Hillingdon Hospital

Geotechnical and Geo-environmental Assessment of Phase 1 Ground Investigations

Derivation of Phase 1 Geotechnical and Geo-environmental Ground Models and Recommendations

Hillingdon Hospitals NHS Foundation Trust

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Quality information

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The methodology adopted and the sources of information used by AECOM in providing its services are outlined in this Report. The work described in this Report was undertaken between October 2021 and March 2022 and is based on the conditions encountered and the information available during the said period of time. The scope of this Report and the services are accordingly factually limited by these circumstances. AECOM disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to AECOM's attention after the date of the Report.

The exploratory holes carried out during the fieldwork, which investigate only a small volume of the ground in relation to the size of the site, can only provide a general indication of site conditions. The comments made and recommendations given in this Report are based on the ground conditions apparent at the immediate location of the exploratory holes. There may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this Report.

The comments made on groundwater conditions are based on observations made during site work and the limited monitoring programme. It should be noted that groundwater levels might vary owing to seasonal or other effects.

The investigation (defined as exploratory/ main investigation) was designed generally to meet the objectives defined by BS10175:2011 Investigation of Potentially Contaminated Sites: Code of Practice (BSI) (check - 10 to 25m centres for main phase of investigation; and 25 to 50m centres for exploratory phase investigations). As an exploratory/ main investigation, the results may not provide sufficient data to make detailed estimates of the quantities involved in any remediation work that may be required.

The opinions expressed in this Report concerning any contamination found and the risks arising from these, are based on current good practice; simple statistical assessment and comparison with available soil guideline values; AECOM generic assessment criteria and other guidance values.

It should be noted that the effects of ground and water borne contamination on the environment are constantly under review, and authoritative guidance values are potentially subject to change. The conclusions presented herein are based on the guidance values available at the time this Report was prepared, however, no liability by AECOM can be accepted for the retrospective effects of any changes or amendments to these values.

Unless otherwise stated in this Report, the assessments made assume that the sites and facilities will continue to be used for their current purpose without significant changes.

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Table of Contents

Figures

Tables

Executive Summary

This technical note reviews the data from the Hillingdon Hospital Phase 1 Ground Investigation (GI). It derives characteristic geotechnical and geo-environmental ground models and provides a high-level engineering assessment of the ground conditions. It is the designers responsibilty to select approprate geotechnical parameters for design.

The Phase 1 intrusive ground investigation consisted of 5 No. boreholes, 6 No. dynamic cone penetrometers and 2 No. trial pits, from which the strata was logged and insitu testing was carried out. Soil samples were also taken on which further laboratory testing was carried out. The ground conditions encountered are superficial layers of Made Ground (0-1.2m thick) and Boyn Hill Gravels, 0.5-4.2m thick) over a solid geology of London Clay (17.3 to 22.3m thick), Harwich Formation (0.8-3.1m thick) over Lambeth Group strata (unproven thickness).Upper and Lower Groundwater Aquifers have been identifed and monitored. The upper aquifer in the superficial deposit has water at 1.2-4.3m depth. The lower aquifer originating in the solid geology Lambeth Group Formation has water at 2.3-14.2m depth.The groundwater regime in the London Clay Formation will be present in the porewater pressure, but has not been proven with this ground investigation.

From the soil samples taken the characteristic Aggressive Concrete Environment Class (ACEC) has been determined to be ACEC class of AC-3z in the Made Ground, AC-2 in the London Clay and AC-1 in the Lambeth Group.

Two soakaway tests were carried out to determine the suitability of the superficial deposits for Sustainable Urban Drainage System (SUDS). However, the results were inconclusive, possibly because of the high clay content of the Boyn Hill Gravels in those locations. There may be other more suitable locations where the Boyn Hill Gravels have lower clay content.

The heave potential of the London Clay has been determined from laboratory oedometer test results and compared with published values. It is found to be around 0.3-0.6mm per kPa of relieving pressure. For a 6m bulk excavation this results in expected long term heave movements of between 36-72mm.

A preliminary pile design with toe levels wholly within the London Clay (max embedment 16.5m) for 450, 600 and 750mm pile diameters indicates min ULS (DA1-C1 and DA1-C2) resistances of 833kN, 1154kN and 1497kN respectively. This is dependent on an undrained shear profile Cu=80+5z which is based predominantly on the insitu SPT N results. Some U100 results indicate a lower undrained shear profile, this will need to be verified with the later Phases of the GI works.

Tier 2 Land contamination assessment conclusions and recommendations:

- An unacceptable human health risk is considered unlikely for the proposed continued hospital use of the Site and based on the Phase 1 GI findings.
- A number of groundwater, surface water and leachate exceedances were identified. Overall, however, a risk to the underlaying secondary A aquifer and the on-site stream is considered unlikely, given the low resource potential of the superficial deposits (identified thickness between 0.5 and 4.2m) and the identified low sensitivity of the stream.
- The data collected as part of the PH1 GI work suggest a high percentage of excavated material is likely to be suitable for on-site re-use if geotechnically suitable.
- The ground gas assessment mostly indicated a Characteristic Situation 1 (very low risk), with only one locations and for one monitoring round reporting a Characteristic Situation 2 (low risk).

It is recommended that the second Phase of GI works goes ahead to target other areas of the site / potential source, after which the contaminated land assessment should be reviewed. It is recommended that surface water and groundwater samples from the PH1 monitoring points are resampled using a low flow technique during the PH2 GI works. It is also recommended future ground gas monitoring works includes the installed Phase 1 monitoring locations. Lastly, it is recommended that a soil waste classification assessment is completed based on the findings of the recommended Phase 2 GI works to determine the likely classification of soils in the event off-site disposal is required.

1. Introduction

This Technical Note has been prepared by AECOM Limited to accompany hybrid planning application being submitted by the Applicant, Hillingdon Hospitals NHS Foundation Trust, to the London Borough of Hillingdon. The proposal comprises hybrid planning application for:

1. FULL application seeking planning permission for demolition of existing buildings and redevelopment of the site to provide the new Hillingdon Hospital, multi-storey car park and mobility hub, vehicle access, highways works, associated plant, generators, substation, new internal roads, landscaping and public open space, utilities, servicing area, surface car park/ expansion space, and other works incidental to the proposed development.
2. OUTLINE planning application (all matters reserved, except for access) for the demolition of buildings and structures on the remaining site (excluding the Grade II Furze and Tudor Centre) for a mixed-use development comprising residential (Class C3) and supporting Commercial, Business and Service uses (Class E), new pedestrian and vehicular access; public realm, amenity space, car and cycling parking. The proposed development will comprise up to 327 residential units (Use Class C3) and up to 800 sqm of town centre uses (Use Class E) in a series of buildings ranging in height from 3 up to 8 storeys with associated access and car parking for up to 302 vehicles and up to 515 cycle parking spaces, refuse storage, landscape and amenity areas and associated servicing.

1.1 Scope and objectives of the report

The scope and objective of this report is:

- Review data from the Phase 1 Ground Investigation (GI) and prepare characteristic geotechnical and geo-environmental ground models;
- Prepare Engineering Assessment of ground conditions and their possible impact on the proposed works;
- Undertake a Tier 2, Generic Quantitative Risk Assessment contaminated land assessment for a continued commercial end uses; and
- Undertake a Generic Quantitative Risk Assessment of groundwater.

This is only an initial assessment based on a limited amount of GI (Phase 1). The validity and the findings of this assessment must be reviewed and updated after a more detailed Phase 2 GI.

1.2 Development proposal

The proposals seek to make optimal use of the land through the comprehensive redevelopment of the Hillingdon Hospital Site to deliver a hospital that has been designed to improve the experience of patients and staff.

The Trust have outlined that at the heart of the proposals, is a shared vision of providing improved access to better healthcare services for our population in a new fit for purpose local hospital on the Hillingdon Hospital site. The Trust, working with partners across the community, seek to improve care and help avoid unnecessary hospital stays. The strategy targets improvements through collaboration, integration and greater efficiency.

The Trust plan to provide the same range of services that are currently available at the hospital, but in a high quality, purpose-built facility. In designing the new facility, the Trust seek to work with our partners across the health and social care system to improve the integration of care across the borough and beyond.

There is undoubtedly a need for a new hospital in Hillingdon, given that the life of the Hillingdon Hospital estate has largely expired. The optimisation of the existing hospital site through the construction of a new hospital on the western extent of the site will allow the rest of the site to be cleared for other land uses such as residential in line with the thrust and intent of local, regional and national planning policies.

Detailed planning application:

- Replacement hospital building (79,603.6 sqm Gross Internal Area (GIA)) of basement, ground plus seven storeys on the western extent of the site incorporating a linked mobility hub and multi storey car park (MSCP) for 781 car spaces;
- Proposed hospital GIA = 79,603.6sqm
- Proposed MSCP GIA = 23,034sqm
- Proposed total GIA (combined) = 102,637.6sqm
- High quality landscaping buffer fronting Royal Lane;
- New bus stop arrangements and improved connections to the hospital on Pield Heath Road;
- Large central green open space for use by the hospital and wider community;
- 161 surface level car parking spaces with the ability to cater for up to 14,000 sqm of expansion space for future hospital expansion (if required).

Outline planning application is being sought for the wider masterplan comprising the following proposals:

- Up to 33,870 sqm of residential, comprising 327 dwellings;
- Plots – P01, P02, P04 (mixed use blocks with supporting provision of 800sqm of town centre uses (Use Class E) at ground floor level).
- Up to 302 car parking spaces, and 515 cycle parking spaces.
- Improved permeability and public access routes through the site;
- High quality public realm and landscaped gardens throughout the site.

1.3 Geotechnical category

In accordance with BS EN 1997 Part 1 Section 2.1, the geotechnical risk category for these works is determined to be a Geotechnical Category 2.

Geotechnical Category 2 should include conventional types of structure and foundation with no exceptional risk or difficult soil or loading conditions.

Designs for structures in Geotechnical Category 2 should normally include quantitative geotechnical data and analysis to ensure that the fundamental requirements are satisfied.

Routine procedures for field and laboratory testing and for design and execution may be used for Geotechnical Category 2 designs.

NOTE The following are examples of conventional structures or parts of structures complying with Geotechnical Category 2: — spread foundations; — raft foundations; — pile foundations; — walls and other structures retaining or supporting soil or water; — excavations; — bridge piers and abutments; — embankments and earthworks; — ground anchors and other tie-back systems; — tunnels in hard, non-fractured rock and not subjected to special water tightness or other requirements.

1.4 Development plan

The adopted Development Plan for The London Borough of Hillingdon (LBH), in so far as is relevant to the proposals, consists of:

- The London Plan (“LP”) (March 2021)
- The Local Plan: Part 1 - Strategic Policies (“LPP1”) (November 2012)
- The Local Plan: Part 2 - Development Management Policies (“LPP2”) (January 2020)
- The Local Plan: Part 2 - Site Allocations and Designations (“LPP2”) (January 2020)

Other material considerations include:

- National Planning Policy Framework (NPPF) (July 2021)
- National Planning Practice Guidance (PPG)
- LBH’s Supplementary Planning Document (SPD) “Hillingdon Design and Accessibility Statement” (HDAS) (April 2006)
- LBH’s SPD “Planning Obligations” (July 2014)

2. Existing information

The Hillingdon Hospital Stage 1, Tier 1 Assessment (THHR-AEC-XX-XX-RP-GE-0001) was prepared to support an outline planning application under the requirements of Town and Country Planning Act 1990 (as amended), the National Planning Policy Framework (2012) and considers the potential implications of Part 2A of the Environmental Protection Act 1990 (Part 2A) and the associated Contaminated Land (England) Regulations 2006 and Contaminated Land Statutory Guidance (2012).

This sections aims to summarise the completed Stage 1, Tier 1 Assessment (THHR-AEC-XX-XX-RP-GE-0001), see the report for more details.

2.1 Historical land use

Historical maps show the site was predominantly undeveloped land until the development of the new hospital. The most significant development on site was Hillingdon Hospital in the 1950s after World War II (WWII). Historical mapping and planning records indicate several phases of redevelopment of the existing hospital. Prior to this there had been several small buildings located in the eastern section of site named Hillingdon Furze. A small pond was noted in the north of the site in 1973 and appears to be artificial. The hospital continued to expand with regards to additional buildings and carparks from the 1970s onwards.

The maps show that off-site historic and current development which might affect the proposed development included the original Hillingdon hospital immediately north of site and a timber works approximately 30m south east.

