported by Cremer and Warner in 1990 prior to construction of Teesside Power Station. Concentrations detected in soil in 2015 **did not exceed** those detected in the 1990 investigation, indicating no observable deterioration in soil conditions as a result of the activities of Teesside Power Station.
- In **groundwater**, concentrations of metals, sulphate, TPH and PAH exceeded laboratory method detection limits. When compared with relevant UK generic assessment criteria (Environmental Quality Standards (EQS) and Drinking Water Standards (DWS)), certain metals (hexavalent chromium and selenium), a range of PAH and aliphatic and aromatic fractions of TPH were found to exceed the relevant UK guidelines. The concentrations were generally localised (i.e. detected in less than half the sampling locations). Heavy-end aliphatic petroleum hydrocarbons in the range C21-C35 were detected more widespread across site (i.e. in 10 of 14 locations), however they were not detected consistently in all locations. Groundwater analytical results were also compared with the ENVIRON GAC for a volatilisation pathway which assesses risk to human health from inhalation via contaminant vapour from groundwater. Aliphatic TPH in the range C12-C16 in one (1) sample exceeded the relevant volatilisation GAC. Concentrations detected in groundwater are not considered to represent significant widespread contamination in groundwater. The conceptual site model and risk assessment identified a **low risk** to controlled waters receptors, and to human health via the volatilisation pathway from concentrations detected in groundwater in 2015.
- The 2015 groundwater results were compared with groundwater reference data obtained during the operational phase of the power station between 1997 and 2013, and 'limits' presented in the Application Site Protection and Monitoring Plan (SPMP) Report (dated February 2007). Concentrations detected in 2015 **did not exceed** the concentrations obtained during the operational phase. The SPMP 'limits' were exceeded during the operational phase for metals (mercury, nickel and zinc), sulphide and diesel range organics (i.e. aliphatic and aromatic hydrocarbons in the range C10-C28), but **no exceedances** of the limits were detected post-decommissioning in 2015.

Annex A: Figures


Contains Ordnance Survey Data. © Crown Copyright. All Rights Reserved 2014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Title
Figure 1: Site Location

Site
Teeside Power Station, Greystone Road,
Grangetown, Middlesbrough, TS6 8JF

Date
April 2015

Scale
As shown

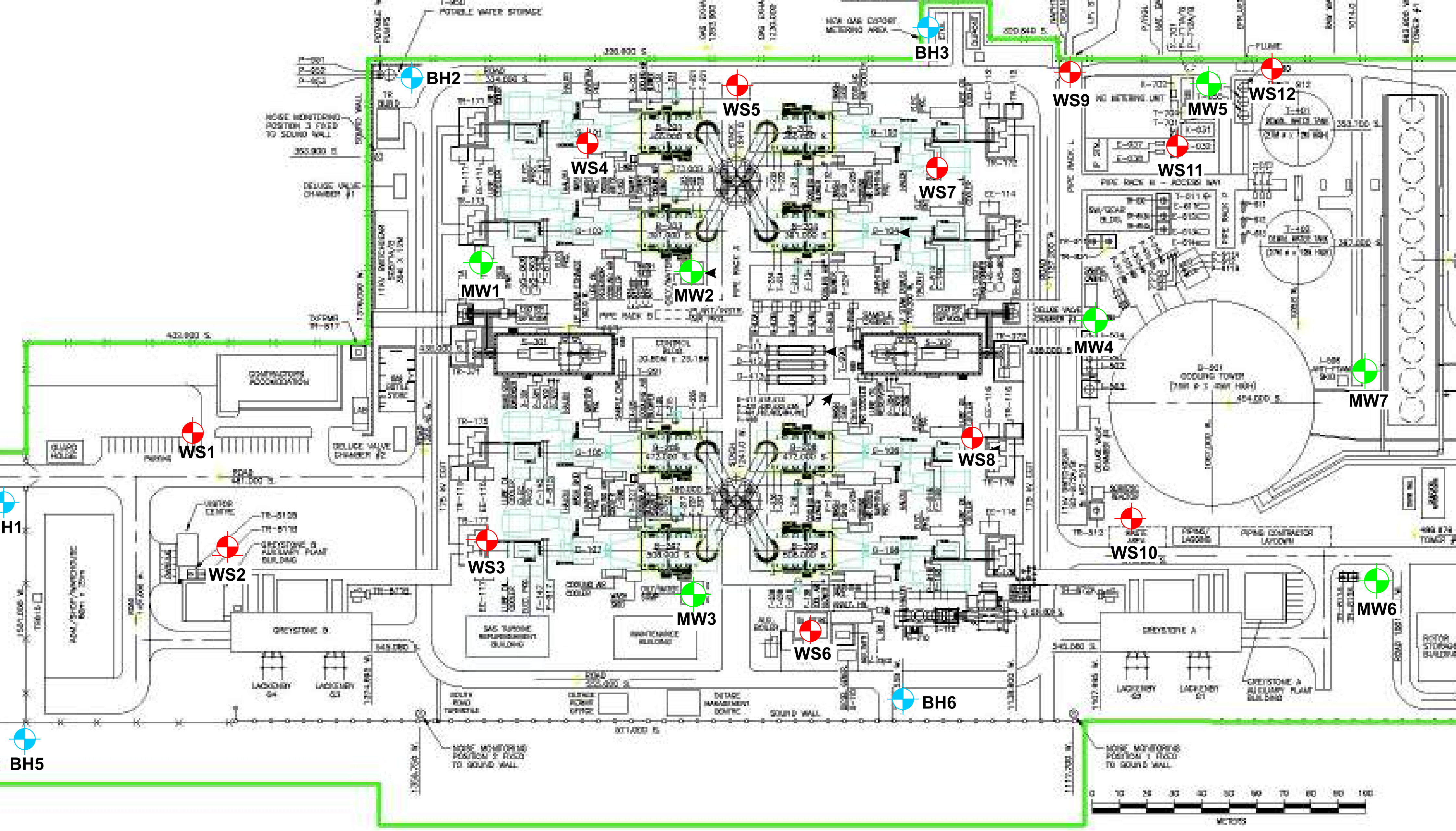
Project No.
UK22-21295

Client
GDF Suez

Issue
1

Drawn by
DM

ENVIRON



Monitoring Well

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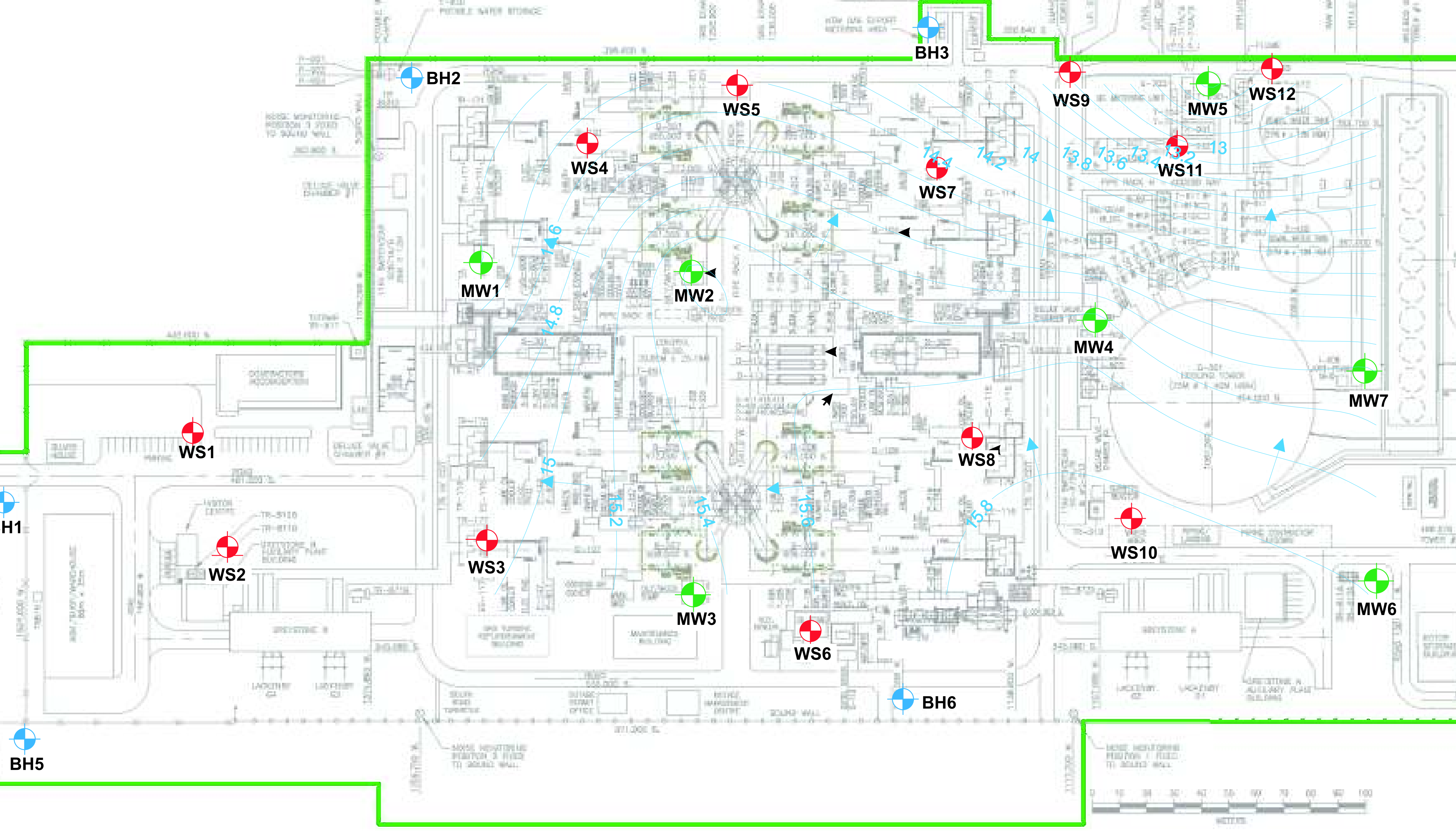

Monitoring Well

—16— Groundwater Elevation

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tion).

← Groundwater Flow Direction

ion 2015

Annex B: Field Notes

Annex B.1: Borehole Logs

Annex B.2: Groundwater Monitoring Field Notes

Groundwater Monitoring Field Data 2015

Well	Date	Ground Level of Well	Water Level (m bgl)	Water Level (m AOD)	Depth to Base (m bgl)	Litres Developed	Litres purged	Observations
ENVIRON Wells								
MW01	13/03/2015	16.074	Dry	n/a	4.97	None	None	No sample obtained due to insufficient volume of water in well
	16/03/2015		4.25	n/a	4.8			
	26/03/2015		1.89	14.184	4.97	3 litres extracted before purging dry	None	Grab sample obtained. Sample is a pale brown translucent slightly silty liquid.
MW02	13/03/2015	16.151	0.49	15.661	4.5	12 litres extracted before purging dry.	None	Well becoming depleted during purging so sample obtained. Sample is a reddish brown silty opaque liquid.
	16/03/2015		0.58	15.571	4.5	None	2 litres	
	26/03/2015		0.5	15.651	4.5	n/a	n/a	n/a
MW03	13/03/2015	16.218	0.85	15.368	4.92	80 litres	None	Good recharge. Sample is a dark brown silty opaque liquid with stale 'drain' odour.
	16/03/2015		0.87	15.348	4.9	None	24 litres	
	26/03/2015		0.91	15.308	4.9	n/a	n/a	n/a
MW04	16/03/2015	16.424	1.85	14.574	2.1	None	None	No sample obtained due to insufficient volume of water in well
	26/03/2015		0.95	15.474	2.06	None	None	Grab sample obtained. Sample is a pale brown silty liquid. Fragments of well pipe present.
MW05	13/03/2015	16.254	4.83	11.424	4.97	None	None	No sample obtained due to insufficient volume of water in well
	16/03/2015		4.73	11.524	4.93			
	26/03/2015		4.12	12.134	4.93	None	None	Grab sample obtained. Sample is pale brown translucent slightly silty liquid. Fragments of well pipe present.
MW06	16/03/2015	16.22	0.44	15.78	4.93	13 litres extracted before purging dry	8 litres purged, well depleting so grab sample taken	Partial purge undertaken. Sample is a reddish brown silty slightly sandy opaque liquid.
	26/03/2015		0.44	15.78	4.93	n/a	n/a	n/a
MW07	16/03/2015	16.214	2.77	13.444	4.9	5 litres extracted before purging dry	Grab sample obtained	Grab sample obtained. Sample is a reddish brown silty opaque liquid.
	26/03/2015		0.98	15.234	4.9	n/a	n/a	n/a

Well	Date	Ground Level of Well	Water Level (m bgl)	Water Level (m AOD)	Depth to Base (m bgl)	Litres Developed	Litres purged	Observations
Existing Wells								
BH01	13/03/2015	n/a	1.37	n/a	5.74	20 litres extracted before purging dry	None	Sample is a reddish brown silty opaque liquid.
	16/03/2015		0.97		5.7	None	3 litres purged, well depleting so grab sample taken	
	26/03/2015		0.92		5.7	n/a	n/a	n/a
BH02	13/03/2015	n/a	2.16	n/a	6.23	20 litres extracted before purging dry	None	Sample is a reddish brown silty opaque liquid.
	16/03/2015		5.24		6.2	None	Grab sample obtained	
	26/03/2015		n/a		n/a	n/a	n/a	Unable to open
BH03	16/03/2015	n/a	1.75	n/a	3.24	5 litres extracted before purging dry	Grab sample obtained	Sample is reddish brown, silty opaque liquid. Cover reistated with 6" traffic rated pemco cover on 13/03/15 as the previous cover had to be broken to access the well.
	26/03/2015		2.03		3.24	n/a	n/a	n/a
BH04	13/03/2015	n/a	1.94	n/a	6.3	25 litres extracted before purging dry	None	Slight oily sheen on surface of water in bailer after one extraction after approx 6 litres. No sheen noted on sample. Sample is a reddish brown, silty, sandy opaque liquid.
	16/03/2015		1.8		6.3	None	18 litres purged, well depleting so sample taken	
	26/03/2015		1.46		6.3	n/a	n/a	n/a
BH05	13/03/2015	n/a	1.46	n/a	9.88	50 litres	None	Good recharge. Sample is a reddish brown, silty, opaque liquid.
	16/03/2015		2.17		9.8	None	37 litres	
	26/03/2015		1.57		9.8	n/a	n/a	n/a

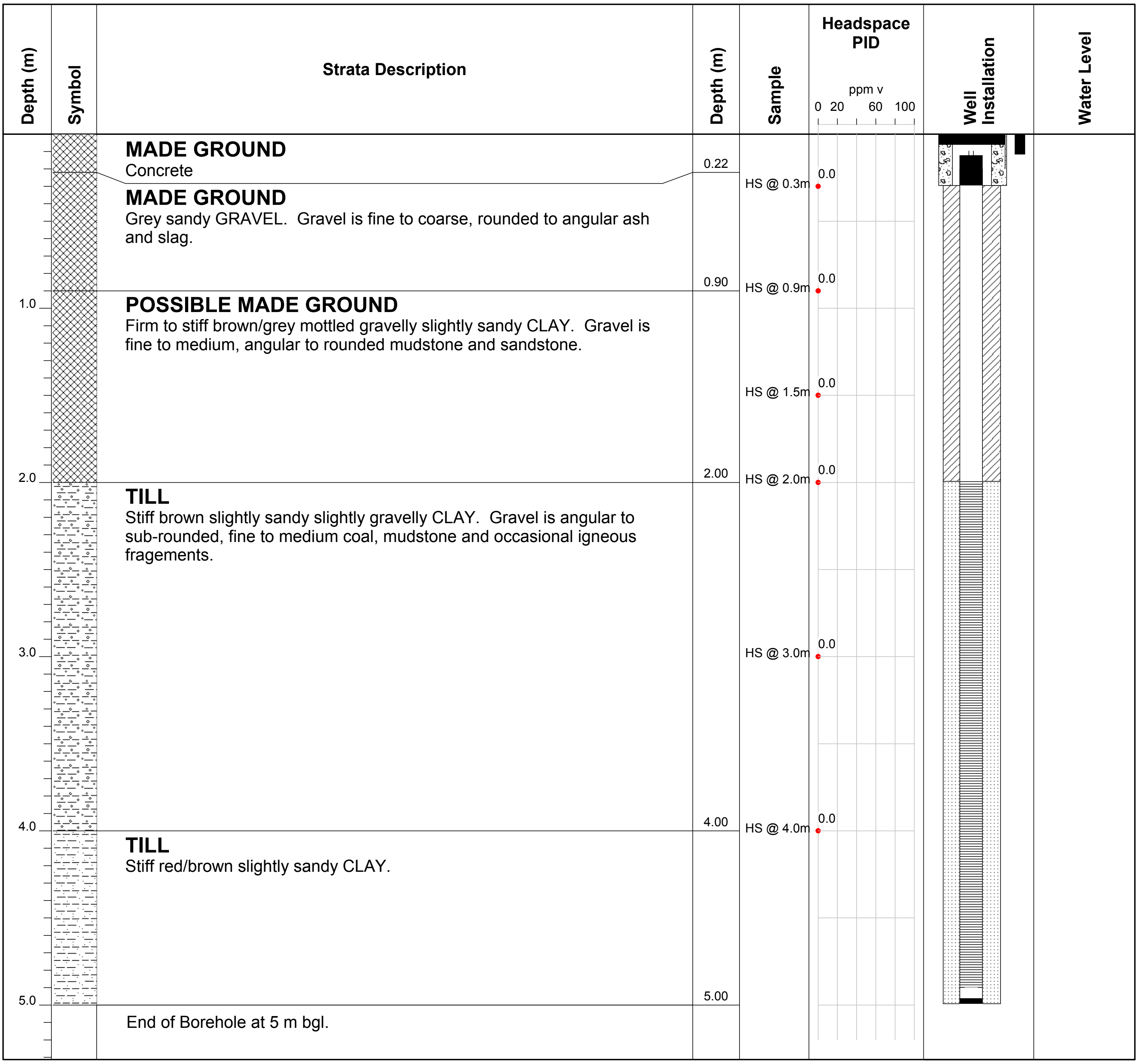
Well	Date	Ground Level of Well	Water Level (m bgl)	Water Level (m AOD)	Depth to Base (m bgl)	Litres Developed	Litres purged	Observations
Existing Wells								
BH06	13/03/2015	n/a	0.83	n/a	6.26	30 litres extracted before purging dry	None	Sample is a reddish brown silty opaque liquid.
	16/03/2015		2.39		6.3	None	10 litres purged, well depleting so sample taken	
	26/03/2015		0.93		6.3	n/a	n/a	n/a
BH07	13/03/2015	n/a	1.33	n/a	6.17	25 litres extracted before purging dry	None	Sample is a reddish brown silty opaque liquid.
	16/03/2015		3.94		6.17	None	3 litres purged, well depleting so sample taken	
	26/03/2015		1.7		6.17	n/a	n/a	n/a

Weather:
16/03/15: Overcast, rain in the morning
26/03/13: Sunny, partially cloudy, breezy

WINDOW SAMPLE LOG

ENVIRON

Project Number: UK22-21295	**Ground Elevation: 16.074m AOD**
ID: MW01	**Co-ordinates: 456394, 520375**
Site: Teesside Power Station	**Date: 12th March 2015**
Client: GDF Suez Ltd	**Equipment: Competitor Window Sampling Rig**
Logged By: RM	**Diameter: 110mm reducing**



Strata Description	Depth (m)
MADE GROUND Concrete	0.22
MADE GROUND Grey sandy GRAVEL. Gravel is fine to coarse, rounded to angular ash and slag.	0.90
POSSIBLE MADE GROUND Firm to stiff brown/grey mottled gravelly slightly sandy CLAY. Gravel is fine to medium, angular to rounded mudstone and sandstone.	2.00
TILL Stiff brown slightly sandy slightly gravelly CLAY. Gravel is angular to sub-rounded, fine to medium coal, mudstone and occasional igneous fragements.	4.00
TILL Stiff red/brown slightly sandy CLAY.	5.00
End of Borehole at 5 m bgl.	

Sample	Headspace PID (ppm v)
HS @ 0.3m	0.0
HS @ 0.9m	0.0
HS @ 1.5m	0.0
HS @ 2.0m	0.0
HS @ 3.0m	0.0
HS @ 4.0m	0.0

Temporary casing details: Borehole cased to 1.0m bgl.

Groundwater details: Borehole dry during drilling

Monitoring well standpipe diameter: 50mm

Other comments:

Well installation key:

Concrete
Bentonite seal
Arisings
Filter pack
Slotted pipe
Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

Project Number: UK22-21295
Ground Elevation: 16.151m AOD

ID: MW02
Co-ordinates: 456467, 520410

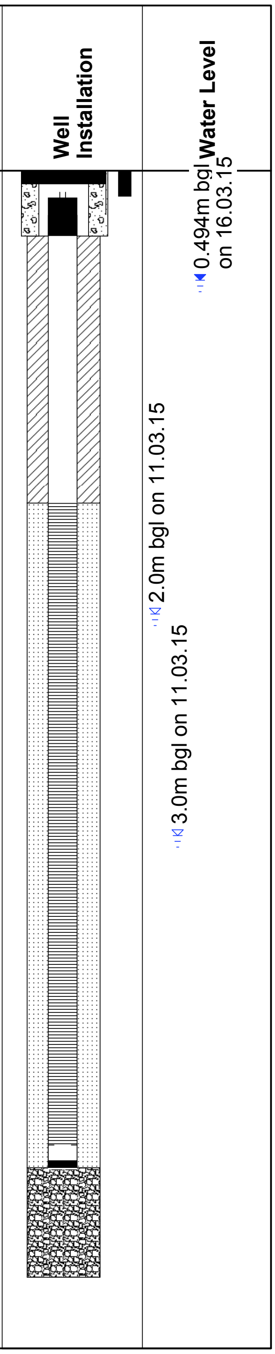
Site: Teesside Power Station
Date: 11th March 2015

Client: GDF Suez Ltd
Equipment: Competitor Window Sampling Rig

Logged By: RM
Diameter: 110mm

Strata Description	Depth (m)	Sample	Headspace PID ppm v
MADE GROUND Concrete	0.15	HS @ 0.2m	0.2
MADE GROUND Grey very sandy GRAVEL. Gravel is fine to coarse, rounded to angular ash and slag.	0.40	0.4-0.7m	0.2
MADE GROUND Firm brown/orange/grey mottled gravelly slightly sandy CLAY. Gravel is fine to medium, angular to rounded brick, coal, ash, slag and mudstone.	1.40	1.4-1.7m	0.2
TILL Brown/grey mottled clayey fine SAND. ...1.7-1.75m - firm brown CLAY. ...1.9-1.95m - firm brown CLAY. ...2.0m - becoming wet ...2.25-2.4m - firm brown CLAY.	2.40	HS @ 2.4m	0.0
TILL Firm to stiff red/brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium, angular to sub-rounded sandstone, mudstone and limestone with rare coal.	3.00	HS @ 3.0m	0.0
TILL Brown silty fine SAND. [Poor sample returns]	4.00	HS @ 4.0m	0.0
TILL Stiff red/brown slightly sandy CLAY.	5.00	HS @ 4.5m	0.0
End of Borehole at 5 m bgl.			

Depth (m): 1.0, 2.0, 3.0, 4.0, 5.0



Temporary casing details: Borehole cased to 5.0m bgl.

Groundwater details: Water strike encountered at 2.0m and 3.0m bgl during drilling

Monitoring well standpipe diameter: 50mm

Other comments:

Well installation key:
▨ Concrete
▨ Bentonite seal
▩ Arisings
⁘ Filter pack
▤ Slotted pipe
|| Plain pipe

Checked by:

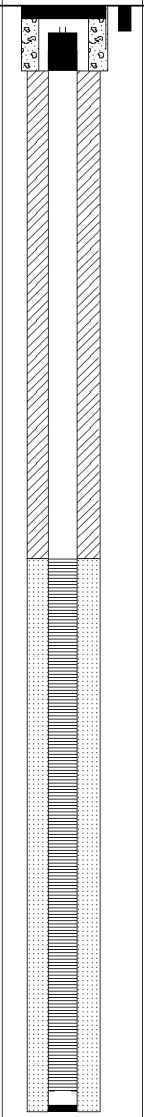
Sheet 1 of 1

WINDOW SAMPLE LOG

Project Number: UK22-21295
ID: MW03
Site: Teesside Power Station
Client: GDF Suez Ltd
Logged By: RM

Ground Elevation: 16.218m AOD
Co-ordinates: 456512, 520306
Date: 12th March 2015
Equipment: Competitor Window Sampling Rig
Diameter: 110mm reducing

Depth (m)	Strata Description	Sample	Headspace PID ppm v
0.14	**MADE GROUND** Concrete		
1.00	**MADE GROUND** Grey/brown very sandy GRAVEL. Gravel is fine to coarse, rounded to angular ash, slag and occasional mudstone. ...becoming clayey from 0.8m.	0.5-0.8m	0.1
1.40	No Sample Returns		
1.60	**MADE GROUND** Soft brown/orange slightly sandy slightly gravelly CLAY. Gravel is angular to sub-rounded, fine to medium brick and mudstone.	1.6-1.9m	0.4
2.00	**MADE GROUND** Black clayey sandy GRAVEL. Gravel is angular to rounded, fine to medium ash, slag and occasional brick and mudstone.	2.0-2.3m	0.0
4.00	**TILL** Stiff brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular, fine mudstone and sandstone.	HS @ 3.0m HS @ 4.0m	0.0 0.0
5.00	**TILL** Stiff brown slightly sandy CLAY.		
	End of Borehole at 5 m bgl.		



Water Level

Water strike at 1.6m bgl (12/03/15)

Water strike at 4.6m bgl (12/03/15)

Temporary casing details: Borehole cased to 2.0m bgl.

Groundwater details: Groundwater strike at 1.6m and 4.6m bgl during drilling

Monitoring well standpipe diameter: 50mm

Other comments:

Well installation key:

Concrete
Bentonite seal
Arisings
Filter pack
Slotted pipe
Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

Project Number: UK22-21295

ID: MW04

Site: Teesside Power Station

Client: GDF Suez Ltd

Logged By: KW

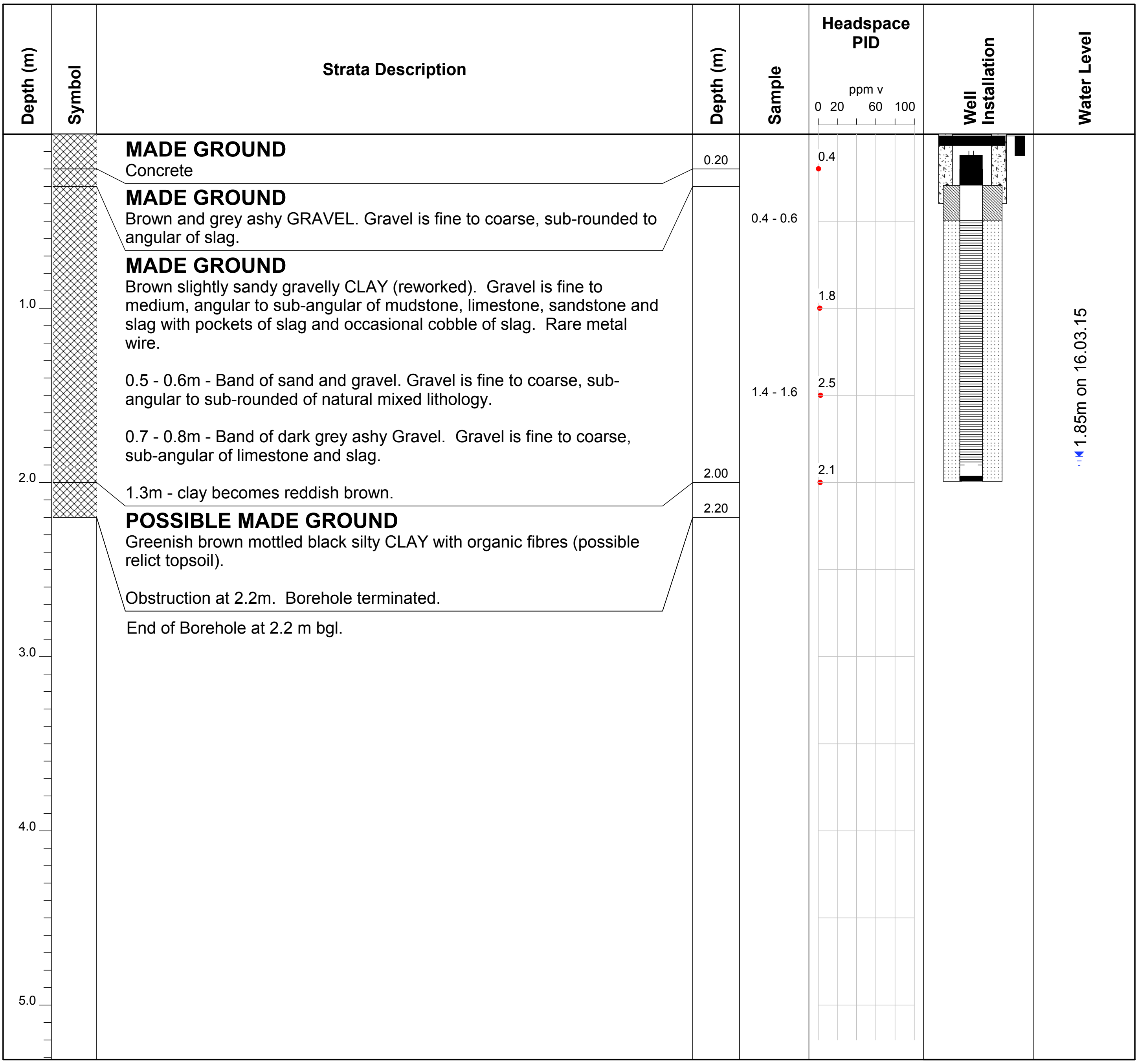
Ground Elevation: 16.424m AOD

Co-ordinates: 456611, 520449

Date: 12th March 2015

Equipment: Competitor Window Sampling Rig

Diameter: 110mm reducing



MADE GROUND
Concrete

MADE GROUND
Brown and grey ashy GRAVEL. Gravel is fine to coarse, sub-rounded to angular of slag.

MADE GROUND
Brown slightly sandy gravelly CLAY (reworked). Gravel is fine to medium, angular to sub-angular of mudstone, limestone, sandstone and slag with pockets of slag and occasional cobble of slag. Rare metal wire.

0.5 - 0.6m - Band of sand and gravel. Gravel is fine to coarse, sub-angular to sub-rounded of natural mixed lithology.

0.7 - 0.8m - Band of dark grey ashy Gravel. Gravel is fine to coarse, sub-angular of limestone and slag.

1.3m - clay becomes reddish brown.

POSSIBLE MADE GROUND
Greenish brown mottled black silty CLAY with organic fibres (possible relict topsoil).

Obstruction at 2.2m. Borehole terminated.

End of Borehole at 2.2 m bgl.

Temporary casing details:

Groundwater details: No distinct strike encountered during drilling

Monitoring well standpipe diameter: 50mm

Other comments: First two attempts refused at 2.2m bgl on an obstruction. This represents the third attempt.

Well installation key:

▨	Concrete
▨	Bentonite seal
▨	Arisings
▨	Filter pack
▥	Slotted pipe
‖	Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

Project Number: UK22-21295

Ground Elevation: 16.254m AOD

ID: MW05

Co-ordinates: 456611, 520549

Site: Teesside Power Station

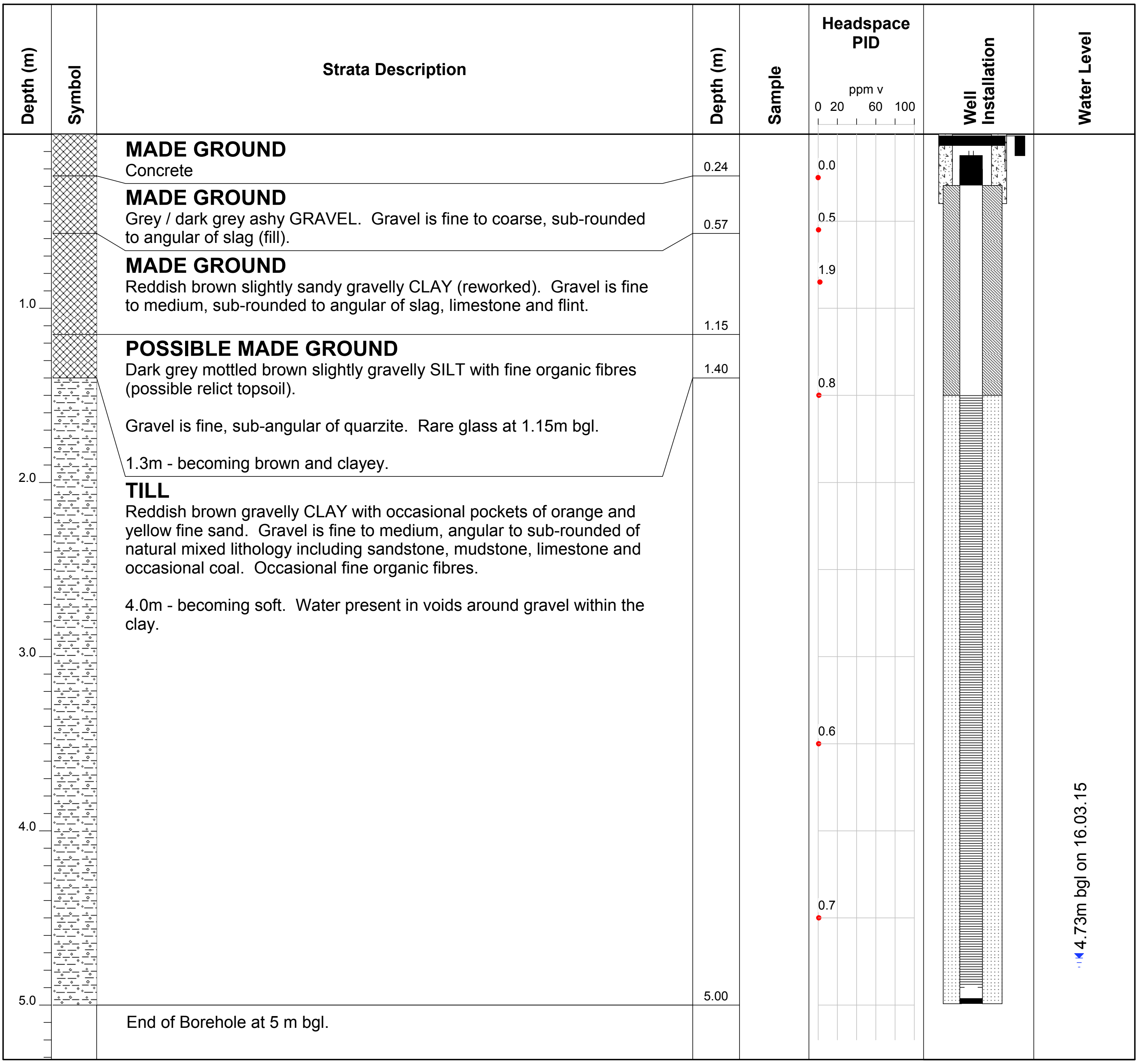
Date: 12th March 2015

Client: GDF Suez Ltd

Equipment: Competitor Window Sampling Rig

Logged By: KW

Diameter: 110mm reducing



Strata Description	Depth (m)
MADE GROUND Concrete	0.24
MADE GROUND Grey / dark grey ashy GRAVEL. Gravel is fine to coarse, sub-rounded to angular of slag (fill).	0.57
MADE GROUND Reddish brown slightly sandy gravelly CLAY (reworked). Gravel is fine to medium, sub-rounded to angular of slag, limestone and flint.	1.15
POSSIBLE MADE GROUND Dark grey mottled brown slightly gravelly SILT with fine organic fibres (possible relict topsoil). Gravel is fine, sub-angular of quarzite. Rare glass at 1.15m bgl. 1.3m - becoming brown and clayey.	1.40
TILL Reddish brown gravelly CLAY with occasional pockets of orange and yellow fine sand. Gravel is fine to medium, angular to sub-rounded of natural mixed lithology including sandstone, mudstone, limestone and occasional coal. Occasional fine organic fibres. 4.0m - becoming soft. Water present in voids around gravel within the clay.	5.00
End of Borehole at 5 m bgl.	

Temporary casing details:

Groundwater details: No distinct strike encountered during drilling

Monitoring well standpipe diameter: 50mm

Other comments:

Well installation key:

⁘ Concrete

▨ Bentonite seal

▩ Arisings

⁙ Filter pack

▤ Slotted pipe

|| Plain pipe

Checked by:

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WINDOW SAMPLE LOG

ENVIRON

Project Number: UK22-21295 | **Ground Elevation: 16.22m AOD**

ID: MW06 | **Co-ordinates: 456739, 520408**

Site: Teesside Power Station | **Date: 12th March 2015**

Client: GDF Suez Ltd | **Equipment: Competitor Window Sampling Rig**

Logged By: RM | **Diameter: 110mm reducing**

Depth (m)	Symbol	Strata Description	Depth (m)	Sample	Headspace PID ppm v (0 20 60 100)	Well Installation	Water Level
	▨	**MADE GROUND** Concrete.	0.27		0.0		
	▨	**MADE GROUND** Grey/brown GRAVEL. Gravel is angular, fine to coarse concrete.					
	▨	**MADE GROUND** Firm brown/grey mottled slightly sandy gravelly CLAY. Gravel is angular to sub-rounded, fine to medium brick, mudstone and sandstone.	0.95		0.0		
1.0	▨	**MADE GROUND** Grey coarse SAND.	1.10				
	▨	**MADE GROUND** Brown fine SAND.					
		End of Borehole at 1.2 m bgl.					
2.0							
3.0							
4.0							
5.0							

Temporary casing details: No casing used.

Groundwater details: No groundwater encountered during drillling.

Monitoring well standpipe diameter: n/a

Other comments: Borehole terminated at 1.2m on unknown obstruction. Relocated to MW06A

Well installation key:

⁘ Concrete	▧ Bentonite seal	▨ Arisings	⁚ Filter pack	▥ Slotted pipe	‖ Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

ENVIRON

Project Number: UK22-21295

Ground Elevation: 16.22m AOD

ID: MW06A

Co-ordinates: 456739, 520408

Site: Teesside Power Station

Date: 12th March 2015

Client: GDF Suez Ltd

Equipment: Competitor Window Sampling Rig

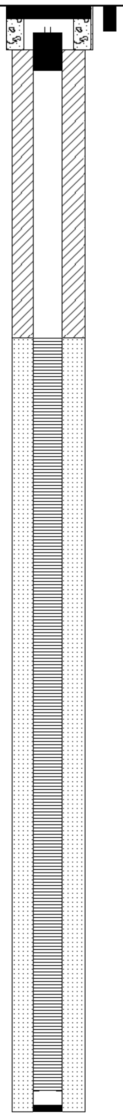
Logged By: RM

Diameter: 110mm reducing

Depth (m)	Strata Description	Depth (m)	Sample	Headspace PID ppm v
	MADE GROUND Concrete.	0.20	HS @ 0.2m	0.0
	MADE GROUND Grey sandy GRAVEL. Gravel is fine to coarse, rounded to angular ash and slag.	0.50	HS @ 0.6m	0.0
1.0	**MADE GROUND** Firm to stiff brown/red slightly sandy slightly gravelly CLAY. Gravel is angular to sub-rounded, fine to medium brick, coal, mudstone, sandstone and occasional quartz and limestone.	1.30	HS @ 1.0m	0.0
2.0	**TILL** Frim to stiff brown/red slightly sandy slightly gravelly CLAY. Gravel is sub-angular, fine mudstone and sandstone.		HS @ 2.0m	0.0
3.0			HS @ 3.0m	0.0
4.0			HS @ 4.0m	0.0
5.0		5.00		
	End of Borehole at 5 m bgl.			

Headspace PID scale: 0 20 60 100

Well Installation



Water Level

Temporary casing details: Borehole cased to 1.0m bgl.

Groundwater details: No groundwater encountered during drilling

Monitoring well standpipe diameter: 50mm

Other comments:

Well installation key:

- Concrete
- Bentonite seal
- Arisings
- Filter pack
- Slotted pipe
- Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

Project Number: UK22-21295

Ground Elevation: 16.214m AOD

ID: MW07

Co-ordinates: 456703, 520473

Site: Teesside Power Station

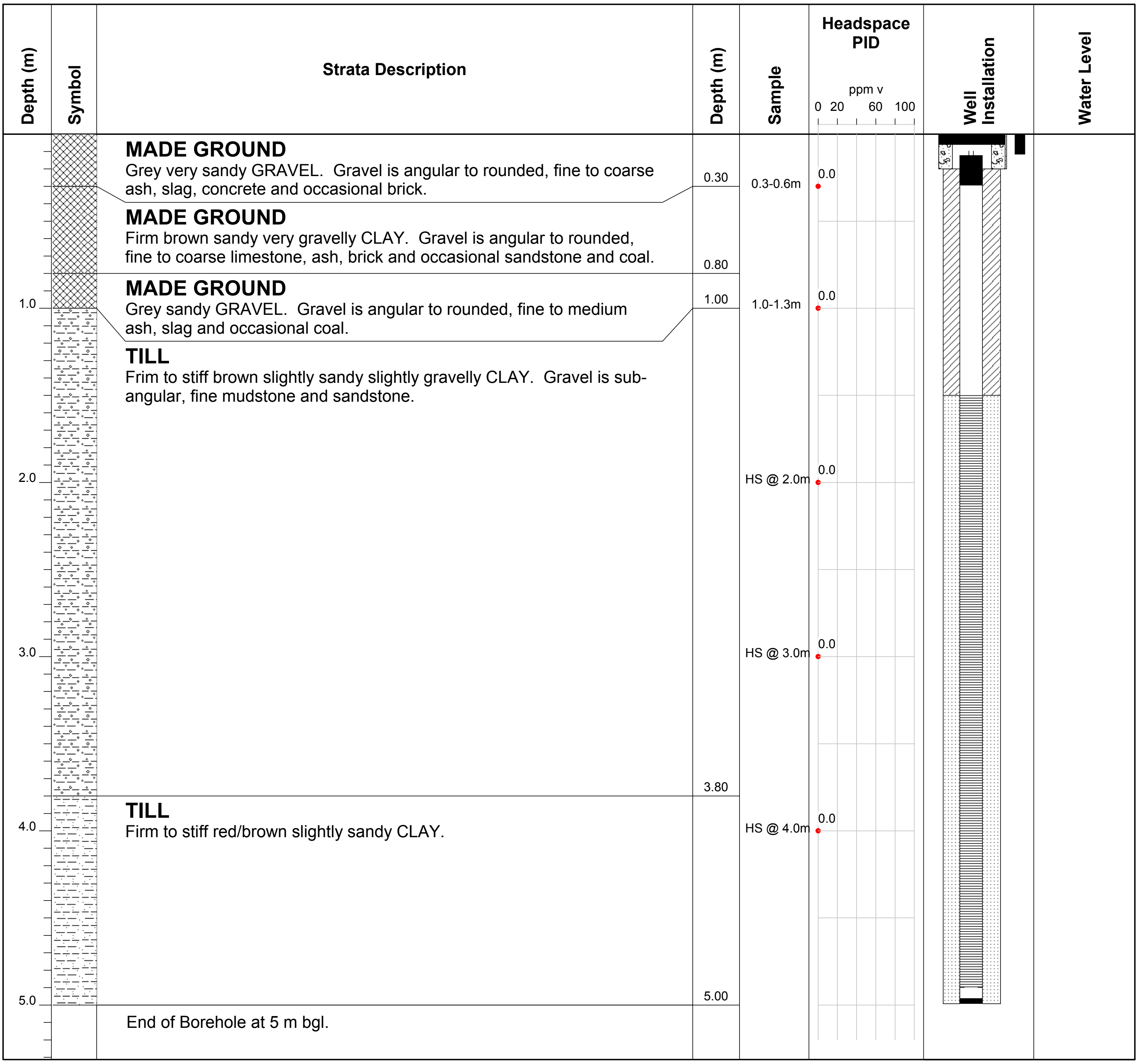
Date: 12th March 2015

Client: GDF Suez Ltd

Equipment: Competitor Window Sampling Rig

Logged By: RM

Diameter: 110mm reducing



Strata Description	Depth (m)	Sample	Headspace PID ppm v
MADE GROUND Grey very sandy GRAVEL. Gravel is angular to rounded, fine to coarse ash, slag, concrete and occasional brick.	0.30	0.3-0.6m	0.0
MADE GROUND Firm brown sandy very gravelly CLAY. Gravel is angular to rounded, fine to coarse limestone, ash, brick and occasional sandstone and coal.	0.80		
MADE GROUND Grey sandy GRAVEL. Gravel is angular to rounded, fine to medium ash, slag and occasional coal.	1.00	1.0-1.3m	0.0
TILL Frim to stiff brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular, fine mudstone and sandstone.	3.80	HS @ 2.0m HS @ 3.0m	0.0 0.0
TILL Firm to stiff red/brown slightly sandy CLAY.	5.00	HS @ 4.0m	0.0
End of Borehole at 5 m bgl.			

Temporary casing details: Borehole cased to 1.0m bgl.

Groundwater details: No groundwater encountered during drilling

Monitoring well standpipe diameter: 50mm

Other comments:

Well installation key:

Concrete

Bentonite seal

Arisings

Filter pack

Slotted pipe

Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

ENVIRON

Project Number: UK22-21295

Ground Elevation: 16.577m AOD

ID: WS01

Co-ordinates: 456326, 520278

Site: Teesside Power Station

Date: 13th March 2015

Client: GDF Suez Ltd

Equipment: Competitor Window Sampling Rig

Logged By: RM

Diameter: 110mm reducing

Depth (m)	Symbol	Strata Description	Depth (m)	Sample	Headspace PID ppm v (0 20 60 100)	Well Installation	Water Level
	▨	**MADE GROUND** Grass onto: Soft brown sandy slightly gravelly CLAY. Gravel is angular to rounded, fine to coarse brick, mudstone and coal.	0.30				
	▨	**MADE GROUND** Grey/brown very sandy GRAVEL. Gravel is angular to rounded, fine to coarse concrete, ash, slag and occasional brick, mudstone and coal.	0.60	0.6-0.9m	0.0		
1.0 2.0		**TILL** Firm to stiff brown slightly sandy slightly gravelly CLAY. Gravel is angular to sub-rounded, fine to medium mudstone, sandstone and occasional coal..	3.00	1.5-1.8m HS @ 2.8m	0.0 0.0		
3.0 4.0 5.0		End of Borehole at 3 m bgl.					

Temporary casing details: No casing used.

Groundwater details: No groundwater encountered during drillling.

Monitoring well standpipe diameter: n/a

Other comments:

Well installation key:

Concrete | Bentonite seal | Arisings | Filter pack | Slotted pipe | Plain pipe

Checked by:

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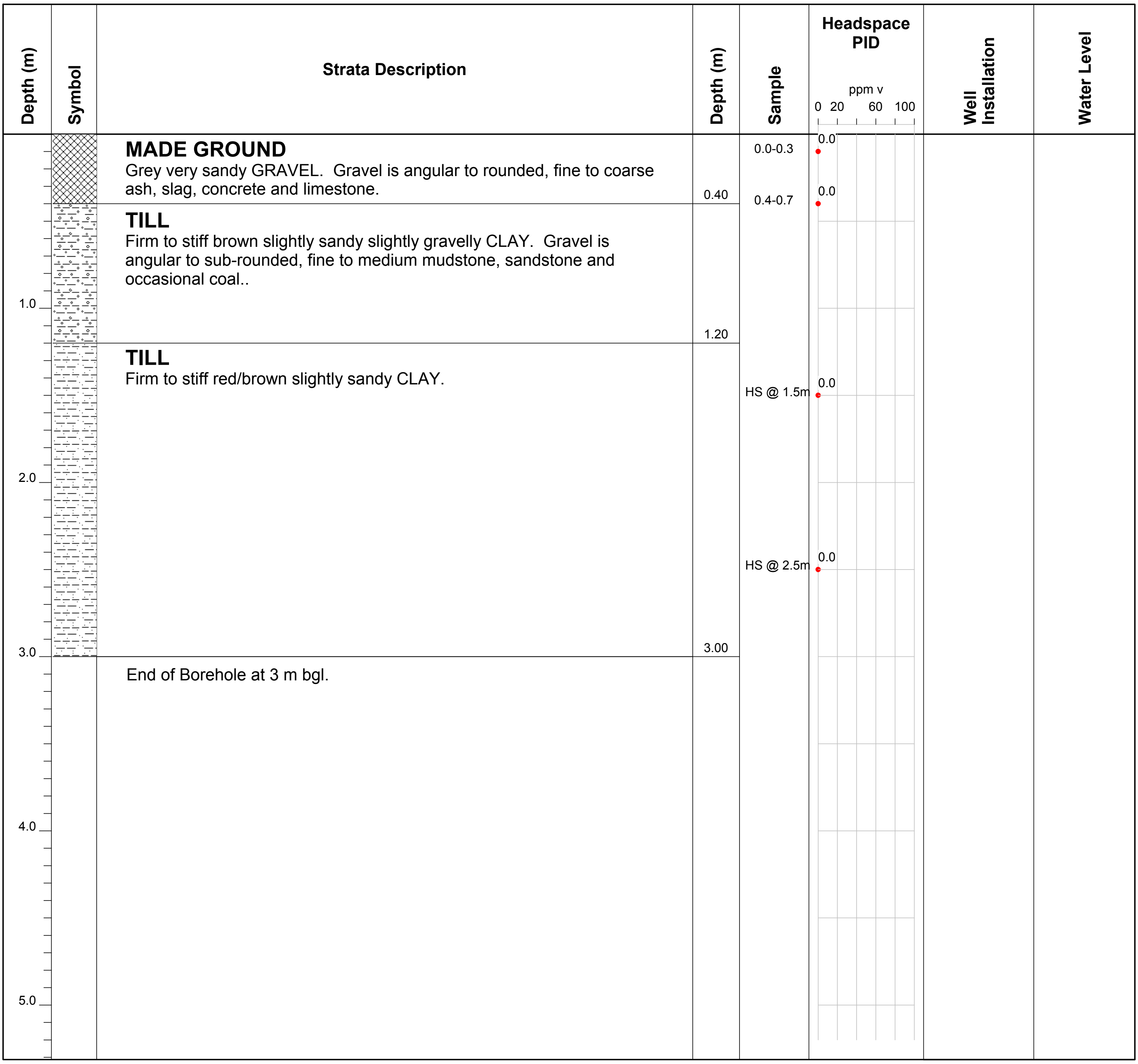
WINDOW SAMPLE LOG

Project Number: UK22-21295 | **Ground Elevation: 16.107m AOD**

Project Number: UK22-21295	**Ground Elevation: 16.107m AOD**
ID: WS02	**Co-ordinates: 456355, 520249**
Site: Teesside Power Station	**Date: 13th March 2015**
Client: GDF Suez Ltd	**Equipment: Competitor Window Sampling Rig**
Logged By: RM	**Diameter: 110mm reducing**



Depth (m)	Symbol	Strata Description	Depth (m)	Sample	Headspace PID ppm v	Well Installation	Water Level
		MADE GROUND Grey very sandy GRAVEL. Gravel is angular to rounded, fine to coarse ash, slag, concrete and limestone.	0.40	0.0-0.3 0.4-0.7	0.0 0.0		
		TILL Firm to stiff brown slightly sandy slightly gravelly CLAY. Gravel is angular to sub-rounded, fine to medium mudstone, sandstone and occasional coal..	1.20				
		TILL Firm to stiff red/brown slightly sandy CLAY.	3.00	HS @ 1.5m HS @ 2.5m	0.0 0.0		
		End of Borehole at 3 m bgl.					

Temporary casing details: No casing used.

Groundwater details: No groundwater encountered during drillling.

Monitoring well standpipe diameter: n/a

Other comments:

Well installation key:

▒ Concrete	▨ Bentonite seal	▩ Arisings	⁞ Filter pack	▮ Slotted pipe	‖ Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

ENVIRON

Project Number: UK22-21295

Ground Elevation: 16.293m AOD

ID: WS03

Co-ordinates: 456439, 520286

Site: Teesside Power Station

Date: 11th March 2015

Client: GDF Suez Ltd

Equipment: Competitor Window Sampling Rig

Logged By: RM

Diameter: 110mm reducing

Depth (m)	Symbol	Strata Description	Depth (m)	Sample	Headspace PID ppm v 0 20 60 100	Well Installation	Water Level
	▩	**MADE GROUND** Grey/brown very sandy GRAVEL. Gravel is angular to rounded, fine to coarse ash, slag, concrete and brick.	0.70	0.0-0.3m	0.0		
1.0	▩	**MADE GROUND** Firm to stiff brown/grey/black mottled sandy gravelly CLAY. Gravel is angular to sub-rounded, fine to medium mudstone, brick and occasional sandstone.	1.50	HS @ 1.0m	0.0		
2.0	▤	**TILL** Firm brown slightly sandy slightly gravelly CLAY. Gravel is angular to sub-rounded, fine to medium mudstone.	3.00	1.5-1.8m	0.0		
3.0 4.0 5.0		End of Borehole at 3 m bgl.					

Temporary casing details: No casing used.

Groundwater details: No groundwater encountered during drillling.

Monitoring well standpipe diameter: n/a

Other comments:

Well installation key:

Concrete

Bentonite seal

Arisings

Filter pack

Slotted pipe

Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

Project Number: UK22-21295
Ground Elevation: 16.259m AOD

ID: WS04
Co-ordinates: 456410, 520424

Site: Teesside Power Station
Date: 11th March 2015

Client: GDF Suez Ltd
Equipment: Competitor Window Sampling Rig

Logged By: RM
Diameter: 110mm reducing

Depth (m)	Symbol	Strata Description	Depth (m)	Sample	Headspace PID ppm v (0 20 60 100)	Well Installation	Water Level
	▩	**MADE GROUND** Concrete.	0.20				
	▩	**MADE GROUND** Grey/black/brown very sandy GRAVEL. Gravel is angular to rounded, fine to coarse ash, slag and occasional mudstone.	0.80	0.5-0.8m	0.0		
1.0	▩	**MADE GROUND** Firm to stiff brown slightly sandy gravelly CLAY. Gravel is angular to sub-rounded, fine to medium mudstone, brick and occasional sandstone.	1.40	1.4-1.7m	0.0		
2.0	▤	**TILL** Firm to stiff brown/red slightly sandy slightly gravelly CLAY. Gravel is angular to sub-rounded, fine to medium mudstone.	3.00	HS @ 2.5m	0.0		
3.0		End of Borehole at 3 m bgl.					
4.0							
5.0							

Temporary casing details: No casing used.

Groundwater details: No groundwater encountered during drillling.

Monitoring well standpipe diameter: n/a

Other comments:

Well installation key:

- Concrete
- Bentonite seal
- Arisings
- Filter pack
- Slotted pipe
- Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

ENVIRON

Project Number: UK22-21295

Ground Elevation: 16.294m AOD

ID: WS05

Co-ordinates: 456449, 520473

Site: Teesside Power Station

Date: 11th March 2015

Client: GDF Suez Ltd

Equipment: Competitor Window Sampling Rig

Logged By: RM

Diameter: 110mm reducing

Depth (m)	Symbol	Strata Description	Depth (m)	Sample	Headspace PID ppm v 0 20 60 100	Well Installation	Water Level
		MADE GROUND Concrete.	0.23				
		MADE GROUND Grey/black very sandy GRAVEL. Gravel is angular to rounded, fine to coarse ash, slag and ocasional mudstone.	0.80	0.3-0.6m	0.0		
1.0		**MADE GROUND** Firm grey/brown mottled slightly sandy slightly gravelly CLAY. Gravel is angular to sub-rounded, fine to medium mudstone and brick.	1.00	1.0-1.3m	0.0		
		TILL Soft to firm black/grey/brown mottled very sandy very gravelly CLAY. Gravel is angular to sub-rounded, fine to medium mudstone.	1.80				
2.0		**TILL** Grey/brown silty fine SAND.	2.50	HS @ 2.0m	0.0		
		TILL Orange/brown fine to coarse SAND and GRAVEL. Gravel is angular to rounded, fine to medium quartz, mudstone and sandstone.	2.70	HS @ 2.5m HS @ 2.7m	0.0 0.0		
3.0		**TILL** Stiff brown/red slightly sandy CLAY.	3.00				
		End of Borehole at 3 m bgl.					
4.0							
5.0							

Temporary casing details: No casing used.

Groundwater details: No groundwater encountered during drillling.

Monitoring well standpipe diameter: n/a

Other comments:

Well installation key:

Concrete

Bentonite seal

Arisings

Filter pack

Slotted pipe

Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

Project Number: UK22-21295	**Ground Elevation: 16.105m AOD**
ID: WS06	**Co-ordinates: 456547, 520315**
Site: Teesside Power Station	**Date: 12th March 2015**
Client: GDF Suez Ltd	**Equipment: Competitor Window Sampling Rig**
Logged By: RM	**Diameter: 110mm reducing**

Depth (m)	Symbol	Strata Description	Depth (m)	Sample	Headspace PID ppm v	Well Installation	Water Level
	▨	**MADE GROUND** Concrete.	0.17				
	▨	**MADE GROUND** Grey/brown sandy GRAVEL. Gravel is angular to rounded, fine to coarse ash and slag.	0.60	0.2-0.5m	0.0		
	▨	**MADE GROUND** Firm to stiff brown/grey/black mottled slightly sandy gravelly CLAY. Gravel is angular to sub-rounded, fine to medium slag and occasional ash, brick and mudstone.	1.00				
1.0	▨	**POSSIBLE MADE GROUND** Firm to stiff brown/orange mottled slightly sandy slightly gravelly CLAY. Gravek is angular to sub-rounded, fine to medium mudstone and occasional coal.	1.70	1.0-1.3m	0.0		
		End of Borehole at 1.7 m bgl.					
2.0							
3.0							
4.0							
5.0							

Temporary casing details: No casing used.

Groundwater details: No groundwater encountered during drillling.

Monitoring well standpipe diameter: n/a

Other comments: Borehole terminated at 1.7m on unknown obstruction

Well installation key:

⁙	Concrete
▧	Bentonite seal
▨	Arisings
⁚	Filter pack
▤	Slotted pipe
‖	Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

ENVIRON

Project Number: UK22-21295
ID: WS07
Site: Teesside Power Station
Client: GDF Suez Ltd
Logged By: RM

Ground Elevation: 16.06m AOD
Co-ordinates: 456535, 520477
Date: 11th March 2015
Equipment: Competitor Window Sampling Rig
Diameter: 110mm reducing

Strata Description	Depth (m)	Sample	Headspace PID ppm v	Well Installation	Water Level
MADE GROUND Concrete.	0.17	0.2-0.5m	0.0		
MADE GROUND Grey/black slightly sandy GRAVEL. Gravel is angular to rounded, fine to coarse ash and slag.	0.70	0.7-1.0m	0.0		
MADE GROUND Brown very sandy GRAVEL. Gravel is angular to rounded, fine to coarse ash, slag and occasional brick.					
TILL Stiff brown/grey mottled slightly sandy slightly gravelly CLAY. Gravel is angular, fine mudstone.	2.00	HS @ 2.0m	0.0		
TILL Stiff red/brown CLAY.	3.00	HS @ 2.5m	0.0		
End of Borehole at 3 m bgl.					

Temporary casing details: No casing used.

Groundwater details: No groundwater encountered during drillling.

Monitoring well standpipe diameter: n/a

Other comments:

Well installation key:

Concrete	Bentonite seal	Arisings	Filter pack	Slotted pipe	Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

Project Number: UK22-21295

Ground Elevation: 16.204m AOD

ID: WS08

Co-ordinates: 456582, 520395

Site: Teesside Power Station

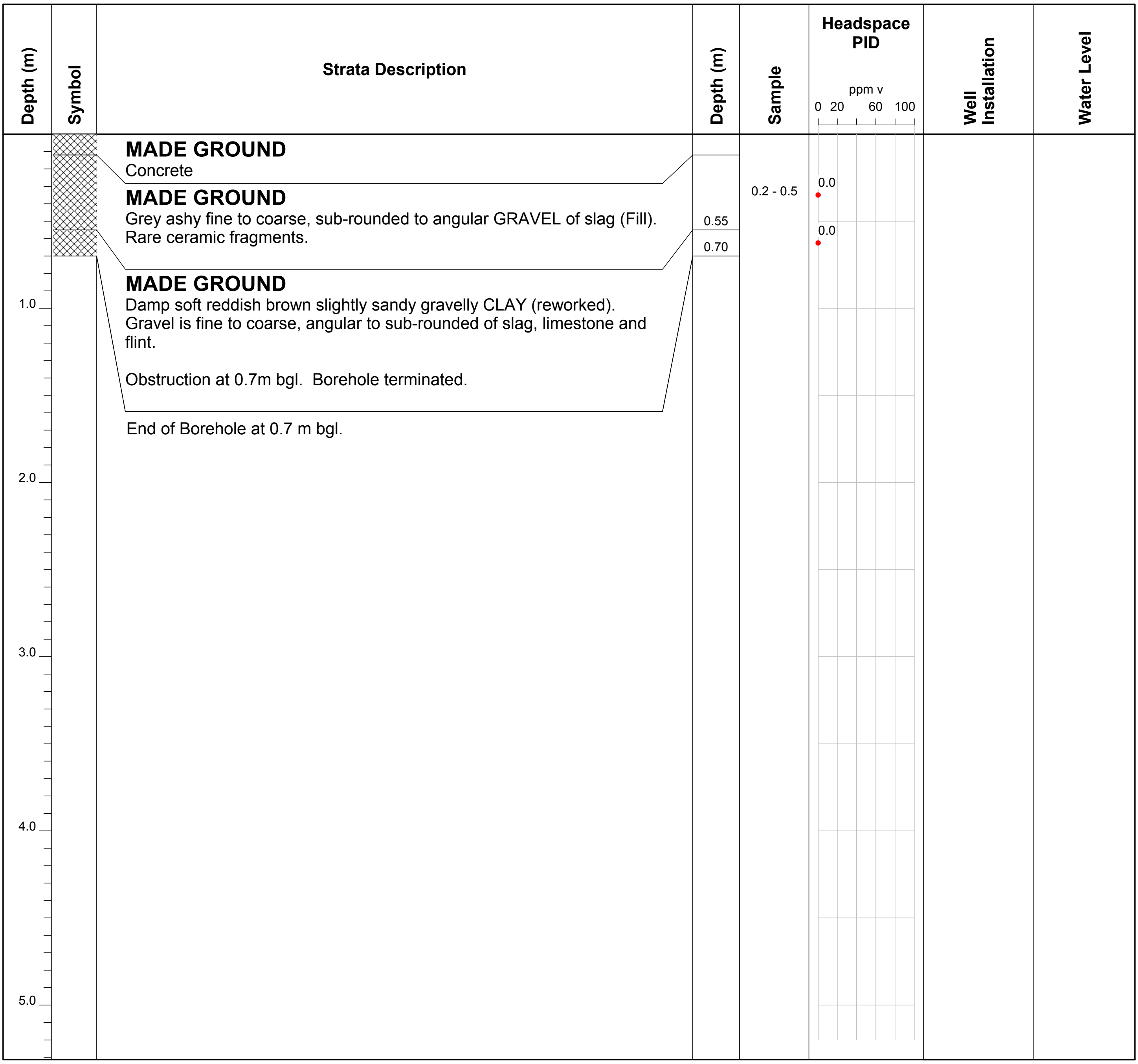
Date: 12th March 2015

Client: GDF Suez Ltd

Equipment: Competitor Window Sampling Rig

Logged By: KW

Diameter: 110mm reducing



MADE GROUND
Concrete

MADE GROUND
Grey ashy fine to coarse, sub-rounded to angular GRAVEL of slag (Fill). Rare ceramic fragments.

MADE GROUND
Damp soft reddish brown slightly sandy gravelly CLAY (reworked). Gravel is fine to coarse, angular to sub-rounded of slag, limestone and flint.

Obstruction at 0.7m bgl. Borehole terminated.

End of Borehole at 0.7 m bgl.

Temporary casing details:

Groundwater details: No distinct strike encountered during drilling

Monitoring well standpipe diameter: n/a

Other comments: First attempt refused at 0.5m bgl on an obstruction. This log represents the second attempt. Borehole backfilled with arisings upon completion.

Well installation key:

▨ Concrete	▨ Bentonite seal	▨ Arisings	▨ Filter pack	▮ Slotted pipe	‖ Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

ENVIRON

Project Number: UK22-21295

Ground Elevation: 16.204m AOD

ID: WS09

Co-ordinates: 456556, 520529

Site: Teesside Power Station

Date: 11th March 2015

Client: GDF Suez Ltd

Equipment: Competitor Window Sampling Rig

Logged By: RM

Diameter: 110mm reducing

Depth (m)	Symbol	Strata Description	Depth (m)	Sample	Headspace PID ppm v	Well Installation	Water Level
		MADE GROUND Concrete.	0.40	HS @ 0.4m	0.2		
		MADE GROUND Grey/black slightly sandy GRAVEL. Gravel is angular to rounded, fine to coarse ash and slag.	0.60	0.6-0.9m	0.2		
1.0		**MADE GROUND** Stiff brown sandy gravelly CLAY. Gravel is angular to rounded, fine to coarse ash, slag, mudstone and occasional brick.	0.90	1.1-1.4m	0.0		
		MADE GROUND Grey/brown sandy GRAVEL. Gravel is angular to rounded, fine to coarse ash, slag mudstone and occasional brick.					
2.0		**MADE GROUND** Stiff grey/brown mottled slightly sandy slightly gravelly CLAY. Gravel is angular to rounded, fine to coarse ash, slag, mudstone and occasional brick.		HS @ 2.0m	0.0		
		TILL Stiff brown/grey mottled slightly sandy slightly gravelly CLAY. Gravel is angular, fine mudstone.	2.60	HS @ 2.5m	0.0		
3.0		**TILL** Stiff red/brown CLAY.	3.00				
		End of Borehole at 3 m bgl.					
4.0							
5.0							

Temporary casing details: No casing used.

Groundwater details: No groundwater encountered during drillling.

Monitoring well standpipe diameter: n/a

Other comments:

Well installation key:

Concrete

Bentonite seal

Arisings

Filter pack

Slotted pipe

Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

Project Number: UK22-21295

Ground Elevation: 16.368m AOD

ID: WS10

Co-ordinates: 456628, 520564

Site: Teesside Power Station

Date: 12th March 2015

Client: GDF Suez Ltd

Equipment: Competitor Window Sampling Rig

Logged By: RM

Diameter: 110mm reducing

Depth (m)	Symbol	Strata Description	Depth (m)	Sample	Headspace PID ppm v (0 20 60 100)	Well Installation	Water Level
	▨	**MADE GROUND** Grey/brown very sandy GRAVEL. Gravel is angular to rounded, fine to coarse ash and slag.	0.30	0.3-0.6m	0.0		
	▨	**MADE GROUND** Firm to stiff grey/brown mottled slightly sandy gravelly CLAY. Gravel is angular to sub-rounded, fine to medium mudstone, sandstone and occasional ash and slag.	0.60	0.6-0.9m	0.0		
1.0 2.0 3.0		**TILL** Firm to stiff brown slightly sandy slightly gravelly CLAY. Gravel is angular to sub-rounded, fine to medium mudstone, sandstone and occasional coal..	3.00	HS @ 1.5m HS @ 2.5m	0.0 0.0		
4.0 5.0		End of Borehole at 3 m bgl.					

Temporary casing details: No casing used.

Groundwater details: No groundwater encountered during drillling.

Monitoring well standpipe diameter: n/a

Other comments:

Well installation key:

- Concrete
- ▧ Bentonite seal
- ▨ Arisings
- ⁘ Filter pack
- ▤ Slotted pipe
- ‖ Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

ENVIRON

Project Number: UK22-21295
Ground Elevation: 16.27m AOD
ID: WS11
Co-ordinates: 456619, 520564
Site: Teesside Power Station
Date: 12th March 2015
Client: GDF Suez Ltd
Equipment: Competitor Window Sampling Rig
Logged By: KW
Diameter: 110mm

Symbol	Strata Description	Depth (m)	Sample	Headspace PID ppm v	Well Installation	Water Level
▨	**MADE GROUND** Concrete	0.15				
▨	**MADE GROUND** Grey ashy GRAVEL of slag. Gravel is fine to coarse, sub-rounded to angular. Geotextile membrane at base.	0.40	0.2 - 0.4	2.2		
▨	**MADE GROUND** Damp soft reddish brown slightly sandy gravelly CLAY (reworked). Gravel is fine to coarse, angular to sub-rounded of slag, limestone and flint.	0.80	0.6 - 0.8	3.4		

End of Borehole at 0.8 m bgl.

Temporary casing details:

Groundwater details: No distinct strike encountered during drilling

Monitoring well standpipe diameter: n/a

Other comments: First attempt refused at 0.2m bgl. Spare location 1 drilled and refused at 0.7m bgl. This log represents spare location 2. Borehole backfilled with arisings

Well installation key:

⁘	Concrete
▧	Bentonite seal
▨	Arisings
⁙	Filter pack
▮	Slotted pipe
‖	Plain pipe

Checked by:

Sheet 1 of 1

WINDOW SAMPLE LOG

Project Number: UK22-21295
Ground Elevation: 16.368m AOD
ID: WS12
Co-ordinates: 456628.434, 520563.93
Site: Teesside Power Station
Date: 12th March 2015
Client: GDF Suez Ltd
Equipment: Competitor Window Sampling Rig
Logged By: KW
Diameter:

Strata Description	Depth (m)	Sample	Headspace PID ppm v (0 20 60 100)	Well Installation	Water Level
MADE GROUND Concrete	0.20				
MADE GROUND Grey ashy Gravel. Gravel is fine to coarse, sub-rounded to angular of slag (Fill).	0.55		1.4 3.1		
MADE GROUND Dark grey and brown ashy Clay (Fill)		0.7 - 0.9			
MADE GROUND Reddish brown slightly sandy gravelly Clay (reworked). Gravel is fine to coarse, angular to sub-rounded of slag, limestone and flint. 1.0m - Clay becoming soft and damp with pockets of sand.	1.45		2.8		
POSSIBLE MADE GROUND Dark grey mottled brown slightly gravelly Silt with fine organic fibres (possible relict topsoil).		1.5 - 1.7	3		
TILL Reddish brown gravelly CLAY with occasional pockets of orange and yellow fine sand. Gravel is fine to medium, angular to sub-rounded of natural mixed lithology including sandstone, mudstone, limestone and rare coal.	3.00		2.5		
End of Borehole at 3 m bgl.					

Temporary casing details:

Groundwater details: No distinct strike encountered during drilling

Monitoring well standpipe diameter: n/a

Other comments: Backfilled with arisings

Well installation key:

⁘ Concrete ▨ Bentonite seal ▩ Arisings ⁚ Filter pack ▤ Slotted pipe ‖ Plain pipe

Checked by:

Sheet 1 of 1

Annex C: Background to ENVIRON Soil GACs

1 Derivation of Generic Assessment Criteria

1.1 Soil Assessment

In accordance with current UK guidance on legislation including Part 2A of the Environmental Protection Act 1990 and based on the principles of risk assessment, ENVIRON has derived generic criteria for interpretation of soil and groundwater chemical analysis (ENVIRON Generic Assessment Criteria – ENVIRON GAC). The assessment of chemical data from an intrusive investigation is undertaken in a tiered approach, and the first stage is a Generic Quantitative Risk Assessment (GQRA).

The Soil Guideline Values (SGVs) for 11 compounds published in 2009 by the Environment Agency, are based on a sandy loam soil with 6% soil organic matter (SOM). The 6% SOM and sandy loam soil type is not considered by ENVIRON to be realistic of 'typical' UK soil conditions, and EA guidance states that at 6% SOM, SGVs may not be sufficiently protective (i.e. the values are too high to be sufficiently certain that they describe land where there is no risk to human health or the risk is negligible). For the ENVIRON GAC, all the SGV inputs have been used apart from the SOM and soil type, which were amended to 1% and sand; thereby ensuring a suitably conservative ENVIRON GAC appropriate for most soils and Made Ground encountered in the UK. It is noted that none of the screening criteria used in the UK, including the SGVs, have a statutory basis.

The ENVIRON GAC for soil assessment are based on the generic scenarios outlined in the Contaminated Land Exposure Assessment (CLEA) methodology and guidance documents, and include inhalation, ingestion, dermal contact of soil and dust as pathways for commercial and residential scenarios; as well as ingestion of homegrown produce for residential with gardens scenario. These have been calculated by use of two proprietary risk assessment models (CLEA Version 1.06 and the ASTM RBCA[1] Tool Kit Version 2.6 for Chemical Releases) which have been altered, where necessary, to reflect the current UK approach to human health risk assessment as set out in the Contaminated Land Report (CLR) 11 and the CLEA guidance documents (incorporating Science Reports SC050021/SR2 (January 2009), SR3 (January 2009), SR4 (September 2009) and the SGV reports (2009)). The physiochemical data has been taken from or derived using the methodology detailed in SR7 (November 2008) and SGV reports (2009), where feasible. The toxicology data has been taken from the current published EA toxicology documents. We have referred to all publications and guidance issued up until the 10 April 2012.

In the absence of published EA data, reference has been made to the following sources of information in order of priority:

- Chartered Institute of Environmental Health (CIEH) / Land Quality Management (LQM) (Version 2 dated 2009) GAC, including addendums up until 10 April 2012.
- Contaminated Land: Applications in Real Environments (CL:AIRE) and partners GAC, including addendums up until 10 April 2012.
- Other published sources of information, such as the RBCA V2.6 database.

This approach by ENVIRON follows the withdrawal of CLR 7-10, CLEA UK (beta), CLEA V1.04 and CLEA V1.05 by the Environment Agency and DEFRA. The approach has been

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[1] American Society for testing Materials – Risk Based Corrective Action Model

applied to all contaminants with the exception of lead, as the lead SGV has been withdrawn by the Environment Agency.

The Part 2A revised Statutory Guidance created the need for new technical tools and advice to be developed to help regulators and others to conform to the requirements of the Guidance. This led to a Defra-funded research project (SP1010), which developed a methodology to derive Category 4 Screening Levels (C4SLs) for six contaminants (benzo-a-pyrene, cadmium, arsenic, benzene, hexavalent chromium and lead). The C4SLs are less conservative than GAC as they describe a low risk as opposed to minimal risk scenario. However, consistent with the developed GAC, sites below the C4SLs are within Category 4 (lowest risk category) and therefore suitable for use.

Defra's Policy Companion document[2] to the SP1010 project states that where a C4SL value has been derived for a contaminant where an SGV exists, it is anticipated that risk assessors will use the C4SL value in line with Part 2A Statutory Guidance. In the absence of a suitable C4SL, risk assessors should identify and select appropriate generic assessment criteria in accordance with established good practice. On this basis, ENVIRON has adopted the use of C4SLs for the six contaminants for which they are available and will apply our in-house GAC for other contaminants of concern within our screening assessments.