2.2 Existing site description

Hillingdon Hospital is located to the south of Pield Heath Road, bound by Royal Lane to the west, and Colham Green Road to the east. The site is located within the Brunel Ward. The site comprises a ten storey block built in 3 the 1960s and a mix of other hospital buildings scattered across the site.

The remainder of the site consists mainly of surface level car parking, interspersed with pockets of landscaping. Hillingdon Hospital is located within the urban area of Hillingdon and is not subject to any designations such as Green Belt or site allocations. It is not within a conservation area.

The site is located within Flood Risk Zone 1. There are two Tree Preservation Order (TPO) within the site: one south of The Furze and the second is west of the Woodlands Centre. A culvert runs west-east crossing both TPO's and being canalised under the service road and partially under the Woodlands Centre. On the east of the Site is a Grade II Listed Building, The Furze.

There are several points of access to the site; the main entrance is from Pield Heath Road with a separate access for A&E. There are three separate access points from Royal Lane and a separate access from Colham Green Road. Cycle access is only through the vehicular traffic road path. The site has a PTAL rating of 3. There are three bus stops on Pield Heath Road with links to Uxbridge, Heathrow Central and Hayes Town. Uxbridge town centre is approximately 2km to the north west.

To the west of the site along Royal Lane comprises two storey detached and semi-detached residential properties, to the north west corner of the site lies a three storey flatted residential block rising to four storeys along Pield Health Road opposite the entrance to the Outpatient Department.

The total application boundary covers an area of 9.6hectares. The site has no planning designation as confirmed by the Hillingdon Policies Map (2020).

2.3 Previous investigations

AECOM is not aware of any other intrusive investigations being completed at the Site.

2.4 Geology

The BGS Geology of Britain Viewer shows the site to be underlain by sands and gravels of the Boyn Hill Gravel Member, which make up the superficial geology. The superficial geology is underlain by the London Clay Formation. A detailed description of the encountered site geology can be found in Section 5.

2.5 Records of mines and mineral deposits

Records show the closest historical mine (sand and gravel pit) to be >450m north west from the site and is no longer active. The site is not within an area affected by coal mining, with no recorded former coal mining activities. There are no hazards associated with other mineral mining.

2.6 Hydrology

The nearest identified Water Framework Directive-relevant surface watercourse/feature to the site is the River Pinn which is situated approximately 409m west of site and flows in a southerly direction. The site is located within the Pinn WFD surface water body catchment.

The nearest identified surface watercourse/feature which is not governed by the WFD is an unnamed inland river located within the south eastern boundary of site and flowing in a south westerly direction towards the River Pinn. The surface watercourse is culverted in places on site. Another inland river is located approximately 130m north west of site.

The indicative floodplain map for the area, published by the EA, shows that the site lies within a Flood Zone 1. However, based on information recorded in the Groundsure Report, along the south eastern boundary there is a 1 in 30-year risk, greater than 1.0m, parallel with the unnamed surface watercourse.

There are no licenced surface water abstractions within 1km of the site

2.7 Hydrogeology

The underlaying superficial deposits (Boyn Hill Gravel Member) are classified as a secondary A / ‘productive’ aquifer, while the London Clay bedrock is classified as Unproductive.

Three (3) active licenced groundwater abstractions have been identified within 1km of the site, including one on-site and another one 204m NE, both operated by the Hillingdon Hospital NHS Trust and used for commercial/industrial and public services (including drinking water use). As such, the north of the site falls within a SPZ1 (inner protection zone) and SPZ2(outer protection zone) associated with these two NHS Trust operated abstractions. It is assumed these abstractions are from the deep aquifer (likely Chalk) which is protected by over 17m of London Clay.

3. Field and laboratory studies

This section is to describe the investigations carried out by the designer as part of the design process:

3.1 Geomorphological/geological mapping and topographic survey

Topographic survey drawings have been prepared by Intelligent Building Infrastructure (IBI) for the client Hillingdon Hospital NHS Trust

The ground level at the Hospital slopes down from north to south. It varies from +40.4 mOD at the mini roundabout in Pield Heath Road, to the north of the Hospital Grounds. Down to +35.9m on the inner road adjacent to the Tudor Centre, to the south of the Hospital

Table 3-1 Topographic Site Drawings

Drawing Title	Drawing No	Revision	Revision Notes	Originator	Date Last Issued
SITE PLAN AS PROPOSED - WITH EXISTINGHOSPITAL PRESENT	THHR_01-IBI-XX-XX-DR-A-100002	P18	Issued for PPAF5	IBI	2021/11/15
SITE PLAN AS PROPOSED	THHR_01-IBI-XX-XX-DR-A-100003	4	General Updates for PPAF5	IBI	2021/11/12

3.2 Ground Investigations

The description of the Phase 1 and Phase 2 investigations, including an outline of the rationale, method and proposed installation details are listed in Table 3-2. Note that only the Phase 1 GI has been currently executed and its results are described in the report herein.

The limited GI undertaken at Phase 1 provided an indication of the extents of the Made Ground and allowed a preliminary assessment of the thickness and engineering parameters of the superficial deposits, weathered London Clay, intact London Clay and the underlying Lambeth group bedrock. In addition, the ground investigation provided an estimate of the groundwater profile of the site.

Table 3-2 Phase 1 and Phase 2 Ground Investigations (in black completed Phase 1 scope)

Hole Number	Rationale	Type	Phase	Installation	Testing
BH-1D	To investigate interface between London Clay and Lambeth Group for foundations and to investigate pore water in London Clay	CP + RC	Phase 2	50mm or 19mm piezometer	SPT.
BH-2D	To investigate interface between London Clay and Lambeth Group for foundations and to capture shallow groundwater / gas conditions following installation.	CP + RC	Phase 2	50mm ground water. Diver in installation.	SPT. Variable head tests during drilling and following installation
BH-3D	To investigate interface between London Clay and Lambeth Group for foundations and to investigate pore water in London Clay	CP + RC	Phase 1	Shallow 50mm and deep 19mm piezometer	SPT. Variable head tests following installation (shallow installation).
BH-4D	To investigate interface between London Clay and Lambeth Group for foundations and to capture shallow groundwater / gas conditions following installation.	CP + RC	Phase 2	50mm ground water / gas installation with gas tap. Diver in installation.	SPT. Variable head tests during drilling and following installation. PCB testing in shallow soil.
BH-5D		CP + RC	Phase 2	50mm ground water / gas installation with gas tap. Diver in installation.	SPT. Variable head tests during drilling and following installation
BH-6D		CP + RC	Phase 1	Shallow 50mm and deep 19mm piezometer	SPT. Variable head tests following installation (shallow installation).
BH-7D	To investigate interface between London Clay and Lambeth Group for foundations and to investigate pore water in London Clay.	CP + RC	Phase 1	Shallow 50mm and deep 19mm piezometer	SPT. Variable head tests following installation (shallow installation).

Hole Number	Rationale	Type	Phase	Installation	Testing
BH-8D	To investigate interface between London Clay and Lambeth Group for foundations and to capture shallow groundwater / gas conditions following installation.	CP + RC	Phase 2	50mm ground water / gas installation with gas tap. Diver in installation.	SPT. Variable head tests during drilling and following installation. PCB testing in shallow soil.
BH-9D		CP + RC	Phase 2	50mm ground water / gas installation with gas tap.	SPT
BH-10D		CP + RC	Phase 1	Shallow 50mm and deep 19mm piezometer	SPT. Variable head tests following installation (shallow installation).
BH-11D		CP + RC	Phase 2	50mm ground water / gas installation with gas tap. Diver in installation.	SPT. Variable head tests during drilling and following installation.
WS-1	To investigate shallow ground conditions (Made Ground / superficial) and to capture shallow groundwater / gas conditions following installation.	WS	Phase 2	50mm ground water installation. Diver in installation.	SPT. Variable head tests during drilling and following installation.
WS-2		WS	Phase 2	50mm ground water / gas installation with gas tap.	SPT
WS-3		WS	Phase 2	50mm ground water installation. Diver in installation.	SPT. Variable head tests during drilling and following installation. PCB testing in shallow soil.
WS-4		WS	Phase 2	50mm ground water / gas installation with gas tap.	SPT
TP 1	To investigate infiltration characteristics in proposed areas for soakaways.	TP	Phase 2	-	Infiltration tests and in-situ CBR
TP 2		TP	Phase 1	-	Not able to carry out tests due to service
TP 3		TP	Phase 1	-	Infiltration tests and in-situ CBR
TP 4	To observe existing foundations around existing catering building.	TP (Hand dug)	Phase 2	-	Identify existing foundations
TP5		TP (Hand dug)	Phase 2	-	Identify existing foundations

Hole Number	Rationale	Type	Phase	Installation	Testing
DCP1	To investigate shallow ground conditions for highway / pavement design.	TP using hand held equipment	Phase 1	-	In-situ DCP testing
DCP2		TP using hand held equipment	Phase 2	-	In-situ DCP testing
DCP3		TP using hand held equipment	Phase 2	-	In-situ DCP testing
DCP4		TP using hand held equipment	Phase 2	-	In-situ DCP testing
DCP5		TP using hand held equipment	Phase 1		In-situ DCP testing
DCP6		TP using hand held equipment	Phase 2	-	In-situ DCP testing
DCP7		TP using hand held equipment	Phase 1		In-situ DCP testing
DCP8		TP using hand held equipment	Phase 1		In-situ DCP testing
DCP9		TP using hand held equipment	Phase 1		In-situ DCP testing
DCP10		TP using hand held equipment	Phase 1		In-situ DCP testing

3.3 Description of Fieldwork

The Phase 1 ground investigations where carried out by SOCOTEC Ltd in Oct 2021 and consisted of 13 exploratory holes:

- 5 Boreholes (BH-3D, BH-6D, BH-6DA, BH-7D and BH-10D);
- 6 Dynamic Cone Penetrometers (DCP1, DCP5, DCP7, DCP8, DCP9 and DCP10); and
- 2 Trial Pits (TP01 and TP02).

The location plan of the Phase 1 GI is shown in Figure 1. The details of each exploratory hole are shown in Table 3-3. A summary of the in-situ tests and sampling is shown in Table 3-4.