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[2] SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document, Defra, revised December 2014

Annex D: Soil Analytical Results

Annex D.1: Soil Results Compared with ENVIRON GACs

Annex D.2: Soil Analytical Laboratory Certificates

		Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil
	640	16	9	3	11	7	8	10	7	
	417	6	<DL	5	<DL	5	<DL	7	<DL	
	19,200	<DL	<DL	<DL	<DL	<DL	<DL	1	<DL	<DL
	410	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	30,400	37	37	10	33	93	32	23	31	
	71,700	21	22	2	19	62	20	25	20	
	2,330	87	19	14	25	22	26	43	16	
	3,640	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	1,790	13	43	1	32	97	26	7	33	
	13,000	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	3,160	79	40	12	41	28	34	39	35	
	665,000	200	58	54	74	910	60	310	55	
	14,000	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	NC	10	8.2	8.6	7.9	10.9	8.8	9.5	8.3	
	30,800	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
SO4	NC	0.23	0.08	0.04	0.04	0.8	0.22	0.95	0.12	
	NC	ns	ns	ns	ns	ns	ns	ns	0.6	ns
	Detect (D) / Not detected (ND)	ND	ns	ND	ns	ND	ns	ND	ns	ND
BONS (TPHS)										
) (mg/kg)										
	98	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	835	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	508	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	467	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
		<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	4020	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	368	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	157	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	79.2	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	47.7	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	23.7	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	
	5000	<DL	<DL	<DL	<DL	10	<DL	3	<DL	
	5000	<DL	<DL	<DL	<DL	51	<DL	9	<DL	
	NC	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	NC	<DL	<DL	<DL	<DL	61	<DL	12	<DL	
	835	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
		<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	610	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	362	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	168	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	5,000	<DL	<DL	<DL	<DL	1	<DL	<DL	<DL	
	5,000	<DL	<DL	<DL	<DL	3	<DL	<DL	<DL	
	NC	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	NC	<DL	<DL	<DL	<DL	4.5	<DL	<DL	<DL	
rocarbons	NC	<DL	<DL	<DL	<DL	65	<DL	12	<DL	
		0	0	0	0	65	0	12	0	

		Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil
ns (PAHs)										
	75	<DL	<0.1	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	85.5	<DL	<0.1	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	56.7	<DL	<0.1	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	30.8	<DL	<0.1	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	21900	0.8	<0.1	<DL	<DL	<DL	<DL	<DL	<DL	
	522000	0.3	<0.1	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	22600	2.1	<0.1	<DL	<DL	0.1	<DL	<DL	<DL	
	54300	1.8	<0.1	<DL	<DL	0.2	<DL	<DL	<DL	
	15.6	0.9	<0.1	<DL	<DL	<DL	<DL	<DL	<DL	
	13.1	0.8	<0.1	<DL	<DL	<DL	<DL	<DL	<DL	
	17	0.6	<0.1	<DL	<DL	<DL	<DL	<DL	<DL	
	18.6	0.7	<0.1	<DL	<DL	<DL	<DL	<DL	<DL	
	76	0.7	<0.1	<DL	<DL	<DL	<DL	<DL	<DL	
	18.5	0.4	<0.1	<DL	<DL	<DL	<DL	<DL	<DL	
	18.6	0.2	<0.1	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	18.8	0.5	<0.1	<DL	<DL	<DL	<DL	<DL	<DL	
	nc	9.9	<0.1	<DL	<DL	0.3	<DL	<DL	<DL	
DS (VOCs) (mg/kg)										
	1,090	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	142	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	0.0593	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	0.0403	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	54.5	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	567	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	333,000	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	15.4		ns			<DL	<DL	ns	<DL	ns
	12.3	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	148	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	43.6	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	7.74		ns			<DL	<DL	ns	<DL	ns
	NC	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	333,000	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	392	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	1.74	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	27.2	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	15.8	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	0.356	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	0.0725	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	1.72	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	NC	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	1.1	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	201	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	835	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	27.2	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	51.1	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	72.2	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	27.2	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	16,100		ns			<DL	<DL	ns	<DL	ns
	NC	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	32.8	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	508	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	62.7	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	467	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns

		Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil
DS (VOCs) (mg/kg)										
	53.7	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	3.06	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	ns
	529	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	<DL
	NC	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	<DL
	333,000	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	<DL
	333,000	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	<DL
	22.9	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	<DL
	333,000	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	<DL
	NC	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	<DL
	17.7	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	<DL
	221	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	<DL
	562	<DL	ns	<DL	<DL	<DL	<DL	ns	<DL	<DL
	0.0182	ns	ns	ns	ns	ns	ns	ns	ns	ns
	123	<DL	<DL	<DL	<DL	ns	ns	ns	ns	ns
	NC	<DL	<DL	<DL	<DL	ns	ns	ns	ns	ns
	75	<DL	<DL	<DL	<DL	ns	ns	ns	ns	ns
	58.6	ns	ns	ns	ns	ns	ns	ns	ns	ns
POUNDS (SVOCs) (mg/kg)										
	490	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	4,380	<DL	ns	<DL	<DL	0.2	ns	ns	<DL	<DL
	30,800	<DL	ns	<DL	<DL	ns	ns	ns	ns	ns
	0.554	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	3,590	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	17.7	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	221	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	562	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	162,000	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	28.2	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	11.8	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	164,000	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	15.2	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	65,600	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	12,700	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	13,900	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	2.71	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	3,530	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	123	ns	ns	ns	ns	<DL	ns	ns	<DL	<DL
	NC	ns	ns	ns	ns	<DL	ns	ns	<DL	<DL
	NC	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	NC	ns	ns	ns	ns	<DL	ns	ns	<DL	<DL
	31,800	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	34,300	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	2,960	ns	ns	ns	ns	ns	ns	ns	ns	ns
	2.18	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	848	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	NC	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	113	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	11,300	ns	ns	ns	ns	ns	ns	ns	ns	<DL
	NC	ns	ns	ns	ns	ns	ns	ns	ns	ns
	139	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	85.5	<DL	ns	<DL	<DL	ns	ns	ns	ns	ns
	333,000	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	1,860	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL

		Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil
POUNDS (SVOCs) (mg/kg)										
	30.8	<DL	ns	<DL	<DL	ns	ns	ns	ns	ns
	126,000	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	0.903	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	NC	ns	ns	ns	ns	ns	ns	ns	ns	ns
	170	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	NC	ns	ns	ns	ns	ns	ns	ns	ns	ns
	3.39	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	0.199	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	1,230	<DL	ns	<DL	<DL	ns	ns	ns	ns	ns
	21,900	0.8	ns	<DL	<DL	ns	ns	ns	ns	ns
	522,000	ns	ns	ns	ns	ns	ns	ns	ns	ns
	4.62	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	22,600	2.1	ns	<DL	<DL	ns	ns	ns	ns	ns
	54,300	1.8	ns	<DL	<DL	ns	ns	ns	ns	ns
	942,000	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	15.6	0.9	ns	<DL	<DL	ns	ns	ns	ns	ns
	13.1	0.8	ns	<DL	<DL	ns	ns	ns	ns	ns
	NC					ns	ns	ns	ns	ns
	85,400	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	89,100	<DL	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	17	1.3	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	18.6						ns	ns	<DL	<DL
	76	0.7	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	18.5	0.4	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	18.6	0.2	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
	18.8	0.5	ns	<DL	<DL	<DL	ns	ns	<DL	<DL
) (mg/kg)										
	0.24	ns	ns	ns	ns	<DL	<DL	ns	ns	ns
		ns	ns	ns	ns	<DL	<DL	ns	ns	ns
		ns	ns	ns	ns	<DL	<DL	ns	ns	ns
		ns	ns	ns	ns	<DL	<DL	ns	ns	ns
		ns	ns	ns	ns	<DL	<DL	ns	ns	ns
		ns	ns	ns	ns	<DL	<DL	ns	ns	ns
		ns	ns	ns	ns	<DL	<DL	ns	ns	ns

		Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil	Clay	Clay	Sandy Soil	Sandy Soil
	640	5	10	18	10	9	10	8	10	
	417	5	<DL	3	<DL	5	<DL	<DL	<DL	<DL
	19,200	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	410	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	30,400	10	32	40	44	23	34	39	27	
	71,700	28	24	32	21	17	23	17	20	
	2,330	11	23	110	22	20	24	22	44	
	3,640	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	1,790	4	35	14	33	8	34	30	24	
	13,000	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	3,160	13	41	110	56	49	41	48	39	
	665,000	480	82	330	100	160	87	81	97	
	14,000	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	NC	9.5	9.9	8.8	7.5	10.4	8.6	7.9	8.2	
	30,800	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
SO4	NC	0.12	0.31	0.07	0.11	0.65	0.59	0.11	0.09	0
	NC	ns	ns	ns	ns	ns	ns	ns	1.9	ns
	Detect (D) / Not detected (ND)	ND	ns	ND	ns	ND	ND	ns	ND	ns
BONS (TPHS)										
) (mg/kg)										
	98	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	835	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	508	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	467	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
		<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	4020	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	368	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	157	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	79.2	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	47.7	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	23.7	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	5000	<DL	<DL	4	3	2	3	1	4	<DL
	5000	<DL	<DL	6	5	6	<DL	<DL	5	<DL
	NC	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	NC	<DL	<DL	10	8.4	7.6	<4	<4	8.1	<DL
	835	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
		<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	610	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	362	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	168	<DL	<DL	2	<DL	<DL	<DL	<DL	<DL	<DL
	5,000	<DL	<DL	16	<DL	3	1	<DL	<DL	<DL
	5,000	<DL	<DL	22	<DL	5	<DL	<DL	<DL	<DL
	NC	<DL	<DL	<DL	<DL	1	<DL	<DL	<DL	<DL
	NC	<DL	<DL	39	<DL	9.4	1.3	<DL	<DL	<DL
rocarbons	NC	<DL	<DL	49	8.4	17	<4.0	<DL	8.1	<DL
		0	0	50	8	16	4	1	9	

		Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil	Clay	Clay	Sandy Soil	Sandy Soil
ns (PAHs)										
	75	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	85.5	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	56.7	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	30.8	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	21900	<DL	<DL	0.2	<DL	0.2	<DL	<DL	<DL	<DL
	522000	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	22600	<DL	0.1	0.3	<DL	0.7	<DL	<DL	<DL	<DL
	54300	<DL	0.1	0.2	<DL	0.5	<DL	<DL	<DL	<DL
	15.6	<DL	<DL	0.1	<DL	0.2	<DL	<DL	<DL	<DL
	13.1	<DL	<DL	0.1	<DL	0.2	<DL	<DL	<DL	<DL
	17	<DL	<DL	0.1	<DL	0.2	<DL	<DL	<DL	<DL
	18.6	<DL	<DL	<DL	<DL	0.1	<DL	<DL	<DL	<DL
	76	<DL	<DL	<DL	<DL	0.2	<DL	<DL	<DL	<DL
	18.5	<DL	<DL	<DL	<DL	0.1	<DL	<DL	<DL	<DL
	18.6	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
	18.8	<DL	<DL	<DL	<DL	0.1	<DL	<DL	<DL	<DL
	nc	<DL	0.3	1.1	<DL	2.8	<DL	<DL	<DL	<DL
DS (VOCs) (mg/kg)										
	1,090	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	142	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	0.0593	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	0.0403	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	54.5	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	567	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	333,000	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	15.4	<DL	<DL	ns	<DL		<DL	ns		
	12.3	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	148	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	43.6	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	7.74	<DL	<DL	ns	<DL		<DL	ns		
	NC	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	333,000	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	392	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	1.74	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	27.2	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	15.8	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	0.356	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	0.0725	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	1.72	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	NC	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	1.1	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	201	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	835	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	27.2	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	51.1	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	72.2	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	27.2	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	16,100	<DL	<DL	ns	<DL		<DL	ns		
	NC	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	32.8	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	508	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	62.7	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	467	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL

		Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil	Clay	Clay	Sandy Soil	Sandy Soil
DS (VOCs) (mg/kg)										
	53.7	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	3.06	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	529	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	NC	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	333,000	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	333,000	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	22.9	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	333,000	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	NC	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	17.7	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	221	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	562	<DL	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	0.0182	ns	ns	ns	ns	ns	ns	ns	ns	ns
	123	ns	ns	ns	ns	<DL	ns	ns	<DL	<DL
	NC	ns	ns	ns	ns	<DL	ns	ns	<DL	<DL
	75	ns	ns	ns	ns	<DL	ns	ns	<DL	<DL
	58.6	ns	ns	ns	ns	ns	ns	ns	ns	ns
POUNDS (SVOCs) (mg/kg)										
	490	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	4,380	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	30,800	ns	ns	ns	ns	<DL	ns	ns	<DL	<DL
	0.554	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	3,590	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	17.7	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	221	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	562	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	162,000	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	28.2	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	11.8	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	164,000	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	15.2	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	65,600	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	12,700	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	13,900	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	2.71	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	3,530	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	123	ns	<DL	ns	<DL	ns	<DL	ns	ns	ns
	NC	ns	<DL	ns	<DL	ns	<DL	ns	ns	
	NC	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	NC	ns	<DL	ns	<DL	ns	<DL	ns	ns	
	31,800	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	34,300	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	2,960	ns	ns	ns	ns	ns	ns	ns	ns	ns
	2.18	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	848	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	NC	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	113	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	11,300	ns	ns	ns	ns	ns	ns	ns	ns	ns
	NC	ns	ns	ns	ns	ns	ns	ns	ns	ns
	139	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	85.5	ns	ns	ns	ns	<DL			<DL	<DL
	333,000	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	1,860	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL

		Sandy Soil	Clay	Sandy Soil	Clay	Sandy Soil	Clay	Clay	Sandy Soil	Sandy Soil
POUNDS (SVOCs) (mg/kg)										
	30.8	ns	ns	ns	ns	<DL	ns	ns	<DL	<DL
	126,000	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	0.903	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	NC	ns	ns	ns	ns	ns	ns	ns	ns	ns
	170	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	NC	ns	ns		ns	ns	ns	ns	ns	ns
	3.39	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	0.199	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	1,230	ns	ns	ns	ns	<DL	ns	ns	<DL	<DL
	21,900	ns	ns	ns	ns	0.2	ns	ns	<DL	<DL
	522,000	ns	ns	ns	ns		ns	ns		ns
	4.62	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	22,600	ns	ns	ns	ns	0.7	ns	ns	<DL	<DL
	54,300	ns	ns	ns	ns	0.5	ns	ns	<DL	<DL
	942,000	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	15.6	ns	ns	ns	ns	0.2	ns	ns	<DL	<DL
	13.1	ns	ns	ns	ns	0.2	ns	ns	<DL	<DL
	NC	ns	ns	ns	ns		ns	ns	ns	ns
	85,400	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	89,100	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	17	ns	<DL	ns	<DL	0.4	<DL	ns	<DL	<DL
	18.6	ns	<DL	ns	<DL		<DL	ns	ns	ns
	76	ns	<DL	ns	<DL	0.2	<DL	ns	<DL	<DL
	18.5	ns	<DL	ns	<DL	0.1	<DL	ns	<DL	<DL
	18.6	ns	<DL	ns	<DL	<DL	<DL	ns	<DL	<DL
	18.8	ns	<DL	ns	<DL	0.1	<DL	ns	<DL	<DL
) (mg/kg)										
	0.24	ns	ns	ns	ns	<DL	ns	ns	<DL	ns
		ns	ns	ns	ns	<DL	ns	ns	<DL	ns
		ns	ns	ns	ns	<DL	ns	ns	<DL	ns
		ns	ns	ns	ns	<DL	ns	ns	<DL	ns
		ns	ns	ns	ns	<DL	ns	ns	<DL	ns
		ns	ns	ns	ns	<DL	ns	ns	<DL	ns
		ns	ns	ns	ns	<DL	ns	ns	<DL	ns

		Clay	Clay	Clay	Clay	Clay	Clay	Sandy Soil	Clay
	640	12	9	7	12	6	ns	11	9
	417	<DL	<DL	<DL	2	<DL	ns	<DL	<DL
	19,200	<DL	<DL	<DL	<DL	<DL	ns	<DL	<DL
	410	<DL	<DL	<DL	<DL	<DL	ns	<DL	<DL
	30,400	32	30	30	32	23	ns	29	30
	71,700	24	24	16	21	11	ns	18	20
	2,330	27	24	23	34	19	ns	22	25
	3,640	<DL	<DL	<DL	<DL	<DL	ns	<DL	<DL
	1,790	32	32	26	27	22	ns	21	29
	13,000	<DL	<DL	<DL	<DL	<DL	ns	<DL	<DL
	3,160	44	36	35	57	30	ns	57	42
	665,000	86	170	51	130	46	ns	93	90
	14,000	<DL	<DL	<DL	<DL	<DL	ns	<DL	<DL
	NC	9.5	8.5	8	9.7	7.7	ns	9.9	9.2
	30,800	<DL	<DL	<DL	<DL	<DL	ns	<DL	<DL
SO4	NC	0.27	0.2	0.14	1.3	0.17	ns	0.84	0.53
	NC	ns	0.9	ns	ns	ns	ns	ns	1.1
	Detect (D) / Not detected (ND)	ns	ND	ns	ND	ns	ns	ND	ns
RBONS (TPHS)									
) (mg/kg)									
	98	<DL	<DL	<DL	<DL	<DL	-	<DL	<DL
	835	<DL	<DL	<DL	<DL	<DL	-	<DL	<DL
	508	<DL	<DL	<DL	<DL	<DL	-	<DL	<DL
	467	<DL	<DL	<DL	<DL	<DL	-	<DL	<DL
		<DL	<DL	<DL	<DL	<DL	-	<DL	<DL
	4020	<DL	<DL	<DL	<DL	<DL	-	<DL	<DL
	368	<DL	<DL	<DL	<DL	<DL	-	<DL	<DL
	157	<DL	<DL	<DL	<DL	<DL	-	<DL	<DL
	79.2	<DL	<DL	<DL	<DL	<DL	-	<DL	<DL
	47.7	<DL	<DL	<DL	<DL	<DL	-	<DL	<DL
	23.7	<DL	<DL	<DL	4	<DL	-	<DL	<DL
	5000	<DL	<DL	1	11	<DL	-	4	2
	5000	<DL	<DL	<DL	44	<DL	-	<DL	4
	NC	<DL	<DL	<DL	2	<DL	-	<DL	<DL
	NC	<DL	<DL	<DL	60	<4.0	-	<DL	6.4
	835	<DL	<DL	<DL	<DL	<DL	-	<DL	<DL
		<DL	<DL	<DL	<DL	<DL	-	<DL	<DL
	610	<DL	<DL	<DL	<DL	<DL	-	<DL	<DL
	362	<DL	<DL	<DL	<DL	<DL	-	<DL	<DL
	168	<DL	<DL	<DL	3	<DL	-	<DL	<DL
	5,000	<DL	<DL	<DL	18	<DL	-	<DL	<DL
	5,000	<DL	<DL	<DL	39	<DL	-	<DL	<DL
	NC	<DL	<DL	<DL	6	<DL	-	<DL	<DL
	NC	<DL	<DL	<DL	67	<DL	-	<DL	<DL
rocarbons	NC	<DL	<DL	<DL	130	<DL	-	<DL	2
		0	0	1	119	0	0	4	6

		Clay	Clay	Clay	Clay	Clay	Clay	Sandy Soil	Clay
ns (PAHs)									
	75	<DL	<DL	<DL	0.2	<DL	-	<DL	<DL
	85.5	<DL	<DL	<DL	<DL	<DL	-	<DL	<DL
	56.7	<DL	<DL	<DL	0.6	<DL	-	<DL	<DL
	30.8	<DL	<DL	<DL	0.5	<DL	-	<DL	<DL
	21900	<DL	<DL	<DL	2.6	<DL	-	0.3	0.3
	522000	<DL	<DL	<DL	0.7	<DL	-	<DL	<DL
	22600	<DL	<DL	<DL	3.7	<DL	-	0.4	<DL
	54300	<DL	<DL	<DL	2.8	<DL	-	0.4	<DL
	15.6	<DL	<DL	<DL	1.6	<DL	-	0.2	<DL
	13.1	<DL	<DL	<DL	1.4	<DL	-	0.2	<DL
	17	<DL	<DL	<DL	1.4	<DL	-	0.2	<DL
	18.6	<DL	<DL	<DL	1	<DL	-	<DL	<DL
	76	<DL	<DL	<DL	1.1	<DL	-	<DL	<DL
	18.5	<DL	<DL	<DL	0.6	<DL	-	<DL	<DL
	18.6	<DL	<DL	<DL	0.2	<DL	-	<DL	<DL
	18.8	<DL	<DL	<DL	0.6	<DL	-	<DL	<DL
	nc	<DL	<DL	<DL	19	<DL	-	1.6	0.3
DS (VOCs) (mg/kg)									
	1,090	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	142	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	0.0593	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	0.0403	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	54.5	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	567	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	333,000	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	15.4	<DL	<DL	<DL	ns		ns	<DL	<DL
	12.3	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	148	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	43.6	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	7.74	<DL	<DL	<DL	ns		ns	<DL	<DL
	NC	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	333,000	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	392	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	1.74	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	27.2	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	15.8	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	0.356	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	0.0725	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	1.72	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	NC	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	1.1	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	201	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	835	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	27.2	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	51.1	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	72.2	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	27.2	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	16,100	<DL	<DL	<DL	ns		ns	<DL	<DL
	NC	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	32.8	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	508	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	62.7	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	467	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL

		Clay	Clay	Clay	Clay	Clay	Clay	Sandy Soil	Clay
DS (VOCs) (mg/kg)									
	53.7	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	3.06	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	529	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	NC	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	333,000	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	333,000	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	22.9	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	333,000	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	NC	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	17.7	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	221	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	562	<DL	<DL	<DL	ns	<DL	ns	<DL	<DL
	0.0182	ns	ns	ns	ns	ns	<DL	<DL	<DL
	123	ns	ns	ns	ns	<DL	<DL	<DL	<DL
	NC	ns	ns	ns	ns	<DL	<DL	<DL	<DL
	75	ns	ns	ns	ns	<DL	<DL	<DL	<DL
	58.6	ns	ns	ns	ns	ns	<DL	<DL	<DL
POUNDS (SVOCs) (mg/kg)									
	490	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	4,380	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	30,800	ns	ns	ns	ns	<DL	ns	ns	ns
	0.554	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	3,590	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	17.7	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	221	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	562	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	162,000	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	28.2	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	11.8	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	164,000	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	15.2	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	65,600	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	12,700	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	13,900	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	2.71	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	3,530	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	123	ns	<DL	ns	ns	ns	ns	<DL	<DL
	NC	ns	<DL	ns	ns	ns	ns	<DL	<DL
	NC	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	NC	ns	<DL	ns	ns	ns	ns	<DL	<DL
	31,800	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	34,300	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	2,960	ns	ns	ns	ns	ns	ns	ns	ns
	2.18	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	848	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	NC	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	113	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	11,300	ns	ns	ns	ns	ns	ns	ns	ns
	NC	ns	ns	ns	ns	ns	ns	ns	ns
	139	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	85.5					<DL	ns	ns	ns
	333,000	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	1,860	ns	<DL	ns	ns	<DL	ns	<DL	<DL

		Clay	Clay	Clay	Clay	Clay	Clay	Sandy Soil	Clay
POUNDS (SVOCs) (mg/kg)									
	30.8	ns	ns	ns	ns	ns	ns	ns	ns
	126,000	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	0.903	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	NC	ns	ns	ns	ns	ns	ns	ns	ns
	170	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	NC	ns	ns	ns	ns	ns	ns	ns	ns
	3.39	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	0.199	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	1,230	ns	ns	ns	ns	<DL	ns	ns	ns
	21,900	ns	ns	ns	ns	<DL	ns	ns	ns
	522,000	ns	ns	ns	ns	ns	ns	ns	ns
	4.62	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	22,600	ns	ns	ns	ns	<DL	ns	ns	ns
	54,300	ns	ns	ns	ns	<DL	ns	ns	ns
	942,000	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	15.6	ns	ns	ns	ns	<DL	ns	ns	ns
	13.1	ns	ns	ns	ns	<DL	ns	ns	ns
	NC	ns	ns	ns	ns	ns	ns	ns	ns
	85,400	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	89,100	ns	<DL	ns	ns	<DL	ns	<DL	<DL
	17	ns	ns	ns	ns	<DL	ns	ns	ns
	18.6	ns	ns	ns	ns	ns	ns	ns	ns
	76	ns	ns	ns	ns	<DL	ns	ns	ns
	18.5	ns	ns	ns	ns	<DL	ns	ns	ns
	18.6	ns	ns	ns	ns	<DL	ns	ns	ns
	18.8	ns	ns	ns	ns	<DL	ns	ns	ns
) (mg/kg)									
	0.24	ns	ns	ns	ns	ns	<DL	ns	ns
		ns	ns	ns	ns	ns	<DL	ns	ns
		ns	ns	ns	ns	ns	<DL	ns	ns
		ns	ns	ns	ns	ns	<DL	ns	ns
		ns	ns	ns	ns	ns	<DL	ns	ns
		ns	ns	ns	ns	ns	<DL	ns	ns
		ns	ns	ns	ns	ns	<DL	ns	ns

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Certificate of Analysis

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Report Number: 462650-1

Date of Report: 26-Mar-2015

Customer: ENVIRON UK Ltd
Canada House
3 Chepstow Street
Manchester
M1 5FW

Customer Contact: Ms Kate Whitworth

Customer Job Reference: UK22-21295
Customer Purchase Order: UK22-21295
Customer Site Reference: Teeside Power Station
Date Job Received at SAL: 13-Mar-2015
Date Analysis Started: 13-Mar-2015
Date Analysis Completed: 26-Mar-2015

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22

UKAS TESTING
1549

Report checked
and authorised by :
Bianca Prince
Project Management

Issued by :
Bianca Prince
Project Management

[redacted]

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SAL Reference: 462650
Project Site: Teeside Power Station
Customer Reference: UK22-21295

Soil Analysed as Soil
MCERTS Preparation

SAL Reference					**462650 001**	**462650 002**	**462650 006**	**462650 007**	**462650 008**	**462650 009**	**462650 010**	**462650 011**	**462650 012**	**462650 013**
Customer Sample Reference					**WS6**	**WS6**	**WS3**	**WS3**	**WS12**	**WS12**	**WS11**	**WS11**	**MW4**	**MW4**
Depth					**0.5**	**1.3**	**0.3**	**1.8**	**0.9**	**1.7**	**0.4**	**0.8**	**0.6**	**1.6**
Date Sampled					**12-MAR-2015**	**12-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**
Top Depth					**0.2**	**1.0**	**0.0**	**1.5**	**0.7**	**1.5**	**0.2**	**0.6**	**0.4**	**1.4**
Type					**Sandy Soil**	**Clay**	**Sandy Soil**	**Clay**	**Clay**	**Clay**	**Sandy Soil**	**Clay**	**Sandy Soil**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Moisture @ 105 C	T162	AR	0.1	%	**12**	**18**	**6.9**	**23**	**17**	**20**	**8.4**	**22**	**21**	**13**

SAL Reference: 462650
Project Site: Teeside Power Station
Customer Reference: UK22-21295

Soil Analysed as Soil
Environ Suite B

SAL Reference					**462650 001**	**462650 002**	**462650 006**	**462650 007**	**462650 008**	**462650 009**	**462650 010**	**462650 011**	**462650 012**	**462650 013**
Customer Sample Reference					**WS6**	**WS6**	**WS3**	**WS3**	**WS12**	**WS12**	**WS11**	**WS11**	**MW4**	**MW4**
Depth					**0.5**	**1.3**	**0.3**	**1.8**	**0.9**	**1.7**	**0.4**	**0.8**	**0.6**	**1.6**
Date Sampled					**12-MAR-2015**	**12-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**
Top Depth					**0.2**	**1.0**	**0.0**	**1.5**	**0.7**	**1.5**	**0.2**	**0.6**	**0.4**	**1.4**
Type					**Sandy Soil**	**Clay**	**Sandy Soil**	**Clay**	**Clay**	**Clay**	**Sandy Soil**	**Clay**	**Sandy Soil**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Arsenic	T6	M40	2	mg/kg	**5**	**10**	**7**	**8**	**9**	**7**	**8**	**12**	**11**	**9**
Beryllium	T6	M40	2	mg/kg	**5**	<2	**5**	<2	<2	<2	**5**	<2	<2	<2
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	T6	M40	1	mg/kg	**10**	**32**	**93**	**32**	**30**	**30**	**24**	**32**	**29**	**30**
Copper	T6	M40	1	mg/kg	**28**	**24**	**62**	**20**	**24**	**16**	**25**	**24**	**18**	**20**
Lead	T6	M40	1	mg/kg	**11**	**23**	**22**	**26**	**24**	**23**	**45**	**27**	**22**	**25**
Mercury	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	T6	M40	1	mg/kg	**4**	**35**	**97**	**26**	**32**	**26**	**7**	**32**	**21**	**29**
Selenium	T6	M40	3	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Vanadium	T6	M40	1	mg/kg	**13**	**41**	**28**	**34**	**36**	**35**	**42**	**44**	**57**	**42**
Zinc	T6	M40	1	mg/kg	**480**	**82**	**910**	**60**	**170**	**51**	**300**	**86**	**93**	**90**
Cyanide(Total)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
pH	T7	AR			**9.5**	**9.9**	**10.9**	**8.8**	**8.5**	**8.0**	**9.4**	**9.5**	**9.9**	**9.2**
Phenols(Mono)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
(Water Soluble) SO4 expressed as SO4	T242	AR	0.01	g/l	**0.12**	**0.31**	**0.80**	**0.22**	**0.20**	**0.14**	**0.45**	**0.27**	**0.84**	**0.53**

SAL Reference: 462650
Project Site: Teeside Power Station
Customer Reference: UK22-21295

Soil Analysed as Soil
Miscellaneous

SAL Reference					**462650 001**	**462650 006**	**462650 008**	**462650 010**	**462650 012**	**462650 013**
Customer Sample Reference					**WS6**	**WS3**	**WS12**	**WS11**	**MW4**	**MW4**
Depth					**0.5**	**0.3**	**0.9**	**0.4**	**0.6**	**1.6**
Date Sampled					**12-MAR-2015**	**11-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**
Top Depth					**0.2**	**0.0**	**0.7**	**0.2**	**0.4**	**1.4**
Type					**Sandy Soil**	**Sandy Soil**	**Clay**	**Sandy Soil**	**Sandy Soil**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Asbestos ID	T27	AR			N.D.	N.D.	N.D.	N.D.	N.D.	-
Total Organic Carbon	T21	M40	0.1	%	-	-	**0.9**	**0.8**	-	**1.1**

SAL Reference: 462650
Project Site: Teeside Power Station
Customer Reference: UK22-21295

Soil Analysed as Soil
PAH US EPA 16 (B and K split)

				SAL Reference	**462650 001**	**462650 002**	**462650 006**	**462650 007**	**462650 008**	**462650 009**	**462650 010**	**462650 011**	**462650 012**	**462650 013**
				Customer Sample Reference	**WS6**	**WS6**	**WS3**	**WS3**	**WS12**	**WS12**	**WS11**	**WS11**	**MW4**	**MW4**
				Depth	**0.5**	**1.3**	**0.3**	**1.8**	**0.9**	**1.7**	**0.4**	**0.8**	**0.6**	**1.6**
				Date Sampled	**12-MAR-2015**	**12-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**
				Top Depth	**0.2**	**1.0**	**0.0**	**1.5**	**0.7**	**1.5**	**0.2**	**0.6**	**0.4**	**1.4**
				Type	**Sandy Soil**	**Clay**	**Sandy Soil**	**Clay**	**Clay**	**Clay**	**Sandy Soil**	**Clay**	**Sandy Soil**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Naphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.3**	**0.3**
Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T207	M105	0.1	mg/kg	<0.1	**0.1**	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	**0.4**	<0.1
Pyrene	T207	M105	0.1	mg/kg	<0.1	**0.1**	**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	**0.4**	<0.1
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1
Chrysene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1
Benzo(b)fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1
Benzo(k)fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PAH(total)	T207	M105	0.1	mg/kg	<0.1	**0.3**	**0.3**	<0.1	<0.1	<0.1	<0.1	<0.1	**1.6**	**0.3**

SAL Reference: 462650
Project Site: Teeside Power Station
Customer Reference: UK22-21295

Soil Analysed as Soil
TPH UKCWG

SAL Reference					**462650 001**	**462650 002**	**462650 006**	**462650 007**	**462650 008**	**462650 009**	**462650 010**	**462650 011**	**462650 012**	**462650 013**
Customer Sample Reference					**WS6**	**WS6**	**WS3**	**WS3**	**WS12**	**WS12**	**WS11**	**WS11**	**MW4**	**MW4**
Depth					**0.5**	**1.3**	**0.3**	**1.8**	**0.9**	**1.7**	**0.4**	**0.8**	**0.6**	**1.6**
Date Sampled					**12-MAR-2015**	**12-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**
Top Depth					**0.2**	**1.0**	**0.0**	**1.5**	**0.7**	**1.5**	**0.2**	**0.6**	**0.4**	**1.4**
Type					**Sandy Soil**	**Clay**	**Sandy Soil**	**Clay**	**Clay**	**Clay**	**Sandy Soil**	**Clay**	**Sandy Soil**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Benzene	T209	M105	10	µg/kg	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10
Toluene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
EthylBenzene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
O Xylene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
M/P Xylene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TPH (C5-C6 aliphatic)	T209	M105	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C8-C10 aliphatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C10-C12 aliphatic)	T206	M105	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH (C12-C16 aliphatic)	T206	M105	2	mg/kg	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
TPH (C16-C21 aliphatic)	T206	M105	1	mg/kg	<1	<1	**10**	<1	<1	**1**	<1	<1	**4**	**2**
TPH (C21-C35 aliphatic)	T206	M105	4	mg/kg	<4	<4	**51**	<4	<4	<4	<4	<4	<4	**4**
TPH (C35-C44 aliphatic)	T8	M105	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH (Aliphatic) total	T85	M105		mg/kg	<4.0	<4.0	**61**	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	**6.4**
TPH (C6-C7 aromatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C7-C8 aromatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C8-C10 aromatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C10-C12 aromatic)	T206	M105	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH (C12-C16 aromatic)	T206	M105	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH (C16-C21 aromatic)	T206	M105	1	mg/kg	<1	<1	**1**	<1	<1	<1	<1	<1	<1	<1
TPH (C21-C35 aromatic)	T206	M105	1	mg/kg	<1	<1	**3**	<1	<1	<1	<1	<1	<1	<1
TPH (C35-C44 aromatic)	T8	M105	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH (Aromatic) total	T85	M105		mg/kg	<1.0	<1.0	**4.5**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
TPH (Aliphatic+Aromatic) (sum)	T85	M105		mg/kg	<4.0	<4.0	**65**	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	**6.4**

SAL Reference: 462650
Project Site: Teeside Power Station
Customer Reference: UK22-21295

Soil Analysed as Soil
PCB EC7

SAL Reference					**462650 006**	**462650 007**
Customer Sample Reference					**WS3**	**WS3**
Depth					**0.3**	**1.8**
Date Sampled					**11-MAR-2015**	**11-MAR-2015**
Top Depth					**0.0**	**1.5**
Type					**Sandy Soil**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**		
PCB BZ#101	T208	M105	0.05	µg/kg	<0.05	<0.05
PCB BZ#118	T208	M105	0.05	µg/kg	<0.05	<0.05
PCB BZ#138	T208	M105	0.05	µg/kg	<0.05	<0.05
PCB BZ#153	T208	M105	0.05	µg/kg	<0.05	<0.05
PCB BZ#180	T208	M105	0.05	µg/kg	<0.05	<0.05
PCB BZ#28	T208	M105	0.05	µg/kg	<0.05	<0.05
PCB BZ#52	T208	M105	0.05	µg/kg	<0.05	<0.05

SAL Reference: 462650
Project Site: Teeside Power Station
Customer Reference: UK22-21295

Soil Analysed as Soil
Semi-Volatile Organic Compounds (Reduced)

SAL Reference	**462650 002**	**462650 006**	**462650 008**	**462650 010**	**462650 012**	**462650 013**
Customer Sample Reference	**WS6**	**WS3**	**WS12**	**WS11**	**MW4**	**MW4**
Depth	**1.3**	**0.3**	**0.9**	**0.4**	**0.6**	**1.6**
Date Sampled	**12-MAR-2015**	**11-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**	**12-MAR-2015**
Top Depth	**1.0**	**0.0**	**0.7**	**0.2**	**0.4**	**1.4**
Type	**Clay**	**Sandy Soil**	**Clay**	**Sandy Soil**	**Sandy Soil**	**Clay**

Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
1,2,4-Trichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-Dichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-Dichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-Dichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,5-Trichlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,6-Trichlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dichlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dimethylphenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrophenol	T207	M105	0.1	mg/kg	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5
2,4-Dinitrotoluene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,6-Dinitrotoluene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chloronaphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methyl phenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Nitroaniline	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Nitrophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3-Nitroaniline	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3/4-Methylphenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Bromophenyl phenylether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloro-3-methylphenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloroaniline	T207	M105	0.1	mg/kg	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5
4-Chlorophenyl phenylether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitroaniline	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitrophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Azobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroethoxy) methane	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroethyl) ether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroisopropyl) ether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-ethylhexyl)phthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Butyl benzylphthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbazole	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Di-n-butylphthalate	T207	M105	0.1	mg/kg	<0.1	**0.2**	<0.1	<0.1	<0.1	<0.1
Di-n-octylphthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzofuran	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Diethyl phthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethyl phthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorocyclopentadiene	T207	M105	0.1	mg/kg	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5
Hexachloroethane	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isophorone	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pentachlorophenol	T207	M105	0.1	mg/kg	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5
Phenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

SAL Reference: 462650
Project Site: Teeside Power Station
Customer Reference: UK22-21295

Soil Analysed as Soil
Volatile Organic Compounds (USEPA 624) (MCERTS)

SAL Reference	462650 002	462650 006	462650 008	462650 010	462650 012	462650 013
Customer Sample Reference	WS6	WS3	WS12	WS11	MW4	MW4
Depth	1.3	0.3	0.9	0.4	0.6	1.6
Date Sampled	12-MAR-2015	11-MAR-2015	12-MAR-2015	12-MAR-2015	12-MAR-2015	12-MAR-2015
Top Depth	1.0	0.0	0.7	0.2	0.4	1.4
Type	Clay	Sandy Soil	Clay	Sandy Soil	Sandy Soil	Clay

Determinand	Method	Test Sample	LOD	Units						
1,1,1,2-Tetrachloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,1,1-Trichloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,1,2,2-Tetrachloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,1,2-Trichloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,1-Dichloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,1-Dichloroethylene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,1-Dichloropropene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,2,3-Trichloropropane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,2,4-Trimethylbenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,2-dibromoethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,2-Dichlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,2-Dichloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,2-Dichloropropane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,3,5-Trimethylbenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,3-Dichlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,3-Dichloropropane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
1,4-Dichlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
2,2-Dichloropropane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
2-Chlorotoluene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
4-Chlorotoluene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Benzene	T209	M105	10	µg/kg	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10
Bromobenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Bromochloromethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Bromodichloromethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Bromoform	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Bromomethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Carbon tetrachloride	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Chlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Chlorodibromomethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Chloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Chloroform	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Chloromethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Cis-1,2-Dichloroethylene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Cis-1,3-Dichloropropene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Dibromomethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Dichlorodifluoromethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Dichloromethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
EthylBenzene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10
Isopropyl benzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
M/P Xylene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10
n-Propylbenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
O Xylene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10
p-Isopropyltoluene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
S-Butylbenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Styrene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
T-Butylbenzene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Tetrachloroethene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Toluene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10
Trans-1,2-Dichloroethene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Trans-1,3-Dichloropropene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Trichloroethene	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Trichlorofluoromethane	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50
Vinyl chloride	T209	M105	50	µg/kg	<50	<50	<50	<50	<50	<50

Index to symbols used in 462650-1

Value	Description
AR	As Received
M40	Analysis conducted on sample assisted dried at no more than 40C. Results are reported on a dry weight basis.
M105	Analysis conducted on an "as received" aliquot. Results are reported on a dry weight basis where moisture content was determined by assisted drying of sample at 105C
N.D.	Not Detected
13	Results have been blank corrected.
36	LOD Raised due to low Matrix spike recovery
S	Analysis was subcontracted
M	Analysis is MCERTS accredited
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Asbestos was subcontracted to REC Asbestos

Method Index

Value	Description
T21	OX/IR
T8	GC/FID
T85	Calc
T206	GC/FID (MCERTS)
T242	2:1 Extraction/ICP/OES (TRL 447 T1)
T7	Probe
T207	GC/MS (MCERTS)
T6	ICP/OES
T27	PLM
T162	Grav (1 Dec) (105 C)
T209	GC/MS(Head Space)(MCERTS)
T546	Colorimetry (CF)
T208	GC/MS (HR) (MCERTS)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Moisture @ 105 C	T162	AR	0.1	%	N	001-002,006-013
Arsenic	T6	M40	2	mg/kg	M	001-002,006-013
Beryllium	T6	M40	2	mg/kg	M	001-002,006-013
Boron (water-soluble)	T6	AR	1	mg/kg	N	001-002,006-013
Cadmium	T6	M40	1	mg/kg	M	001-002,006-013
Chromium	T6	M40	1	mg/kg	M	001-002,006-013
Copper	T6	M40	1	mg/kg	M	001-002,006-013
Lead	T6	M40	1	mg/kg	M	001-002,006-013
Mercury	T6	M40	1	mg/kg	M	001-002,006-013
Nickel	T6	M40	1	mg/kg	M	001-002,006-013
Selenium	T6	M40	3	mg/kg	M	001-002,006-013
Vanadium	T6	M40	1	mg/kg	M	001-002,006-013
Zinc	T6	M40	1	mg/kg	M	001-002,006-013
Cyanide(Total)	T546	AR	1	mg/kg	M	001-002,006-013
pH	T7	AR			M	001-002,006-013
Phenols(Mono)	T546	AR	1	mg/kg	M	001-002,006-013
(Water Soluble) SO4 expressed as SO4	T242	AR	0.01	g/l	N	001-002,006-013
Asbestos ID	T27	AR			SU	001,006,008,010,012
Total Organic Carbon	T21	M40	0.1	%	N	008,010,013
Naphthalene	T207	M105	0.1	mg/kg	M	001-002,006-013
Acenaphthylene	T207	M105	0.1	mg/kg	U	001-002,006-013
Acenaphthene	T207	M105	0.1	mg/kg	M	001-002,006-013
Fluorene	T207	M105	0.1	mg/kg	M	001-002,006-013
Phenanthrene	T207	M105	0.1	mg/kg	M	001-002,006-013
Anthracene	T207	M105	0.1	mg/kg	U	001-002,006-013
Fluoranthene	T207	M105	0.1	mg/kg	M	001-002,006-013

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Pyrene	T207	M105	0.1	mg/kg	M	001-002,006-013
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	M	001-002,006-013
Chrysene	T207	M105	0.1	mg/kg	M	001-002,006-013
Benzo(b)fluoranthene	T207	M105	0.1	mg/kg	M	001-002,006-013
Benzo(k)fluoranthene	T207	M105	0.1	mg/kg	M	001-002,006-013
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	M	001-002,006-013
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	M	001-002,006-013
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	M	001-002,006-013
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	M	001-002,006-013
PAH(total)	T207	M105	0.1	mg/kg	U	001-002,006-013
Benzene	T209	M105	10	µg/kg	M	001-002,006-013
Toluene	T209	M105	10	µg/kg	M	001-002,006-013
EthylBenzene	T209	M105	10	µg/kg	M	001-002,006-013
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	M	001-002,006-013
O Xylene	T209	M105	10	µg/kg	M	001-002,006-013
M/P Xylene	T209	M105	10	µg/kg	M	001-002,006-013
TPH (C5-C6 aliphatic)	T209	M105	0.100	mg/kg	N	001-002,006-013
TPH (C6-C8 aliphatic)	T209	M105	0.10	mg/kg	N	001-002,006-013
TPH (C8-C10 aliphatic)	T209	M105	0.10	mg/kg	N	001-002,006-013
TPH (C10-C12 aliphatic)	T206	M105	1	mg/kg	M	001-002,006-013
TPH (C12-C16 aliphatic)	T206	M105	2	mg/kg	M	001-002,006-013
TPH (C16-C21 aliphatic)	T206	M105	1	mg/kg	M	001-002,006-013
TPH (C21-C35 aliphatic)	T206	M105	4	mg/kg	M	001-002,006-013
TPH (C35-C44 aliphatic)	T8	M105	1	mg/kg	N	001-002,006-013
TPH (Aliphatic) total	T85	M105		mg/kg	N	001-002,006-013
TPH (C6-C7 aromatic)	T209	M105	0.10	mg/kg	N	001-002,006-013
TPH (C7-C8 aromatic)	T209	M105	0.10	mg/kg	N	001-002,006-013
TPH (C8-C10 aromatic)	T209	M105	0.10	mg/kg	N	001-002,006-013
TPH (C10-C12 aromatic)	T206	M105	1	mg/kg	N	001-002,006-013
TPH (C12-C16 aromatic)	T206	M105	1	mg/kg	M	001-002,006-013
TPH (C16-C21 aromatic)	T206	M105	1	mg/kg	M	001-002,006-013
TPH (C21-C35 aromatic)	T206	M105	1	mg/kg	M	001-002,006-013
TPH (C35-C44 aromatic)	T8	M105	1	mg/kg	N	001-002,006-013
TPH (Aromatic) total	T85	M105		mg/kg	N	001-002,006-013
TPH (Aliphatic+Aromatic) (sum)	T85	M105		mg/kg	N	001-002,006-013
PCB BZ#101	T208	M105	0.05	µg/kg	M	006-007
PCB BZ#118	T208	M105	0.05	µg/kg	M	006-007
PCB BZ#138	T208	M105	0.05	µg/kg	M	006-007
PCB BZ#153	T208	M105	0.05	µg/kg	M	006-007
PCB BZ#180	T208	M105	0.05	µg/kg	M	006-007
PCB BZ#28	T208	M105	0.05	µg/kg	M	006-007
PCB BZ#52	T208	M105	0.05	µg/kg	M	006-007
1,2,4-Trichlorobenzene	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
1,2-Dichlorobenzene	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
1,3-Dichlorobenzene	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
1,4-Dichlorobenzene	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
2,4,5-Trichlorophenol	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
2,4,6-Trichlorophenol	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
2,4-Dichlorophenol	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
2,4-Dimethylphenol	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
2,4-Dinitrophenol	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
2,4-Dinitrotoluene	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
2,6-Dinitrotoluene	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
2-Chloronaphthalene	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
2-Chlorophenol	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
2-methyl phenol	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
2-Methylnaphthalene	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
2-Nitroaniline	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
2-Nitrophenol	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
3-Nitroaniline	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
3/4-Methylphenol	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
4-Bromophenyl phenylether	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
4-Chloro-3-methylphenol	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
4-Chloroaniline	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
4-Chlorophenyl phenylether	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
4-Nitroaniline	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
4-Nitrophenol	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
Azobenzene	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
Bis (2-chloroethoxy) methane	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
Bis (2-chloroethyl) ether	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Bis (2-chloroisopropyl) ether	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
Bis (2-ethylhexyl)phthalate	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
Butyl benzylphthalate	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
Carbazole	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
Di-n-butylphthalate	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
Di-n-octylphthalate	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
Dibenzofuran	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
Diethyl phthalate	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
Dimethyl phthalate	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
Hexachlorobenzene	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
Hexachlorobutadiene	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
Hexachlorocyclopentadiene	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
Hexachloroethane	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
Isophorone	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
Nitrobenzene	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
Pentachlorophenol	T207	M105	0.1	mg/kg	U	002,006,008,010,012-013
Phenol	T207	M105	0.1	mg/kg	M	002,006,008,010,012-013
1,1,1,2-Tetrachloroethane	T209	M105	50	µg/kg	M	002,006,008,010,012-013
1,1,1-Trichloroethane	T209	M105	50	µg/kg	M	002,006,008,010,012-013
1,1,2,2-Tetrachloroethane	T209	M105	50	µg/kg	U	002,006,008,010,012-013
1,1,2-Trichloroethane	T209	M105	50	µg/kg	M	002,006,008,010,012-013
1,1-Dichloroethane	T209	M105	50	µg/kg	M	002,006,008,010,012-013
1,1-Dichloroethylene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
1,1-Dichloropropene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
1,2,3-Trichloropropane	T209	M105	50	µg/kg	U	002,006,008,010,012-013
1,2,4-Trimethylbenzene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
1,2-dibromoethane	T209	M105	50	µg/kg	M	002,006,008,010,012-013
1,2-Dichlorobenzene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
1,2-Dichloroethane	T209	M105	50	µg/kg	M	002,006,008,010,012-013
1,2-Dichloropropane	T209	M105	50	µg/kg	M	002,006,008,010,012-013
1,3,5-Trimethylbenzene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
1,3-Dichlorobenzene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
1,3-Dichloropropane	T209	M105	50	µg/kg	M	002,006,008,010,012-013
1,4-Dichlorobenzene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
2,2-Dichloropropane	T209	M105	50	µg/kg	U	002,006,008,010,012-013
2-Chlorotoluene	T209	M105	50	µg/kg	U	002,006,008,010,012-013
4-Chlorotoluene	T209	M105	50	µg/kg	U	002,006,008,010,012-013
Bromobenzene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Bromochloromethane	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Bromodichloromethane	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Bromoform	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Bromomethane	T209	M105	50	µg/kg	U	002,006,008,010,012-013
Carbon tetrachloride	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Chlorobenzene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Chlorodibromomethane	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Chloroethane	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Chloroform	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Chloromethane	T209	M105	50	µg/kg	U	002,006,008,010,012-013
Cis-1,2-Dichloroethylene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Cis-1,3-Dichloropropene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Dibromomethane	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Dichlorodifluoromethane	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Dichloromethane	T209	M105	50	µg/kg	U	002,006,008,010,012-013
Isopropyl benzene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
n-Propylbenzene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
p-Isopropyltoluene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
S-Butylbenzene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Styrene	T209	M105	50	µg/kg	U	002,006,008,010,012-013
T-Butylbenzene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Tetrachloroethene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Trans-1,2-Dichloroethene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Trans-1,3-Dichloropropene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Trichloroethene	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Trichlorofluoromethane	T209	M105	50	µg/kg	M	002,006,008,010,012-013
Vinyl chloride	T209	M105	50	µg/kg	M	002,006,008,010,012-013

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Certificate of Analysis

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Report Number: 462445-2

Date of Report: 26-Mar-2015

Customer: ENVIRON UK Ltd
Canada House
3 Chepstow Street
Manchester
M1 5FW

Customer Contact: Ms Kate Whitworth

Customer Job Reference:
Customer Purchase Order: UK22-21295
Customer Site Reference: Teeside Powerstation
Date Job Received at SAL: 12-Mar-2015
Date Analysis Started: 13-Mar-2015
Date Analysis Completed: 26-Mar-2015

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22

Report checked
and authorised by :
Bianca Prince
Project Management

Issued by :
Bianca Prince
Project Management

[redacted]

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SAL Reference: 462445
Project Site: Teeside Powerstation
Customer Reference:

Soil Analysed as Soil
Miscellaneous

Determinand	**Method**	**Test Sample**	**LOD**	**Units**									
SAL Reference					**462445 001**	**462445 003**	**462445 004**	**462445 005**	**462445 006**	**462445 007**	**462445 008**	**462445 009**	**462445 010**
Customer Sample Reference					**MW2**	**WS9**	**WS9**	**WS7**	**WS7**	**WS5**	**WS5**	**WS4**	**WS4**
Depth					**0.7**	**0.9**	**1.4**	**0.5**	**1.0**	**0.6**	**1.3**	**0.8**	**1.7**
Date Sampled					**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**
Top Depth					**0.4**	**0.6**	**1.1**	**0.2**	**0.7**	**0.3**	**1.0**	**0.5**	**1.4**
Type					**Clay**	**Clay**	**Clay**	**Sandy Soil**	**Clay**	**Sandy Soil**	**Clay**	**Sandy Soil**	**Clay**
Arsenic	T6	M40	2	mg/kg	-	**10**	**8**	**18**	**10**	**20**	**13**	**10**	**7**
Beryllium	T6	M40	2	mg/kg	-	<2	<2	**3**	<2	**8**	<2	**7**	<2
Boron (water-soluble)	T6	AR	1	mg/kg	-	<1	<1	<1	<1	<1	<1	**1**	<1
Cadmium	T6	M40	1	mg/kg	-	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	T6	M40	1	mg/kg	-	**34**	**39**	**40**	**44**	**36**	**39**	**23**	**31**
Copper	T6	M40	1	mg/kg	-	**23**	**17**	**32**	**21**	**20**	**23**	**25**	**20**
Lead	T6	M40	1	mg/kg	-	**24**	**22**	**110**	**22**	**35**	**38**	**43**	**16**
Mercury	T6	M40	1	mg/kg	-	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	T6	M40	1	mg/kg	-	**34**	**30**	**14**	**33**	**15**	**31**	**7**	**33**
Selenium	T6	M40	3	mg/kg	-	<3	<3	<3	<3	<3	<3	<3	<3
Vanadium	T6	M40	1	mg/kg	-	**41**	**48**	**110**	**56**	**110**	**53**	**39**	**35**
Zinc	T6	M40	1	mg/kg	-	**87**	**81**	**330**	**100**	**180**	**110**	**310**	**55**
Cyanide(Total)	T546	AR	1	mg/kg	-	<1	<1	<1	<1	<1	<1	<1	<1
pH	T7	AR			-	**8.6**	**7.9**	**8.8**	**7.5**	**9.1**	**7.6**	**9.5**	**8.3**
Phenols(Mono)	T546	AR	1	mg/kg	-	<1	<1	<1	<1	<1	<1	<1	<1
(Water Soluble) SO4 expressed as SO4	T242	AR	0.01	g/l	-	**0.59**	**0.11**	**0.07**	**0.11**	**1.3**	**0.03**	**0.95**	**0.12**
Asbestos ID	T27	AR			-	N.D.	-	N.D.	-	N.D.	-	N.D.	-
Total Organic Carbon	T21	M40	0.1	%	-	-	-	-	-	-	-	-	**0.6**
Naphthalene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	**0.2**	<0.1	**0.2**	<0.1	<0.1	<0.1
Anthracene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	**0.3**	<0.1	**0.8**	<0.1	<0.1	<0.1
Pyrene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	**0.2**	<0.1	**0.7**	<0.1	<0.1	<0.1
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	**0.1**	<0.1	**0.3**	<0.1	<0.1	<0.1
Chrysene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	**0.1**	<0.1	**0.3**	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	**0.1**	<0.1	**0.2**	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.1
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.1
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	-	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1
PAH(total)	T207	M105	0.1	mg/kg	-	<0.1	<0.1	**1.1**	<0.1	**3.2**	<0.1	<0.1	<0.1
Benzene	T209	M105	10	µg/kg	-	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10
Toluene	T209	M105	10	µg/kg	-	<10	<10	<10	<10	<10	<10	<10	<10
EthylBenzene	T209	M105	10	µg/kg	-	<10	<10	<10	<10	<10	<10	<10	<10
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	-	<10	<10	<10	<10	<10	<10	<10	<10
O Xylene	T209	M105	10	µg/kg	-	<10	<10	<10	<10	<10	<10	<10	<10
M/P Xylene	T209	M105	10	µg/kg	-	<10	<10	<10	<10	<10	<10	<10	<10
TPH (C5-C6 aliphatic)	T209	M105	0.100	mg/kg	-	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	M105	0.10	mg/kg	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C8-C10 aliphatic)	T209	M105	0.10	mg/kg	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C10-C12 aliphatic)	T206	M105	1	mg/kg	-	<1	<1	<1	<1	<1	<1	<1	<1
TPH (C12-C16 aliphatic)	T206	M105	2	mg/kg	-	<2	<2	<2	<2	**3**	<2	<2	<2
TPH (C16-C21 aliphatic)	T206	M105	1	mg/kg	-	**3**	**1**	**4**	**3**	**13**	**2**	**3**	<1
TPH (C21-C35 aliphatic)	T206	M105	4	mg/kg	-	<4	<4	**6**	**5**	**13**	<4	**9**	<4
TPH (C35-C44 aliphatic)	T8	M105	1	mg/kg	-	<1	<1	<1	<1	<1	<1	<1	<1
TPH (Aliphatic) total	T85	M105		mg/kg	-	<4.0	<4.0	**10**	**8.4**	**28**	<4.0	**12**	<4.0
TPH (C6-C7 aromatic)	T209	M105	0.10	mg/kg	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C7-C8 aromatic)	T209	M105	0.10	mg/kg	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

SAL Reference: 462445
Project Site: Teeside Powerstation
Customer Reference:

Soil Analysed as Soil
Miscellaneous

SAL Reference	**462445 001**	**462445 003**	**462445 004**	**462445 005**	**462445 006**	**462445 007**	**462445 008**	**462445 009**	**462445 010**
Customer Sample Reference	**MW2**	**WS9**	**WS9**	**WS7**	**WS7**	**WS5**	**WS5**	**WS4**	**WS4**
Depth	**0.7**	**0.9**	**1.4**	**0.5**	**1.0**	**0.6**	**1.3**	**0.8**	**1.7**
Date Sampled	**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**
Top Depth	**0.4**	**0.6**	**1.1**	**0.2**	**0.7**	**0.3**	**1.0**	**0.5**	**1.4**
Type	**Clay**	**Clay**	**Clay**	**Sandy Soil**	**Clay**	**Sandy Soil**	**Clay**	**Sandy Soil**	**Clay**

Determinand	**Method**	**Test Sample**	**LOD**	**Units**									
TPH (C8-C10 aromatic)	T209	M105	0.10	mg/kg	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C10-C12 aromatic)	T206	M105	1	mg/kg	-	<1	<1	<1	<1	<1	<1	<1	<1
TPH (C12-C16 aromatic)	T206	M105	1	mg/kg	-	<1	<1	**2**	<1	<1	<1	<1	<1
TPH (C16-C21 aromatic)	T206	M105	1	mg/kg	-	**1**	<1	**16**	<1	**6**	<1	<1	<1
TPH (C21-C35 aromatic)	T206	M105	1	mg/kg	-	<1	<1	**22**	<1	**15**	<1	<1	<1
TPH (C35-C44 aromatic)	T8	M105	1	mg/kg	-	<1	<1	<1	<1	<1	<1	<1	<1
TPH (Aromatic) total	T85	M105		mg/kg	-	**1.3**	<1.0	**39**	<1.0	**21**	<1.0	<1.0	<1.0
TPH (Aliphatic+Aromatic) (sum)	T85	M105		mg/kg	-	<4.0	<4.0	**49**	**8.4**	**49**	<4.0	**12**	<4.0
PCB BZ#101	T208	M105	0.05	µg/kg	<0.05	-	-	-	-	-	-	-	-
PCB BZ#118	T208	M105	0.05	µg/kg	<0.05	-	-	-	-	-	-	-	-
PCB BZ#138	T208	M105	0.05	µg/kg	<0.05	-	-	-	-	-	-	-	-
PCB BZ#153	T208	M105	0.05	µg/kg	<0.05	-	-	-	-	-	-	-	-
PCB BZ#180	T208	M105	0.05	µg/kg	<0.05	-	-	-	-	-	-	-	-
PCB BZ#28	T208	M105	0.05	µg/kg	<0.05	-	-	-	-	-	-	-	-
PCB BZ#52	T208	M105	0.05	µg/kg	<0.05	-	-	-	-	-	-	-	-
Moisture @ 105 C	T162	AR	0.1	%	**17**	**20**	**25**	**6.0**	**31**	**9.0**	**26**	**7.3**	**15**

SAL Reference: 462445
Project Site: Teeside Powerstation
Customer Reference:

Soil Analysed as Soil
Semi-Volatile Organic Compounds (Reduced)

SAL Reference	462445 003	462445 006	462445 007	462445 010
Customer Sample Reference	WS9	WS7	WS5	WS4
Depth	0.9	1.0	0.6	1.7
Date Sampled	11-MAR-2015	11-MAR-2015	11-MAR-2015	11-MAR-2015
Top Depth	0.6	0.7	0.3	1.4
Type	Clay	Clay	Sandy Soil	Clay

Determinand	Method	Test Sample	LOD	Units				
1,2,4-Trichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
1,2-Dichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
1,3-Dichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
1,4-Dichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2,4,5-Trichlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2,4,6-Trichlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2,4-Dichlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2,4-Dimethylphenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrophenol	T207	M105	0.1	mg/kg	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5
2,4-Dinitrotoluene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2,6-Dinitrotoluene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2-Chloronaphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2-Chlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2-methyl phenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2-Nitroaniline	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2-Nitrophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
3-Nitroaniline	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
3/4-Methylphenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
4-Bromophenyl phenylether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
4-Chloro-3-methylphenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
4-Chloroaniline	T207	M105	0.1	mg/kg	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5
4-Chlorophenyl phenylether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
4-Nitroaniline	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
4-Nitrophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Azobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroethoxy) methane	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroethyl) ether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroisopropyl) ether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Bis (2-ethylhexyl)phthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Butyl benzylphthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Carbazole	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Di-n-butylphthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Di-n-octylphthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Dibenzofuran	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Diethyl phthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Dimethyl phthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Hexachlorocyclopentadiene	T207	M105	0.1	mg/kg	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5
Hexachloroethane	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Isophorone	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Nitrobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Pentachlorophenol	T207	M105	0.1	mg/kg	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5
Phenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1

SAL Reference: 462445
Project Site: Teeside Powerstation
Customer Reference:

Soil Analysed as Soil
Volatile Organic Compounds (USEPA 624) (MCERTS)

				SAL Reference	**462445 003**	**462445 006**	**462445 007**	**462445 010**
				Customer Sample Reference	**WS9**	**WS7**	**WS5**	**WS4**
				Depth	**0.9**	**1.0**	**0.6**	**1.7**
				Date Sampled	**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**	**11-MAR-2015**
				Top Depth	**0.6**	**0.7**	**0.3**	**1.4**
				Type	**Clay**	**Clay**	**Sandy Soil**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**				
1,1,1,2-Tetrachloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50
1,1,1-Trichloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50
1,1,2,2-Tetrachloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50
1,1,2-Trichloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50
1,1-Dichloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50
1,1-Dichloroethylene	T209	M105	50	µg/kg	<50	<50	<50	<50
1,1-Dichloropropene	T209	M105	50	µg/kg	<50	<50	<50	<50
1,2,3-Trichloropropane	T209	M105	50	µg/kg	<50	<50	<50	<50
1,2,4-Trimethylbenzene	T209	M105	50	µg/kg	<50	<50	<50	<50
1,2-dibromoethane	T209	M105	50	µg/kg	<50	<50	<50	<50
1,2-Dichlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	<50
1,2-Dichloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50
1,2-Dichloropropane	T209	M105	50	µg/kg	<50	<50	<50	<50
1,3,5-Trimethylbenzene	T209	M105	50	µg/kg	<50	<50	<50	<50
1,3-Dichlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	<50
1,3-Dichloropropane	T209	M105	50	µg/kg	<50	<50	<50	<50
1,4-Dichlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	<50
2,2-Dichloropropane	T209	M105	50	µg/kg	<50	<50	<50	<50
2-Chlorotoluene	T209	M105	50	µg/kg	<50	<50	<50	<50
4-Chlorotoluene	T209	M105	50	µg/kg	<50	<50	<50	<50
Benzene	T209	M105	10	µg/kg	(13) <10	(13) <10	(13) <10	(13) <10
Bromobenzene	T209	M105	50	µg/kg	<50	<50	<50	<50
Bromochloromethane	T209	M105	50	µg/kg	<50	<50	<50	<50
Bromodichloromethane	T209	M105	50	µg/kg	<50	<50	<50	<50
Bromoform	T209	M105	50	µg/kg	<50	<50	<50	<50
Bromomethane	T209	M105	50	µg/kg	<50	<50	<50	<50
Carbon tetrachloride	T209	M105	50	µg/kg	<50	<50	<50	<50
Chlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	<50
Chlorodibromomethane	T209	M105	50	µg/kg	<50	<50	<50	<50
Chloroethane	T209	M105	50	µg/kg	<50	<50	<50	<50
Chloroform	T209	M105	50	µg/kg	<50	<50	<50	<50
Chloromethane	T209	M105	50	µg/kg	<50	<50	<50	<50
Cis-1,2-Dichloroethylene	T209	M105	50	µg/kg	<50	<50	<50	<50
Cis-1,3-Dichloropropene	T209	M105	50	µg/kg	<50	<50	<50	<50
Dibromomethane	T209	M105	50	µg/kg	<50	<50	<50	<50
Dichlorodifluoromethane	T209	M105	50	µg/kg	<50	<50	<50	<50
Dichloromethane	T209	M105	50	µg/kg	<50	<50	<50	<50
EthylBenzene	T209	M105	10	µg/kg	<10	<10	<10	<10
Isopropyl benzene	T209	M105	50	µg/kg	<50	<50	<50	<50
M/P Xylene	T209	M105	10	µg/kg	<10	<10	<10	<10
n-Propylbenzene	T209	M105	50	µg/kg	<50	<50	<50	<50
O Xylene	T209	M105	10	µg/kg	<10	<10	<10	<10
p-Isopropyltoluene	T209	M105	50	µg/kg	<50	<50	<50	<50
S-Butylbenzene	T209	M105	50	µg/kg	<50	<50	<50	<50
Styrene	T209	M105	50	µg/kg	<50	<50	<50	<50
T-Butylbenzene	T209	M105	50	µg/kg	<50	<50	<50	<50
Tetrachloroethene	T209	M105	50	µg/kg	<50	<50	<50	<50
Toluene	T209	M105	10	µg/kg	<10	<10	<10	<10
Trans-1,2-Dichloroethene	T209	M105	50	µg/kg	<50	<50	<50	<50
Trans-1,3-Dichloropropene	T209	M105	50	µg/kg	<50	<50	<50	<50
Trichloroethene	T209	M105	50	µg/kg	<50	<50	<50	<50
Trichlorofluoromethane	T209	M105	50	µg/kg	<50	<50	<50	<50
Vinyl chloride	T209	M105	50	µg/kg	<50	<50	<50	<50

Index to symbols used in 462445-2

Value	Description
M40	Analysis conducted on sample assisted dried at no more than 40C. Results are reported on a dry weight basis.
AR	As Received
M105	Analysis conducted on an "as received" aliquot. Results are reported on a dry weight basis where moisture content was determined by assisted drying of sample at 105C
N.D.	Not Detected
36	LOD Raised due to low Matrix spike recovery
13	Results have been blank corrected.
S	Analysis was subcontracted
M	Analysis is MCERTS accredited
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Asbestos was subcontracted to REC Asbestos

Method Index

Value	Description
T206	GC/FID (MCERTS)
T8	GC/FID
T7	Probe
T242	2:1 Extraction/ICP/OES (TRL 447 T1)
T85	Calc
T208	GC/MS (HR) (MCERTS)
T546	Colorimetry (CF)
T21	OX/IR
T27	PLM
T207	GC/MS (MCERTS)
T6	ICP/OES
T162	Grav (1 Dec) (105 C)
T209	GC/MS(Head Space)(MCERTS)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Arsenic	T6	M40	2	mg/kg	M	003-010
Beryllium	T6	M40	2	mg/kg	M	003-010
Boron (water-soluble)	T6	AR	1	mg/kg	N	003-010
Cadmium	T6	M40	1	mg/kg	M	003-010
Chromium	T6	M40	1	mg/kg	M	003-010
Copper	T6	M40	1	mg/kg	M	003-010
Lead	T6	M40	1	mg/kg	M	003-010
Mercury	T6	M40	1	mg/kg	M	003-010
Nickel	T6	M40	1	mg/kg	M	003-010
Selenium	T6	M40	3	mg/kg	M	003-010
Vanadium	T6	M40	1	mg/kg	M	003-010
Zinc	T6	M40	1	mg/kg	M	003-010
Cyanide(Total)	T546	AR	1	mg/kg	M	003-010
pH	T7	AR			M	003-010
Phenols(Mono)	T546	AR	1	mg/kg	M	003-010
(Water Soluble) SO4 expressed as SO4	T242	AR	0.01	g/l	N	003-010
Asbestos ID	T27	AR			SU	003,005,007,009
Total Organic Carbon	T21	M40	0.1	%	N	010
Naphthalene	T207	M105	0.1	mg/kg	M	003-010
Acenaphthylene	T207	M105	0.1	mg/kg	U	003-010
Acenaphthene	T207	M105	0.1	mg/kg	M	003-010
Fluorene	T207	M105	0.1	mg/kg	M	003-010
Phenanthrene	T207	M105	0.1	mg/kg	M	003-010
Anthracene	T207	M105	0.1	mg/kg	U	003-010
Fluoranthene	T207	M105	0.1	mg/kg	M	003-010
Pyrene	T207	M105	0.1	mg/kg	M	003-010

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	M	003-010
Chrysene	T207	M105	0.1	mg/kg	M	003-010
Benzo(b)fluoranthene	T207	M105	0.1	mg/kg	M	003-010
Benzo(k)fluoranthene	T207	M105	0.1	mg/kg	M	003-010
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	M	003-010
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	M	003-010
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	M	003-010
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	M	003-010
PAH(total)	T207	M105	0.1	mg/kg	U	003-010
Benzene	T209	M105	10	µg/kg	M	003-010
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	M	003-010
TPH (C5-C6 aliphatic)	T209	M105	0.100	mg/kg	N	003-010
TPH (C6-C8 aliphatic)	T209	M105	0.10	mg/kg	N	003-010
TPH (C8-C10 aliphatic)	T209	M105	0.10	mg/kg	N	003-010
TPH (C10-C12 aliphatic)	T206	M105	1	mg/kg	M	003-010
TPH (C12-C16 aliphatic)	T206	M105	2	mg/kg	M	003-010
TPH (C16-C21 aliphatic)	T206	M105	1	mg/kg	M	003-010
TPH (C21-C35 aliphatic)	T206	M105	4	mg/kg	M	003-010
TPH (C35-C44 aliphatic)	T8	M105	1	mg/kg	N	003-010
TPH (Aliphatic) total	T85	M105		mg/kg	N	003-010
TPH (C6-C7 aromatic)	T209	M105	0.10	mg/kg	N	003-010
TPH (C7-C8 aromatic)	T209	M105	0.10	mg/kg	N	003-010
TPH (C8-C10 aromatic)	T209	M105	0.10	mg/kg	N	003-010
TPH (C10-C12 aromatic)	T206	M105	1	mg/kg	N	003-010
TPH (C12-C16 aromatic)	T206	M105	1	mg/kg	M	003-010
TPH (C16-C21 aromatic)	T206	M105	1	mg/kg	M	003-010
TPH (C21-C35 aromatic)	T206	M105	1	mg/kg	M	003-010
TPH (C35-C44 aromatic)	T8	M105	1	mg/kg	N	003-010
TPH (Aromatic) total	T85	M105		mg/kg	N	003-010
TPH (Aliphatic+Aromatic) (sum)	T85	M105		mg/kg	N	003-010
PCB BZ#101	T208	M105	0.05	µg/kg	M	001
PCB BZ#118	T208	M105	0.05	µg/kg	M	001
PCB BZ#138	T208	M105	0.05	µg/kg	M	001
PCB BZ#153	T208	M105	0.05	µg/kg	M	001
PCB BZ#180	T208	M105	0.05	µg/kg	M	001
PCB BZ#28	T208	M105	0.05	µg/kg	M	001
PCB BZ#52	T208	M105	0.05	µg/kg	M	001
Moisture @ 105 C	T162	AR	0.1	%	N	001,003-010
1,2,4-Trichlorobenzene	T207	M105	0.1	mg/kg	M	003,006-007,010
1,2-Dichlorobenzene	T207	M105	0.1	mg/kg	M	003,006-007,010
1,3-Dichlorobenzene	T207	M105	0.1	mg/kg	M	003,006-007,010
1,4-Dichlorobenzene	T207	M105	0.1	mg/kg	M	003,006-007,010
2,4,5-Trichlorophenol	T207	M105	0.1	mg/kg	U	003,006-007,010
2,4,6-Trichlorophenol	T207	M105	0.1	mg/kg	U	003,006-007,010
2,4-Dichlorophenol	T207	M105	0.1	mg/kg	U	003,006-007,010
2,4-Dimethylphenol	T207	M105	0.1	mg/kg	U	003,006-007,010
2,4-Dinitrophenol	T207	M105	0.1	mg/kg	U	003,006-007,010
2,4-Dinitrotoluene	T207	M105	0.1	mg/kg	M	003,006-007,010
2,6-Dinitrotoluene	T207	M105	0.1	mg/kg	U	003,006-007,010
2-Chloronaphthalene	T207	M105	0.1	mg/kg	M	003,006-007,010
2-Chlorophenol	T207	M105	0.1	mg/kg	M	003,006-007,010
2-methyl phenol	T207	M105	0.1	mg/kg	M	003,006-007,010
2-Methylnaphthalene	T207	M105	0.1	mg/kg	M	003,006-007,010
2-Nitroaniline	T207	M105	0.1	mg/kg	M	003,006-007,010
2-Nitrophenol	T207	M105	0.1	mg/kg	U	003,006-007,010
3-Nitroaniline	T207	M105	0.1	mg/kg	U	003,006-007,010
3/4-Methylphenol	T207	M105	0.1	mg/kg	M	003,006-007,010
4-Bromophenyl phenylether	T207	M105	0.1	mg/kg	M	003,006-007,010
4-Chloro-3-methylphenol	T207	M105	0.1	mg/kg	M	003,006-007,010
4-Chloroaniline	T207	M105	0.1	mg/kg	U	003,006-007,010
4-Chlorophenyl phenylether	T207	M105	0.1	mg/kg	M	003,006-007,010
4-Nitroaniline	T207	M105	0.1	mg/kg	U	003,006-007,010
4-Nitrophenol	T207	M105	0.1	mg/kg	U	003,006-007,010
Azobenzene	T207	M105	0.1	mg/kg	M	003,006-007,010
Bis (2-chloroethoxy) methane	T207	M105	0.1	mg/kg	M	003,006-007,010
Bis (2-chloroethyl) ether	T207	M105	0.1	mg/kg	M	003,006-007,010
Bis (2-chloroisopropyl) ether	T207	M105	0.1	mg/kg	M	003,006-007,010
Bis (2-ethylhexyl)phthalate	T207	M105	0.1	mg/kg	M	003,006-007,010
Butyl benzylphthalate	T207	M105	0.1	mg/kg	U	003,006-007,010
Carbazole	T207	M105	0.1	mg/kg	U	003,006-007,010

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Di-n-butylphthalate	T207	M105	0.1	mg/kg	M	003,006-007,010
Di-n-octylphthalate	T207	M105	0.1	mg/kg	M	003,006-007,010
Dibenzofuran	T207	M105	0.1	mg/kg	M	003,006-007,010
Diethyl phthalate	T207	M105	0.1	mg/kg	U	003,006-007,010
Dimethyl phthalate	T207	M105	0.1	mg/kg	U	003,006-007,010
Hexachlorobenzene	T207	M105	0.1	mg/kg	M	003,006-007,010
Hexachlorobutadiene	T207	M105	0.1	mg/kg	M	003,006-007,010
Hexachlorocyclopentadiene	T207	M105	0.1	mg/kg	U	003,006-007,010
Hexachloroethane	T207	M105	0.1	mg/kg	U	003,006-007,010
Isophorone	T207	M105	0.1	mg/kg	U	003,006-007,010
Nitrobenzene	T207	M105	0.1	mg/kg	M	003,006-007,010
Pentachlorophenol	T207	M105	0.1	mg/kg	U	003,006-007,010
Phenol	T207	M105	0.1	mg/kg	M	003,006-007,010
1,1,1,2-Tetrachloroethane	T209	M105	50	µg/kg	M	003,006-007,010
1,1,1-Trichloroethane	T209	M105	50	µg/kg	M	003,006-007,010
1,1,2,2-Tetrachloroethane	T209	M105	50	µg/kg	U	003,006-007,010
1,1,2-Trichloroethane	T209	M105	50	µg/kg	M	003,006-007,010
1,1-Dichloroethane	T209	M105	50	µg/kg	M	003,006-007,010
1,1-Dichloroethylene	T209	M105	50	µg/kg	M	003,006-007,010
1,1-Dichloropropene	T209	M105	50	µg/kg	M	003,006-007,010
1,2,3-Trichloropropane	T209	M105	50	µg/kg	U	003,006-007,010
1,2,4-Trimethylbenzene	T209	M105	50	µg/kg	M	003,006-007,010
1,2-dibromoethane	T209	M105	50	µg/kg	M	003,006-007,010
1,2-Dichlorobenzene	T209	M105	50	µg/kg	M	003,006-007,010
1,2-Dichloroethane	T209	M105	50	µg/kg	M	003,006-007,010
1,2-Dichloropropane	T209	M105	50	µg/kg	M	003,006-007,010
1,3,5-Trimethylbenzene	T209	M105	50	µg/kg	M	003,006-007,010
1,3-Dichlorobenzene	T209	M105	50	µg/kg	M	003,006-007,010
1,3-Dichloropropane	T209	M105	50	µg/kg	M	003,006-007,010
1,4-Dichlorobenzene	T209	M105	50	µg/kg	M	003,006-007,010
2,2-Dichloropropane	T209	M105	50	µg/kg	U	003,006-007,010
2-Chlorotoluene	T209	M105	50	µg/kg	U	003,006-007,010
4-Chlorotoluene	T209	M105	50	µg/kg	U	003,006-007,010
Bromobenzene	T209	M105	50	µg/kg	M	003,006-007,010
Bromochloromethane	T209	M105	50	µg/kg	M	003,006-007,010
Bromodichloromethane	T209	M105	50	µg/kg	M	003,006-007,010
Bromoform	T209	M105	50	µg/kg	M	003,006-007,010
Bromomethane	T209	M105	50	µg/kg	U	003,006-007,010
Carbon tetrachloride	T209	M105	50	µg/kg	M	003,006-007,010
Chlorobenzene	T209	M105	50	µg/kg	M	003,006-007,010
Chlorodibromomethane	T209	M105	50	µg/kg	M	003,006-007,010
Chloroethane	T209	M105	50	µg/kg	M	003,006-007,010
Chloroform	T209	M105	50	µg/kg	M	003,006-007,010
Chloromethane	T209	M105	50	µg/kg	U	003,006-007,010
Cis-1,2-Dichloroethylene	T209	M105	50	µg/kg	M	003,006-007,010
Cis-1,3-Dichloropropene	T209	M105	50	µg/kg	M	003,006-007,010
Dibromomethane	T209	M105	50	µg/kg	M	003,006-007,010
Dichlorodifluoromethane	T209	M105	50	µg/kg	M	003,006-007,010
Dichloromethane	T209	M105	50	µg/kg	U	003,006-007,010
EthylBenzene	T209	M105	10	µg/kg	M	003-010
Isopropyl benzene	T209	M105	50	µg/kg	M	003,006-007,010
M/P Xylene	T209	M105	10	µg/kg	M	003-010
n-Propylbenzene	T209	M105	50	µg/kg	M	003,006-007,010
O Xylene	T209	M105	10	µg/kg	M	003-010
p-Isopropyltoluene	T209	M105	50	µg/kg	M	003,006-007,010
S-Butylbenzene	T209	M105	50	µg/kg	M	003,006-007,010
Styrene	T209	M105	50	µg/kg	U	003,006-007,010
T-Butylbenzene	T209	M105	50	µg/kg	M	003,006-007,010
Tetrachloroethene	T209	M105	50	µg/kg	M	003,006-007,010
Toluene	T209	M105	10	µg/kg	M	003-010
Trans-1,2-Dichloroethene	T209	M105	50	µg/kg	M	003,006-007,010
Trans-1,3-Dichloropropene	T209	M105	50	µg/kg	M	003,006-007,010
Trichloroethene	T209	M105	50	µg/kg	M	003,006-007,010
Trichlorofluoromethane	T209	M105	50	µg/kg	M	003,006-007,010
Vinyl chloride	T209	M105	50	µg/kg	M	003,006-007,010