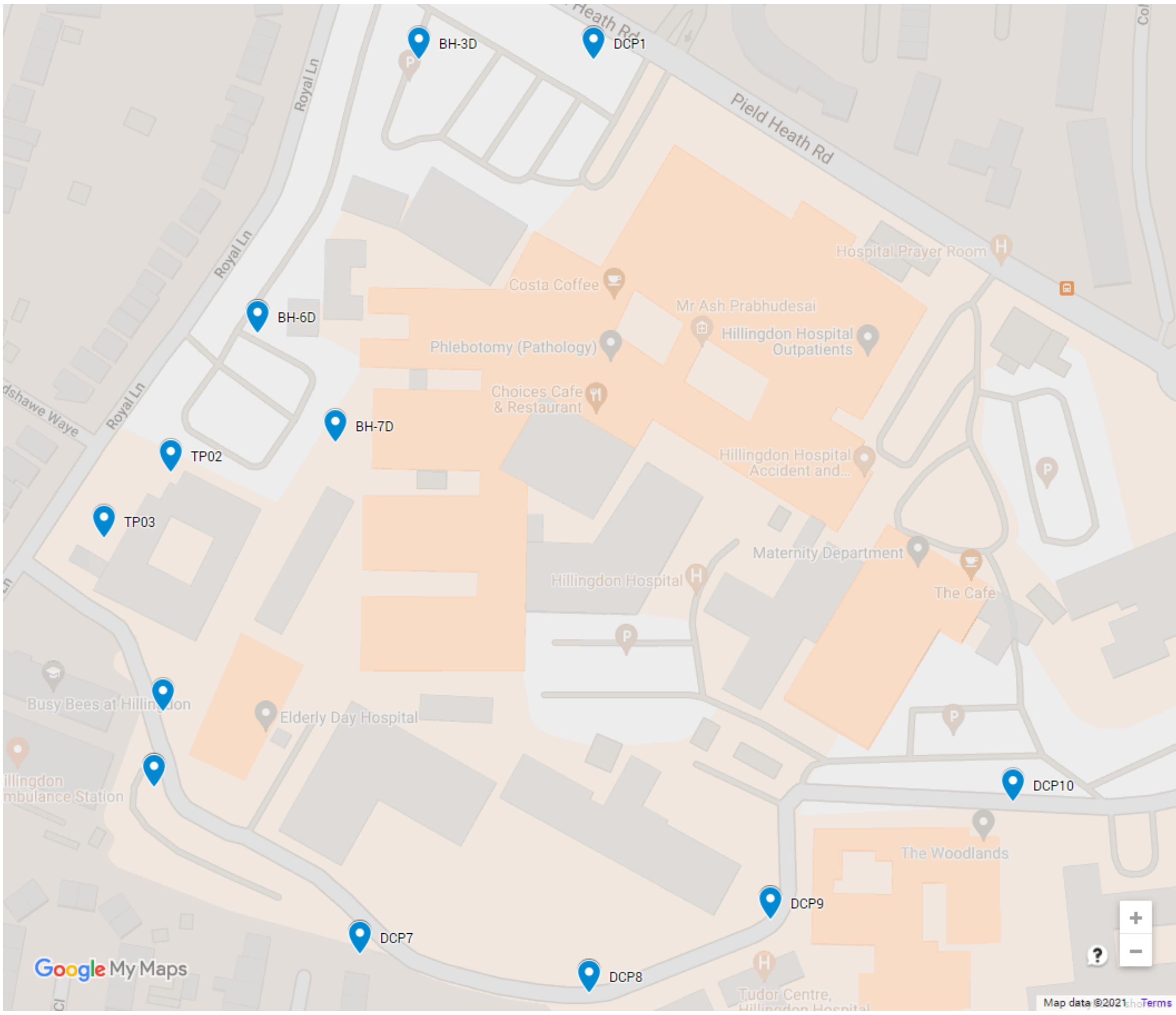
Table 3-3 Phase 1 GI Exploratory Holes

Hole Ref	Hole Type	GL (mOD)	Depth Reached (m)	Date Started (dd/mm/yy)	Date Ended (dd/mm/yy)	OS Easting (m)	OS Northing (m)
BH-3D	CP+RC	39.66	35.15	06/10/21	06/10/21	506750.11	181996.99
BH-6D	CP+RC	38.00	36.25	01/10/21	08/10/21	506698.35	181904.80
BH-7D	CP+RC	38.15	42.65	30/09/21	19/10/21	506724.98	181868.69
BH-10D	CP+RC	34.72	30.70	28/09/21	06/10/21	506669.14	181777.92
DCP1	IP+DP	40.06	2.19	14/10/21	14/10/21	506808.59	181998.21
DCP5	IP+DP	36.86	1.62	12/10/21	12/10/21	506666.75	181752.39
DCP7	IP+DP	35.96	2.00	13/10/21	13/10/21	506736.85	181698.50
DCP8	IP+DP	36.18	2.15	13/10/21	13/10/21	506813.82	181686.97
DCP9	IP+DP	36.68	2.16	13/10/21	13/10/21	506873.85	181712.76
DCP10	IP+DP	37.71	0.90	14/10/21	14/10/21	506954.19	181753.51
TP02	TP	37.47	1.80	06/10/21	06/10/21	506670.09	181857.70
TP03	TP	37.29	2.00	06/10/21	06/10/21	506648.15	181835.31

Table 3-4 Summary of Phase 1 In-situ Testing and Samples

	In-situ Photo Ionisation Testing	In-situ Soakaway Tests	In-situ Soakaway Test Results	In-situ Permeability Testing	Samples (All)	Bulk Samples	Core Samples	Disturbed Sample	Environmental Soil Samples	Environmental Water Samples	Undisturbed Tube Sample
BH-10D	4			16	82	21	14	40	4	1	2
BH-3D	5			14	94	20	17	50	5	2	
BH-6D	6			16	91	25	14	43	6	2	1
BH-7D	5			16	103	25	21	51	5	1	
DCP1	2				6	2		2	2		
DCP10					6	2		2	2		
DCP5	2				6	2		2	2		
DCP7	2				6	2		2	2		
DCP8	2				6	2		2	2		
DCP9	2				6	2		2	2		
TP02	3				9	3		3	3		
TP03	2	2	56		6	2		2	2		
Grand Total	35	2	56	62	423	108	66	201	37	6	3

Figure 3-1 GI Phase 1 Exploratory Hole Location Plan



3.4 Results of In-situ Tests

The results of the in-situ SPT testing adjusted for depth (N60 values) and the DCP testing (N10 - blow counts for 100mm penetration intervals) are summarised in Table 3-5 and Table 3-6 respectively. The results are graphically presented in Figure 3-2 and Figure 3-3. The results are discussed in the geological context in Section 4

Table 3-5 Summary of SPT N60 Results by Borehole Location

Row Labels	Count of (N1)60	Min of (N1)60	Max of (N1)60	Average of (N1)60
BH-10D	16	14	286	57.5
BH-3D	14	13	131	37.4
BH-6D	16	22	62	36.9
BH-7D	16	17	191	54.8
Grand Total	**62**	**13**	**286**	**46.9**

Table 3-6 Summary of DCPT N10 Results by Borehole Location

	Count N10	Mi of N10n	Max N10	Average N10
DCP1 (DCP)	10	2	8	4.7
DCP5 (DCP)	5	1	9	4
DCP7 (DCP)	8	1	7	4.5
DCP8 (DCP)	10	4	8	5.8
DCP9 (DCP)	10	4	7	6

Figure 3-2 SPT N60 Results by Borehole Location

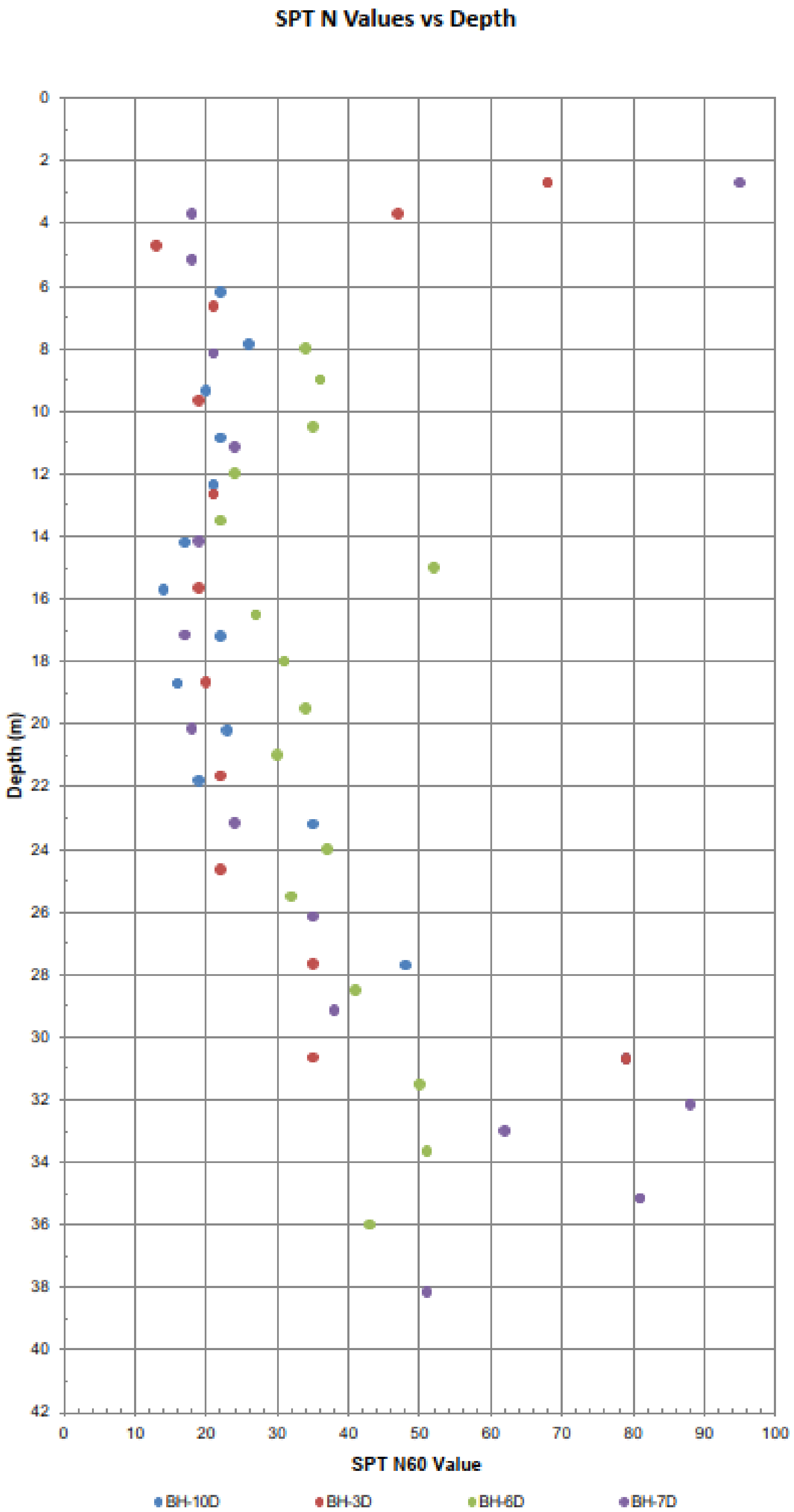
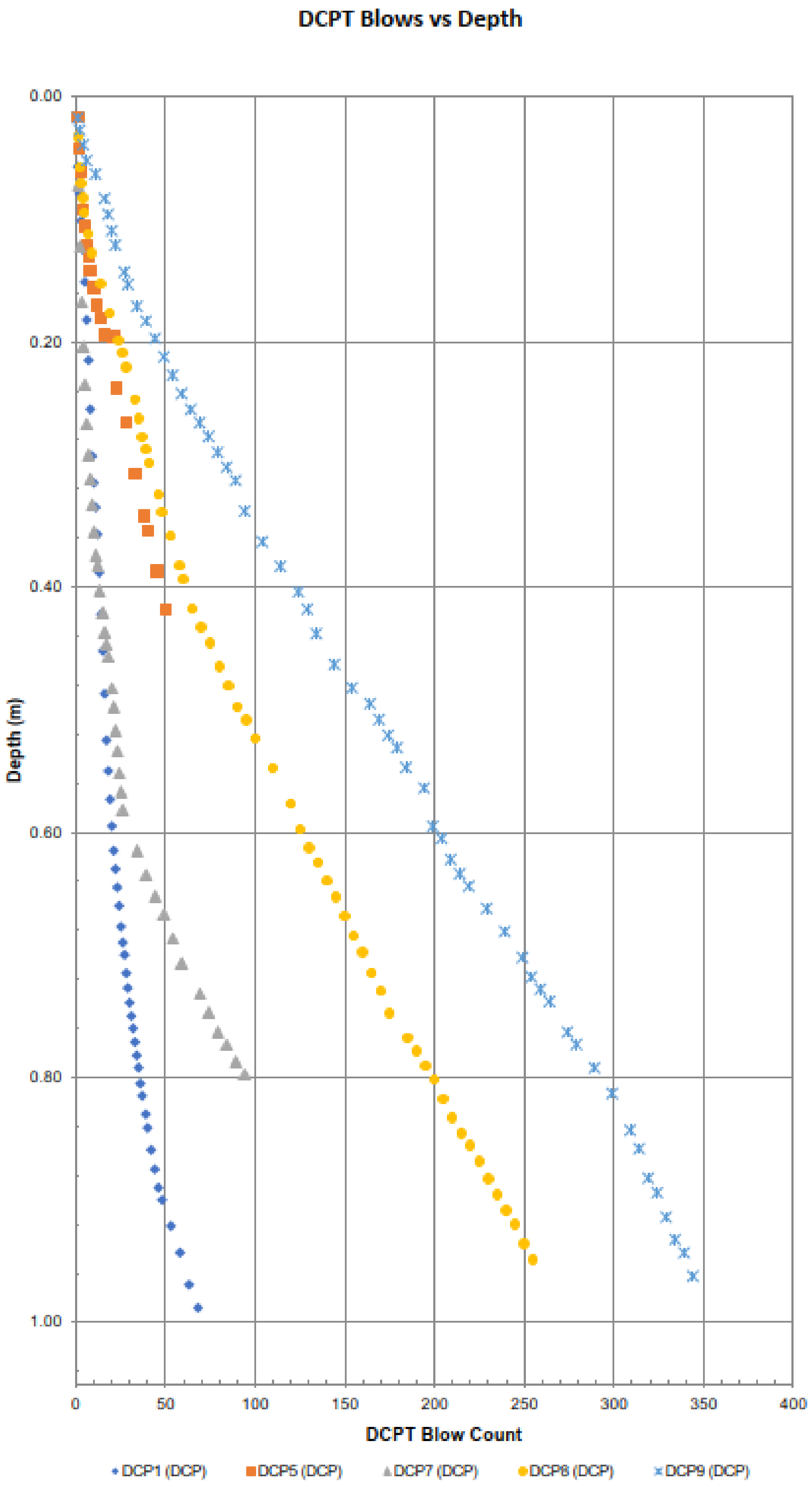


Figure 3-3 DCPT Blows Count vs Depth By Hole



3.5 Drainage Studies

Two soakaway tests in the Boyn Hill Gravels were carried out in trial pit TP03 (Test 1 & Test 2) and the results were processed following BRE DG 365 (2016). As the water level did not reach the 25% effective depth within the time allocated for the test, it is not possible to reliably determine infiltration rate form these results.