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Certificate of Analysis

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Report Number: 463184-2

Date of Report: 31-Mar-2015

Customer: ENVIRON UK Ltd
Canada House
3 Chepstow Street
Manchester
M1 5FW

Customer Contact: Ms Kate Whitworth

Customer Job Reference: UK22-21295
Customer Purchase Order: UK22-21295
Customer Site Reference: Teeside Powerstation
Date Job Received at SAL: 16-Mar-2015
Date Analysis Started: 19-Mar-2015
Date Analysis Completed: 30-Mar-2015

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22

UKAS TESTING 1549

MCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Report checked
and authorised by :
Mr Richard Wong
Project Manager

Issued by :
Mr Richard Wong
Project Manager

[redacted]

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SAL Reference: 463184
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	463184 001	463184 002	463184 003	463184 004	463184 005	463184 006
				Customer Sample Reference	WS10	WS10	WS13	WS13	WS1	WS1
				Depth	0.60	0.90	0.60	1.30	0.90	1.80
				Date Sampled	13-MAR-2015	13-MAR-2015	13-MAR-2015	13-MAR-2015	13-MAR-2015	13-MAR-2015
				Top Depth	0.30	0.60	0.30	1.00	0.60	1.50
				Type	Sandy Soil	Sandy Soil	Clay	Clay	Sandy Soil	Clay
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Moisture @ 105 C	T162	AR	0.1	%	15	18	6.5	15	13	17

SAL Reference: 463184
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	463184 007	463184 008	463184 009	463184 010	463184 011
				Customer Sample Reference	WS2	WS2	WASTE DRUM CLAY	WASTE DRUM MG	WS08
				Depth	0.30	0.70			0.50
				Date Sampled	13-MAR-2015	13-MAR-2015	13-MAR-2015	13-MAR-2015	12-MAR-2015
				Top Depth	0.00	0.40			0.20
				Type	Sandy Soil	Clay	Clay	Clay	Sandy Soil
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture @ 105 C	T162	AR	0.1	%	6.7	22	14	7.4	8.4

SAL Reference: 463184
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Soil Analysed as Soil
Environ Suite B

SAL Reference	**463184 001**	**463184 002**	**463184 003**	**463184 004**	**463184 005**	**463184 006**
Customer Sample Reference	**WS10**	**WS10**	**WS13**	**WS13**	**WS1**	**WS1**
Depth	**0.60**	**0.90**	**0.60**	**1.30**	**0.90**	**1.80**
Date Sampled	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**
Top Depth	**0.30**	**0.60**	**0.30**	**1.00**	**0.60**	**1.50**
Type	**Sandy Soil**	**Sandy Soil**	**Clay**	**Clay**	**Sandy Soil**	**Clay**

Determinand	Method	Test Sample	LOD	Units						
Arsenic	T6	M40	2	mg/kg	**10**	**8**	**12**	**6**	**16**	**9**
Beryllium	T6	M40	2	mg/kg	<2	<2	**2**	<2	**6**	<2
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1
Chromium	T6	M40	1	mg/kg	**27**	**31**	**32**	**23**	**37**	**37**
Copper	T6	M40	1	mg/kg	**20**	**13**	**21**	**11**	**21**	**22**
Lead	T6	M40	1	mg/kg	**44**	**19**	**34**	**19**	**87**	**19**
Mercury	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1
Nickel	T6	M40	1	mg/kg	**24**	**28**	**27**	**22**	**13**	**43**
Selenium	T6	M40	3	mg/kg	<3	<3	<3	<3	<3	<3
Vanadium	T6	M40	1	mg/kg	**39**	**37**	**57**	**30**	**79**	**40**
Zinc	T6	M40	1	mg/kg	**97**	**54**	**130**	**46**	**200**	**58**
Cyanide(Total)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1
Phenols(Mono)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1
(Water Soluble) SO4 expressed as SO4	T242	AR	0.01	g/l	**0.09**	**0.09**	**1.3**	**0.17**	**0.23**	**0.08**
Total Organic Carbon	T21	M40	0.1	%	**1.9**	-	-	-	-	-
Asbestos ID	T27	AR			N.D.	-	N.D.	-	N.D.	-
pH	T7	AR			**8.2**	**7.8**	**9.7**	**7.7**	**10.0**	**8.2**
Naphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.6**	<0.1	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.5**	<0.1	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	<0.1	<0.1	**2.6**	<0.1	**0.8**	<0.1
Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.7**	<0.1	**0.3**	<0.1
Fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1	**3.7**	<0.1	**2.1**	<0.1
Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	**2.8**	<0.1	**1.8**	<0.1
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	**1.6**	<0.1	**0.9**	<0.1
Chrysene	T207	M105	0.1	mg/kg	<0.1	<0.1	**1.4**	<0.1	**0.8**	<0.1
Benzo(b)fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1	**1.4**	<0.1	**0.6**	<0.1
Benzo(k)fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1	**1.0**	<0.1	**0.7**	<0.1
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	**1.1**	<0.1	**0.7**	<0.1
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.6**	<0.1	**0.4**	<0.1
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.2**	<0.1	**0.2**	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.6**	<0.1	**0.5**	<0.1
PAH(total)	T207	M105	0.1	mg/kg	<0.1	<0.1	**19**	<0.1	**9.9**	<0.1
Benzene	T209	M105	10	µg/kg	<10	(13) <10	(13) <10	(13) <10	(13,110) <20	(13) <10
Toluene	T209	M105	10	µg/kg	<10	<10	<10	<10	(110) <20	<10
EthylBenzene	T209	M105	10	µg/kg	<10	<10	<10	<10	(110) <20	<10
M/P Xylene	T209	M105	10	µg/kg	<10	<10	<10	<10	(110) <20	<10
O Xylene	T209	M105	10	µg/kg	<10	<10	<10	<10	(110) <20	<10
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	<10	<10	<10	<10	(110) <20	<10
TPH (C5-C6 aliphatic)	T209	M105	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	(110) <0.200	<0.100
TPH (C6-C8 aliphatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	(110) <0.20	<0.10
TPH (C8-C10 aliphatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	(110) <0.20	<0.10
TPH (C10-C12 aliphatic)	T206	M105	1	mg/kg	<1	<1	<1	<1	<1	<1
TPH (C12-C16 aliphatic)	T206	M105	2	mg/kg	<2	<2	**4**	<2	<2	<2
TPH (C16-C21 aliphatic)	T206	M105	1	mg/kg	**4**	<1	**11**	<1	<1	<1
TPH (C21-C35 aliphatic)	T206	M105	4	mg/kg	**5**	<4	**44**	<4	<4	<4
TPH (C35-C44 aliphatic)	T8	M105	1	mg/kg	<1	<1	**2**	<1	<1	<1
TPH (Aliphatic) total	T85	M105		mg/kg	**8.1**	<4.0	**60**	<4.0	<4.0	<4.0
TPH (C6-C7 aromatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	(110) <0.20	<0.10
TPH (C7-C8 aromatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	(110) <0.20	<0.10
TPH (C8-C10 aromatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	(110) <0.20	<0.10
TPH (C10-C12 aromatic)	T206	M105	1	mg/kg	<1	<1	<1	<1	<1	<1

SAL Reference: 463184
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Soil Analysed as Soil
Environ Suite B

				SAL Reference	463184 001	463184 002	463184 003	463184 004	463184 005	463184 006
				Customer Sample Reference	**WS10**	**WS10**	**WS13**	**WS13**	**WS1**	**WS1**
				Depth	**0.60**	**0.90**	**0.60**	**1.30**	**0.90**	**1.80**
				Date Sampled	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**
				Top Depth	**0.30**	**0.60**	**0.30**	**1.00**	**0.60**	**1.50**
				Type	**Sandy Soil**	**Sandy Soil**	**Clay**	**Clay**	**Sandy Soil**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
TPH (C12-C16 aromatic)	T206	M105	1	mg/kg	<1	<1	**3**	<1	<1	<1
TPH (C16-C21 aromatic)	T206	M105	1	mg/kg	<1	<1	**18**	<1	<1	<1
TPH (C21-C35 aromatic)	T206	M105	1	mg/kg	<1	<1	**39**	<1	<1	<1
TPH (C35-C44 aromatic)	T8	M105	1	mg/kg	<1	<1	**6**	<1	<1	<1
TPH (Aromatic) total	T85	M105		mg/kg	<1.0	<1.0	**67**	<1.0	<1.0	<1.0
TPH (Aliphatic+Aromatic) (sum)	T85	M105		mg/kg	**8.1**	<4.0	**130**	<4.0	<4.0	<4.0

SAL Reference: 463184
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Soil Analysed as Soil
Environ Suite B

				SAL Reference	463184 007	463184 008	463184 009	463184 010	463184 011
				Customer Sample Reference	WS2	WS2	WASTE DRUM CLAY	WASTE DRUM MG	WS08
				Depth	0.30	0.70			0.50
				Date Sampled	13-MAR-2015	13-MAR-2015	13-MAR-2015	13-MAR-2015	12-MAR-2015
				Top Depth	0.00	0.40			0.20
				Type	Sandy Soil	Clay	Clay	Clay	Sandy Soil
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Arsenic	T6	M40	2	mg/kg	**3**	**11**	**7**	**5**	**9**
Beryllium	T6	M40	2	mg/kg	**5**	<2	<2	**5**	**5**
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1	<1	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1	<1	<1	<1
Chromium	T6	M40	1	mg/kg	**10**	**33**	**27**	**14**	**23**
Copper	T6	M40	1	mg/kg	**2**	**19**	**16**	**12**	**17**
Lead	T6	M40	1	mg/kg	**14**	**25**	**16**	**21**	**20**
Mercury	T6	M40	1	mg/kg	<1	<1	<1	<1	<1
Nickel	T6	M40	1	mg/kg	**1**	**32**	**27**	**5**	**8**
Selenium	T6	M40	3	mg/kg	<3	<3	<3	<3	<3
Vanadium	T6	M40	1	mg/kg	**12**	**41**	**38**	**21**	**49**
Zinc	T6	M40	1	mg/kg	**54**	**74**	**54**	**73**	**160**
Cyanide(Total)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1
Phenols(Mono)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1
(Water Soluble) SO4 expressed as SO4	T242	AR	0.01	g/l	**0.04**	**0.04**	**0.07**	**0.48**	**0.65**
Total Organic Carbon	T21	M40	0.1	%	-	-	**1.0**	**0.9**	-
Loss on Ignition	T2	M40	0.1	%	-	-	**4.5**	**3.0**	-
Asbestos ID	T27	AR			N.D.	-	-	N.D.	N.D.
pH	T7	AR			**8.6**	**7.9**	**8.3**	**9.3**	**10.4**
Naphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	**0.2**
Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	**0.7**
Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	**0.5**
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	**0.2**
Chrysene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	**0.2**
Benzo(b)fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	**0.2**
Benzo(k)fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	**0.1**
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	**0.2**
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	**0.1**
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	**0.1**
PAH(total)	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	**2.8**
Benzene	T209	M105	10	µg/kg	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10
Toluene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10
EthylBenzene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10
M/P Xylene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10
O Xylene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	<10	<10	<10	<10	<10
TPH (C5-C6 aliphatic)	T209	M105	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C8-C10 aliphatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C10-C12 aliphatic)	T206	M105	1	mg/kg	<1	<1	<1	<1	<1
TPH (C12-C16 aliphatic)	T206	M105	2	mg/kg	<2	<2	<2	**2**	<2
TPH (C16-C21 aliphatic)	T206	M105	1	mg/kg	<1	<1	**3**	**8**	**2**
TPH (C21-C35 aliphatic)	T206	M105	4	mg/kg	<4	<4	<4	**7**	**6**
TPH (C35-C44 aliphatic)	T8	M105	1	mg/kg	<1	<1	<1	<1	<1
TPH (Aliphatic) total	T85	M105		mg/kg	<4.0	<4.0	<4.0	**17**	**7.6**
TPH (C6-C7 aromatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C7-C8 aromatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C8-C10 aromatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10

SAL Reference:	463184
Project Site:	Teeside Powerstation
Customer Reference:	UK22-21295

Soil Analysed as Soil

Environ Suite B

				SAL Reference	**463184 007**	**463184 008**	**463184 009**	**463184 010**	**463184 011**
				Customer Sample Reference	**WS2**	**WS2**	**WASTE DRUM CLAY**	**WASTE DRUM MG**	**WS08**
				Depth	**0.30**	**0.70**			**0.50**
				Date Sampled	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**12-MAR-2015**
				Top Depth	**0.00**	**0.40**			**0.20**
				Type	**Sandy Soil**	**Clay**	**Clay**	**Clay**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
TPH (C10-C12 aromatic)	T206	M105	1	mg/kg	<1	<1	<1	<1	<1
TPH (C12-C16 aromatic)	T206	M105	1	mg/kg	<1	<1	<1	<1	<1
TPH (C16-C21 aromatic)	T206	M105	1	mg/kg	<1	<1	**4**	**2**	**3**
TPH (C21-C35 aromatic)	T206	M105	1	mg/kg	<1	<1	**3**	<1	**5**
TPH (C35-C44 aromatic)	T8	M105	1	mg/kg	<1	<1	<1	<1	**1**
TPH (Aromatic) total	T85	M105		mg/kg	<1.0	<1.0	**6.3**	**1.8**	**9.4**
TPH (Aliphatic+Aromatic) (sum)	T85	M105		mg/kg	<4.0	<4.0	**6.3**	**19**	**17**

SAL Reference: 463184
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Soil Analysed as Soil
Semi-Volatile Organic Compounds (USEPA 625)

SAL Reference					**463184 001**	**463184 002**	**463184 004**	**463184 005**	**463184 007**	**463184 008**
Customer Sample Reference					**WS10**	**WS10**	**WS13**	**WS1**	**WS2**	**WS2**
Depth					**0.60**	**0.90**	**1.30**	**0.90**	**0.30**	**0.70**
Date Sampled					**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**
Top Depth					**0.30**	**0.60**	**1.00**	**0.60**	**0.00**	**0.40**
Type					**Sandy Soil**	**Sandy Soil**	**Clay**	**Sandy Soil**	**Sandy Soil**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
1,2,4-Trichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-Dichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-Dichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-Dichlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,5-Trichlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,6-Trichlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dichlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dimethylphenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrotoluene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,6-Dinitrotoluene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chloronaphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chlorophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methyl phenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Nitroaniline	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Nitrophenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3-Nitroaniline	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3/4-Methylphenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Bromophenyl phenylether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloro-3-methylphenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloroaniline	T207	M105	0.1	mg/kg	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5
4-Chlorophenyl phenylether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitroaniline	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitrophenol	T207	M105	0.1	mg/kg	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**0.3**	<0.1	<0.1
Azobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**0.9**	<0.1	<0.1
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**0.7**	<0.1	<0.1
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**1.3**	<0.1	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**0.5**	<0.1	<0.1
Bis (2-chloroethoxy) methane	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroethyl) ether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroisopropyl) ether	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-ethylhexyl)phthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Butyl benzylphthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbazole	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**0.8**	<0.1	<0.1
Di-n-butylphthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Di-n-octylphthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1
Dibenzofuran	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Diethyl phthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethyl phthalate	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**2.1**	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorocyclopentadiene	T207	M105	0.1	mg/kg	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5
Hexachloroethane	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**0.4**	<0.1	<0.1
Isophorone	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrobenzene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pentachlorophenol	T207	M105	0.1	mg/kg	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5	(36) <0.5

SAL Reference: 463184
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Soil Analysed as Soil
Semi-Volatile Organic Compounds (USEPA 625)

SAL Reference					**463184 001**	**463184 002**	**463184 004**	**463184 005**	**463184 007**	**463184 008**
Customer Sample Reference					**WS10**	**WS10**	**WS13**	**WS1**	**WS2**	**WS2**
Depth					**0.60**	**0.90**	**1.30**	**0.90**	**0.30**	**0.70**
Date Sampled					**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**
Top Depth					**0.30**	**0.60**	**1.00**	**0.60**	**0.00**	**0.40**
Type					**Sandy Soil**	**Sandy Soil**	**Clay**	**Sandy Soil**	**Sandy Soil**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Phenanthrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**0.8**	<0.1	<0.1
Phenol	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**1.8**	<0.1	<0.1

SAL Reference: 463184
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Soil Analysed as Soil
Semi-Volatile Organic Compounds (USEPA 625)

SAL Reference	**463184 011**
Customer Sample Reference	**WS08**
Depth	**0.50**
Date Sampled	**12-MAR-2015**
Top Depth	**0.20**
Type	**Sandy Soil**

Determinand	Method	Test Sample	LOD	Units	
1,2,4-Trichlorobenzene	T207	M105	0.1	mg/kg	<0.1
1,2-Dichlorobenzene	T207	M105	0.1	mg/kg	<0.1
1,3-Dichlorobenzene	T207	M105	0.1	mg/kg	<0.1
1,4-Dichlorobenzene	T207	M105	0.1	mg/kg	<0.1
2,4,5-Trichlorophenol	T207	M105	0.1	mg/kg	<0.1
2,4,6-Trichlorophenol	T207	M105	0.1	mg/kg	<0.1
2,4-Dichlorophenol	T207	M105	0.1	mg/kg	<0.1
2,4-Dimethylphenol	T207	M105	0.1	mg/kg	<0.1
2,4-Dinitrophenol	T207	M105	0.1	mg/kg	<0.1
2,4-Dinitrotoluene	T207	M105	0.1	mg/kg	<0.1
2,6-Dinitrotoluene	T207	M105	0.1	mg/kg	<0.1
2-Chloronaphthalene	T207	M105	0.1	mg/kg	<0.1
2-Chlorophenol	T207	M105	0.1	mg/kg	<0.1
2-methyl phenol	T207	M105	0.1	mg/kg	<0.1
2-Methylnaphthalene	T207	M105	0.1	mg/kg	<0.1
2-Nitroaniline	T207	M105	0.1	mg/kg	<0.1
2-Nitrophenol	T207	M105	0.1	mg/kg	<0.1
3-Nitroaniline	T207	M105	0.1	mg/kg	<0.1
3/4-Methylphenol	T207	M105	0.1	mg/kg	<0.1
4-Bromophenyl phenylether	T207	M105	0.1	mg/kg	<0.1
4-Chloro-3-methylphenol	T207	M105	0.1	mg/kg	<0.1
4-Chloroaniline	T207	M105	0.1	mg/kg	(36) <0.5
4-Chlorophenyl phenylether	T207	M105	0.1	mg/kg	<0.1
4-Nitroaniline	T207	M105	0.1	mg/kg	<0.1
4-Nitrophenol	T207	M105	0.1	mg/kg	(36) <0.5
Acenaphthene	T207	M105	0.1	mg/kg	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1
Anthracene	T207	M105	0.1	mg/kg	<0.1
Azobenzene	T207	M105	0.1	mg/kg	<0.1
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	**0.2**
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	**0.2**
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	**0.4**
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	**0.1**
Bis (2-chloroethoxy) methane	T207	M105	0.1	mg/kg	<0.1
Bis (2-chloroethyl) ether	T207	M105	0.1	mg/kg	<0.1
Bis (2-chloroisopropyl) ether	T207	M105	0.1	mg/kg	<0.1
Bis (2-ethylhexyl)phthalate	T207	M105	0.1	mg/kg	<0.1
Butyl benzylphthalate	T207	M105	0.1	mg/kg	<0.1
Carbazole	T207	M105	0.1	mg/kg	<0.1
Chrysene	T207	M105	0.1	mg/kg	**0.2**
Di-n-butylphthalate	T207	M105	0.1	mg/kg	<0.1
Di-n-octylphthalate	T207	M105	0.1	mg/kg	<0.1
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1
Dibenzofuran	T207	M105	0.1	mg/kg	<0.1
Diethyl phthalate	T207	M105	0.1	mg/kg	<0.1
Dimethyl phthalate	T207	M105	0.1	mg/kg	<0.1
Fluoranthene	T207	M105	0.1	mg/kg	**0.7**
Fluorene	T207	M105	0.1	mg/kg	<0.1
Hexachlorobenzene	T207	M105	0.1	mg/kg	<0.1
Hexachlorobutadiene	T207	M105	0.1	mg/kg	<0.1
Hexachlorocyclopentadiene	T207	M105	0.1	mg/kg	(36) <0.5
Hexachloroethane	T207	M105	0.1	mg/kg	<0.1
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	**0.1**
Isophorone	T207	M105	0.1	mg/kg	<0.1
Naphthalene	T207	M105	0.1	mg/kg	<0.1
Nitrobenzene	T207	M105	0.1	mg/kg	<0.1
Pentachlorophenol	T207	M105	0.1	mg/kg	(36) <0.5

SAL Reference: 463184
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Soil Analysed as Soil
Semi-Volatile Organic Compounds (USEPA 625)

SAL Reference					**463184 011**
Customer Sample Reference					**WS08**
Depth					**0.50**
Date Sampled					**12-MAR-2015**
Top Depth					**0.20**
Type					**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**	
Phenanthrene	T207	M105	0.1	mg/kg	**0.2**
Phenol	T207	M105	0.1	mg/kg	<0.1
Pyrene	T207	M105	0.1	mg/kg	**0.5**

SAL Reference: 463184
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Soil Analysed as Soil
PCB EC7

SAL Reference					**463184 001**	**463184 011**
Customer Sample Reference					**WS10**	**WS08**
Depth					**0.60**	**0.50**
Date Sampled					**13-MAR-2015**	**12-MAR-2015**
Top Depth					**0.30**	**0.20**
Type					**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**		
PCB BZ#28	T208	M105	0.05	µg/kg	(2) <1.0	(2) <0.50
PCB BZ#52	T208	M105	0.05	µg/kg	(2) <1.0	(2) <0.50
PCB BZ#101	T208	M105	0.05	µg/kg	(2) <1.0	(2) <0.50
PCB BZ#118	T208	M105	0.05	µg/kg	(2) <1.0	(2) <0.50
PCB BZ#153	T208	M105	0.05	µg/kg	(2) <1.0	(2) <0.50
PCB BZ#138	T208	M105	0.05	µg/kg	(2) <1.0	(2) <0.50
PCB BZ#180	T208	M105	0.05	µg/kg	(2) <1.0	(2) <0.50

SAL Reference: 463184
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Soil Analysed as Soil
Volatile Organic Compounds (USEPA 624) (MCERTS)

				SAL Reference	**463184 001**	**463184 002**	**463184 004**	**463184 005**	**463184 007**	**463184 008**
				Customer Sample Reference	**WS10**	**WS10**	**WS13**	**WS1**	**WS2**	**WS2**
				Depth	**0.60**	**0.90**	**1.30**	**0.90**	**0.30**	**0.70**
				Date Sampled	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**	**13-MAR-2015**
				Top Depth	**0.30**	**0.60**	**1.00**	**0.60**	**0.00**	**0.40**
				Type	**Sandy Soil**	**Sandy Soil**	**Clay**	**Sandy Soil**	**Sandy Soil**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
1,1,1,2-Tetrachloroethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,1,1-Trichloroethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,1,2,2-Tetrachloroethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,1,2-Trichloroethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,1-Dichloroethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,1-Dichloroethylene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,1-Dichloropropene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,2,3-Trichloropropane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,2,4-Trimethylbenzene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,2-dibromoethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,2-Dichlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,2-Dichloroethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,2-Dichloropropane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,3,5-Trimethylbenzene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,3-Dichlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,3-Dichloropropane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
1,4-Dichlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
2,2-Dichloropropane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
2-Chlorotoluene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
4-Chlorotoluene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Benzene	T209	M105	10	µg/kg	<10	(13) <10	(13) <10	(13,110) <20	(13) <10	(13) <10
Bromobenzene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Bromochloromethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Bromodichloromethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Bromoform	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Bromomethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Carbon tetrachloride	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Chlorobenzene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Chlorodibromomethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Chloroethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Chloroform	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Chloromethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Cis-1,2-Dichloroethylene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Cis-1,3-Dichloropropene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Dibromomethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Dichlorodifluoromethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Dichloromethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
EthylBenzene	T209	M105	10	µg/kg	<10	<10	<10	(110) <20	<10	<10
Isopropyl benzene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
M/P Xylene	T209	M105	10	µg/kg	<10	<10	<10	(110) <20	<10	<10
n-Propylbenzene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
O Xylene	T209	M105	10	µg/kg	<10	<10	<10	(110) <20	<10	<10
p-Isopropyltoluene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
S-Butylbenzene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Styrene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
T-Butylbenzene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Tetrachloroethene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Toluene	T209	M105	10	µg/kg	<10	<10	<10	(110) <20	<10	<10
Trans-1,2-Dichloroethene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Trans-1,3-Dichloropropene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Trichloroethene	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Trichlorofluoromethane	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50
Vinyl chloride	T209	M105	50	µg/kg	<50	<50	<50	(110) <100	<50	<50

SAL Reference: 463184
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Soil Analysed as Soil
Volatile Organic Compounds (USEPA 624) (MCERTS)

SAL Reference	**463184 011**
Customer Sample Reference	**WS08**
Depth	**0.50**
Date Sampled	**12-MAR-2015**
Top Depth	**0.20**
Type	**Sandy Soil**

Determinand	Method	Test Sample	LOD	Units	
1,1,1,2-Tetrachloroethane	T209	M105	50	µg/kg	<50
1,1,1-Trichloroethane	T209	M105	50	µg/kg	<50
1,1,2,2-Tetrachloroethane	T209	M105	50	µg/kg	<50
1,1,2-Trichloroethane	T209	M105	50	µg/kg	<50
1,1-Dichloroethane	T209	M105	50	µg/kg	<50
1,1-Dichloroethylene	T209	M105	50	µg/kg	<50
1,1-Dichloropropene	T209	M105	50	µg/kg	<50
1,2,3-Trichloropropane	T209	M105	50	µg/kg	<50
1,2,4-Trimethylbenzene	T209	M105	50	µg/kg	<50
1,2-dibromoethane	T209	M105	50	µg/kg	<50
1,2-Dichlorobenzene	T209	M105	50	µg/kg	<50
1,2-Dichloroethane	T209	M105	50	µg/kg	<50
1,2-Dichloropropane	T209	M105	50	µg/kg	<50
1,3,5-Trimethylbenzene	T209	M105	50	µg/kg	<50
1,3-Dichlorobenzene	T209	M105	50	µg/kg	<50
1,3-Dichloropropane	T209	M105	50	µg/kg	<50
1,4-Dichlorobenzene	T209	M105	50	µg/kg	<50
2,2-Dichloropropane	T209	M105	50	µg/kg	<50
2-Chlorotoluene	T209	M105	50	µg/kg	<50
4-Chlorotoluene	T209	M105	50	µg/kg	<50
Benzene	T209	M105	10	µg/kg	(13) <10
Bromobenzene	T209	M105	50	µg/kg	<50
Bromochloromethane	T209	M105	50	µg/kg	<50
Bromodichloromethane	T209	M105	50	µg/kg	<50
Bromoform	T209	M105	50	µg/kg	<50
Bromomethane	T209	M105	50	µg/kg	<50
Carbon tetrachloride	T209	M105	50	µg/kg	<50
Chlorobenzene	T209	M105	50	µg/kg	<50
Chlorodibromomethane	T209	M105	50	µg/kg	<50
Chloroethane	T209	M105	50	µg/kg	<50
Chloroform	T209	M105	50	µg/kg	<50
Chloromethane	T209	M105	50	µg/kg	<50
Cis-1,2-Dichloroethylene	T209	M105	50	µg/kg	<50
Cis-1,3-Dichloropropene	T209	M105	50	µg/kg	<50
Dibromomethane	T209	M105	50	µg/kg	<50
Dichlorodifluoromethane	T209	M105	50	µg/kg	<50
Dichloromethane	T209	M105	50	µg/kg	<50
EthylBenzene	T209	M105	10	µg/kg	<10
Isopropyl benzene	T209	M105	50	µg/kg	<50
M/P Xylene	T209	M105	10	µg/kg	<10
n-Propylbenzene	T209	M105	50	µg/kg	<50
O Xylene	T209	M105	10	µg/kg	<10
p-Isopropyltoluene	T209	M105	50	µg/kg	<50
S-Butylbenzene	T209	M105	50	µg/kg	<50
Styrene	T209	M105	50	µg/kg	<50
T-Butylbenzene	T209	M105	50	µg/kg	<50
Tetrachloroethene	T209	M105	50	µg/kg	<50
Toluene	T209	M105	10	µg/kg	<10
Trans-1,2-Dichloroethene	T209	M105	50	µg/kg	<50
Trans-1,3-Dichloropropene	T209	M105	50	µg/kg	<50
Trichloroethene	T209	M105	50	µg/kg	<50
Trichlorofluoromethane	T209	M105	50	µg/kg	<50
Vinyl chloride	T209	M105	50	µg/kg	<50

Index to symbols used in 463184-2

Value	Description
M105	Analysis conducted on an "as received" aliquot. Results are reported on a dry weight basis where moisture content was determined by assisted drying of sample at 105C
AR	As Received
M40	Analysis conducted on sample assisted dried at no more than 40C. Results are reported on a dry weight basis.
N.D.	Not Detected
110	LOD raised due to low internal standard recovery.
2	LOD Raised Due to Matrix Interference
36	LOD Raised due to low Matrix spike recovery
13	Results have been blank corrected.
S	Analysis was subcontracted
M	Analysis is MCERTS accredited
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Asbestos ID performed at REC Asbestos

Method Index

Value	Description
T2	Grav
T85	Calc
T162	Grav (1 Dec) (105 C)
T207	GC/MS (MCERTS)
T546	Colorimetry (CF)
T8	GC/FID
T7	Probe
T208	GC/MS (HR) (MCERTS)
T242	2:1 Extraction/ICP/OES (TRL 447 T1)
T21	OX/IR
T209	GC/MS(Head Space)(MCERTS)
T6	ICP/OES
T206	GC/FID (MCERTS)
T27	PLM

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Arsenic	T6	M40	2	mg/kg	M	001-011
Beryllium	T6	M40	2	mg/kg	M	001-011
Boron (water-soluble)	T6	AR	1	mg/kg	N	001-011
Cadmium	T6	M40	1	mg/kg	M	001-011
Chromium	T6	M40	1	mg/kg	M	001-011
Copper	T6	M40	1	mg/kg	M	001-011
Lead	T6	M40	1	mg/kg	M	001-011
Mercury	T6	M40	1	mg/kg	M	001-011
Nickel	T6	M40	1	mg/kg	M	001-011
Selenium	T6	M40	3	mg/kg	M	001-011
Vanadium	T6	M40	1	mg/kg	M	001-011
Zinc	T6	M40	1	mg/kg	M	001-011
Cyanide(Total)	T546	AR	1	mg/kg	M	001-011
Phenols(Mono)	T546	AR	1	mg/kg	M	001-011
(Water Soluble) SO4 expressed as SO4	T242	AR	0.01	g/l	N	001-011
Total Organic Carbon	T21	M40	0.1	%	N	001,009-010
Loss on Ignition	T2	M40	0.1	%	N	009-010
Asbestos ID	T27	AR			SU	001,003,005,007,010-011
pH	T7	AR			M	001-011
Acenaphthylene	T207	M105	0.1	mg/kg	U	001-011
Acenaphthene	T207	M105	0.1	mg/kg	M	001-011
Fluoranthene	T207	M105	0.1	mg/kg	M	001-011
Pyrene	T207	M105	0.1	mg/kg	M	001-011

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	M	001-011
Benzo(b)fluoranthene	T207	M105	0.1	mg/kg	M	001-011
Benzo(k)fluoranthene	T207	M105	0.1	mg/kg	M	001-011
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	M	001-011
PAH(total)	T207	M105	0.1	mg/kg	U	001-011
Benzene	T209	M105	10	µg/kg	M	001-011
M/P Xylene	T209	M105	10	µg/kg	M	001-011
O Xylene	T209	M105	10	µg/kg	M	001-011
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	M	001-011
TPH (C5-C6 aliphatic)	T209	M105	0.100	mg/kg	N	001-011
TPH (C6-C8 aliphatic)	T209	M105	0.10	mg/kg	N	001-011
TPH (C8-C10 aliphatic)	T209	M105	0.10	mg/kg	N	001-011
TPH (C10-C12 aliphatic)	T206	M105	1	mg/kg	M	001-011
TPH (C12-C16 aliphatic)	T206	M105	2	mg/kg	M	001-011
TPH (C16-C21 aliphatic)	T206	M105	1	mg/kg	M	001-011
TPH (C21-C35 aliphatic)	T206	M105	4	mg/kg	M	001-011
TPH (C35-C44 aliphatic)	T8	M105	1	mg/kg	N	001-011
TPH (Aliphatic) total	T85	M105		mg/kg	N	001-011
TPH (C6-C7 aromatic)	T209	M105	0.10	mg/kg	N	001-011
TPH (C7-C8 aromatic)	T209	M105	0.10	mg/kg	N	001-011
TPH (C8-C10 aromatic)	T209	M105	0.10	mg/kg	N	001-011
TPH (C10-C12 aromatic)	T206	M105	1	mg/kg	N	001-011
TPH (C12-C16 aromatic)	T206	M105	1	mg/kg	M	001-011
TPH (C16-C21 aromatic)	T206	M105	1	mg/kg	M	001-011
TPH (C21-C35 aromatic)	T206	M105	1	mg/kg	M	001-011
TPH (C35-C44 aromatic)	T8	M105	1	mg/kg	N	001-011
TPH (Aromatic) total	T85	M105		mg/kg	N	001-011
TPH (Aliphatic+Aromatic) (sum)	T85	M105		mg/kg	N	001-011
Moisture @ 105 C	T162	AR	0.1	%	N	001-011
PCB BZ#28	T208	M105	0.05	µg/kg	M	001,011
PCB BZ#52	T208	M105	0.05	µg/kg	M	001,011
PCB BZ#101	T208	M105	0.05	µg/kg	M	001,011
PCB BZ#118	T208	M105	0.05	µg/kg	M	001,011
PCB BZ#153	T208	M105	0.05	µg/kg	M	001,011
PCB BZ#138	T208	M105	0.05	µg/kg	M	001,011
PCB BZ#180	T208	M105	0.05	µg/kg	M	001,011
1,2,4-Trichlorobenzene	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
1,2-Dichlorobenzene	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
1,3-Dichlorobenzene	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
1,4-Dichlorobenzene	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
2,4,5-Trichlorophenol	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
2,4,6-Trichlorophenol	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
2,4-Dichlorophenol	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
2,4-Dimethylphenol	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
2,4-Dinitrophenol	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
2,4-Dinitrotoluene	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
2,6-Dinitrotoluene	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
2-Chloronaphthalene	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
2-Chlorophenol	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
2-methyl phenol	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
2-Methylnaphthalene	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
2-Nitroaniline	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
2-Nitrophenol	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
3-Nitroaniline	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
3/4-Methylphenol	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
4-Bromophenyl phenylether	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
4-Chloro-3-methylphenol	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
4-Chloroaniline	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
4-Chlorophenyl phenylether	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
4-Nitroaniline	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
4-Nitrophenol	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
Anthracene	T207	M105	0.1	mg/kg	U	001-011
Azobenzene	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	M	001-011
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	M	001-011
Bis (2-chloroethoxy) methane	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
Bis (2-chloroethyl) ether	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
Bis (2-chloroisopropyl) ether	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
Bis (2-ethylhexyl)phthalate	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Butyl benzylphthalate	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
Carbazole	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
Chrysene	T207	M105	0.1	mg/kg	M	001-011
Di-n-butylphthalate	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
Di-n-octylphthalate	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	M	001-011
Dibenzofuran	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
Diethyl phthalate	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
Dimethyl phthalate	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
Fluorene	T207	M105	0.1	mg/kg	M	001-011
Hexachlorobenzene	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
Hexachlorobutadiene	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
Hexachlorocyclopentadiene	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
Hexachloroethane	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
Isophorone	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
Naphthalene	T207	M105	0.1	mg/kg	M	001-011
Nitrobenzene	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
Pentachlorophenol	T207	M105	0.1	mg/kg	U	001-002,004-005,007-008,011
Phenanthrene	T207	M105	0.1	mg/kg	M	001-011
Phenol	T207	M105	0.1	mg/kg	M	001-002,004-005,007-008,011
1,1,1,2-Tetrachloroethane	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
1,1,1-Trichloroethane	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
1,1,2,2-Tetrachloroethane	T209	M105	50	µg/kg	U	001-002,004-005,007-008,011
1,1,2-Trichloroethane	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
1,1-Dichloroethane	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
1,1-Dichloroethylene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
1,1-Dichloropropene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
1,2,3-Trichloropropane	T209	M105	50	µg/kg	U	001-002,004-005,007-008,011
1,2,4-Trimethylbenzene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
1,2-dibromoethane	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
1,2-Dichlorobenzene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
1,2-Dichloroethane	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
1,2-Dichloropropane	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
1,3,5-Trimethylbenzene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
1,3-Dichlorobenzene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
1,3-Dichloropropane	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
1,4-Dichlorobenzene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
2,2-Dichloropropane	T209	M105	50	µg/kg	U	001-002,004-005,007-008,011
2-Chlorotoluene	T209	M105	50	µg/kg	U	001-002,004-005,007-008,011
4-Chlorotoluene	T209	M105	50	µg/kg	U	001-002,004-005,007-008,011
Bromobenzene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Bromochloromethane	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Bromodichloromethane	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Bromoform	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Bromomethane	T209	M105	50	µg/kg	U	001-002,004-005,007-008,011
Carbon tetrachloride	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Chlorobenzene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Chlorodibromomethane	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Chloroethane	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Chloroform	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Chloromethane	T209	M105	50	µg/kg	U	001-002,004-005,007-008,011
Cis-1,2-Dichloroethylene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Cis-1,3-Dichloropropene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Dibromomethane	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Dichlorodifluoromethane	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Dichloromethane	T209	M105	50	µg/kg	U	001-002,004-005,007-008,011
EthylBenzene	T209	M105	10	µg/kg	M	001-011
Isopropyl benzene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
n-Propylbenzene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
p-Isopropyltoluene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
S-Butylbenzene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Styrene	T209	M105	50	µg/kg	U	001-002,004-005,007-008,011
T-Butylbenzene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Tetrachloroethene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Toluene	T209	M105	10	µg/kg	M	001-011
Trans-1,2-Dichloroethene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Trans-1,3-Dichloropropene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Trichloroethene	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Trichlorofluoromethane	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011
Vinyl chloride	T209	M105	50	µg/kg	M	001-002,004-005,007-008,011

Annex E: Groundwater Analytical Results

Annex E.1: Groundwater Results Compared with ENVIRON GACs

Annex E.2: Groundwater Analytical Certificates

20	EQS	1,000,000,000	1	9.3	0.9	3.1	1	3.8	1.2	1.5
4	NPDWR	1,000,000,000	<DL	<DL		<DL	<DL	<DL	<DL	<DL
2,000	EQS	1,000,000,000	150	240	400	1,000	590	480	370	570
0.25	EQS	1,000,000,000	0.08	0.04	<DL	0.04	<DL	0.03	<DL	<DL
4.7	EQS	1,000,000,000	3	2	2	2	2	3	2	2
3.4	EQS	1,000,000,000	3	<DL	<DL	<DL	<DL	4	<DL	<DL
28	EQS	1,000,000,000	5.6	5.4	7.9	7.9	8	12	7.1	11
7.2	EQS	1,000,000,000	1.3	<DL	<DL	<DL	<DL	<DL	<DL	<DL
0.05	EQS	1,000,000,000	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
20	EQS	1,000,000,000	10	17	8	6	6	15	7	5
10.0	DWS	1,000,000,000	30	11	2.8	5.7	3.5	17	4.7	7.8
60	EQS	1,000,000,000	2	4	3	4	3	10	4	4
125	5,000	1,000,000,000	6	3	3	4	5	9	4	4
2.4	EQS	13,800	0.02	0.74	<DL	<DL	<DL	ns	<DL	<DL
NC	NA	8,000	<DL	0.06	<DL	<DL	<DL	ns	<DL	<DL
400	RSL	4,100	0.03	2	<DL	<DL	<DL	ns	<DL	<DL
220	RSL	1,900	0.03	1.3	<DL	<DL	<DL	ns	<DL	<DL
5	DIV	1,100	0.04	1.9	<DL	<DL	0.02	ns	<DL	0.02
0.1	EQS	56	0.01	0.5	<DL	<DL	<DL	ns	<DL	<DL
0.1	EQS	230	0.07	1.2	<DL	<DL	0.01	ns	<DL	<DL
87	RSL	130	0.06	0.82	<DL	<DL	0.01	ns	<DL	<DL
0.029	RSL	11	<DL	0.07	<DL	<DL	<DL	ns	<DL	<DL
2.9	RSL	2	<DL	0.08	<DL	<DL	<DL	ns	<DL	<DL
0.03	EQS	2	<DL	0.05	<DL	<DL	0.01	ns	<DL	<DL
		0.8	<DL	0.03	<DL	<DL	0.01	ns	<DL	<DL
0.05	EQS	3.8	<DL	0.03	<DL	<DL	<DL	ns	<DL	<DL
0.002	EQS	0.26	<DL	0.02	<DL	<DL	<DL	ns	<DL	<DL
		0.2	<DL	<DL	<DL	<DL	<DL	ns	<DL	<DL
0.0029	RSL	NC	<DL	0.02	<DL	<DL	<DL	ns	<DL	<DL

6.0 to 9.0 6.5 to 10	EC Dangerous Substances Directive / DWS	NC	8.4	8.7	7.5	7.8	7.6	7.6	7.4	7.4	
50.00	DWS	1,000,000,000	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
400 mg/l	EQS	NC	570	1300	520	220	300	660	370	270	
7.7 (phenol)	EQS	59,200,000	1.2	4.2	<DL	<DL	<DL	ns	<DL	<DL	
NC	NC	NC	240	1300	620	310	380	860	560	270	
OCARBONS (TPHS) (ug/l)											
1	DWS	1,580	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
50	EQS	520,000	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
20	EQS	160,000	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
30	EC Dangerous Substances Directive	55900; 60900	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
		74,100	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
NC	n/a	6,630,000	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
l)											
10	Private Water Supplies Regulations	19,000	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
		5,400	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
		430	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
		34	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
		0.76	<DL	<DL	<DL	<DL	<DL	100	<DL	<DL	<DL
		NC	<DL	<DL	<DL	<DL	<DL	130	<DL	<DL	<DL
		NC	50	80	<DL	<DL	40	110	60	20	
		NC	<DL	<DL	<DL	<DL	<DL	20	<DL	<DL	<DL
		NC	50	80	<DL	<DL	40	360	60	20	
		1,580	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
		5,200	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
		15,600	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
		25,000	<DL	20	<DL	<DL	<DL	<DL	<DL	<DL	<DL
		5,800	20	50	<DL	<DL	<DL	30	<DL	<DL	

		NC	70	130	<DL	<DL	<DL	110	<DL	<DL	
		NC	120	210	<DL	<DL	40	470	60	20	
			120	210	<DL	<DL	40	450	60	20	
OUNDS (VOCS) (ug/l)											
190	RSL	620	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
190	RSL	1,400	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
0.5	DWS	62.8	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
7	RSL	709	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NC	NC	1,620,000	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
1,100	RSL	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
7	NPDWR	13,400	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
50^	WHO DWG	10,900	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
2.4	RSL	627	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NC	NC	940	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
50^	WHO DWG	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
500	DWEL	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
2.5	EQS	57,900	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
100	EC Dangerous Substances Directive	233,000	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
3	DWS	571	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NC	NC	108	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
10.0	EQS	1,580	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
3	DWS	627	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
10	EQS	367									
40	WHO DWG	5,730	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
7.9	RSL	9,070	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
100	DWS	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
20~	WHO DWG	17,500	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
50	EQS	520,000	<DL	<DL	<DL	<DL	<DL	<1	<DL	<DL	<DL
20~	WHO DWG	2,180	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
400	EC Dangerous Substances Directive	35,400	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns

OUNDS (VOCS) (ug/l)										
100	DWS	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
0.4	WHO DWG	27,800	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
100	NPDWR	13,300	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
20	EQS	160,000	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
0.5	RSL	16,700	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
30	EQS	m-xylene 55900 p-xylene 60900	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
		74,100	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
50	EQS	320,000	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
100	DWS	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
390	RSL	55,000	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
0.066	RSL	88,400	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
54	RSL	9,500	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
0.00065	RSL	1,590	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
180	RSL	120,000	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
87	RSL	1,620	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
190	RSL	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NC	NC	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
45	RSL	1,300	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NC	NC	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NC	NC	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NC	NC	2,250	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
300	WHO DWG	83,000	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
20	EQS	150,000	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
COMPOUNDS (VOCS) (ug/l)										
0.4[b]	EQS	3,810	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns

COMPOUNDS (VOCS) (ug/l)											
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
50.0	EQS*	2,610,000	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
100 (sum of 2, 3 and 4 methylphenol)	EQS	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
100 (sum of 2, 3 and 4 methylphenol)	EQS	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
40.0	EQS*	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
1.3	EQS	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
20.0	EQS	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns

COMPOUNDS (VOCS) (ug/l)											
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
11,000.0	RSL**	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
270.0	RSL	NC	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
0.01	EQS	10	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
0.4	EQS	14,000	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
7.7	EQS	59,200,000	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NP	NP	NP	ns	ns	<DL	<DL	<DL	ns	<DL	<DL	ns
NYLS (PCBs) (ug/l)											
NP	NP	NP	<DL	<DL	<DL	ns	ns	ns	ns	ns	<DL
NP	NP	NP	<DL	<DL	<DL	ns	ns	ns	ns	ns	<DL
NP	NP	NP	<DL	<DL	<DL	ns	ns	ns	ns	ns	<DL
NP	NP	NP	<DL	<DL	<DL	ns	ns	ns	ns	ns	<DL
NP	NP	NP	<DL	<DL	<DL	ns	ns	ns	ns	ns	<DL
NP	NP	NP	<DL	<DL	<DL	ns	ns	ns	ns	ns	<DL
NP	NP	NP	<DL	<DL	<DL	ns	ns	ns	ns	ns	<DL

20	EQS	1,000,000,000	1.5	1.6	ns	5.1
4	NPDWR	1,000,000,000	<DL	0.07	ns	<DL
2,000	EQS	1,000,000,000	530	300	ns	850
0.25	EQS	1,000,000,000	<DL	0.09	ns	0.19
4.7	EQS	1,000,000,000	2	<DL	ns	3
3.4	EQS	1,000,000,000	<DL	<DL	<DL	<DL
28	EQS	1,000,000,000	7.3	6.6	ns	25
7.2	EQS	1,000,000,000	<DL	3.7	ns	2
0.05	EQS	1,000,000,000	<DL	0.05	ns	<DL
20	EQS	1,000,000,000	6	5	ns	14
10.0	DWS	1,000,000,000	5.8	29	ns	73
60	EQS	1,000,000,000	3	<DL	ns	5
125	5,000	1,000,000,000	4	15	ns	17
2.4	EQS	13,800	<DL	<DL	0.02	0.09
NC	NA	8,000	<DL	<DL	<DL	0.01
400	RSL	4,100	<DL	<DL	<DL	0.02
220	RSL	1,900	<DL	<DL	<DL	0.02
5	DIV	1,100	0.01	<DL	<DL	0.06
0.1	EQS	56	<DL	<DL	<DL	0.03
0.1	EQS	230	0.01	<DL	0.03	0.13
87	RSL	130	0.01	<DL	0.03	0.1
0.029	RSL	11	<DL	<DL	0.02	0.08
2.9	RSL	2	<DL	<DL	0.02	0.08
0.03	EQS	2	<DL	<DL	0.04	0.14
		0.8	<DL	<DL	0.01	0.06
0.05	EQS	3.8	<DL	<DL	0.02	0.07
0.002	EQS	0.26	<DL	<DL	0.01	0.04
		0.2	<DL	<DL	0.01	0.04
0.0029	RSL	NC	<DL	<DL	<DL	<DL

6.0 to 9.0 6.5 to 10	EC Dangerous Substances Directive / DWS	NC	7.5	7.7	6.9	7.1
50.00	DWS	1,000,000,000	<DL	<DL	<DL	<DL
400 mg/l	EQS	NC	400	560	540	1400
7.7 (phenol)	EQS	59,200,000	<DL	<DL	<DL	0.7
NC	NC	NC	500			
OCARBONS (TPHS) (ug/l)						
1	DWS	1,580	<DL	<DL	<DL	<DL
50	EQS	520,000	<DL	<DL	<DL	<DL
20	EQS	160,000	<DL	<DL	<DL	<DL
30	EC Dangerous Substances Directive	55900; 60900	<DL	<DL	<DL	<DL
		74,100	<DL	<DL	<DL	<DL
NC	n/a	6,630,000	<DL	<DL	<DL	<DL
l)						
10	Private Water Supplies Regulations	19,000	<DL	<DL	<DL	<DL
		5,400	<DL	<DL	<DL	<DL
		430	<DL	<DL	<DL	<DL
		34	<DL	<DL	<DL	<DL
		0.76	<DL	<DL	<DL	<DL
		NC	<DL	<DL	<DL	20
		NC	20	<DL	20	30
		NC	<DL	<DL	<DL	<DL
		NC	20	<DL	20	50
		1,580	<DL	<DL	<DL	<DL
		5,200	<DL	<DL	<DL	<DL
		15,600	<DL	<DL	<DL	<DL
		25,000	<DL	<DL	<DL	<DL
		5,800	<DL	20	<DL	30

		NC	<DL	50	<DL	90
		NC	20	50	20	140
			20	50	20	140
OUNDS (VOCS) (ug/l)						
190	RSL	620	<DL	ns	ns	<DL
190	RSL	1,400	<DL	ns	ns	<DL
0.5	DWS	62.8	<DL	ns	ns	<DL
7	RSL	709	<DL	ns	ns	<DL
NC	NC	1,620,000	<DL	ns	ns	<DL
1,100	RSL	NC	<DL	ns	ns	<DL
7	NPDWR	13,400	<DL	ns	ns	<DL
50^	WHO DWG	10,900	<DL	ns	ns	<DL
2.4	RSL	627	<DL	ns	ns	<DL
NC	NC	940	<DL	ns	ns	<DL
50^	WHO DWG	NC	<DL	ns	ns	<DL
500	DWEL	NC	<DL	ns	ns	<DL
2.5	EQS	57,900	<DL	ns	ns	<DL
100	EC Dangerous Substances Directive	233,000	<DL	ns	ns	<DL
3	DWS	571	<DL	ns	ns	<DL
NC	NC	108	<DL	ns	ns	<DL
10.0	EQS	1,580	<DL	ns	ns	<DL
3	DWS	627	<DL	ns	ns	<DL
10	EQS	367		ns	ns	<DL
40	WHO DWG	5,730	<DL	ns	ns	<DL
7.9	RSL	9,070	<DL	ns	ns	<DL
100	DWS	NC	<DL	ns	ns	<DL
20~	WHO DWG	17,500	<DL	ns	ns	<DL
50	EQS	520,000	<DL	ns	ns	<DL
20~	WHO DWG	2,180	<DL	ns	ns	<DL
400	EC Dangerous Substances Directive	35,400	<DL	ns	ns	<DL

OUNDS (VOCS) (ug/l)						
100	DWS	NC	<DL	ns	ns	<DL
0.4	WHO DWG	27,800	<DL	ns	ns	<DL
100	NPDWR	13,300	<DL	ns	ns	<DL
20	EQS	160,000	<DL	ns	ns	<DL
0.5	RSL	16,700	<DL	ns	ns	<DL
30	EQS	m-xylene 55900 p-xylene 60900	<DL	ns	ns	<DL
		74,100	<DL	ns	ns	<DL
50	EQS	320,000	<DL	ns	ns	<DL
100	DWS	NC	<DL	ns	ns	<DL
390	RSL	55,000	<DL	ns	ns	<DL
0.066	RSL	88,400	<DL	ns	ns	<DL
54	RSL	9,500	<DL	ns	ns	<DL
0.00065	RSL	1,590	<DL	ns	ns	<DL
180	RSL	120,000	<DL	ns	ns	<DL
87	RSL	1,620	<DL	ns	ns	<DL
190	RSL	NC	<DL	ns	ns	<DL
NC	NC	NC	<DL	ns	ns	<DL
45	RSL	1,300	<DL	ns	ns	<DL
NC	NC	NC	<DL	ns	ns	<DL
NC	NC	NC	<DL	ns	ns	<DL
NC	NC	2,250	<DL	ns	ns	<DL
300	WHO DWG	83,000	<DL	ns	ns	<DL
20	EQS	150,000	<DL	ns	ns	<DL
COMPOUNDS (VOCS) (ug/l)						
0.4^b	EQS	3,810	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL

COMPOUNDS (VOCS) (ug/l)						
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
50.0	EQS*	2,610,000	<DL	ns	ns	<DL
100 (sum of 2, 3 and 4 methylphenol)	EQS	NC	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
100 (sum of 2, 3 and 4 methylphenol)	EQS	NC	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
40.0	EQS*	NC	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
1.3	EQS	NC	<DL	ns	ns	<DL
20.0	EQS	NC	<DL	ns	ns	<DL

COMPOUNDS (VOCS) (ug/l)						
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
11,000.0	RSL**	NC	<DL	ns	ns	<DL
270.0	RSL	NC	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
0.01	EQS	10	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
0.4	EQS	14,000	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
7.7	EQS	59,200,000	<DL	ns	ns	<DL
NP	NP	NP	<DL	ns	ns	<DL
NYLS (PCBs) (ug/l)						
NP	NP	NP	<DL	<DL	ns	ns
NP	NP	NP	<DL	<DL	ns	ns
NP	NP	NP	<DL	<DL	ns	ns
NP	NP	NP	<DL	<DL	ns	ns
NP	NP	NP	<DL	<DL	ns	ns
NP	NP	NP	<DL	<DL	ns	ns
NP	NP	NP	<DL	<DL	ns	ns
					nb labelled incorrectly as MW04 on lab certs	nb labelled incorrectly as MW05 on lab certs

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Scientific Analysis Laboratories Ltd

Certificate of Analysis

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Hadfield House, Hadfield Street, Manchester M16 9FE

Report Number: 466115-1

Date of Report: 14-Apr-2015

Customer: ENVIRON UK Ltd
Canada House
3 Chepstow Street
Manchester
M1 5FW

Customer Contact: Ms Kate Whitworth

Customer Job Reference:
Customer Purchase Order: UK22-21295
Customer Site Reference: Teeside Powerstation
Date Job Received at SAL: 27-Mar-2015
Date Analysis Started: 30-Mar-2015
Date Analysis Completed: 14-Apr-2015

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22

UKAS
TESTING
1549

Report checked
and authorised by :
Mr Ross Walker
Sales Support Manager

Issued by :
Mr Ross Walker
Sales Support Manager

[redacted]

SAL Reference: 466115
Project Site: Teeside Powerstation
Customer Reference:

Water Analysed as Water
Environ Suite B

SAL Reference	466115 001	466115 002	466115 003
Customer Sample Reference	**MW1**	**MW4**	**MW5**
Date Sampled	**26-MAR-2015**	**26-MAR-2015**	**26-MAR-2015**

Determinand	Method	Test Sample	LOD	Units			
As (Dissolved)	T281	AR	0.2	µg/l	**1.6**	(IS)	**5.1**
Be (Dissolved)	T281	AR	0.05	µg/l	**0.07**	(IS)	<0.05
Boron	T6	AR	10	µg/l	**300**	(IS)	**850**
Cd (Dissolved)	T281	AR	0.02	µg/l	**0.09**	(IS)	**0.19**
Cr (Dissolved)	T281	AR	1	µg/l	<1	(IS)	**3**
Chromium VI	T686	AR	3	µg/l	<3	<3	<3
Cu (Dissolved)	T281	AR	0.5	µg/l	**6.6**	(IS)	**25**
Pb (Dissolved)	T281	AR	0.3	µg/l	**3.7**	(IS)	**2.0**
Hg (Dissolved)	T281	AR	0.05	µg/l	**0.05**	(IS)	<0.05
Ni (Dissolved)	T281	AR	1	µg/l	**5**	(IS)	**14**
Se (Dissolved)	T281	AR	0.5	µg/l	**29**	(IS)	**73**
V (Dissolved)	T281	AR	2	µg/l	<2	(IS)	**5**
Zn (Dissolved)	T281	AR	2	µg/l	**15**	(IS)	**17**
Cyanide(Total)	T4	AR	0.05	mg/l	<0.05	<0.05	<0.05
Hardness expressed as CaCO3	T6	AR	10	mg/l	**580**	(IS)	**1500**
pH	T7	AR			**7.7**	**6.9**	**7.1**
Sulphate	T686	AR	0.5	mg/l	**560**	**540**	**1400**
Total Phenols	T16	AR	0.5	µg/l	<0.5	<0.5	**0.7**

SAL Reference: 466115
Project Site: Teeside Powerstation
Customer Reference:

Water Analysed as Water
PAH US EPA 16 (B and K split)

SAL Reference	466115 001	466115 002	466115 003
Customer Sample Reference	**MW1**	**MW4**	**MW5**
Date Sampled	**26-MAR-2015**	**26-MAR-2015**	**26-MAR-2015**

Determinand	Method	Test Sample	LOD	Units			
Naphthalene	T149	AR	0.01	µg/l	<0.01	**0.02**	**0.09**
Acenaphthylene	T149	AR	0.01	µg/l	<0.01	<0.01	**0.01**
Acenaphthene	T149	AR	0.01	µg/l	<0.01	<0.01	**0.02**
Fluorene	T149	AR	0.01	µg/l	<0.01	<0.01	**0.02**
Phenanthrene	T149	AR	0.01	µg/l	<0.01	<0.01	**0.06**
Anthracene	T149	AR	0.01	µg/l	<0.01	<0.01	**0.03**
Fluoranthene	T149	AR	0.01	µg/l	<0.01	**0.03**	**0.13**
Pyrene	T149	AR	0.01	µg/l	<0.01	**0.03**	**0.10**
Benzo(a)Anthracene	T149	AR	0.01	µg/l	<0.01	**0.02**	**0.08**
Chrysene	T149	AR	0.01	µg/l	<0.01	**0.02**	**0.08**
Benzo(b)fluoranthene	T149	AR	0.01	µg/l	<0.01	**0.04**	**0.14**
Benzo(k)fluoranthene	T149	AR	0.01	µg/l	<0.01	**0.01**	**0.06**
Benzo(a)Pyrene	T149	AR	0.01	µg/l	<0.01	**0.02**	**0.07**
Indeno(123-cd)Pyrene	T149	AR	0.01	µg/l	<0.01	**0.01**	**0.04**
Dibenzo(ah)Anthracene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01
Benzo(ghi)Perylene	T149	AR	0.01	µg/l	<0.01	**0.01**	**0.04**
PAH(total)	T149	AR	0.01	µg/l	<0.01	**0.21**	**0.96**

SAL Reference: 466115
Project Site: Teeside Powerstation
Customer Reference:

Water Analysed as Water
TPH UKCWG

				SAL Reference	**466115 001**	**466115 002**	**466115 003**
				Customer Sample Reference	**MW1**	**MW4**	**MW5**
				Date Sampled	**26-MAR-2015**	**26-MAR-2015**	**26-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**			
Benzene	T54	AR	1	µg/l	(13) <1	(13) <1	(13) <1
EthylBenzene	T54	AR	1	µg/l	<1	<1	<1
M/P Xylene	T54	AR	1	µg/l	<1	<1	<1
Methyl tert-Butyl Ether	T54	AR	1	µg/l	<1	<1	<1
O Xylene	T54	AR	1	µg/l	<1	<1	<1
Toluene	T54	AR	1	µg/l	<1	<1	<1
TPH (C5-C6 aliphatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010
TPH (C6-C8 aliphatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010
TPH (C8-C10 aliphatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010
TPH DW(C10-C12 aliphatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01
TPH DW(C12-C16 aliphatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01
TPH DW(C16-C21 aliphatic)	T81	AR	0.01	mg/l	<0.01	<0.01	**0.02**
TPH DW(C21-C35 aliphatic)	T81	AR	0.01	mg/l	<0.01	**0.02**	**0.03**
TPH (C35-C44 aliphatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01
TPH (Aliphatic) total	T85	AR		mg/l	N.D.	**0.02**	**0.05**
TPH (C6-C7 aromatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010
TPH (C7-C8 aromatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010
TPH (C8-C10 aromatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010
TPH DW(C10-C12 aromatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01
TPH DW(C12-C16 aromatic)	T81	AR	0.01	mg/l	**0.02**	<0.01	**0.03**
TPH DW(C16-C21 aromatic)	T81	AR	0.01	mg/l	**0.03**	<0.01	**0.06**
TPH DW(C21-C35 aromatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01
TPH (C35-C44 aromatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01
TPH (Aromatic) total	T85	AR		mg/l	**0.05**	N.D.	**0.09**
TPH (Aliphatic+Aromatic) (sum)	T85	AR		mg/l	**0.05**	**0.02**	**0.14**
Total Petroleum Hydrocarbons (C5 - C10 aliphatic/aromatic)	T85	AR	0.010	mg/l	<0.010	<0.010	<0.010

SAL Reference: 466115
Project Site: Teeside Powerstation
Customer Reference:

Water Analysed as Water
PCBs EC7 congeners(28,52,101,118,138,153,180)

				SAL Reference	**466115 001**
				Customer Sample Reference	**MW1**
				Date Sampled	**26-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**	
PCB BZ#101	T1	AR	0.005	µg/l	<0.005
PCB BZ#118	T16	AR	0.005	µg/l	<0.005
PCB BZ#138	T1	AR	0.005	µg/l	<0.005
PCB BZ#153	T1	AR	0.005	µg/l	<0.005
PCB BZ#180	T1	AR	0.005	µg/l	<0.005
PCB BZ#28	T1	AR	0.005	µg/l	<0.005
PCB BZ#52	T1	AR	0.005	µg/l	<0.005

SAL Reference: 466115
Project Site: Teeside Powerstation
Customer Reference:

Water Analysed as Water
Semi-Volatile Organic Compounds (USEPA 625) Low Level

				SAL Reference	466115 003
				Customer Sample Reference	MW5
				Date Sampled	26-MAR-2015
Determinand	**Method**	**Test Sample**	**LOD**	**Units**	
1,2,4-Trichlorobenzene	T71	AR	1	µg/l	<1
1,2-Dichlorobenzene	T71	AR	1	µg/l	<1
1,3-Dichlorobenzene	T71	AR	1	µg/l	<1
1,4-Dichlorobenzene	T71	AR	1	µg/l	<1
2,4,5-Trichlorophenol	T71	AR	1	µg/l	<1
2,4,6-Trichlorophenol	T71	AR	1	µg/l	<1
2,4-Dichlorophenol	T71	AR	1	µg/l	<1
2,4-Dimethylphenol	T71	AR	1	µg/l	<1
2,4-Dinitrophenol	T71	AR	1	µg/l	(36) <5
2,4-Dinitrotoluene	T71	AR	1	µg/l	<1
2,6-Dinitrotoluene	T71	AR	1	µg/l	<1
2-Chloronaphthalene	T71	AR	1	µg/l	<1
2-Chlorophenol	T71	AR	1	µg/l	<1
2-methyl phenol	T71	AR	1	µg/l	<1
2-Methylnaphthalene	T71	AR	1	µg/l	<1
2-Nitroaniline	T71	AR	1	µg/l	<1
2-Nitrophenol	T71	AR	1	µg/l	<1
3-Nitroaniline	T71	AR	1	µg/l	<1
3/4-Methylphenol	T71	AR	1	µg/l	<1
4-Bromophenyl phenylether	T71	AR	1	µg/l	<1
4-Chloro-3-methylphenol	T71	AR	1	µg/l	<1
4-Chloroaniline	T71	AR	1	µg/l	<1
4-Chlorophenyl phenylether	T71	AR	1	µg/l	<1
4-Nitroaniline	T71	AR	1	µg/l	<1
4-Nitrophenol	T71	AR	1	µg/l	<1
Acenaphthene	T71	AR	1	µg/l	<1
Acenaphthylene	T71	AR	1	µg/l	<1
Anthracene	T71	AR	1	µg/l	<1
Azobenzene	T71	AR	1	µg/l	<1
Benzo(a)Anthracene	T71	AR	1	µg/l	<1
Benzo(a)Pyrene	T71	AR	1	µg/l	<1
Benzo(b/k)Fluoranthene	T71	AR	1	µg/l	<1
Benzo(ghi)Perylene	T71	AR	1	µg/l	<1
Bis (2-chloroethoxy) methane	T71	AR	1	µg/l	<1
Bis (2-chloroethyl) ether	T71	AR	1	µg/l	<1
Bis (2-chloroisopropyl) ether	T71	AR	1	µg/l	<1
Bis (2-ethylhexyl)phthalate	T71	AR	1	µg/l	(2) <70
Butyl benzylphthalate	T71	AR	1	µg/l	<1
Carbazole	T71	AR	1	µg/l	<1
Chrysene	T71	AR	1	µg/l	<1
Di-n-butylphthalate	T71	AR	1	µg/l	<1
Di-n-octylphthalate	T71	AR	1	µg/l	(2) <70
Dibenzo(ah)Anthracene	T71	AR	1	µg/l	<1
Dibenzofuran	T71	AR	1	µg/l	<1
Diethyl phthalate	T71	AR	1	µg/l	<1
Dimethyl phthalate	T71	AR	1	µg/l	<1
Fluoranthene	T71	AR	1	µg/l	<1
Fluorene	T71	AR	1	µg/l	<1
Hexachlorobenzene	T71	AR	1	µg/l	<1
Hexachlorobutadiene	T71	AR	1	µg/l	<1
Hexachlorocyclopentadiene	T71	AR	1	µg/l	(36) <5
Hexachloroethane	T71	AR	1	µg/l	<1
Indeno(123-cd)Pyrene	T71	AR	1	µg/l	<1
Isophorone	T71	AR	1	µg/l	<1
Naphthalene	T71	AR	1	µg/l	<1
Nitrobenzene	T71	AR	1	µg/l	<1
Pentachlorophenol	T71	AR	1	µg/l	(36) <5
Phenanthrene	T71	AR	1	µg/l	<1
Phenol	T71	AR	1	µg/l	(36) <5
Pyrene	T71	AR	1	µg/l	<1

SAL Reference:	466115
Project Site:	Teeside Powerstation
Customer Reference:	

Water Analysed as Water

Volatile Organic Compounds (USEPA 624)

				SAL Reference	**466115 003**
				Customer Sample Reference	**MW5**
				Date Sampled	**26-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**	
1,1,1,2-Tetrachloroethane	T54	AR	1	µg/l	<1
1,1,1-Trichloroethane	T54	AR	1	µg/l	<1
1,1,2,2-Tetrachloroethane	T54	AR	1	µg/l	<1
1,1,2-Trichloroethane	T54	AR	1	µg/l	<1
1,1,2-Trichloroethylene	T54	AR	1	µg/l	<1
1,1-Dichloroethane	T54	AR	1	µg/l	<1
1,1-Dichloroethylene	T54	AR	1	µg/l	<1
1,1-Dichloropropene	T54	AR	1	µg/l	<1
1,2,3-Trichloropropane	T54	AR	1	µg/l	<1
1,2,4-Trimethylbenzene	T54	AR	1	µg/l	<1
1,2-dibromoethane	T54	AR	1	µg/l	<1
1,2-Dichlorobenzene	T54	AR	1	µg/l	<1
1,2-Dichloroethane	T54	AR	1	µg/l	<1
1,2-Dichloropropane	T54	AR	1	µg/l	<1
1,3,5-Trimethylbenzene	T54	AR	1	µg/l	<1
1,3-Dichlorobenzene	T54	AR	1	µg/l	<1
1,3-Dichloropropane	T54	AR	1	µg/l	<1
1,4-Dichlorobenzene	T54	AR	1	µg/l	<1
2,2-Dichloropropane	T54	AR	1	µg/l	<1
2-Chlorotoluene	T54	AR	1	µg/l	<1
4-Chlorotoluene	T54	AR	1	µg/l	<1
Benzene	T54	AR	1	µg/l	(13) <1
Bromobenzene	T54	AR	1	µg/l	<1
Bromochloromethane	T54	AR	1	µg/l	<1
Bromodichloromethane	T54	AR	1	µg/l	<1
Bromoform	T54	AR	1	µg/l	<1
Bromomethane	T54	AR	1	µg/l	<1
Carbon tetrachloride	T54	AR	1	µg/l	<1
Chlorobenzene	T54	AR	1	µg/l	<1
Chlorodibromomethane	T54	AR	1	µg/l	<1
Chloroethane	T54	AR	1	µg/l	<1
Chloroform	T54	AR	1	µg/l	<1
Chloromethane	T54	AR	1	µg/l	<1
Cis-1,2-Dichloroethylene	T54	AR	1	µg/l	<1
Cis-1,3-Dichloropropene	T54	AR	1	µg/l	<1
Dibromomethane	T54	AR	1	µg/l	<1
Dichlorodifluoromethane	T54	AR	1	µg/l	<1
Dichloromethane	T54	AR	50	µg/l	<50
EthylBenzene	T54	AR	1	µg/l	<1
Isopropyl benzene	T54	AR	1	µg/l	<1
M/P Xylene	T54	AR	1	µg/l	<1
n-Propylbenzene	T54	AR	1	µg/l	<1
O Xylene	T54	AR	1	µg/l	<1
p-Isopropyltoluene	T54	AR	1	µg/l	<1
S-Butylbenzene	T54	AR	1	µg/l	<1
Styrene	T54	AR	1	µg/l	<1
T-Butylbenzene	T54	AR	1	µg/l	<1
Tetrachloroethene	T54	AR	1	µg/l	<1
Toluene	T54	AR	1	µg/l	<1
Trans-1,2-Dichloroethene	T54	AR	1	µg/l	<1
Trans-1,3-Dichloropropene	T54	AR	1	µg/l	<1
Trichlorofluoromethane	T54	AR	1	µg/l	<1
Vinyl chloride	T54	AR	1	µg/l	<1

Index to symbols used in 466115-1

Value	Description
AR	As Received
N.D.	Not Detected
36	LOD Raised due to low Matrix spike recovery
2	LOD Raised Due to Matrix Interference
13	Results have been blank corrected.
IS	Insufficient Sample
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Method Index

Value	Description
T6	ICP/OES
T1	GC/MS (HR)
T85	Calc
T149	GC/MS (SIR)
T81	GC/FID (LV)
T281	ICP/MS (Filtered)
T16	GC/MS
T54	GC/MS (Headspace)
T215	GC/MS (Headspace)(LV)
T4	Colorimetry
T7	Probe
T71	GC/MS (1l ext.)
T686	Discrete Analyser

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
As (Dissolved)	T281	AR	0.2	µg/l	U	001-003
Be (Dissolved)	T281	AR	0.05	µg/l	U	001-003
Boron	T6	AR	10	µg/l	N	001-003
Cd (Dissolved)	T281	AR	0.02	µg/l	U	001-003
Cr (Dissolved)	T281	AR	1	µg/l	U	001-003
Chromium VI	T686	AR	3	µg/l	U	001-003
Cu (Dissolved)	T281	AR	0.5	µg/l	U	001-003
Pb (Dissolved)	T281	AR	0.3	µg/l	U	001-003
Hg (Dissolved)	T281	AR	0.05	µg/l	U	001-003
Ni (Dissolved)	T281	AR	1	µg/l	U	001-003
Se (Dissolved)	T281	AR	0.5	µg/l	U	001-003
V (Dissolved)	T281	AR	2	µg/l	U	001-003
Zn (Dissolved)	T281	AR	2	µg/l	U	001-003
Cyanide(Total)	T4	AR	0.05	mg/l	U	001-003
Hardness expressed as CaCO3	T6	AR	10	mg/l	N	001-003
pH	T7	AR			U	001-003
Sulphate	T686	AR	0.5	mg/l	U	001-003
Total Phenols	T16	AR	0.5	µg/l	U	001-003
Naphthalene	T149	AR	0.01	µg/l	U	001-003
Acenaphthylene	T149	AR	0.01	µg/l	U	001-003
Acenaphthene	T149	AR	0.01	µg/l	U	001-003
Fluorene	T149	AR	0.01	µg/l	U	001-003
Phenanthrene	T149	AR	0.01	µg/l	U	001-003
Anthracene	T149	AR	0.01	µg/l	U	001-003
Fluoranthene	T149	AR	0.01	µg/l	U	001-003
Pyrene	T149	AR	0.01	µg/l	U	001-003
Benzo(a)Anthracene	T149	AR	0.01	µg/l	U	001-003
Chrysene	T149	AR	0.01	µg/l	U	001-003
Benzo(b)fluoranthene	T149	AR	0.01	µg/l	U	001-003
Benzo(k)fluoranthene	T149	AR	0.01	µg/l	U	001-003
Benzo(a)Pyrene	T149	AR	0.01	µg/l	U	001-003
Indeno(123-cd)Pyrene	T149	AR	0.01	µg/l	U	001-003
Dibenzo(ah)Anthracene	T149	AR	0.01	µg/l	U	001-003
Benzo(ghi)Perylene	T149	AR	0.01	µg/l	U	001-003
PAH(total)	T149	AR	0.01	µg/l	U	001-003
Benzene	T54	AR	1	µg/l	U	001-003
EthylBenzene	T54	AR	1	µg/l	U	001-003
M/P Xylene	T54	AR	1	µg/l	U	001-003
Methyl tert-Butyl Ether	T54	AR	1	µg/l	U	001-003

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
O Xylene	T54	AR	1	µg/l	U	001-003
Toluene	T54	AR	1	µg/l	U	001-003
TPH (C5-C6 aliphatic)	T215	AR	0.010	mg/l	N	001-003
TPH (C6-C8 aliphatic)	T215	AR	0.010	mg/l	N	001-003
TPH (C8-C10 aliphatic)	T215	AR	0.010	mg/l	N	001-003
TPH DW(C10-C12 aliphatic)	T81	AR	0.01	mg/l	N	001-003
TPH DW(C12-C16 aliphatic)	T81	AR	0.01	mg/l	N	001-003
TPH DW(C16-C21 aliphatic)	T81	AR	0.01	mg/l	N	001-003
TPH DW(C21-C35 aliphatic)	T81	AR	0.01	mg/l	N	001-003
TPH (C35-C44 aliphatic)	T81	AR	0.01	mg/l	N	001-003
TPH (Aliphatic) total	T85	AR		mg/l	N	001-003
TPH (C6-C7 aromatic)	T215	AR	0.010	mg/l	N	001-003
TPH (C7-C8 aromatic)	T215	AR	0.010	mg/l	N	001-003
TPH (C8-C10 aromatic)	T215	AR	0.010	mg/l	N	001-003
TPH DW(C10-C12 aromatic)	T81	AR	0.01	mg/l	N	001-003
TPH DW(C12-C16 aromatic)	T81	AR	0.01	mg/l	N	001-003
TPH DW(C16-C21 aromatic)	T81	AR	0.01	mg/l	N	001-003
TPH DW(C21-C35 aromatic)	T81	AR	0.01	mg/l	N	001-003
TPH (C35-C44 aromatic)	T81	AR	0.01	mg/l	N	001-003
TPH (Aromatic) total	T85	AR		mg/l	N	001-003
TPH (Aliphatic+Aromatic) (sum)	T85	AR		mg/l	N	001-003
Total Petroleum Hydrocarbons (C5 - C10 aliphatic/aromatic)	T85	AR	0.010	mg/l	N	001-003
PCB BZ#101	T1	AR	0.005	µg/l	U	001
PCB BZ#118	T16	AR	0.005	µg/l	U	001
PCB BZ#138	T1	AR	0.005	µg/l	U	001
PCB BZ#153	T1	AR	0.005	µg/l	U	001
PCB BZ#180	T1	AR	0.005	µg/l	U	001
PCB BZ#28	T1	AR	0.005	µg/l	U	001
PCB BZ#52	T1	AR	0.005	µg/l	U	001
1,2,4-Trichlorobenzene	T71	AR	1	µg/l	U	003
1,2-Dichlorobenzene	T71	AR	1	µg/l	U	003
1,3-Dichlorobenzene	T71	AR	1	µg/l	U	003
1,4-Dichlorobenzene	T71	AR	1	µg/l	U	003
2,4,5-Trichlorophenol	T71	AR	1	µg/l	U	003
2,4,6-Trichlorophenol	T71	AR	1	µg/l	U	003
2,4-Dichlorophenol	T71	AR	1	µg/l	U	003
2,4-Dimethylphenol	T71	AR	1	µg/l	U	003
2,4-Dinitrophenol	T71	AR	1	µg/l	U	003
2,4-Dinitrotoluene	T71	AR	1	µg/l	U	003
2,6-Dinitrotoluene	T71	AR	1	µg/l	U	003
2-Chloronaphthalene	T71	AR	1	µg/l	U	003
2-Chlorophenol	T71	AR	1	µg/l	U	003
2-methyl phenol	T71	AR	1	µg/l	U	003
2-Methylnaphthalene	T71	AR	1	µg/l	U	003
2-Nitroaniline	T71	AR	1	µg/l	U	003
2-Nitrophenol	T71	AR	1	µg/l	U	003
3-Nitroaniline	T71	AR	1	µg/l	U	003
3/4-Methylphenol	T71	AR	1	µg/l	U	003
4-Bromophenyl phenylether	T71	AR	1	µg/l	U	003
4-Chloro-3-methylphenol	T71	AR	1	µg/l	U	003
4-Chloroaniline	T71	AR	1	µg/l	U	003
4-Chlorophenyl phenylether	T71	AR	1	µg/l	U	003
4-Nitroaniline	T71	AR	1	µg/l	U	003
4-Nitrophenol	T71	AR	1	µg/l	U	003
Acenaphthene	T71	AR	1	µg/l	U	003
Acenaphthylene	T71	AR	1	µg/l	U	003
Anthracene	T71	AR	1	µg/l	U	003
Azobenzene	T71	AR	1	µg/l	U	003
Benzo(a)Anthracene	T71	AR	1	µg/l	U	003
Benzo(a)Pyrene	T71	AR	1	µg/l	U	003
Benzo(b/k)Fluoranthene	T71	AR	1	µg/l	U	003
Benzo(ghi)Perylene	T71	AR	1	µg/l	U	003
Bis (2-chloroethoxy) methane	T71	AR	1	µg/l	U	003
Bis (2-chloroethyl) ether	T71	AR	1	µg/l	U	003
Bis (2-chloroisopropyl) ether	T71	AR	1	µg/l	U	003
Bis (2-ethylhexyl)phthalate	T71	AR	1	µg/l	U	003
Butyl benzylphthalate	T71	AR	1	µg/l	U	003
Carbazole	T71	AR	1	µg/l	U	003
Chrysene	T71	AR	1	µg/l	U	003
Di-n-butylphthalate	T71	AR	1	µg/l	U	003