Figure 3-4 Summary of Results of Soakaway TP03 (Boyn Hill Gravels) Test 1

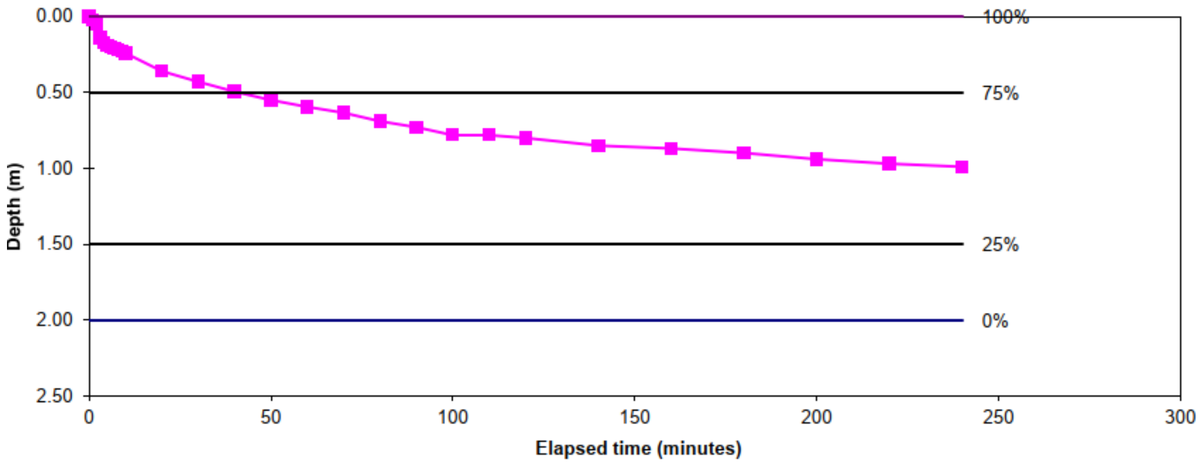
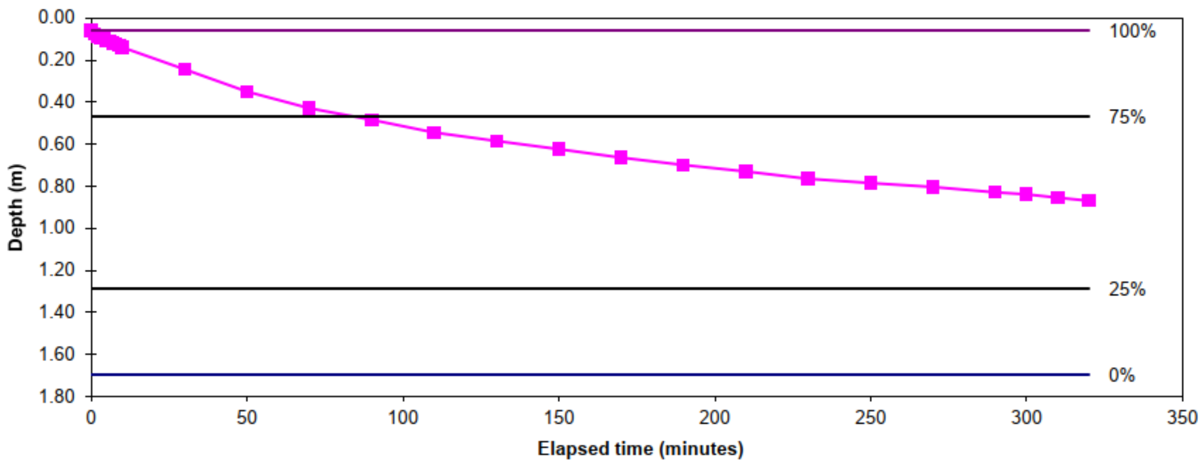


Figure 3-5 Summary of Results of Soakaway TP03 (Boyn Hill gravels) Test 2



3.6 Groundwater and Ground Gas Monitoring

Groundwater monitoring installations were installed in selected boreholes in order to determine the groundwater conditions in the Boyn Hill Gravels and the Lambeth Group strata.

The monitoring installations are detailed in Table 3-7

Table 3-7 Summary of Monitoring Installation Details

Hole Ref	Installation Depth (m)	Installed Date	Monitoring Installation Details	Depth to Top of Response Zone (m)	Depth to Base of Response Zone (m)	Geology of Response Zone
BH-6D	7.5	12/10/2021	50mm Standpipe	1.00	7.50	Boyn Hill Gravels
BH-3D	4	11/10/2021	50mm Standpipe	0.75	4.70	Boyn Hill Gravels
BH-7D	4.2	20/10/2021	50mm Standpipe	0.75	4.20	Boyn Hill Gravels
BH-10D	4.5	07/10/2021	50mm Standpipe	0.75	5.00	Boyn Hill Gravels
BH-10D	28	06/10/2021	19mm Piezometer	26.50	30.70	Lambeth Group
BH-3D	32.65	11/10/2021	19mm Piezometer	30.50	35.15	Lambeth Group
BH-6D	33	08/10/2021	19mm Piezometer	24.00	33.00	Lambeth Group
BH-7D	41	19/10/2021	19mm Piezometer	26.50	42.65	Lambeth Group

Ground gas and groundwater monitoring was undertaken by SOCOTEC:

- Two readings during fields works
- Four readings at weekly intervals post fieldwork.

Groundwater installations (deep and shallow) were gauged and flow rates (peak and stable), methane (CH_4), carbon Dioxide (CO_2) and oxygen (O_2) were measured for each of the shallow installs.

A groundwater sample was collected from each of the shallow installations post well development. Bailers were used to purge and obtain the groundwater samples.

Surface water samples from the watercourse crossing the south eastern area of the Site were collected immediately upstream and downstream of the Site.

3.7 Laboratory Results

3.7.1 Geotechnical Testing

The laboratory tests scheduled are presented in Table 3.8 below.

Table 3-8 Summary of Geotechnical Laboratory Testing

	Consolidation Test	Particle Size Distribution	Scheduling and Chain of Custody Control	Liquid and Plastic Limit	Natural Moisture Content	Permeability Testing	Samples Taken	Effective Stress Triaxial Tests	Effective Stress Triaxial Tests
BH-10D	6	266	83	7	7		42	1	13
BH-3D	6	332	113	16	16		52	1	12
BH-6D	6	158	79	12	12	1	36	1	9
BH-7D	6	374	114	13	13	1	55	1	12
DCP1		29	3				2		
DCP10		29	3				2		
DCP5		42	5				3		
DCP7		29	6	1	1		3		
DCP8		29	3				2		
DCP9		29	3				2		
TP02		21	4				2		
TP03		21	4				2		
Grand Total	**24**	**1359**	**420**	**49**	**49**	**2**	**203**	**4**	**46**

3.7.2 Geo-environmental testing

Soil, groundwater and surface water samples were obtained and tested for the analytes shown in Table 3-9 . A number of soil samples were scheduled for leachate analysis. Surface water samples were delayed during transit and therefore these were only tested for analytes still within the holding times.

Table 3-9 Summary of Geo-environmental Testing

Analytes	Soil	Soil Leachate	Groundwater	Surface Water
Metals (Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium (Total and VI), Copper, Lead, Mercury, Nickel, Selenium, Vnadium, Zinc)	22	6	4	2
Total Petroleum Hydrocarbon Criteria Working Group (TPH CWG)	22	10	4	-
BTEX (Benzene, Toluene, Ethylbenzene, Xylene)	22	10	4	2
Speciated Polycylic Aromatic Hydrocarbons (PAH's)	22	7	4	
Volatile Organic Compounds (VOC)	4		4	2
Semi Volatile Organic Compounds (SVOC)	4		4	2
Total Organic Carbon	22			
pH	22	9		4
Sulphide, Sulphur & Sulphate	22	6		6
Cyanide (total and free)	22	6		4
Phenols	22	6		6
Asbestos Screen	22			
Ammoniacal Nitrogen		8		6
Chloride		8		4
Nitrate		7		4
Hardness & Electrical conductivity		8		6

3.8 Factual data format

Socotec provided the Phase 1 Ground investigation in-situ data and lab data in AGS 4.03 format.

A full AGS export of the processed data can be provided by AECOM Geotechnical on request.

4. Ground summary

This section is a summary interpretation of the results of the investigations undertaken and the derived material properties. It details a preliminary ground model which is representative of the Phase 1 ground information available at this time.

Summaries of insitu testing results, stratification logging and laboratory test results grouped by geology strata are presented below.

Charts of undrained shear strength (Cu) derived from SPT N and from laboratory testing, plotted for the various strata against depth, depth below strata and reduced level are also presented. Further Charts of insitu and laboratory test results by geological coding can be found in Appendix C.

Geological sections showing boreholes stratification is presented in Appendix B

4.1 Superficial Deposits

4.1.1 Made Ground

Made ground / Topsoil was encountered in all exploratory holes. It varies in thickness from 0.3m to 1.2m.

It is described as black; Black sandy gravel with high cobble content. Sand is fine to coarse. Gravel is angular fine to coarse of brick, concrete and flint. Cobbles are subangular (up to 140x100x65mm) of concrete and Dark grey sandy gravel. Sand is fine to coarse. Gravel is angular to subrounded, fine to medium of granite, flint, brick and macadam.

All the test results in the Made Ground are detailed in Table 4-1 and Table 4-2

The percentages of constituent particle sizes in various samples taken in the Made Ground is presented in Table 4-1. The max particles size contents are Cobble;29.7%, Gravel; 65.2%, Sand;30%, Silt;32.8% and Clay;41.7%. Due to its highly variable and inconsistent nature, it is not considered suitable as a bearing stratum.

From Table 4-2 and BS 8500 Table A.2. the Design Sulphate Class is DS1 (2:1 Soil/water extract $S0^4$<400mg/l). The ACEC class is AC-3z with pH values in the range of 4.5-5.5 pH for brownfield mobile groundwater conditions.

Table 4-1 Particle Size Summary Made Ground

Sample Ref	% of COBBLE	% of GRAVEL	% of SAND	% of SILT	% of CLAY
DCP1_0.6m_4_MG	0	21.1	19.8	17.2	41.9
DCP10_0.6m_4_MG	29.7	36.3	10.2	13.6	10.2
DCP5_0.8m_4_MG	0	56.1	30		
DCP5_0m_1_MG	0	65.2	22.4		
DCP8_0.4m_4_MG	0	12.5	18.2	32	37.3
DCP9_0.6m_4_MG	0	17.7	19.1	32.8	30.4

Table 4-2 Summary of results of geochemical testing on samples in the Made Ground

Determinant	No of Tests	Min Value	Max Value	Average Value
Acidity/alkalinity (pH value to nearest 0.1)	5	5.54	8.28	7.106
Acid-soluble sulfate (as % SO4)	1	0.05	0.05	0.05
Total sulfur (as % S)	1	0.04	0.04	0.04
Water-soluble sulfate (as mg/l SO4)	5	12.66	22.81	16.914

4.1.2 Boyn Hill Gravel Member (BHG)

This gravel deposit is formed from river terrace deposits of the post-diversionary River Thames and its tributaries and is described in the British Geological Survey, Lexicon of Named Rock Units: "Sand and gravel, with possible lenses of silt, clay or peat. Poorly sorted, stratified gravel and locally tabular cross-bedded sand beds. Gravel assemblage is characterised by abundant angular flint (77-81%), sparse rounded flint (5-10%), sparse vein quartz (4-7%), sparse quartzite (1.5-5%), sparse Greensand chert (2.5-4%) and less than 1% of other types.". The BGS notes the deposit can be up to 9m thick, average 5m. (https://webapps.bgs.ac.uk/lexicon/lexicon.cfm?pub=BHT)

The Boyn Hill Gravels were encountered in exploratory holes BH-3D, BH-6D, BH-7D, BH-10D, TP02 and TP03 beneath the Made Ground at depths of between 0.3mbgl and 1.3mbgl. It varies in thickness between 0.5m and 44.2m.