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Di-n-octylphthalate	T71	AR	1	µg/l	U	003
Dibenzo(ah)Anthracene	T71	AR	1	µg/l	U	003
Dibenzofuran	T71	AR	1	µg/l	U	003
Diethyl phthalate	T71	AR	1	µg/l	U	003
Dimethyl phthalate	T71	AR	1	µg/l	U	003
Fluoranthene	T71	AR	1	µg/l	U	003
Fluorene	T71	AR	1	µg/l	U	003
Hexachlorobenzene	T71	AR	1	µg/l	U	003
Hexachlorobutadiene	T71	AR	1	µg/l	U	003
Hexachlorocyclopentadiene	T71	AR	1	µg/l	U	003
Hexachloroethane	T71	AR	1	µg/l	U	003
Indeno(123-cd)Pyrene	T71	AR	1	µg/l	U	003
Isophorone	T71	AR	1	µg/l	U	003
Naphthalene	T71	AR	1	µg/l	U	003
Nitrobenzene	T71	AR	1	µg/l	U	003
Pentachlorophenol	T71	AR	1	µg/l	U	003
Phenanthrene	T71	AR	1	µg/l	U	003
Phenol	T71	AR	1	µg/l	U	003
Pyrene	T71	AR	1	µg/l	U	003
1,1,1,2-Tetrachloroethane	T54	AR	1	µg/l	U	003
1,1,1-Trichloroethane	T54	AR	1	µg/l	U	003
1,1,2,2-Tetrachloroethane	T54	AR	1	µg/l	U	003
1,1,2-Trichloroethane	T54	AR	1	µg/l	U	003
1,1,2-Trichloroethylene	T54	AR	1	µg/l	U	003
1,1-Dichloroethane	T54	AR	1	µg/l	U	003
1,1-Dichloroethylene	T54	AR	1	µg/l	U	003
1,1-Dichloropropene	T54	AR	1	µg/l	U	003
1,2,3-Trichloropropane	T54	AR	1	µg/l	U	003
1,2,4-Trimethylbenzene	T54	AR	1	µg/l	U	003
1,2-dibromoethane	T54	AR	1	µg/l	U	003
1,2-Dichlorobenzene	T54	AR	1	µg/l	U	003
1,2-Dichloroethane	T54	AR	1	µg/l	U	003
1,2-Dichloropropane	T54	AR	1	µg/l	U	003
1,3,5-Trimethylbenzene	T54	AR	1	µg/l	U	003
1,3-Dichlorobenzene	T54	AR	1	µg/l	U	003
1,3-Dichloropropane	T54	AR	1	µg/l	U	003
1,4-Dichlorobenzene	T54	AR	1	µg/l	U	003
2,2-Dichloropropane	T54	AR	1	µg/l	U	003
2-Chlorotoluene	T54	AR	1	µg/l	U	003
4-Chlorotoluene	T54	AR	1	µg/l	U	003
Bromobenzene	T54	AR	1	µg/l	U	003
Bromochloromethane	T54	AR	1	µg/l	U	003
Bromodichloromethane	T54	AR	1	µg/l	U	003
Bromoform	T54	AR	1	µg/l	U	003
Bromomethane	T54	AR	1	µg/l	U	003
Carbon tetrachloride	T54	AR	1	µg/l	U	003
Chlorobenzene	T54	AR	1	µg/l	U	003
Chlorodibromomethane	T54	AR	1	µg/l	U	003
Chloroethane	T54	AR	1	µg/l	U	003
Chloroform	T54	AR	1	µg/l	U	003
Chloromethane	T54	AR	1	µg/l	U	003
Cis-1,2-Dichloroethylene	T54	AR	1	µg/l	U	003
Cis-1,3-Dichloropropene	T54	AR	1	µg/l	U	003
Dibromomethane	T54	AR	1	µg/l	U	003
Dichlorodifluoromethane	T54	AR	1	µg/l	U	003
Dichloromethane	T54	AR	50	µg/l	N	003
Isopropyl benzene	T54	AR	1	µg/l	U	003
n-Propylbenzene	T54	AR	1	µg/l	U	003
p-Isopropyltoluene	T54	AR	1	µg/l	U	003
S-Butylbenzene	T54	AR	1	µg/l	U	003
Styrene	T54	AR	1	µg/l	U	003
T-Butylbenzene	T54	AR	1	µg/l	U	003
Tetrachloroethene	T54	AR	1	µg/l	U	003
Trans-1,2-Dichloroethene	T54	AR	1	µg/l	U	003
Trans-1,3-Dichloropropene	T54	AR	1	µg/l	U	003
Trichlorofluoromethane	T54	AR	1	µg/l	U	003
Vinyl chloride	T54	AR	1	µg/l	U	003

Scientific Analysis Laboratories Ltd

Certificate of Analysis

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Report Number: 463511-1

Date of Report: 31-Mar-2015

Customer: ENVIRON UK Ltd
Canada House
3 Chepstow Street
Manchester
M1 5FW

Customer Contact: Ms Kate Whitworth

Customer Job Reference: UK22-21295
Customer Purchase Order: UK22-21295
Customer Site Reference: Teeside Powerstation
Date Job Received at SAL: 17-Mar-2015
Date Analysis Started: 19-Mar-2015
Date Analysis Completed: 31-Mar-2015

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22

UKAS
TESTING
1549

Report checked
and authorised by :
Bianca Prince
Project Management

Issued by :
Bianca Prince
Project Management

[redacted]

SAL Reference: 463511
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Water Analysed as Water
Environ Suite B

				SAL Reference	**463511 001**	**463511 002**	**463511 003**	**463511 004**	**463511 005**
				Customer Sample Reference	**MW2**	**MW3**	**BH6**	**BH5**	**BH1**
				Date Sampled	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
As (Dissolved)	T281	AR	0.2	µg/l	**1.0**	**9.3**	**0.9**	**3.1**	**1.0**
Be (Dissolved)	T281	AR	0.05	µg/l	<0.05	<0.05	<0.05	<0.05	<0.05
Boron	T6	AR	0.01	mg/l	**0.15**	**0.24**	**0.40**	**0.70**	**0.59**
Cd (Dissolved)	T281	AR	0.02	µg/l	**0.08**	**0.04**	<0.02	**0.04**	<0.02
Cr (Dissolved)	T281	AR	1	µg/l	**3**	**2**	**2**	**2**	**2**
Chromium VI	T686	AR	0.003	mg/l	**0.003**	<0.003	<0.003	<0.003	<0.003
Cu (Dissolved)	T281	AR	0.5	µg/l	**5.6**	**5.4**	**7.9**	**7.9**	**8.0**
Cyanide(Total)	T4	AR	0.05	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
Hardness expressed as CaCO3	T6	AR	10	mg/l	**240**	**1300**	**620**	**310**	**380**
Pb (Dissolved)	T281	AR	0.3	µg/l	**1.3**	<0.3	<0.3	<0.3	<0.3
Hg (Dissolved)	T281	AR	0.05	µg/l	<0.05	<0.05	<0.05	<0.05	<0.05
Ni (Dissolved)	T281	AR	1	µg/l	**10**	**17**	**8**	**6**	**6**
pH	T7	AR			**8.4**	**8.7**	**7.5**	**7.8**	**7.6**
Se (Dissolved)	T281	AR	0.5	µg/l	**30**	**11**	**2.8**	**5.7**	**3.5**
Sulphate	T686	AR	0.5	mg/l	**570**	**1300**	**520**	**220**	**300**
Total Phenols	T16	AR	0.5	µg/l	**1.2**	**4.2**	<0.5	<0.5	<0.5
V (Dissolved)	T281	AR	2	µg/l	**2**	**4**	**3**	**4**	**3**
Zn (Dissolved)	T281	AR	2	µg/l	**6**	**3**	**3**	**4**	**5**

SAL Reference: 463511
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Water Analysed as Water
Environ Suite B

				SAL Reference	**463511 006**	**463511 007**	**463511 008**	**463511 009**	**463511 010**
				Customer Sample Reference	**WS13**	**BH4**	**BH7**	**MW6**	**BH3**
				Date Sampled	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
As (Dissolved)	T281	AR	0.2	µg/l	**3.8**	**1.2**	**1.5**	**4.2**	**0.6**
Be (Dissolved)	T281	AR	0.05	µg/l	<0.05	<0.05	<0.05	<0.05	<0.05
Boron	T6	AR	0.01	mg/l	**0.48**	**0.37**	**0.57**	**0.13**	**0.25**
Cd (Dissolved)	T281	AR	0.02	µg/l	**0.03**	<0.02	<0.02	**0.03**	<0.02
Cr (Dissolved)	T281	AR	1	µg/l	**3**	**2**	**2**	**8**	**2**
Chromium VI	T686	AR	0.003	mg/l	**0.004**	<0.003	<0.003	**0.010**	<0.003
Cu (Dissolved)	T281	AR	0.5	µg/l	**12**	**7.1**	**11**	**8.2**	**5.0**
Cyanide(Total)	T4	AR	0.05	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
Hardness expressed as CaCO3	T6	AR	10	mg/l	**860**	**560**	**270**	**130**	**290**
Pb (Dissolved)	T281	AR	0.3	µg/l	<0.3	<0.3	<0.3	<0.3	<0.3
Hg (Dissolved)	T281	AR	0.05	µg/l	<0.05	<0.05	<0.05	<0.05	<0.05
Ni (Dissolved)	T281	AR	1	µg/l	**15**	**7**	**5**	**5**	**5**
pH	T7	AR			**7.6**	**7.4**	**7.4**	**9.1**	**7.5**
Se (Dissolved)	T281	AR	0.5	µg/l	**17**	**4.7**	**7.8**	**33**	**11**
Sulphate	T686	AR	0.5	mg/l	**660**	**370**	**270**	**140**	**97**
Total Phenols	T16	AR	0.5	µg/l	(IS)	<0.5	<0.5	**1.3**	<0.5
V (Dissolved)	T281	AR	2	µg/l	**10**	**4**	**4**	**18**	**3**
Zn (Dissolved)	T281	AR	2	µg/l	**9**	**4**	**4**	**4**	**3**

SAL Reference: 463511
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Water Analysed as Water
Environ Suite B

				SAL Reference	463511 011
				Customer Sample Reference	BH2
				Date Sampled	16-MAR-2015
Determinand	**Method**	**Test Sample**	**LOD**	**Units**	
As (Dissolved)	T281	AR	0.2	µg/l	**1.5**
Be (Dissolved)	T281	AR	0.05	µg/l	<0.05
Boron	T6	AR	0.01	mg/l	**0.53**
Cd (Dissolved)	T281	AR	0.02	µg/l	<0.02
Cr (Dissolved)	T281	AR	1	µg/l	**2**
Chromium VI	T686	AR	0.003	mg/l	<0.003
Cu (Dissolved)	T281	AR	0.5	µg/l	**7.3**
Cyanide(Total)	T4	AR	0.05	mg/l	<0.05
Hardness expressed as CaCO3	T6	AR	10	mg/l	**500**
Pb (Dissolved)	T281	AR	0.3	µg/l	<0.3
Hg (Dissolved)	T281	AR	0.05	µg/l	<0.05
Ni (Dissolved)	T281	AR	1	µg/l	**6**
pH	T7	AR			**7.5**
Se (Dissolved)	T281	AR	0.5	µg/l	**5.8**
Sulphate	T686	AR	0.5	mg/l	**400**
Total Phenols	T16	AR	0.5	µg/l	<0.5
V (Dissolved)	T281	AR	2	µg/l	**3**
Zn (Dissolved)	T281	AR	2	µg/l	**4**

SAL Reference: 463511
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Water Analysed as Water
PAH US EPA 16 (B and K split)

				SAL Reference	463511 001	463511 002	463511 003	463511 004	463511 005
				Customer Sample Reference	MW2	MW3	BH6	BH5	BH1
				Date Sampled	16-MAR-2015	16-MAR-2015	16-MAR-2015	16-MAR-2015	16-MAR-2015
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Naphthalene	T149	AR	0.01	µg/l	**0.02**	**0.74**	<0.01	<0.01	<0.01
Acenaphthylene	T149	AR	0.01	µg/l	<0.01	**0.06**	<0.01	<0.01	<0.01
Acenaphthene	T149	AR	0.01	µg/l	**0.03**	**2.0**	<0.01	<0.01	<0.01
Fluorene	T149	AR	0.01	µg/l	**0.03**	**1.3**	<0.01	<0.01	<0.01
Phenanthrene	T149	AR	0.01	µg/l	**0.04**	**1.9**	<0.01	<0.01	**0.02**
Anthracene	T149	AR	0.01	µg/l	**0.01**	**0.50**	<0.01	<0.01	<0.01
Fluoranthene	T149	AR	0.01	µg/l	**0.07**	**1.2**	<0.01	<0.01	**0.01**
Pyrene	T149	AR	0.01	µg/l	**0.06**	**0.82**	<0.01	<0.01	**0.01**
Benzo(a)Anthracene	T149	AR	0.01	µg/l	<0.01	**0.07**	<0.01	<0.01	<0.01
Chrysene	T149	AR	0.01	µg/l	<0.01	**0.08**	<0.01	<0.01	<0.01
Benzo(b)fluoranthene	T149	AR	0.01	µg/l	<0.01	**0.05**	<0.01	<0.01	**0.01**
Benzo(k)fluoranthene	T149	AR	0.01	µg/l	<0.01	**0.03**	<0.01	<0.01	**0.01**
Benzo(a)Pyrene	T149	AR	0.01	µg/l	<0.01	**0.03**	<0.01	<0.01	<0.01
Indeno(123-cd)Pyrene	T149	AR	0.01	µg/l	<0.01	**0.02**	<0.01	<0.01	<0.01
Dibenzo(ah)Anthracene	T149	AR	0.01	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)Perylene	T149	AR	0.01	µg/l	<0.01	**0.02**	<0.01	<0.01	<0.01
PAH(total)	T149	AR	0.01	µg/l	**0.25**	**8.9**	<0.01	<0.01	**0.07**

SAL Reference: 463511
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Water Analysed as Water
PAH US EPA 16 (B and K split)

				SAL Reference	**463511 006**	**463511 007**	**463511 008**	**463511 009**	**463511 010**
				Customer Sample Reference	**WS13**	**BH4**	**BH7**	**MW6**	**BH3**
				Date Sampled	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Naphthalene	T149	AR	0.01	µg/l	(IS)	<0.01	<0.01	**0.04**	<0.01
Acenaphthylene	T149	AR	0.01	µg/l	(IS)	<0.01	<0.01	<0.01	<0.01
Acenaphthene	T149	AR	0.01	µg/l	(IS)	<0.01	<0.01	<0.01	<0.01
Fluorene	T149	AR	0.01	µg/l	(IS)	<0.01	<0.01	**0.01**	<0.01
Phenanthrene	T149	AR	0.01	µg/l	(IS)	<0.01	**0.02**	**0.05**	<0.01
Anthracene	T149	AR	0.01	µg/l	(IS)	<0.01	<0.01	<0.01	<0.01
Fluoranthene	T149	AR	0.01	µg/l	(IS)	<0.01	<0.01	**0.03**	<0.01
Pyrene	T149	AR	0.01	µg/l	(IS)	<0.01	<0.01	**0.02**	<0.01
Benzo(a)Anthracene	T149	AR	0.01	µg/l	(IS)	<0.01	<0.01	<0.01	<0.01
Chrysene	T149	AR	0.01	µg/l	(IS)	<0.01	<0.01	<0.01	<0.01
Benzo(b)fluoranthene	T149	AR	0.01	µg/l	(IS)	<0.01	<0.01	<0.01	<0.01
Benzo(k)fluoranthene	T149	AR	0.01	µg/l	(IS)	<0.01	<0.01	<0.01	<0.01
Benzo(a)Pyrene	T149	AR	0.01	µg/l	(IS)	<0.01	<0.01	<0.01	<0.01
Indeno(123-cd)Pyrene	T149	AR	0.01	µg/l	(IS)	<0.01	<0.01	<0.01	<0.01
Dibenzo(ah)Anthracene	T149	AR	0.01	µg/l	(IS)	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)Perylene	T149	AR	0.01	µg/l	(IS)	<0.01	<0.01	<0.01	<0.01
PAH(total)	T149	AR	0.01	µg/l	(IS)	<0.01	**0.02**	**0.14**	<0.01

SAL Reference: 463511
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Water Analysed as Water
PAH US EPA 16 (B and K split)

				SAL Reference	**463511 011**
				Customer Sample Reference	**BH2**
				Date Sampled	**16-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**	
Naphthalene	T149	AR	0.01	µg/l	<0.01
Acenaphthylene	T149	AR	0.01	µg/l	<0.01
Acenaphthene	T149	AR	0.01	µg/l	<0.01
Fluorene	T149	AR	0.01	µg/l	<0.01
Phenanthrene	T149	AR	0.01	µg/l	**0.01**
Anthracene	T149	AR	0.01	µg/l	<0.01
Fluoranthene	T149	AR	0.01	µg/l	**0.01**
Pyrene	T149	AR	0.01	µg/l	**0.01**
Benzo(a)Anthracene	T149	AR	0.01	µg/l	<0.01
Chrysene	T149	AR	0.01	µg/l	<0.01
Benzo(b)fluoranthene	T149	AR	0.01	µg/l	<0.01
Benzo(k)fluoranthene	T149	AR	0.01	µg/l	<0.01
Benzo(a)Pyrene	T149	AR	0.01	µg/l	<0.01
Indeno(123-cd)Pyrene	T149	AR	0.01	µg/l	<0.01
Dibenzo(ah)Anthracene	T149	AR	0.01	µg/l	<0.01
Benzo(ghi)Perylene	T149	AR	0.01	µg/l	<0.01
PAH(total)	T149	AR	0.01	µg/l	**0.04**

SAL Reference: 463511
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Water Analysed as Water
TPH UKCWG

				SAL Reference	**463511 001**	**463511 002**	**463511 003**	**463511 004**	**463511 005**
				Customer Sample Reference	**MW2**	**MW3**	**BH6**	**BH5**	**BH1**
				Date Sampled	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Benzene	T54	AR	1	µg/l	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1
EthylBenzene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
M/P Xylene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	T54	AR	1	µg/l	<1	<1	<1	<1	<1
O Xylene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
Toluene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
TPH (C5-C6 aliphatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C6-C8 aliphatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C8-C10 aliphatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010	<0.010	<0.010
TPH DW(C10-C12 aliphatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
TPH DW(C12-C16 aliphatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
TPH DW(C16-C21 aliphatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
TPH DW(C21-C35 aliphatic)	T81	AR	0.01	mg/l	**0.05**	**0.08**	<0.01	<0.01	**0.04**
TPH (C35-C44 aliphatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
TPH (Aliphatic) total	T85	AR		mg/l	**0.05**	**0.08**	N.D.	N.D.	**0.04**
TPH (C6-C7 aromatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C7-C8 aromatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C8-C10 aromatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010	<0.010	<0.010
TPH DW(C10-C12 aromatic)	T81	AR	0.01	mg/l	<0.01	**0.02**	<0.01	<0.01	<0.01
TPH DW(C12-C16 aromatic)	T81	AR	0.01	mg/l	**0.02**	**0.05**	<0.01	<0.01	<0.01
TPH DW(C16-C21 aromatic)	T81	AR	0.01	mg/l	**0.03**	**0.05**	<0.01	<0.01	<0.01
TPH DW(C21-C35 aromatic)	T81	AR	0.01	mg/l	**0.02**	**0.01**	<0.01	<0.01	<0.01
TPH (C35-C44 aromatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
TPH (Aromatic) total	T85	AR		mg/l	**0.07**	**0.13**	N.D.	N.D.	N.D.
TPH (Aliphatic+Aromatic) (sum)	T85	AR		mg/l	**0.12**	**0.21**	N.D.	N.D.	**0.04**
Total Petroleum Hydrocarbons (C5 - C10 aliphatic/aromatic)	T85	AR	10	µg/l	<10	<10	<10	<10	<10

SAL

SAL Reference: 463511
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Water Analysed as Water
TPH UKCWG

				SAL Reference	**463511 006**	**463511 007**	**463511 008**	**463511 009**	**463511 010**
				Customer Sample Reference	**WS13**	**BH4**	**BH7**	**MW6**	**BH3**
				Date Sampled	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Benzene	T54	AR	1	µg/l	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1
EthylBenzene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
M/P Xylene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	T54	AR	1	µg/l	<1	<1	<1	<1	<1
O Xylene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
Toluene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
TPH (C5-C6 aliphatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C6-C8 aliphatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C8-C10 aliphatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010	<0.010	<0.010
TPH DW(C10-C12 aliphatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
TPH DW(C12-C16 aliphatic)	T81	AR	0.01	mg/l	**0.10**	<0.01	<0.01	<0.01	<0.01
TPH DW(C16-C21 aliphatic)	T81	AR	0.01	mg/l	**0.13**	<0.01	<0.01	<0.01	<0.01
TPH DW(C21-C35 aliphatic)	T81	AR	0.01	mg/l	**0.11**	**0.06**	**0.02**	**0.03**	<0.01
TPH (C35-C44 aliphatic)	T81	AR	0.01	mg/l	**0.02**	<0.01	<0.01	<0.01	<0.01
TPH (Aliphatic) total	T85	AR		mg/l	**0.36**	**0.06**	**0.02**	**0.03**	N.D.
TPH (C6-C7 aromatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C7-C8 aromatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C8-C10 aromatic)	T215	AR	0.010	mg/l	<0.010	<0.010	<0.010	<0.010	<0.010
TPH DW(C10-C12 aromatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
TPH DW(C12-C16 aromatic)	T81	AR	0.01	mg/l	**0.03**	<0.01	<0.01	**0.03**	<0.01
TPH DW(C16-C21 aromatic)	T81	AR	0.01	mg/l	**0.04**	<0.01	<0.01	**0.03**	<0.01
TPH DW(C21-C35 aromatic)	T81	AR	0.01	mg/l	**0.04**	<0.01	<0.01	<0.01	<0.01
TPH (C35-C44 aromatic)	T81	AR	0.01	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
TPH (Aromatic) total	T85	AR		mg/l	**0.11**	N.D.	N.D.	**0.06**	N.D.
TPH (Aliphatic+Aromatic) (sum)	T85	AR		mg/l	**0.47**	**0.06**	**0.02**	**0.09**	N.D.
Total Petroleum Hydrocarbons (C5 - C10 aliphatic/aromatic)	T85	AR	10	µg/l	<10	<10	<10	<10	<10

SAL Reference: 463511
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Water Analysed as Water
TPH UKCWG

				SAL Reference	**463511 011**
				Customer Sample Reference	**BH2**
				Date Sampled	**16-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**	
Benzene	T54	AR	1	µg/l	(13) <1
EthylBenzene	T54	AR	1	µg/l	<1
M/P Xylene	T54	AR	1	µg/l	<1
Methyl tert-Butyl Ether	T54	AR	1	µg/l	<1
O Xylene	T54	AR	1	µg/l	<1
Toluene	T54	AR	1	µg/l	<1
TPH (C5-C6 aliphatic)	T215	AR	0.010	mg/l	<0.010
TPH (C6-C8 aliphatic)	T215	AR	0.010	mg/l	<0.010
TPH (C8-C10 aliphatic)	T215	AR	0.010	mg/l	<0.010
TPH DW(C10-C12 aliphatic)	T81	AR	0.01	mg/l	<0.01
TPH DW(C12-C16 aliphatic)	T81	AR	0.01	mg/l	<0.01
TPH DW(C16-C21 aliphatic)	T81	AR	0.01	mg/l	<0.01
TPH DW(C21-C35 aliphatic)	T81	AR	0.01	mg/l	**0.02**
TPH (C35-C44 aliphatic)	T81	AR	0.01	mg/l	<0.01
TPH (Aliphatic) total	T85	AR		mg/l	**0.02**
TPH (C6-C7 aromatic)	T215	AR	0.010	mg/l	<0.010
TPH (C7-C8 aromatic)	T215	AR	0.010	mg/l	<0.010
TPH (C8-C10 aromatic)	T215	AR	0.010	mg/l	<0.010
TPH DW(C10-C12 aromatic)	T81	AR	0.01	mg/l	<0.01
TPH DW(C12-C16 aromatic)	T81	AR	0.01	mg/l	<0.01
TPH DW(C16-C21 aromatic)	T81	AR	0.01	mg/l	<0.01
TPH DW(C21-C35 aromatic)	T81	AR	0.01	mg/l	<0.01
TPH (C35-C44 aromatic)	T81	AR	0.01	mg/l	<0.01
TPH (Aromatic) total	T85	AR		mg/l	N.D.
TPH (Aliphatic+Aromatic) (sum)	T85	AR		mg/l	**0.02**
Total Petroleum Hydrocarbons (C5 - C10 aliphatic/aromatic)	T85	AR	10	µg/l	<10

SAL Reference: 463511
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Water Analysed as Water
PCBs EC7 congeners(28,52,101,118,138,153,180)

				SAL Reference	**463511 001**	**463511 002**	**463511 003**	**463511 009**	**463511 010**
				Customer Sample Reference	**MW2**	**MW3**	**BH6**	**MW6**	**BH3**
				Date Sampled	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
PCB BZ#28	T1	AR	0.005	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005
PCB BZ#52	T1	AR	0.005	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005
PCB BZ#101	T1	AR	0.005	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005
PCB BZ#118	T16	AR	0.005	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005
PCB BZ#153	T1	AR	0.005	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005
PCB BZ#138	T1	AR	0.005	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005
PCB BZ#180	T1	AR	0.005	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005

SAL Reference: 463511
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Water Analysed as Water
PCBs EC7 congeners(28,52,101,118,138,153,180)

				SAL Reference	**463511 011**
				Customer Sample Reference	**BH2**
				Date Sampled	**16-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**	
PCB BZ#28	T1	AR	0.005	µg/l	<0.005
PCB BZ#52	T1	AR	0.005	µg/l	<0.005
PCB BZ#101	T1	AR	0.005	µg/l	<0.005
PCB BZ#118	T16	AR	0.005	µg/l	<0.005
PCB BZ#153	T1	AR	0.005	µg/l	<0.005
PCB BZ#138	T1	AR	0.005	µg/l	<0.005
PCB BZ#180	T1	AR	0.005	µg/l	<0.005

SAL

SAL Reference: 463511
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Water Analysed as Water
Volatile Organic Compounds (USEPA 624)

				SAL Reference	**463511 001**	**463511 002**	**463511 003**	**463511 004**	**463511 005**
				Customer Sample Reference	**MW2**	**MW3**	**BH6**	**BH5**	**BH1**
				Date Sampled	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
1,1,1,2-Tetrachloroethane	T54	AR	1	µg/l	-	-	<1	<1	<1
1,1,1-Trichloroethane	T54	AR	1	µg/l	-	-	<1	<1	<1
1,1,2,2-Tetrachloroethane	T54	AR	1	µg/l	-	-	<1	<1	<1
1,1,2-Trichloroethane	T54	AR	1	µg/l	-	-	<1	<1	<1
1,1,2-Trichloroethylene	T54	AR	1	µg/l	-	-	<1	<1	<1
1,1-Dichloroethane	T54	AR	1	µg/l	-	-	<1	<1	<1
1,1-Dichloroethylene	T54	AR	1	µg/l	-	-	<1	<1	<1
1,1-Dichloropropene	T54	AR	1	µg/l	-	-	<1	<1	<1
1,2,3-Trichloropropane	T54	AR	1	µg/l	-	-	<1	<1	<1
1,2,4-Trimethylbenzene	T54	AR	1	µg/l	-	-	<1	<1	<1
1,2-dibromoethane	T54	AR	1	µg/l	-	-	<1	<1	<1
1,2-Dichlorobenzene	T54	AR	1	µg/l	-	-	<1	<1	<1
1,2-Dichloroethane	T54	AR	1	µg/l	-	-	<1	<1	<1
1,2-Dichloropropane	T54	AR	1	µg/l	-	-	<1	<1	<1
1,3,5-Trimethylbenzene	T54	AR	1	µg/l	-	-	<1	<1	<1
1,3-Dichlorobenzene	T54	AR	1	µg/l	-	-	<1	<1	<1
1,3-Dichloropropane	T54	AR	1	µg/l	-	-	<1	<1	<1
1,4-Dichlorobenzene	T54	AR	1	µg/l	-	-	<1	<1	<1
2,2-Dichloropropane	T54	AR	1	µg/l	-	-	<1	<1	<1
2-Chlorotoluene	T54	AR	1	µg/l	-	-	<1	<1	<1
4-Chlorotoluene	T54	AR	1	µg/l	-	-	<1	<1	<1
Benzene	T54	AR	1	µg/l	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1
Bromobenzene	T54	AR	1	µg/l	-	-	<1	<1	<1
Bromochloromethane	T54	AR	1	µg/l	-	-	<1	<1	<1
Bromodichloromethane	T54	AR	1	µg/l	-	-	<1	<1	<1
Bromoform	T54	AR	1	µg/l	-	-	<1	<1	<1
Bromomethane	T54	AR	1	µg/l	-	-	<1	<1	<1
Carbon tetrachloride	T54	AR	1	µg/l	-	-	<1	<1	<1
Chlorobenzene	T54	AR	1	µg/l	-	-	<1	<1	<1
Chlorodibromomethane	T54	AR	1	µg/l	-	-	<1	<1	<1
Chloroethane	T54	AR	1	µg/l	-	-	<1	<1	<1
Chloroform	T54	AR	1	µg/l	-	-	<1	<1	<1
Chloromethane	T54	AR	1	µg/l	-	-	<1	<1	<1
Cis-1,2-Dichloroethylene	T54	AR	1	µg/l	-	-	<1	<1	<1
Cis-1,3-Dichloropropene	T54	AR	1	µg/l	-	-	<1	<1	<1
Dibromomethane	T54	AR	1	µg/l	-	-	<1	<1	<1
Dichlorodifluoromethane	T54	AR	1	µg/l	-	-	<1	<1	<1
Dichloromethane	T54	AR	50	µg/l	-	-	<50	<50	<50
EthylBenzene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
Isopropyl benzene	T54	AR	1	µg/l	-	-	<1	<1	<1
M/P Xylene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
n-Propylbenzene	T54	AR	1	µg/l	-	-	<1	<1	<1
O Xylene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
p-Isopropyltoluene	T54	AR	1	µg/l	-	-	<1	<1	<1
S-Butylbenzene	T54	AR	1	µg/l	-	-	<1	<1	<1
Styrene	T54	AR	1	µg/l	-	-	<1	<1	<1
T-Butylbenzene	T54	AR	1	µg/l	-	-	<1	<1	<1
Tetrachloroethene	T54	AR	1	µg/l	-	-	<1	<1	<1
Toluene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
Trans-1,2-Dichloroethene	T54	AR	1	µg/l	-	-	<1	<1	<1
Trans-1,3-Dichloropropene	T54	AR	1	µg/l	-	-	<1	<1	<1
Trichlorofluoromethane	T54	AR	1	µg/l	-	-	<1	<1	<1
Vinyl chloride	T54	AR	1	µg/l	-	-	<1	<1	<1

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Project Site: Teeside Powerstation
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Water Analysed as Water
Volatile Organic Compounds (USEPA 624)

				SAL Reference	**463511 006**	**463511 007**	**463511 008**	**463511 009**	**463511 010**
				Customer Sample Reference	**WS13**	**BH4**	**BH7**	**MW6**	**BH3**
				Date Sampled	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
1,1,1,2-Tetrachloroethane	T54	AR	1	µg/l	-	<1	<1	-	<1
1,1,1-Trichloroethane	T54	AR	1	µg/l	-	<1	<1	-	<1
1,1,2,2-Tetrachloroethane	T54	AR	1	µg/l	-	<1	<1	-	<1
1,1,2-Trichloroethane	T54	AR	1	µg/l	-	<1	<1	-	<1
1,1,2-Trichloroethylene	T54	AR	1	µg/l	-	<1	<1	-	<1
1,1-Dichloroethane	T54	AR	1	µg/l	-	<1	<1	-	<1
1,1-Dichloroethylene	T54	AR	1	µg/l	-	<1	<1	-	<1
1,1-Dichloropropene	T54	AR	1	µg/l	-	<1	<1	-	<1
1,2,3-Trichloropropane	T54	AR	1	µg/l	-	<1	<1	-	<1
1,2,4-Trimethylbenzene	T54	AR	1	µg/l	-	<1	<1	-	<1
1,2-dibromoethane	T54	AR	1	µg/l	-	<1	<1	-	<1
1,2-Dichlorobenzene	T54	AR	1	µg/l	-	<1	<1	-	<1
1,2-Dichloroethane	T54	AR	1	µg/l	-	<1	<1	-	<1
1,2-Dichloropropane	T54	AR	1	µg/l	-	<1	<1	-	<1
1,3,5-Trimethylbenzene	T54	AR	1	µg/l	-	<1	<1	-	<1
1,3-Dichlorobenzene	T54	AR	1	µg/l	-	<1	<1	-	<1
1,3-Dichloropropane	T54	AR	1	µg/l	-	<1	<1	-	<1
1,4-Dichlorobenzene	T54	AR	1	µg/l	-	<1	<1	-	<1
2,2-Dichloropropane	T54	AR	1	µg/l	-	<1	<1	-	<1
2-Chlorotoluene	T54	AR	1	µg/l	-	<1	<1	-	<1
4-Chlorotoluene	T54	AR	1	µg/l	-	<1	<1	-	<1
Benzene	T54	AR	1	µg/l	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1
Bromobenzene	T54	AR	1	µg/l	-	<1	<1	-	<1
Bromochloromethane	T54	AR	1	µg/l	-	<1	<1	-	<1
Bromodichloromethane	T54	AR	1	µg/l	-	<1	<1	-	<1
Bromoform	T54	AR	1	µg/l	-	<1	<1	-	<1
Bromomethane	T54	AR	1	µg/l	-	<1	<1	-	<1
Carbon tetrachloride	T54	AR	1	µg/l	-	<1	<1	-	<1
Chlorobenzene	T54	AR	1	µg/l	-	<1	<1	-	<1
Chlorodibromomethane	T54	AR	1	µg/l	-	<1	<1	-	<1
Chloroethane	T54	AR	1	µg/l	-	<1	<1	-	<1
Chloroform	T54	AR	1	µg/l	-	<1	<1	-	<1
Chloromethane	T54	AR	1	µg/l	-	<1	<1	-	<1
Cis-1,2-Dichloroethylene	T54	AR	1	µg/l	-	<1	<1	-	<1
Cis-1,3-Dichloropropene	T54	AR	1	µg/l	-	<1	<1	-	<1
Dibromomethane	T54	AR	1	µg/l	-	<1	<1	-	<1
Dichlorodifluoromethane	T54	AR	1	µg/l	-	<1	<1	-	<1
Dichloromethane	T54	AR	50	µg/l	-	<50	<50	-	<50
EthylBenzene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
Isopropyl benzene	T54	AR	1	µg/l	-	<1	<1	-	<1
M/P Xylene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
n-Propylbenzene	T54	AR	1	µg/l	-	<1	<1	-	<1
O Xylene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
p-Isopropyltoluene	T54	AR	1	µg/l	-	<1	<1	-	<1
S-Butylbenzene	T54	AR	1	µg/l	-	<1	<1	-	<1
Styrene	T54	AR	1	µg/l	-	<1	<1	-	<1
T-Butylbenzene	T54	AR	1	µg/l	-	<1	<1	-	<1
Tetrachloroethene	T54	AR	1	µg/l	-	<1	<1	-	<1
Toluene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
Trans-1,2-Dichloroethene	T54	AR	1	µg/l	-	<1	<1	-	<1
Trans-1,3-Dichloropropene	T54	AR	1	µg/l	-	<1	<1	-	<1
Trichlorofluoromethane	T54	AR	1	µg/l	-	<1	<1	-	<1
Vinyl chloride	T54	AR	1	µg/l	-	<1	<1	-	<1

SAL Reference: 463511
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Water Analysed as Water
Volatile Organic Compounds (USEPA 624)

				SAL Reference	**463511 011**
				Customer Sample Reference	**BH2**
				Date Sampled	**16-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**	
1,1,1,2-Tetrachloroethane	T54	AR	1	µg/l	<1
1,1,1-Trichloroethane	T54	AR	1	µg/l	<1
1,1,2,2-Tetrachloroethane	T54	AR	1	µg/l	<1
1,1,2-Trichloroethane	T54	AR	1	µg/l	<1
1,1,2-Trichloroethylene	T54	AR	1	µg/l	<1
1,1-Dichloroethane	T54	AR	1	µg/l	<1
1,1-Dichloroethylene	T54	AR	1	µg/l	<1
1,1-Dichloropropene	T54	AR	1	µg/l	<1
1,2,3-Trichloropropane	T54	AR	1	µg/l	<1
1,2,4-Trimethylbenzene	T54	AR	1	µg/l	<1
1,2-dibromoethane	T54	AR	1	µg/l	<1
1,2-Dichlorobenzene	T54	AR	1	µg/l	<1
1,2-Dichloroethane	T54	AR	1	µg/l	<1
1,2-Dichloropropane	T54	AR	1	µg/l	<1
1,3,5-Trimethylbenzene	T54	AR	1	µg/l	<1
1,3-Dichlorobenzene	T54	AR	1	µg/l	<1
1,3-Dichloropropane	T54	AR	1	µg/l	<1
1,4-Dichlorobenzene	T54	AR	1	µg/l	<1
2,2-Dichloropropane	T54	AR	1	µg/l	<1
2-Chlorotoluene	T54	AR	1	µg/l	<1
4-Chlorotoluene	T54	AR	1	µg/l	<1
Benzene	T54	AR	1	µg/l	(13) <1
Bromobenzene	T54	AR	1	µg/l	<1
Bromochloromethane	T54	AR	1	µg/l	<1
Bromodichloromethane	T54	AR	1	µg/l	<1
Bromoform	T54	AR	1	µg/l	<1
Bromomethane	T54	AR	1	µg/l	<1
Carbon tetrachloride	T54	AR	1	µg/l	<1
Chlorobenzene	T54	AR	1	µg/l	<1
Chlorodibromomethane	T54	AR	1	µg/l	<1
Chloroethane	T54	AR	1	µg/l	<1
Chloroform	T54	AR	1	µg/l	<1
Chloromethane	T54	AR	1	µg/l	<1
Cis-1,2-Dichloroethylene	T54	AR	1	µg/l	<1
Cis-1,3-Dichloropropene	T54	AR	1	µg/l	<1
Dibromomethane	T54	AR	1	µg/l	<1
Dichlorodifluoromethane	T54	AR	1	µg/l	<1
Dichloromethane	T54	AR	50	µg/l	<50
EthylBenzene	T54	AR	1	µg/l	<1
Isopropyl benzene	T54	AR	1	µg/l	<1
M/P Xylene	T54	AR	1	µg/l	<1
n-Propylbenzene	T54	AR	1	µg/l	<1
O Xylene	T54	AR	1	µg/l	<1
p-Isopropyltoluene	T54	AR	1	µg/l	<1
S-Butylbenzene	T54	AR	1	µg/l	<1
Styrene	T54	AR	1	µg/l	<1
T-Butylbenzene	T54	AR	1	µg/l	<1
Tetrachloroethene	T54	AR	1	µg/l	<1
Toluene	T54	AR	1	µg/l	<1
Trans-1,2-Dichloroethene	T54	AR	1	µg/l	<1
Trans-1,3-Dichloropropene	T54	AR	1	µg/l	<1
Trichlorofluoromethane	T54	AR	1	µg/l	<1
Vinyl chloride	T54	AR	1	µg/l	<1

SAL Reference: 463511
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Water Analysed as Water
Semi-Volatile Organic Compounds (USEPA 625) Low Level

				SAL Reference	**463511 003**	**463511 004**	**463511 005**	**463511 007**	**463511 008**
				Customer Sample Reference	**BH6**	**BH5**	**BH1**	**BH4**	**BH7**
				Date Sampled	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**	**16-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
1,2,4-Trichlorobenzene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
2,4,5-Trichlorophenol	T71	AR	1	µg/l	<1	<1	<1	<1	<1
2,4,6-Trichlorophenol	T71	AR	1	µg/l	<1	<1	<1	<1	<1
2,4-Dichlorophenol	T71	AR	1	µg/l	<1	<1	<1	<1	<1
2,4-Dimethylphenol	T71	AR	1	µg/l	<1	<1	<1	<1	<1
2,4-Dinitrophenol	T71	AR	1	µg/l	(36) <5	(36) <5	(36) <5	(36) <5	(36) <5
2,4-Dinitrotoluene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
2,6-Dinitrotoluene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
2-Chloronaphthalene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
2-Chlorophenol	T71	AR	1	µg/l	<1	<1	<1	<1	<1
2-methyl phenol	T71	AR	1	µg/l	<1	<1	<1	<1	<1
2-Methylnaphthalene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
2-Nitroaniline	T71	AR	1	µg/l	<1	<1	<1	<1	<1
2-Nitrophenol	T71	AR	1	µg/l	<1	<1	<1	<1	<1
3-Nitroaniline	T71	AR	1	µg/l	<1	<1	<1	<1	<1
3/4-Methylphenol	T71	AR	1	µg/l	<1	<1	<1	<1	<1
4-Bromophenyl phenylether	T71	AR	1	µg/l	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol	T71	AR	1	µg/l	<1	<1	<1	<1	<1
4-Chloroaniline	T71	AR	1	µg/l	<1	<1	<1	<1	<1
4-Chlorophenyl phenylether	T71	AR	1	µg/l	<1	<1	<1	<1	<1
4-Nitroaniline	T71	AR	1	µg/l	<1	<1	<1	<1	<1
4-Nitrophenol	T71	AR	1	µg/l	(36) <5	(36) <5	(36) <5	(36) <5	(36) <5
Acenaphthene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Acenaphthylene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Anthracene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Azobenzene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Benzo(a)Anthracene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Benzo(a)Pyrene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Benzo(b/k)Fluoranthene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Benzo(ghi)Perylene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Bis (2-chloroethoxy) methane	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Bis (2-chloroethyl) ether	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Bis (2-chloroisopropyl) ether	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Bis (2-ethylhexyl)phthalate	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Butyl benzylphthalate	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Carbazole	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Chrysene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Di-n-butylphthalate	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Di-n-octylphthalate	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Dibenzo(ah)Anthracene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Dibenzofuran	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Diethyl phthalate	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Dimethyl phthalate	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Fluoranthene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Fluorene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Hexachlorobenzene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Hexachlorobutadiene	T71	AR	1	µg/l	(36) <5	(36) <5	(36) <5	(36) <5	(36) <5
Hexachlorocyclopentadiene	T71	AR	1	µg/l	(36) <5	(36) <5	(36) <5	(36) <5	(36) <5
Hexachloroethane	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Indeno(123-cd)Pyrene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Isophorone	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Naphthalene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Nitrobenzene	T71	AR	1	µg/l	(36) <5	(36) <5	(36) <5	(36) <5	(36) <5
Pentachlorophenol	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Phenanthrene	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Phenol	T71	AR	1	µg/l	<1	<1	<1	<1	<1
Pyrene	T71	AR	1	µg/l	<1	<1	<1	<1	<1

SAL Reference: 463511
Project Site: Teeside Powerstation
Customer Reference: UK22-21295

Water Analysed as Water

Semi-Volatile Organic Compounds (USEPA 625) Low Level

				SAL Reference	**463511 010**	**463511 011**
				Customer Sample Reference	**BH3**	**BH2**
				Date Sampled	**16-MAR-2015**	**16-MAR-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**		
1,2,4-Trichlorobenzene	T71	AR	1	µg/l	<1	<1
1,2-Dichlorobenzene	T71	AR	1	µg/l	<1	<1
1,3-Dichlorobenzene	T71	AR	1	µg/l	<1	<1
1,4-Dichlorobenzene	T71	AR	1	µg/l	<1	<1
2,4,5-Trichlorophenol	T71	AR	1	µg/l	<1	<1
2,4,6-Trichlorophenol	T71	AR	1	µg/l	<1	<1
2,4-Dichlorophenol	T71	AR	1	µg/l	<1	<1
2,4-Dimethylphenol	T71	AR	1	µg/l	<1	<1
2,4-Dinitrophenol	T71	AR	1	µg/l	(36) <5	(36) <5
2,4-Dinitrotoluene	T71	AR	1	µg/l	<1	<1
2,6-Dinitrotoluene	T71	AR	1	µg/l	<1	<1
2-Chloronaphthalene	T71	AR	1	µg/l	<1	<1
2-Chlorophenol	T71	AR	1	µg/l	<1	<1
2-methyl phenol	T71	AR	1	µg/l	<1	<1
2-Methylnaphthalene	T71	AR	1	µg/l	<1	<1
2-Nitroaniline	T71	AR	1	µg/l	<1	<1
2-Nitrophenol	T71	AR	1	µg/l	<1	<1
3-Nitroaniline	T71	AR	1	µg/l	<1	<1
3/4-Methylphenol	T71	AR	1	µg/l	<1	<1
4-Bromophenyl phenylether	T71	AR	1	µg/l	<1	<1
4-Chloro-3-methylphenol	T71	AR	1	µg/l	<1	<1
4-Chloroaniline	T71	AR	1	µg/l	<1	<1
4-Chlorophenyl phenylether	T71	AR	1	µg/l	<1	<1
4-Nitroaniline	T71	AR	1	µg/l	<1	<1
4-Nitrophenol	T71	AR	1	µg/l	(36) <5	(36) <5
Acenaphthene	T71	AR	1	µg/l	<1	<1
Acenaphthylene	T71	AR	1	µg/l	<1	<1
Anthracene	T71	AR	1	µg/l	<1	<1
Azobenzene	T71	AR	1	µg/l	<1	<1
Benzo(a)Anthracene	T71	AR	1	µg/l	<1	<1
Benzo(a)Pyrene	T71	AR	1	µg/l	<1	<1
Benzo(b/k)Fluoranthene	T71	AR	1	µg/l	<1	<1
Benzo(ghi)Perylene	T71	AR	1	µg/l	<1	<1
Bis (2-chloroethoxy) methane	T71	AR	1	µg/l	<1	<1
Bis (2-chloroethyl) ether	T71	AR	1	µg/l	<1	<1
Bis (2-chloroisopropyl) ether	T71	AR	1	µg/l	<1	<1
Bis (2-ethylhexyl)phthalate	T71	AR	1	µg/l	<1	<1
Butyl benzylphthalate	T71	AR	1	µg/l	<1	<1
Carbazole	T71	AR	1	µg/l	<1	<1
Chrysene	T71	AR	1	µg/l	<1	<1
Di-n-butylphthalate	T71	AR	1	µg/l	<1	<1
Di-n-octylphthalate	T71	AR	1	µg/l	<1	<1
Dibenzo(ah)Anthracene	T71	AR	1	µg/l	<1	<1
Dibenzofuran	T71	AR	1	µg/l	<1	<1
Diethyl phthalate	T71	AR	1	µg/l	<1	<1
Dimethyl phthalate	T71	AR	1	µg/l	<1	<1
Fluoranthene	T71	AR	1	µg/l	<1	<1
Fluorene	T71	AR	1	µg/l	<1	<1
Hexachlorobenzene	T71	AR	1	µg/l	<1	<1
Hexachlorobutadiene	T71	AR	1	µg/l	(36) <5	(36) <5
Hexachlorocyclopentadiene	T71	AR	1	µg/l	(36) <5	(36) <5
Hexachloroethane	T71	AR	1	µg/l	<1	<1
Indeno(123-cd)Pyrene	T71	AR	1	µg/l	<1	<1
Isophorone	T71	AR	1	µg/l	<1	<1
Naphthalene	T71	AR	1	µg/l	<1	<1
Nitrobenzene	T71	AR	1	µg/l	(36) <5	(36) <5
Pentachlorophenol	T71	AR	1	µg/l	<1	<1
Phenanthrene	T71	AR	1	µg/l	<1	<1
Phenol	T71	AR	1	µg/l	<1	<1
Pyrene	T71	AR	1	µg/l	<1	<1

Index to symbols used in 463511-1

Value	Description
AR	As Received
N.D.	Not Detected
36	LOD Raised due to low Matrix spike recovery
13	Results have been blank corrected.
IS	Insufficient Sample
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Method Index

Value	Description
T16	GC/MS
T1	GC/MS (HR)
T71	GC/MS (1l ext.)
T85	Calc
T6	ICP/OES
T54	GC/MS (Headspace)
T281	ICP/MS (Filtered)
T4	Colorimetry
T686	Discrete Analyser
T81	GC/FID (LV)
T149	GC/MS (SIR)
T215	GC/MS (Headspace)(LV)
T7	Probe

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
As (Dissolved)	T281	AR	0.2	µg/l	U	001-011
Be (Dissolved)	T281	AR	0.05	µg/l	U	001-011
Boron	T6	AR	0.01	mg/l	N	001-011
Cd (Dissolved)	T281	AR	0.02	µg/l	U	001-011
Cr (Dissolved)	T281	AR	1	µg/l	U	001-011
Chromium VI	T686	AR	0.003	mg/l	U	001-011
Cu (Dissolved)	T281	AR	0.5	µg/l	U	001-011
Cyanide(Total)	T4	AR	0.05	mg/l	U	001-011
Hardness expressed as CaCO3	T6	AR	10	mg/l	N	001-011
Pb (Dissolved)	T281	AR	0.3	µg/l	U	001-011
Hg (Dissolved)	T281	AR	0.05	µg/l	U	001-011
Ni (Dissolved)	T281	AR	1	µg/l	U	001-011
pH	T7	AR			U	001-011
Se (Dissolved)	T281	AR	0.5	µg/l	U	001-011
Sulphate	T686	AR	0.5	mg/l	U	001-011
Total Phenols	T16	AR	0.5	µg/l	U	001-011
V (Dissolved)	T281	AR	2	µg/l	U	001-011
Zn (Dissolved)	T281	AR	2	µg/l	U	001-011
EthylBenzene	T54	AR	1	µg/l	U	001-011
Methyl tert-Butyl Ether	T54	AR	1	µg/l	U	001-011
O Xylene	T54	AR	1	µg/l	U	001-011
Toluene	T54	AR	1	µg/l	U	001-011
TPH (C5-C6 aliphatic)	T215	AR	0.010	mg/l	N	001-011
TPH (C6-C8 aliphatic)	T215	AR	0.010	mg/l	N	001-011
TPH (C8-C10 aliphatic)	T215	AR	0.010	mg/l	N	001-011
TPH DW(C10-C12 aliphatic)	T81	AR	0.01	mg/l	N	001-011
TPH DW(C12-C16 aliphatic)	T81	AR	0.01	mg/l	N	001-011
TPH DW(C16-C21 aliphatic)	T81	AR	0.01	mg/l	N	001-011
TPH DW(C21-C35 aliphatic)	T81	AR	0.01	mg/l	N	001-011
TPH (C35-C44 aliphatic)	T81	AR	0.01	mg/l	N	001-011
TPH (Aliphatic) total	T85	AR		mg/l	N	001-011
TPH (C6-C7 aromatic)	T215	AR	0.010	mg/l	N	001-011
TPH (C7-C8 aromatic)	T215	AR	0.010	mg/l	N	001-011
TPH (C8-C10 aromatic)	T215	AR	0.010	mg/l	N	001-011
TPH DW(C10-C12 aromatic)	T81	AR	0.01	mg/l	N	001-011
TPH DW(C12-C16 aromatic)	T81	AR	0.01	mg/l	N	001-011
TPH DW(C16-C21 aromatic)	T81	AR	0.01	mg/l	N	001-011

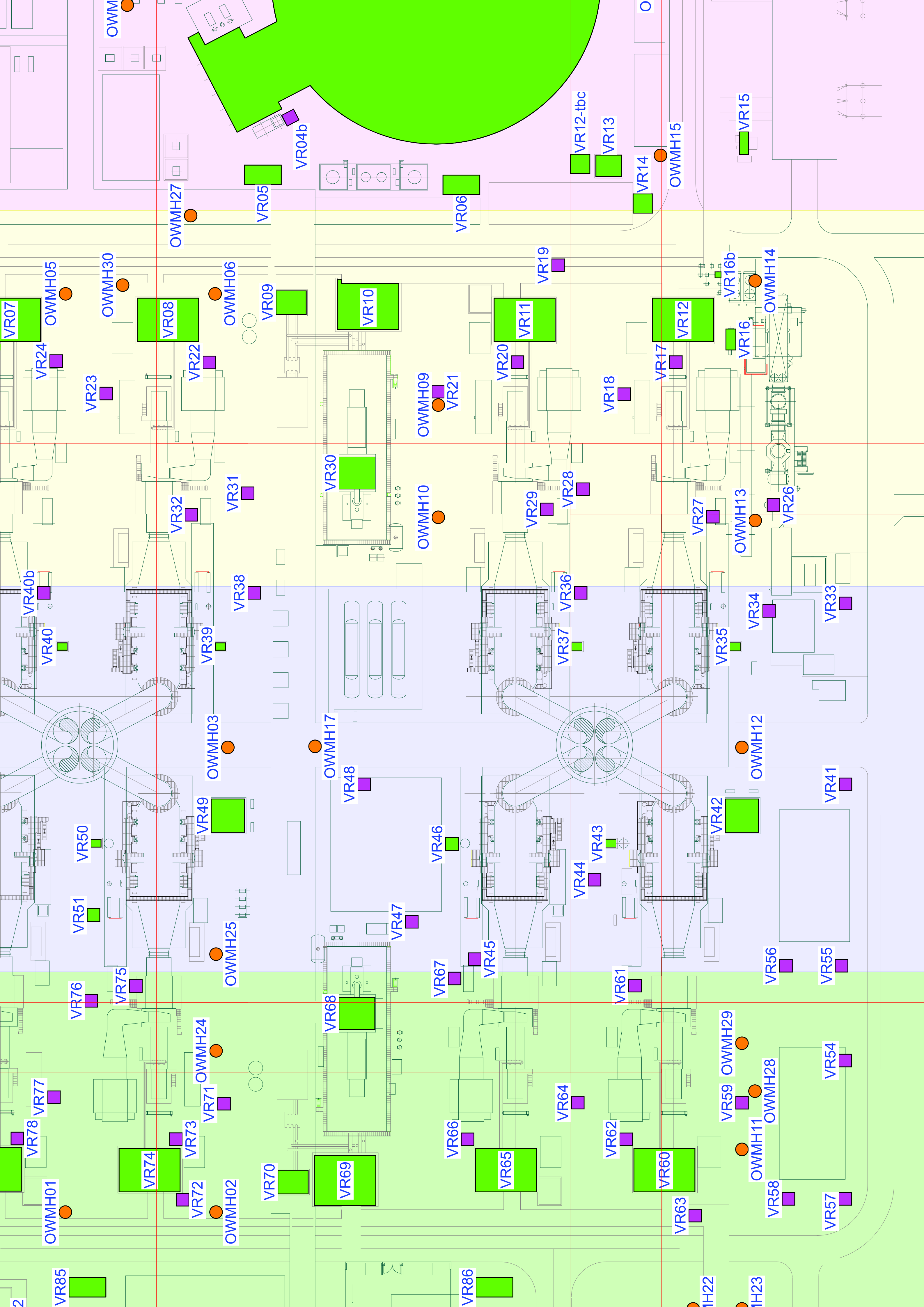
Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
TPH DW(C21-C35 aromatic)	T81	AR	0.01	mg/l	N	001-011
TPH (C35-C44 aromatic)	T81	AR	0.01	mg/l	N	001-011
TPH (Aromatic) total	T85	AR		mg/l	N	001-011
TPH (Aliphatic+Aromatic) (sum)	T85	AR		mg/l	N	001-011
Total Petroleum Hydrocarbons (C5 - C10 aliphatic/aromatic)	T85	AR	10	µg/l	N	001-011
PCB BZ#28	T1	AR	0.005	µg/l	U	001-003,009-011
PCB BZ#52	T1	AR	0.005	µg/l	U	001-003,009-011
PCB BZ#101	T1	AR	0.005	µg/l	U	001-003,009-011
PCB BZ#118	T16	AR	0.005	µg/l	U	001-003,009-011
PCB BZ#153	T1	AR	0.005	µg/l	U	001-003,009-011
PCB BZ#138	T1	AR	0.005	µg/l	U	001-003,009-011
PCB BZ#180	T1	AR	0.005	µg/l	U	001-003,009-011
Naphthalene	T149	AR	0.01	µg/l	U	001-011
Acenaphthylene	T149	AR	0.01	µg/l	U	001-011
Acenaphthene	T149	AR	0.01	µg/l	U	001-011
Fluorene	T149	AR	0.01	µg/l	U	001-011
Phenanthrene	T149	AR	0.01	µg/l	U	001-011
Anthracene	T149	AR	0.01	µg/l	U	001-011
Fluoranthene	T149	AR	0.01	µg/l	U	001-011
Pyrene	T149	AR	0.01	µg/l	U	001-011
Benzo(a)Anthracene	T149	AR	0.01	µg/l	U	001-011
Chrysene	T149	AR	0.01	µg/l	U	001-011
Benzo(b)fluoranthene	T149	AR	0.01	µg/l	U	001-011
Benzo(k)fluoranthene	T149	AR	0.01	µg/l	U	001-011
Benzo(a)Pyrene	T149	AR	0.01	µg/l	U	001-011
Indeno(123-cd)Pyrene	T149	AR	0.01	µg/l	U	001-011
Dibenzo(ah)Anthracene	T149	AR	0.01	µg/l	U	001-011
Benzo(ghi)Perylene	T149	AR	0.01	µg/l	U	001-011
PAH(total)	T149	AR	0.01	µg/l	U	001-011
1,1,1,2-Tetrachloroethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,1,1-Trichloroethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,1,2,2-Tetrachloroethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,1,2-Trichloroethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,1,2-Trichloroethylene	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,1-Dichloroethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,1-Dichloroethylene	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,1-Dichloropropene	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,2,3-Trichloropropane	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,2,4-Trimethylbenzene	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,2-dibromoethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,2-Dichlorobenzene	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,2-Dichloroethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,2-Dichloropropane	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,3,5-Trimethylbenzene	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,3-Dichlorobenzene	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,3-Dichloropropane	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,4-Dichlorobenzene	T54	AR	1	µg/l	U	003-005,007-008,010-011
2,2-Dichloropropane	T54	AR	1	µg/l	U	003-005,007-008,010-011
2-Chlorotoluene	T54	AR	1	µg/l	U	003-005,007-008,010-011
4-Chlorotoluene	T54	AR	1	µg/l	U	003-005,007-008,010-011
Benzene	T54	AR	1	µg/l	U	001-011
Bromobenzene	T54	AR	1	µg/l	U	003-005,007-008,010-011
Bromochloromethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
Bromodichloromethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
Bromoform	T54	AR	1	µg/l	U	003-005,007-008,010-011
Bromomethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
Carbon tetrachloride	T54	AR	1	µg/l	U	003-005,007-008,010-011
Chlorobenzene	T54	AR	1	µg/l	U	003-005,007-008,010-011
Chlorodibromomethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
Chloroethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
Chloroform	T54	AR	1	µg/l	U	003-005,007-008,010-011
Chloromethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
Cis-1,2-Dichloroethylene	T54	AR	1	µg/l	U	003-005,007-008,010-011
Cis-1,3-Dichloropropene	T54	AR	1	µg/l	U	003-005,007-008,010-011
Dibromomethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
Dichlorodifluoromethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
Dichloromethane	T54	AR	50	µg/l	N	003-005,007-008,010-011
Isopropyl benzene	T54	AR	1	µg/l	U	003-005,007-008,010-011
M/P Xylene	T54	AR	1	µg/l	U	001-011
n-Propylbenzene	T54	AR	1	µg/l	U	003-005,007-008,010-011

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
p-Isopropyltoluene	T54	AR	1	µg/l	U	003-005,007-008,010-011
S-Butylbenzene	T54	AR	1	µg/l	U	003-005,007-008,010-011
Styrene	T54	AR	1	µg/l	U	003-005,007-008,010-011
T-Butylbenzene	T54	AR	1	µg/l	U	003-005,007-008,010-011
Tetrachloroethene	T54	AR	1	µg/l	U	003-005,007-008,010-011
Trans-1,2-Dichloroethene	T54	AR	1	µg/l	U	003-005,007-008,010-011
Trans-1,3-Dichloropropene	T54	AR	1	µg/l	U	003-005,007-008,010-011
Trichlorofluoromethane	T54	AR	1	µg/l	U	003-005,007-008,010-011
Vinyl chloride	T54	AR	1	µg/l	U	003-005,007-008,010-011
1,2,4-Trichlorobenzene	T71	AR	1	µg/l	U	003-005,007-008,010-011
1,2-Dichlorobenzene	T71	AR	1	µg/l	U	003-005,007-008,010-011
1,3-Dichlorobenzene	T71	AR	1	µg/l	U	003-005,007-008,010-011
1,4-Dichlorobenzene	T71	AR	1	µg/l	U	003-005,007-008,010-011
2,4,5-Trichlorophenol	T71	AR	1	µg/l	U	003-005,007-008,010-011
2,4,6-Trichlorophenol	T71	AR	1	µg/l	U	003-005,007-008,010-011
2,4-Dichlorophenol	T71	AR	1	µg/l	U	003-005,007-008,010-011
2,4-Dimethylphenol	T71	AR	1	µg/l	U	003-005,007-008,010-011
2,4-Dinitrophenol	T71	AR	1	µg/l	U	003-005,007-008,010-011
2,4-Dinitrotoluene	T71	AR	1	µg/l	U	003-005,007-008,010-011
2,6-Dinitrotoluene	T71	AR	1	µg/l	U	003-005,007-008,010-011
2-Chloronaphthalene	T71	AR	1	µg/l	U	003-005,007-008,010-011
2-Chlorophenol	T71	AR	1	µg/l	U	003-005,007-008,010-011
2-methyl phenol	T71	AR	1	µg/l	U	003-005,007-008,010-011
2-Methylnaphthalene	T71	AR	1	µg/l	U	003-005,007-008,010-011
2-Nitroaniline	T71	AR	1	µg/l	U	003-005,007-008,010-011
2-Nitrophenol	T71	AR	1	µg/l	U	003-005,007-008,010-011
3-Nitroaniline	T71	AR	1	µg/l	U	003-005,007-008,010-011
3/4-Methylphenol	T71	AR	1	µg/l	U	003-005,007-008,010-011
4-Bromophenyl phenylether	T71	AR	1	µg/l	U	003-005,007-008,010-011
4-Chloro-3-methylphenol	T71	AR	1	µg/l	U	003-005,007-008,010-011
4-Chloroaniline	T71	AR	1	µg/l	U	003-005,007-008,010-011
4-Chlorophenyl phenylether	T71	AR	1	µg/l	U	003-005,007-008,010-011
4-Nitroaniline	T71	AR	1	µg/l	U	003-005,007-008,010-011
4-Nitrophenol	T71	AR	1	µg/l	U	003-005,007-008,010-011
Acenaphthene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Acenaphthylene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Anthracene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Azobenzene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Benzo(a)Anthracene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Benzo(a)Pyrene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Benzo(b/k)Fluoranthene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Benzo(ghi)Perylene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Bis (2-chloroethoxy) methane	T71	AR	1	µg/l	U	003-005,007-008,010-011
Bis (2-chloroethyl) ether	T71	AR	1	µg/l	U	003-005,007-008,010-011
Bis (2-chloroisopropyl) ether	T71	AR	1	µg/l	U	003-005,007-008,010-011
Bis (2-ethylhexyl)phthalate	T71	AR	1	µg/l	U	003-005,007-008,010-011
Butyl benzylphthalate	T71	AR	1	µg/l	U	003-005,007-008,010-011
Carbazole	T71	AR	1	µg/l	U	003-005,007-008,010-011
Chrysene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Di-n-butylphthalate	T71	AR	1	µg/l	U	003-005,007-008,010-011
Di-n-octylphthalate	T71	AR	1	µg/l	U	003-005,007-008,010-011
Dibenzo(ah)Anthracene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Dibenzofuran	T71	AR	1	µg/l	U	003-005,007-008,010-011
Diethyl phthalate	T71	AR	1	µg/l	U	003-005,007-008,010-011
Dimethyl phthalate	T71	AR	1	µg/l	U	003-005,007-008,010-011
Fluoranthene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Fluorene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Hexachlorobenzene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Hexachlorobutadiene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Hexachlorocyclopentadiene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Hexachloroethane	T71	AR	1	µg/l	U	003-005,007-008,010-011
Indeno(123-cd)Pyrene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Isophorone	T71	AR	1	µg/l	U	003-005,007-008,010-011
Naphthalene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Nitrobenzene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Pentachlorophenol	T71	AR	1	µg/l	U	003-005,007-008,010-011
Phenanthrene	T71	AR	1	µg/l	U	003-005,007-008,010-011
Phenol	T71	AR	1	µg/l	U	003-005,007-008,010-011
Pyrene	T71	AR	1	µg/l	U	003-005,007-008,010-011

Annex B: Sub-Surface Voids

Annex B.1: Plan of Sub-Surface Voids

Annex B.2: Example of a Photographic Log Following Cleaning of Sub-Surface Voids.


OWM
VR04b
VR12-tbc
VR13
OWMH15
VR15
VR14
O
OWMH27
VR05
VR06
VR19
VR16b
OWMH14
OWMH05
OWMH30
OWMH06
VR09
VR10
VR07
VR08
VR11
VR12
VR16
VR24
VR22
VR20
VR17
VR23
OWMH09
VR21
VR18
VR30
VR31
VR28
VR32
VR29
VR27
OWMH13
VR26
OWMH10
VR40b
VR38
VR36
VR34
VR33
VR40
VR39
VR37
VR35
OWMH03
OWMH17
OWMH12
VR48
VR41
VR49
VR42
VR50
VR46
VR43
VR44
VR51
VR47
OWMH25
VR45
VR67
VR56
VR55
VR76
VR75
VR61
VR68
OWMH24
OWMH29
VR54
VR77
VR71
VR64
OWMH28
VR59
VR78
VR73
VR66
VR62
OWMH11
VR74
VR65
VR60
VR70
VR69
VR58
VR57
OWMH01
VR72
OWMH02
VR63
VR85
VR86
IH22
IH23
2

TEESSIDE POWER STATION – VOID BACKFILL VERIFICATION SHEET

BAM BROWN AND MASON LIMITED

VOID REF: VR-1

DESCRIPTION: VR-1 – Switch Room Cable Trench

VOID CLEANED VERIFICATION

GDF

RVA [redacted]
27/3/15

BAM REPRESENTATIVE

VOID BACKFILLED VERIFICATION

METHOD:

- Crushed material stockpiled beside void.
- Waste material picked from crush pile.
- Clean crush pushed into void.
- Material compacted utilising large excavator.
- Material levelled to existing slab.
- Top layer rolled using vibrating roller.

PLEASE SIGN TO INDICATE APPROVAL OF COMPACTION METHOD AND COMPLETION OF BACKFILL

BAM REPRESENTATIVE [redacted]
27 3 15

RVA [redacted]
27/3/15

GDF [redacted]
27/3/15

TEESSIDE POWER STATION – VOID BACKFILL VERIFICATION SHEET

BAM
BROWN AND MASON
LIMITED

VOID REF: VR-1

DESCRIPTION: AREA 1 - SWITCH ROOM CABLE TRENCH

VOID CLEANED VERIFICATION

GDF
Derek Wilks
[redacted]
21/1/15

RVA
ELLIS HUTCHINSON
[redacted]
21/01/15

BAM REPRESENTATIVE
MATTHEW GIBSON
[redacted]
21/01/15

VOID BACKFILLED VERIFICATION

MATERIALS AND SOURCE:

METHOD:

PLEASE SIGN TO INDICATE APPROVAL OF COMPACTION METHOD AND COMPLETION OF BACKFILL

BAM REPRESENTATIVE

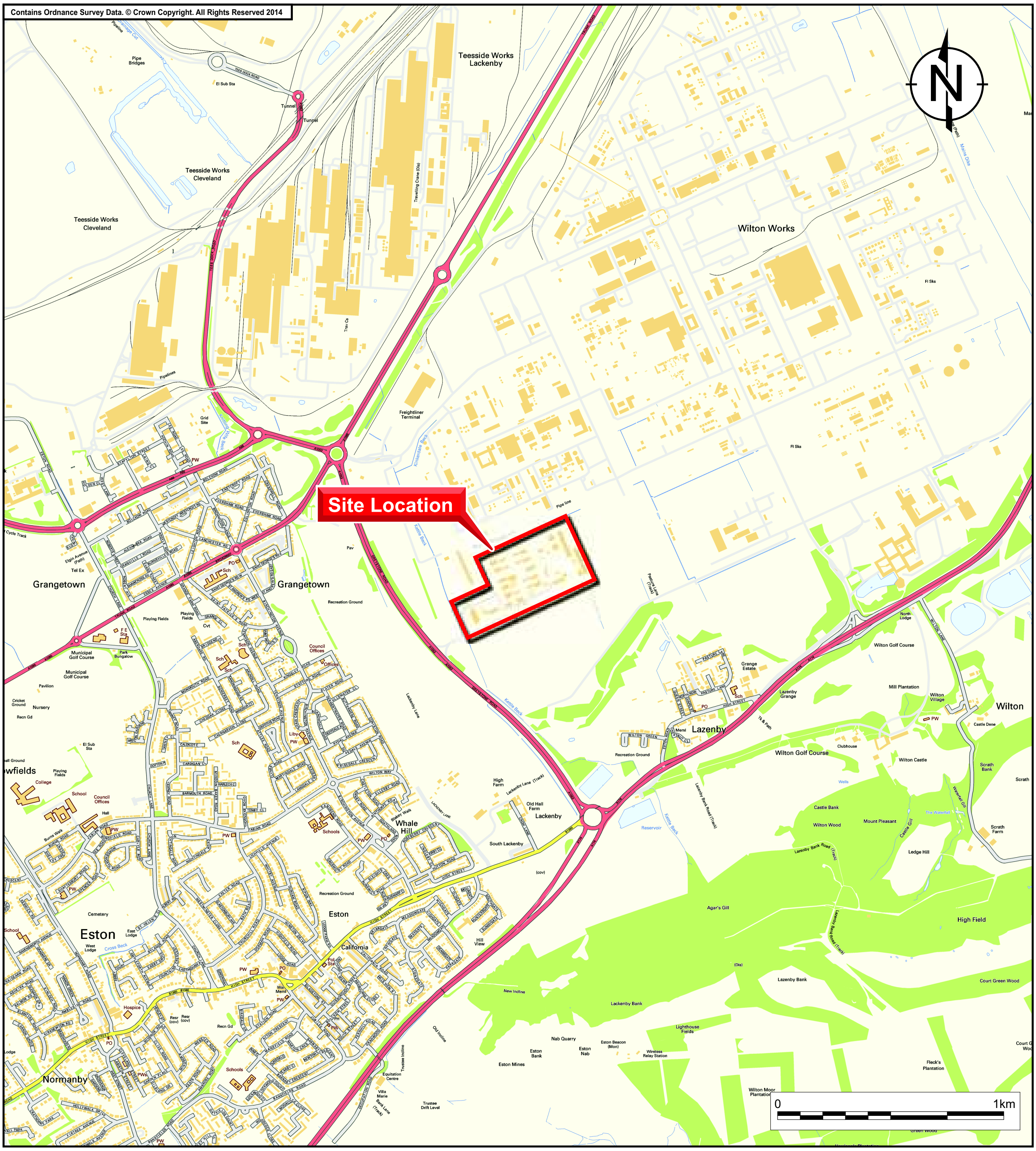
RVA

GDF

Annex A: Figures

Figure 1 – Site Location Plan

Figure 2 – Borehole Location Plan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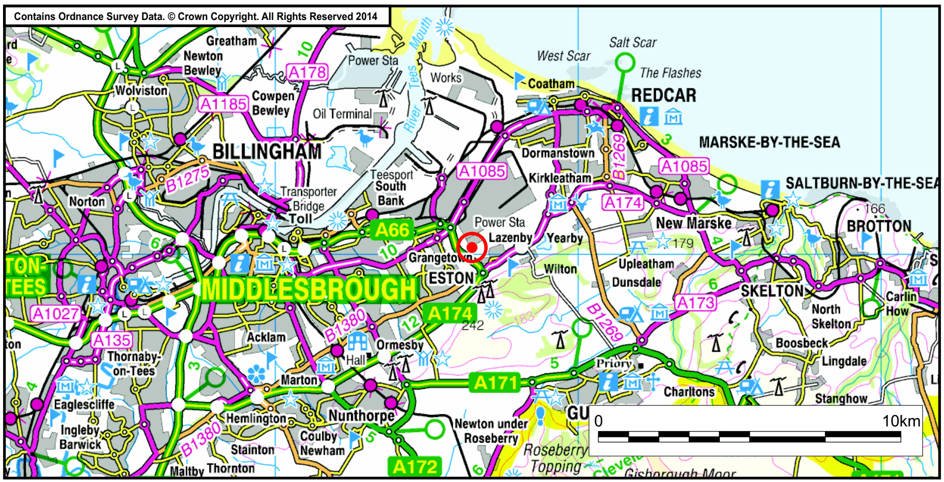
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Title
Figure 1: Site Location

Site
Teeside Power Station, Greystone Road,
Grangetown, Middlesbrough, TS6 8JF

Date
April 2015

Scale
As shown

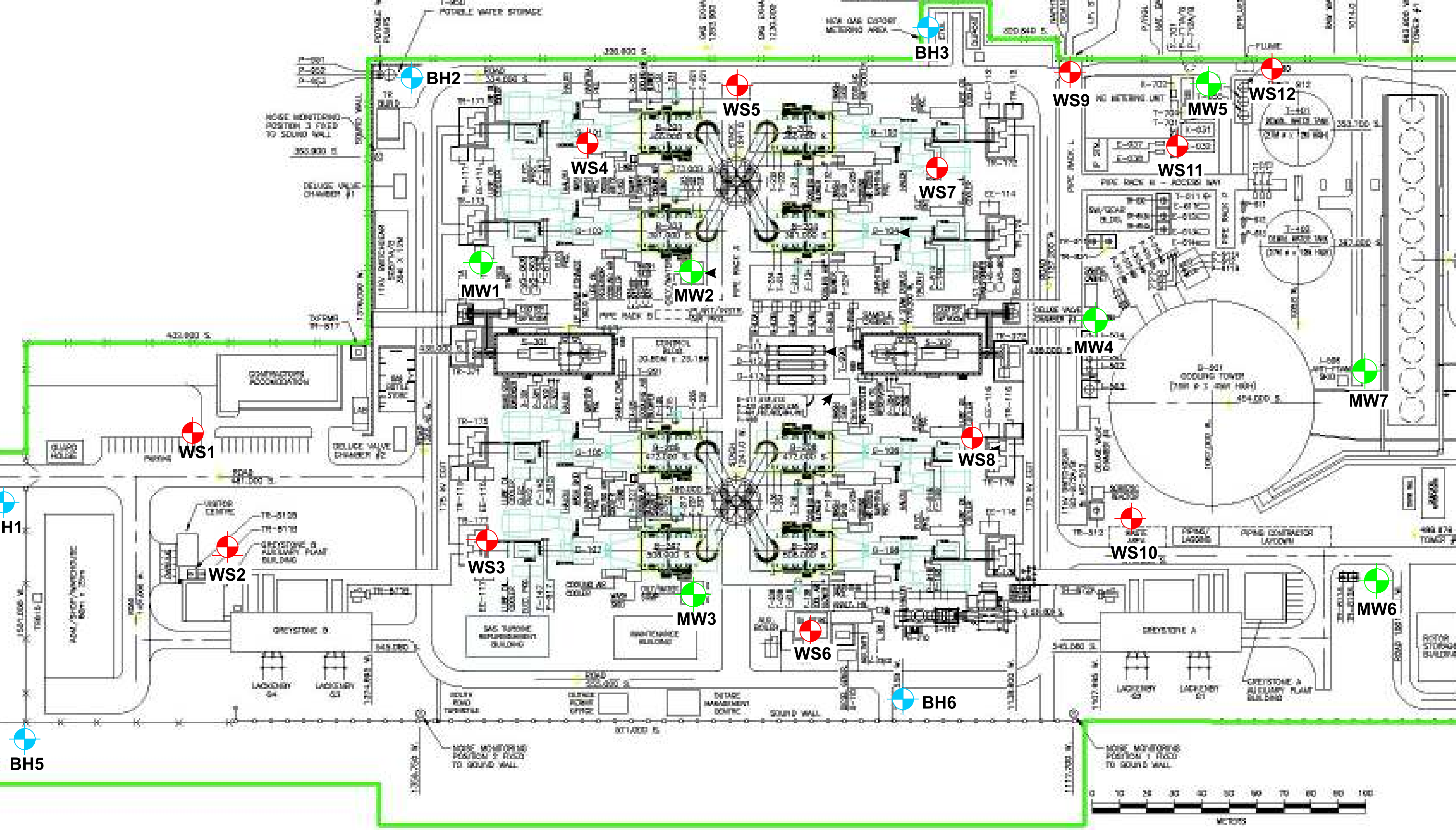
Project No.
UK22-21295

Client
GDF Suez

Issue
1

Drawn by
DM

ENVIRON



Monitoring Well

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