The granular units encountered are described as a reddish brown gravelly clayey sand. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of flint and as a yellowish brown slightly silty slightly sandy gravel. Sand is fine to coarse. Gravel is angular to rounded, fine to coarse of flint. The maximum cobble content encountered was 16.7%. This is within the BGS published characteristic ranges for this stratum.

The cohesive units encountered are described as soft to firm, in some locations stiff, light brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of flint. The maximum clay content ranges from 11.4% to 51.1%. The presence of cohesive units is consistent with the BGS classification which states these strata may contain lenses of silt, clay or peat.

The test results in the Boyn Hill Gravels are summarised in Table 4-3 to Table **4-8**.

The results of the 8 No SPT in-situ tests carried out in these strata, after correlation factors have been applied (N60), range from 12 to 176 with an average of 81.5.There is no discernible increase in the in-situ SPT'N' test results with depth. As detailed in Table 4-6 Summary of SPT N60 in-situ tests in Boyn Hill Gravels, the friction angles derived from the SPT N values range from 31 to 45 , the undrained shear strength varies from 54 to 792kPa, an undrained Cu of 792kPa is unrealistically high.

The result of the 1 No undrained shear strength test carried out on a laboratory triaxial sample is unrealistically high (519kPa) and considered not to representative.

Table 4-3 Summary of Particle Sizes for Samples in Boyn Hill Gravels

Sample Ref	Cobble Content (%)	Gravel Content (%)	Sand Content (%)	Silt Content (%)	Clay Content (%)
BH-10D_0.8m_8_BHG	0	69.1	21.5		
BH-10D_1.7m_10_BHG	0	92.3	7.1		
BH-10D_2.7m_14_BHG	16.7	68	10.4		
BH-10D_3.7m_19_BHG	0	50.4	16.6	10.7	22.3
BH-10D_4.1m_20_BHG	0	45.6	34	9	11.4
BH-3D_1.2m_12_BHG	0	7.5	36.6	26.4	29.5
BH-3D_2.7m_17_BHG	0	82.7	15.2		
BH-3D_3.7m_19_BHG	0	87.9	10.8		
BH-6D_1.7m_10_BHG	0	80.3	15.2		

BH-6D_2m_12_BHG	0	78.4	20.7		
BH-6D_3.5m_18_BHG	0	13.4	10.7	24.8	51.1
BH-7D_1.2m_10_BHG	0	26.1	10.6	21.5	41.8
BH-7D_1.7m_12_BHG	0	86.6	12.1		
BH-7D_2.7m_15_BHG	0	91.8	7.5		
TP02_1.4m_7_BHG	0	64	13.1		
TP03_0.4m_4_BHG	0	69.7	25.6		

Table 4-4 Summary of Plasticity Index, Liquid and Plastic Limits in Boyn Hill Samples

Count of Tests	Liquid Limit (%)		Plastic Limit (%)		Plasticity Index (%)		
	Min	Max	Min	Max	Min	Max	Average
4	45	63	0	0	24	37	31.5

Table 4-5 Summary of Moisture Content of Samples in Boyn Hill Gravels

Count of Tests	Natural Moisture Content (%)		
	Min	Max	Average
4	11	24	19.0

Table 4-6 Summary of SPT N60 in-situ tests in Boyn Hill Gravels

Count of Tests	In-situ SPT N_{60}		
	Min	Max	Average
8	12	176	81.5

Table 4-7 Summary of parameters derived from SPT N60 in-situ tests in Boyn Hill Gravels

	Count of SPT N results	Min value	Max value	Average value
φ' derived from SPT (deg)	8	31	45	42.6
Cu derived from SPT (kPa)	8	54	792	366.8
E' derived from SPT (MPa)	8	12	176	81.5

Table 4-8 Summary of Triaxial Undrained Shear Tests on Boyn Hill Samples

Count of Tests	Triaxial Undrained Shear Strength (kPa)		
	Min	Max	Average
1	519	519	519

4.2 Solid Geology

4.2.1 London Clay Formation (LCF)

London Clay is described in the British Geological Survey, Lexicon of Named Rock Units: The London Clay mainly comprises bioturbated or poorly laminated, blue-grey or grey brown, slightly calcareous, silty to very silty clay, clayey silt and sometimes silt, with some layers of sandy clay. It commonly contains thin courses of carbonate concretions ('cement-stone nodules') and disseminated pyrite. It also includes a few thin beds of shells and fine sand partings or pockets of sand, which commonly increase towards the base and towards the top of the formation. At the base, and at some other levels, thin beds of black rounded flint gravel occur in places. Glauconite is present in some of the sands and in some clay beds, and white mica occurs at some levels. BGS note the London Clay can be up to 150m thick. (ref https://webapps.bgs.ac.uk/lexicon/lexicon.cfm?pub=LC).

The London Clay Formation was encountered in exploratory holes BH-3D, BH-6D, BH-7D, BH-10D and DCP7 beneath the Boyn Hill Gravels at depths of between 3.4mbgl and 4.9mbgl. It varies in proven thickness of between 17.25m to 22.25m.

The weathering units A2 and A3 were identified in this stratum, unit A1 was not identified. This would indicate that the upper units of the London Clay formation are absent in this area.

Unit A2 was described as stiff brownish grey to grey silty CLAY with frequent fissures. Fissures are randomly orientated planar polished or smooth closed. (LONDON CLAY FORMATION - Unit A2)

Unit A3 was described as firm to stiff fissured brownish grey becoming bluish grey silty CLAY with occasional claystone nodules. Fissures are very closely spaced, randomly orientated, planar smooth. (LONDON CLAY FORMATION - A3)

All the Particles size distribution results from bulk London Clay samples show high silt and clay content as would be expected, however some also indicate higher than usual sand and/or gravel content. These layers may exhibit higher local permeabilities and lower undrained shear strength.

The test results in the London Clay Formation are summarised in Table 4-9 to Table 4-16

The results of the 37 No SPT in-situ tests carried out in these strata range from 15 to 86 with an average of 37.8. There is a discernible increase in the in-situ SPT'N' test results with depth.

Plasticity Index results for London Clay samples range from 18 to 47 with an average of 36.4. This gives and average f1 correlation factor of 4.5 (Stroud and Butler 1975) Using the relationship Cu=f1xSPT'N' this would indicate undrained shear strengths in the range of 67.5kPa and 387kPa

The results of the 29 No undrained shear strength tests carried out on laboratory triaxial samples range from 48kPa to 1199kPa.

Some of the laboratory triaxial undrained shear strengths are lower than the values derived from the SPT values, the high sand/gravel content may be a contributing factor (see Figure 4-1). A preliminary design line of Cu = 80+5z is proposed, however this may prove to be too optimistic if further GI proves that the low U100 are representative of the London Clay across the site. (see Figure 4-1). If the laboratory results are correct then the design line would need to be capped at 100kPa, for depths below 17.5m below the top of the clay. Some U100 results are consistent with SPT N x4.5 at the same corresponding depth, these are coming from samples in BH6D. However, the SPT N values in BH10D, BH3D, BH6D and BH7D are generally limited to 20 (see Figure 3-2), which would correspond to a maximum undrained shear strength of 90kPa.

From Table 4-15 Summary of Geochemical Tests on London Clay Samples and BS 8500 Table A.2. The Design Sulphate Class is DS2 (2:1 Soil/water extract $S0^4$ 500-1500mg/l). The ACEC class is AC-1 with PH >6.5 and brownfield mobile groundwater conditions.

As detailed in Table 4-16 Summary of Triaxial Drained Shear Tests on London Clay Samples the results of the 4 drained shear strength tests carried out on laboratory triaxial samples range from 8.8 deg to 24.1 deg (the 8.8 is uncharacteristic). No results reported any drained cohesion present

Table 4-9 Summary of Particle Sizes in London Clay Samples

Sample Ref	Cobble Content (%)	Gravel Content (%)	Sand Content (%)	Silt Content (%)	Clay Content (%)	Comment
BH-10D_17.2m_50_LCF	0	0.9	3.5	45.1	50.5	Sand content >1%
BH-10D_21.7m_62_LCF	0	1.2	23	36.5	39.3	High Sand content
BH-10D_4.9m_21_LCF	0	9.2	30.8	24.2	35.8	High Sand /Gravel content
BH-3D_12.65m_42_LCF	0	0	0.6	42.1	57.3	
BH-3D_15.65m_49_LCF	0	0.8	0.3	40.8	58.1	
BH-3D_18.8m_55_LCF	0	0.5	0.5	33.3	65.7	
BH-3D_21.7m_62_LCF	0	0.2	5.4	46	48.4	Sand content >1%
BH-3D_24.65m_69_LCF	0	0	2	44.7	53.3	Sand content >1%
BH-3D_6.65m_28_LCF	0	0	3.2	51.7	45.1	Sand content >1%
BH-6D_16.5m_47_LCF	0	0.5	3	39	57.5	Sand content >1%
BH-6D_9m_30_LCF	0	3.6	0.6	38.3	57.5	Gravel content >1%
BH-7D_11.15m_38_LCF	0	0	0.3	45.9	53.8	
BH-7D_17.15m_50_LCF	0	0.1	0.3	35.8	63.8	
BH-7D_20.15m_56_LCF	0	0.1	5.8	46.1	48	High Sand Content
BH-7D_23.15m_63_LCF	0	4.5	3.6	39.4	52.5	Sand/Gravel content > 1%
DCP7_1m_4_LCF	0	6.4	18.5	53.3	21.8	High Sand content

Table 4-10 Summary of Plasticity Index, Liquid and Plastic Limits in London Clay Samples

Count of Tests	Liquid Limit (%)		Plastic Limit (%)		Plasticity Index (%)		
	Min	Max	Min	Max	Min	Max	Average
32	41	73	0	0	18	47	36.4

Table 4-11 Summary of Moisture Content in London Clay Samples

Count of Tests	Natural Moisture Content (%)		
	Min	Max	Average
35	18	33	26.1

Table 4-12 Summary of SPT N60 in-situ tests in London Clay

Count of Tests	In-situ SPT Values ($N1_{60}$)		
	Min	Max	Average
37	15	86	37.8

Table 4-13 Summary of parameters derived from SPT N60 in-situ tests in London Clay

	Count of SPT N results	Min	Max	Average
φ' derived from SPT (deg)	37	31	41	33.9
Cu derived from SPT (kPa)	37	67.5	387	169.9
E' derived from SPT (MPa)	37	15	86	37.8

Table 4-14 Summary of Triaxial Undrained Shear Tests on London Clay Samples

Count of Tests	Triaxial Undrained Shear Strength (kPa)		
	Min	Max	Average
29	48	1199	155.3

Table 4-15 Summary of Geochemical Tests on London Clay Samples

Determinand	Count of Tests	Min	Max	Average
Acidity/alkalinity (pH value to nearest 0.1)	15	7.54	8.55	8.16
Acid-soluble sulfate (as % SO4)	15	0.04	0.28	0.16
Total sulfur (as % S)	15	0.02	5.41	0.77
Water-soluble sulfate (as mg/l SO4)	15	24.72	899.83	370.15

Table 4-16 Summary of Triaxial Drained Shear Tests on London Clay Samples

Test Count	Cohesion (kPa)			Friction Angle Phi (deg)		
	Min	Max	Average	Min	Max	Average
4	0	0	0	8.8	24.1	19.5

Figure 4-1 Undrained Shear Strength (SPTNxf1, Triaxial Cu) vs Depth for London Clay Samples

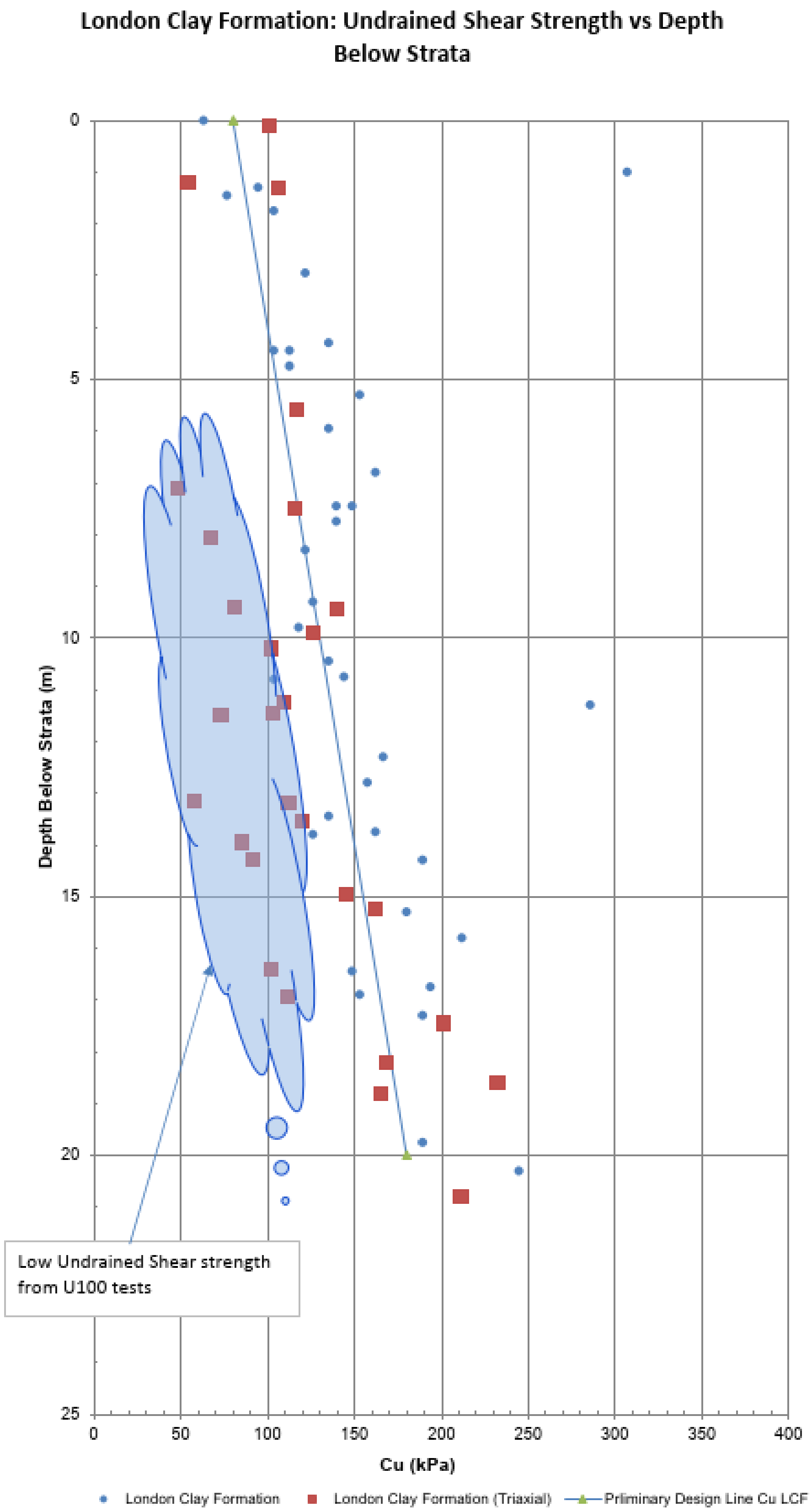
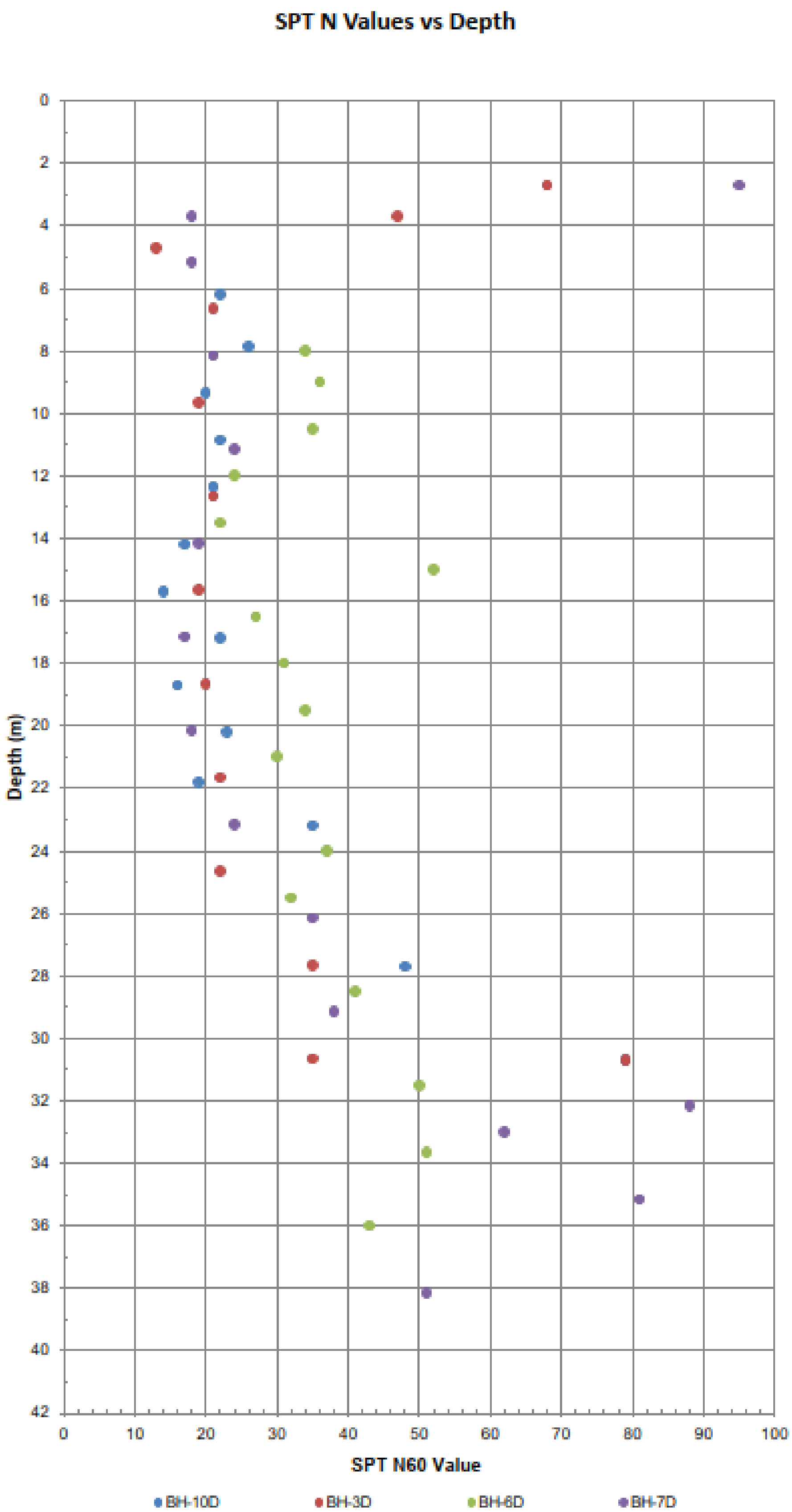


Figure 4-2 SPT'N' Values by Borehole



4.2.2 Harwich Formation (HF)

In describing the Harwich Formation, the British Geological Survey, Lexicon of Named Rock Units states: The Harwich Formation varies regionally. In the south of the London Basin, it typically comprises glauconitic silty or sandy clays, silts and fine- to coarse-grained glauconitic sands, some gravelly, varying to flint gravel beds. Thin beds of grey clay occur in some parts, as do shell-rich beds and thin beds of argillaceous limestone. Volcanic ash is a significant minor component in some parts of Kent and southern Essex. The Harwich Formation commonly includes a shelly marine fauna but locally a brackish water fauna. In East Anglia, the Harwich Formation comprises mainly bioturbated silty clays and sandy clayey silts with subordinate sandy silts and silty sands, some of which are glauconitic. There is a notable component of volcanic ash, both disseminated and in discrete beds. Fossils include marine invertebrates, especially molluscs, with birds and mammals. BGS notes that the Harwich Formation can be up to 24m thick but is more commonly less than 2m. (ref https://webapps.bgs.ac.uk/lexicon/lexicon.cfm?pub=HWH)

The Harwich Formation layer was encountered in exploratory holes BH-3D, BH-6D, BH-7D and BH-10D at the interface of the base of the London Clay Formation and the top of the Lambeth Group at depths of between 22.15mbgl and 27.15mbgl.

It is described as grey to greenish grey clayey fine SAND with frequent bivalves and gastropod shell fragments (up to 30x30x2mm). (Harwich Formation).

It varies in proven thickness of between 0.75m and 3.05m.

The test results in the Harwich Formation are summarised in Table 4-17 to Table 4-21.

The results of the 4 No SPT in-situ tests carried out in these strata range from 63 to 69 with an average of 66.5. There are no plasticity results for this stratum and the samples have high sand contents, however using the correlation Cu=f1xSPT'N' and a coefficient f1=4.5, this would indicate equivalent undrained shear strengths in the range of 283.5kPa and 310.5kPa. These high undrained shear strengths are unlikely to be representative of this more granular material.

The results of the 2 No undrained shear strength tests carried out on laboratory triaxial samples range from 154kPa to 267kPa.

The Design Sulphate Class is DS1 (2:1 Soil/water extract $S0^4$ <500mg/l). The ACEC class is AC-1 with PH >6.5 and brownfield mobile groundwater conditions.

Table 4-17 Summary of Particle Sizes in Harwich Formation Samples

Sample Ref	Cobble Content (%)	Gravel Content (%)	Sand Content (%)	Silt Content (%)	Clay Content (%)
BH-10D_24.7m_68_HF	0	0.1	45	29.9	25
BH-3D_28.2m_77_HF	0	0.1	51	28.7	20.2
BH-6D_25.6m_67_HF	0	0	46.5	33.5	20
BH-7D_26.75m_71_HF	0	0	44.2	33.1	22.7

Table 4-18 Summary of SPT N60 in-situ tests in Harwich Formation

Count of Tests	In-situ SPT N_{60}		
	Min	Max	Average
4	63	69	66.5

Table 4-19 Summary of parameters derived from SPT N60 in-situ tests in Harwich Formation

	Count of SPT N results	Min	Max	Average
φ' derived from SPT (deg)	4	36	37	36.8
Cu derived from SPT (kPa)	4	283.5	310.5	299.3
E' derived from SPT (MPa)	4	63	69	66.5

Table 4-20 Summary of Triaxial Undrained Shear Tests on Harwich Formation Samples

Count of Tests	Triaxial Undrained Shear Strength (kPa)		
	Min	Max	Average
2	154	267	210.5

Table 4-21 Summary of Geochemical Test on Harwich Formation Samples

Determinand	Count of Test	Min	Max	Average
Acidity/alkalinity (pH value to nearest 0.1)	1	8.67	8.67	8.67
Acid-soluble sulfate (as % SO4)	1	0.23	0.23	0.23
Total sulfur (as % S)	1	5.03	5.03	5.03
Water-soluble sulfate (as mg/l SO4)	1	449.95	449.95	449.95

4.2.3 Lambeth Group (LG)

The British Geological Survey, Lexicon of Named Rock Units describes the Lambeth Group as; Vertically and laterally variable sequences mainly of clay, some silty or sandy, with some sands and gravels, minor limestones and lignite and occasional sandstone and conglomerate. (ref: https://webapps.bgs.ac.uk/lexicon/lexicon.cfm?pub=LMBE).

The Lambeth Group was encountered in exploratory holes BH-3D, BH-6D, BH-7D and BH-10D at depths of between 25.2mbgl and 28.7mbgl. A thickness of 5.5m to 14.75m has been encountered of the Lambeth Group but its full thickness has not been proven in any of the exploratory holes.

The cohesive units encountered are variously described as very stiff to stiff fissured light greenish grey mottled red to purplish red clay. Fissures are very closely to closely spaced planar or polished. (Lambeth Group – Reading Formation – Upper Mottled Beds).

The granular units encountered are described as very dense brown speckled black fine to coarse sand. (Lambeth Group – Reading Formation – Lower Mottled Beds).

The test results in the Lambeth Group Formation are summarised Table 4-22 to Table 4-28.

The extrapolated results of the 12 No SPT in-situ tests carried out in these strata range from 69 to 381 blows/300mm with an average of 134.8. There is no discernible increase in the in-situ SPT'N' test results with depth.

The results of the 14 No undrained shear strength tests carried out on laboratory triaxial samples range from 79kPa to 415kPa.

Some core loss occurred in BH-6D at a depth of 34.5mbgl, this could indicate the presence of a sand channel, which may have prevented the retrieval of the solid core. And the samples taken from BH-7D at 40.5m and 41.15m depth both have sand contents in excess of 90%.

From BS 8500 Table A.2. The Design Sulphate Class is DS1 (2:1 Soil/water extract $S0^4$ <500mg/l). The ACEC class is AC-1 with PH >6.5 and brownfield mobile groundwater conditions.

Table 4-22 Summary of Particles Size in Lambeth Group Samples

Sample Ref	Cobble Content (%)	Gravel Content (%)	Sand Content (%)	Silt Content (%)	Clay Content (%)
BH-10D_27.7m_74_LG	0	0	1.2	67.3	31.5
BH-3D_30.65m_83_LG	0	0.8	1.7	50.7	46.8
BH-3D_33.65m_90_LG	0	0.1	2.7	45.4	51.8
BH-7D_29.15m_75_LG	0	0	1.2	60.4	38.4
BH-7D_32.15m_81_LG	0	0.1	49	28.5	22.4
BH-7D_35.15m_89_LG	0	0.9	0.5	56.3	42.3
BH-7D_38.15m_96_LG	0	0.1	1.4	33.1	65.4
BH-7D_40.5m_100_LG	0	0	92.9		
BH-7D_41.15m_102_LG	0	0	90.7		

Table 4-23 Summary of Plasticity Index, Liquid and Plastic Limits in Lambeth Group Samples

Count of Tests	Liquid Limit (%)		Plastic Limit (%)		Plasticity Index (%)		
	Min	Max	Min	Max	Min	Max	Average
11	30	88	0	0	15	57	31.3

Table 4-24 Summary of Moisture Content in Lambeth Group Samples

Count of Tests	Natural Moisture Content (%)		
	Min	Max	Average
10	13	36	19.8

Table 4-25 Summary of SPT N60 in-situ tests in Lambeth Group

Count of Tests	In-situ SPT N_{60}		
	Min	Max	Average
12	69	381	134.8

Table 4-26 Summary of parameters derived from SPT N60 in-situ tests in Lambeth Group

	Count of SPT N results	Min	Max	Average
φ' derived from SPT (deg)	12	37	45	41.7
Cu derived from SPT (kPa)	12	310.5	1714.5	606.8
E' derived from SPT (MPa)	12	69	381	134.8

Table 4-27 Summary of Triaxial Undrained Shear Tests on Lambeth Group Samples

Count of Tests	Triaxial Undrained Shear Strength (kPa)		
	Min	Max	Average
14	79	415	239.4

Table 4-28 Summary of Geochemical Testing on Lambeth Group Samples

Determinand	Count of Test	Min	Max	Average
Acidity/alkalinity (pH value to nearest 0.1)	2	8.47	8.97	8.72
Acid-soluble sulfate (as % SO4)	2	0.02	0.07	0.05
Total sulfur (as % S)	2	0.02	0.11	0.07
Water-soluble sulfate (as mg/l SO4)	2	35.23	182.48	108.86

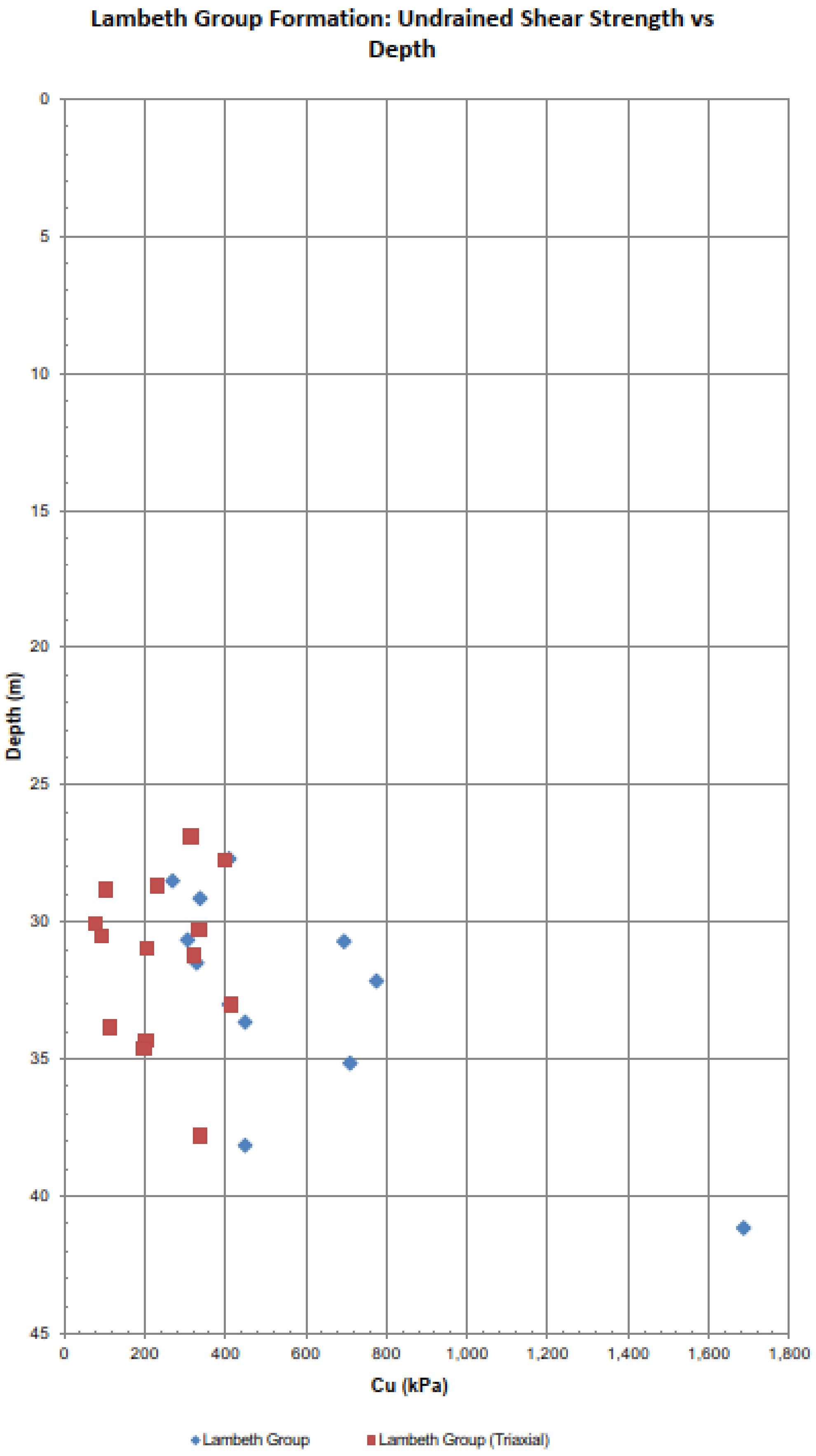


Figure 4-3 Undrained Shear Strength (SPTNxf1, Triaxial Cu) vs Depth for Lambeth Group Samples

4.3 Groundwater

The site is underlain by an upper aquifer in the Made Ground and Boyn Hill Gravels and a lower aquifer in the solid geology Lambeth Group Formation.

Groundwater in the London Clay will also be present, but had not been proven with this ground investigation.

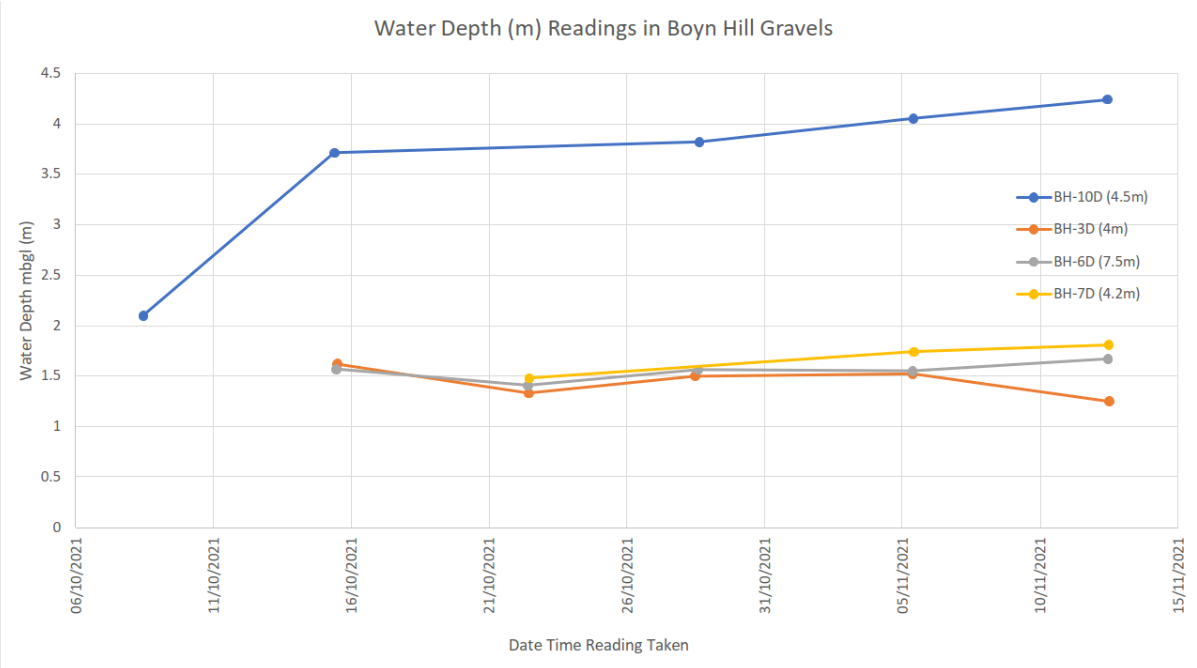
4.3.1 Upper Aquifer

This consists of all water encountered in the upper superficial deposits Made Ground and Boyn Hill Gravels in hydraulic continuity.

Table 4-29 Summary of Water Monitoring for Installations in the Boyn Hill Gravels

Hole Ref	Probe Depths (m)	No of Readings	Reading Date Time		Water Depth (mbgl)		Water Head (m)	
			Earliest	Latest	Min	Max	Min	Max
BH-10D (4.5m)	4.5	5	08/10/2021 10:45	12/11/2021 10:30	2.1	4.24	0.26	2.4
BH-3D (4m)	4	5	15/10/2021 12:00	12/11/2021 12:15	1.25	1.62	2.38	2.75
BH-6D (7.5m)	7.5	5	15/10/2021 11:00	12/11/2021 11:00	1.41	1.67	5.83	6.09
BH-7D (4.2m)	4.2	3	22/10/2021 10:50	12/11/2021 11:35	1.48	1.81	2.39	2.72

Figure 4-4 Summary of Water Head (m) reported in Boyn Hill Gravels



4.3.2 Lower Aquifers

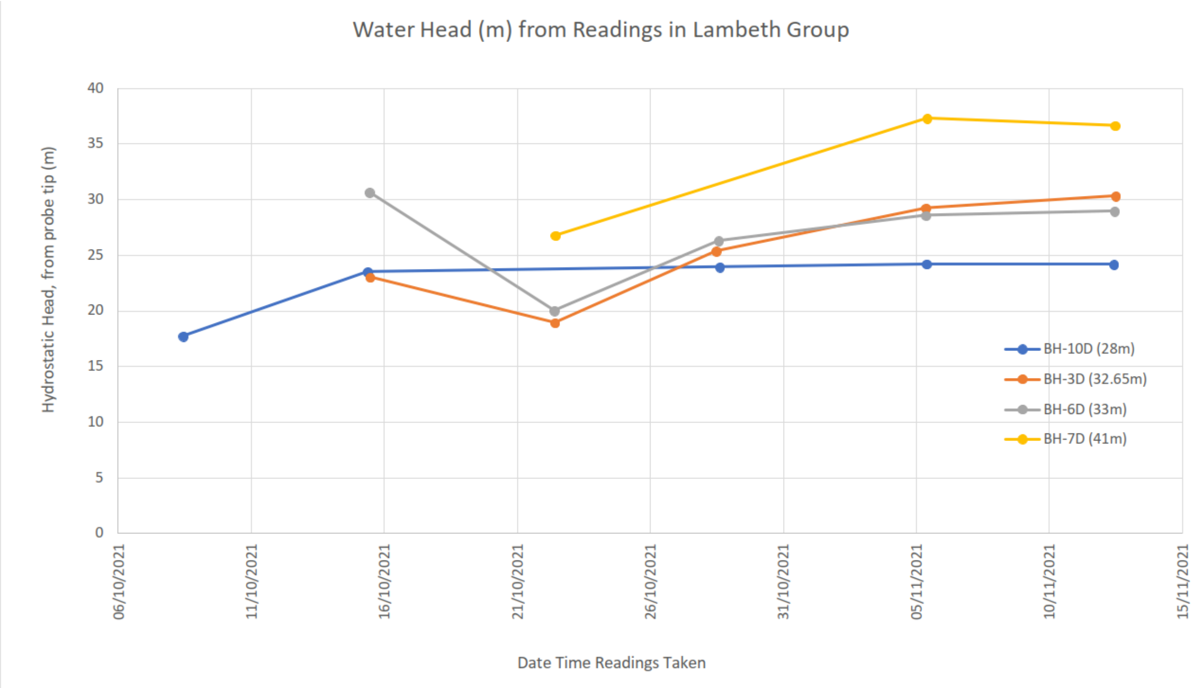
The Lower Aquifer consists of all water encountered in the lower solid geology Lambeth Group in hydraulic continuity. Other local sand channels within the Lambeth Group may not be in hydraulic continuity with this aquifer.

The groundwater regime in the London Clay Formation has not be determined. Published data suggest that the porewater pressure is hydrostatic from 1.4m depth below ground level.

Table 4-30 Summary of Water Monitoring for Installations in the Lambeth Group

	Probe Depths (m)	No of Readings	Reading Date Time		Water Depth (mbgl)		Water Head (m)	
			Earliest	Latest	Min	Max	Min	Max
BH-10D (28m)	28	5	08/10/2021 10:45	12/11/2021 10:25	3.8	10.24	17.76	24.2
BH-3D (32.65m)	32.65	5	15/10/2021 11:30	12/11/2021 12:10	2.32	13.7	18.95	30.33
BH-6D (33m)	33	5	15/10/2021 10:30	12/11/2021 10:55	2.35	12.95	20.05	30.65
BH-7D (41m)	41	3	22/10/2021 10:45	12/11/2021 11:30	3.7	14.2	26.8	37.3

Figure 4-5 Summary of Water Head reported in Lambeth Group



4.4 Ground Model

A preliminary ground model is detailed in Table 4-31. It details the stratification and characteristic material properties. It is the designers responsibilty to select approprate values for design

A typical section across the exploratory holes is indicated in Figure 4-6 Typical E-W N-S Geological Profile.

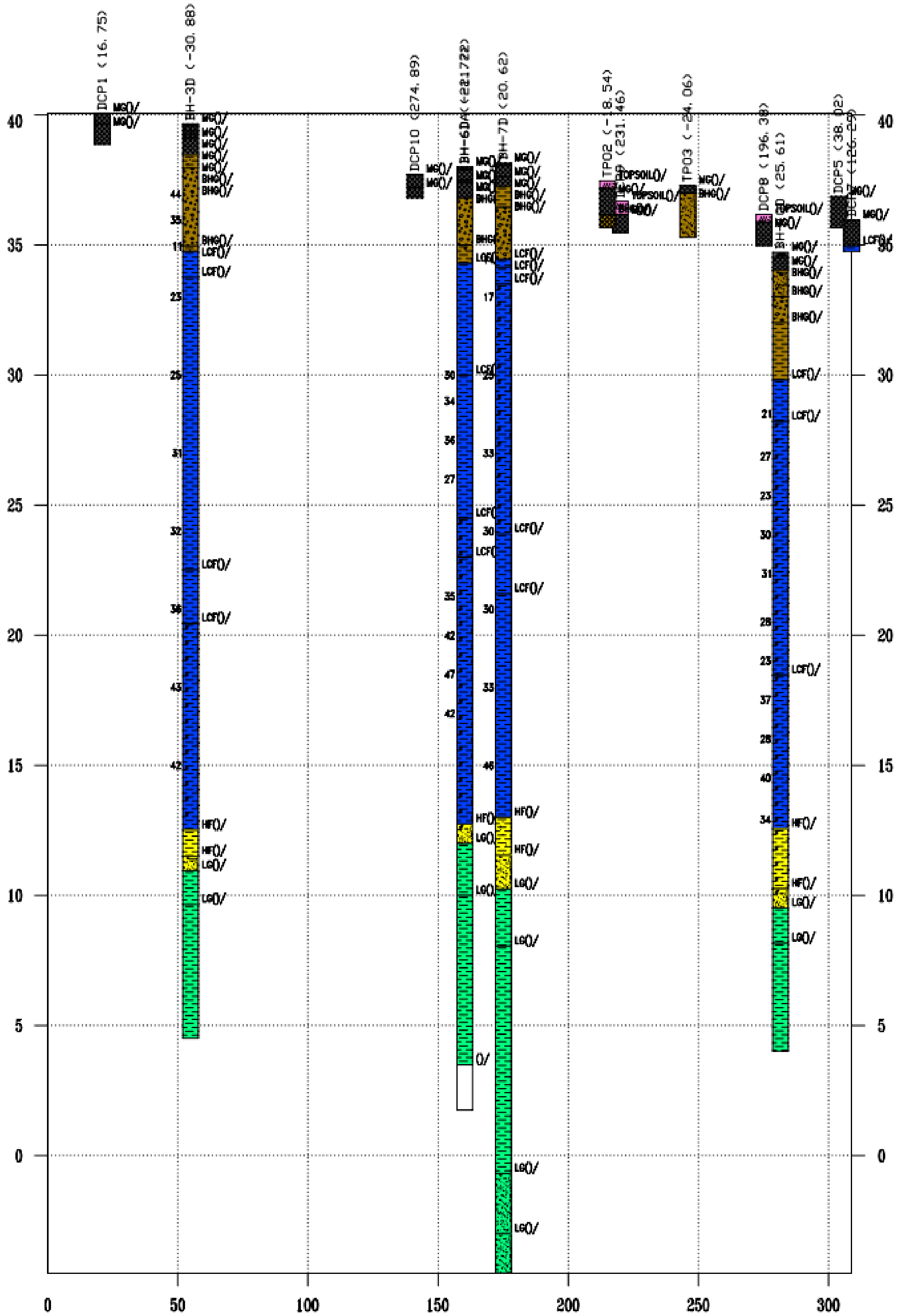
Table 4-31 Geotechnical Ground Model

Stratum	Depth to top of stratum (m bgl)	Elevation to top of stratum (m OD)	Proven Thickness (m)	Characteristic Material Properties (based on site data) (kPa,deg)	Supplementary Characteristic Material Properties based on published data (kPa,deg) Note 3	Groundwater Model Note 4
Made Ground	0.0 to 0.5	40.1 to 34.7	0.3 to 1.2		c'=0, phi=30 E'=10000	Upper Aquifer
Boyn Hill Gravels	0.3 to 1.3	38.5 to 34.0	0.5 to 4.2	c'=0; phi=42.6 Ed=81500 Note 6		Upper Aquifer
London Clay Formation	3.7 to 4.9	34.8 to 29.8	17.3 to 22.3	Cu=80 + 5z Note 1 Ed=16000+1000z Note 1,5	c'=5, phi=25	Porewater Pressure
Harwich Formation	22.2 to 27.2	13.0 to 12.5	0.8 to 3.1	c'=0; phi=36.8 Cu=180; E'=36000 Note 1,5		Lower Aquifer
Lambeth Group	25.2 to 28.7	12.0 to 9.5	5.5 to 14.8 Note 2	c'=0; phi=41.7 Cu=300; E'=60000 Note 1		Lower Aquifer

Note 1 Where z is depth below top of the London Clay
Note 2 These are proven thicknesses actual thicknesses will be greater
Note 3 Parameters have been derived from ground data provided by the Phase 1 ground investigation. Where this data is absent parameters have been provided based on generally accepted published data.

Note 4 See Table 6-1 Geotechnical Groundwater Model
Note 5 For cohesive Ed=200Cu
Note 6 For granular Ed=1000SPT N

Figure 4-6 Typical E-W N-S Geological Profile



4.5 Visual Observation of Contamination

No visual observations of contamination were noted in any of the exploratory locations. A moderate sulphur odour was noted between 0.55 and 1.2m bgl in BH3D.

Headspace readings were obtained using a PID (Photo Ionisation Detector) of samples from the made ground. Readings ranged from below detection limit to 1.0ppm, with the highest reading being 1.0ppm at 1.0m bgl in DCP9.

5. Geotechnical Risk Register

See Appendix A

6. Engineering Assessment

The following preliminary engineering assessments have been carried out based on the available information from the Phase 1 Ground Investigation. They give a high-level assessment of the ground conditions and the impact they will have on the engineering works.

6.1 Groundwater Variability

Three hydraulically separate groundwater regimes have been identified at the Hillingdon Hospital Site, these are summarised in Table 6-1 Geotechnical Groundwater Model below.

Table 6-1 Geotechnical Groundwater Model

Groundwater Regime	Depth to top of water (m)	Descriptions
Upper Aquifer	1.2	Effects superficial deposits of Made Ground and Boyn Hill Gravels, possibly seasonal and tidal, high permeability fast recharge.
Porewater Pressure	1.4	Primary groundwater regime of London Clay Formation, not seasonal or tidal, low permeability. (Not identified by site data).
Lower Aquifer	2.3 to 3.8	Primary groundwater regime Lambeth Group and Harwich Formation, not likely to be seasonal or tidal. Mixed permeability. Highly charged channels that when discharges may take a while to recharge.

6.2 Heave potential of London Clay

Oedometer tests were carried out on London Clay samples to determine the likely unloading characteristic Mv values. These are summarised in Table 6-2 Summary of Mv values for London Clay. Published data on London Clay Heave potential indicates the net heave per net change in total stress is estimated as 110mm/184kPa = 0.6mm/kPa. (ref 507..Horseferry Road basement). The heave potential for various basement slab depths is detailed in Table 6-3 Estimates of Heave Potential for London Clay.

Table 6-2 Summary of Mv values for London Clay

Loading Direction	Load (kPa)	Incremental Mv (MN/m2)			
Location		**BH-10D**	**BH-3D**	**BH-6D**	**BH-7D**
Loading	75	0.13			0.32
	150	0.17	0.12	0.13	0.25
	300	0.14	0.11	0.14	0.15
	600		0.074	0.086	
Unloading	25	0.27			0.3
	50		0.19	0.2	
	75	0.11			0.14
	150	0.052	0.079	0.092	0.06
	300		0.031	0.038	

Table 6-3 Estimates of Heave Potential for London Clay

Basement Depth (m)	Net Change Stress (kPa)	Unloading Settlement with min Mv (0.031MN/m2) (mm)	Unloading Settlement with max Mv (0.3MN/m2) (mm)	Unloading Settlement with published Mv (0.6MN/m2) (mm)
3	60	1.9	18.0	36.0
6	120	3.7	36.0	72.0
9	180	5.6	54.0	108.0

6.3 Sustainable Urban Drainage System (SUDS) and soakaway tests

To determine the suitability of the ground for a sustainable urban drainage system (SUDS) Two soakaway tests were carried out as part of the Phase 1 Ground Investigation. However, the results were inconclusive as the required drainage of the final 25% of the trench depth was not achieved within the time allowed for the test. This is indicative low permeability superficial deposits that may not provide an adequate drainage path for SUDS. However, the test was carried out in TP03 which contained Boyn Hill gravels with a high clay content. There may be other locations where the Boyn Hill gravels have a lower clay and higher granular content that would be more suitable.

6.4 Aggressive Concrete Environment Chemical Class

In accordance with the BRE Special Digest the ACEC Class for the site has been determined using the laboratory results of the geo environmental samples,

Table 6-4 Summary of ACEC by Geology

Strata	Min Water/soil extract SO4 (mgl)	Design Sulphate Class	Max pH	Groundwater Conditions	ACEC Class
Made Ground	22.8	DS-1	5.5	Brownfield Mobile Water	AC-3z
Boyn Gravels	Not tested				
London Clay	899.8	DS-2	7.5	Brownfield Static Water	AC-2
Lambeth Group	182.5	DS-1	8.5	Brownfield Mobile Water	AC-1

6.5 Preliminary pile design

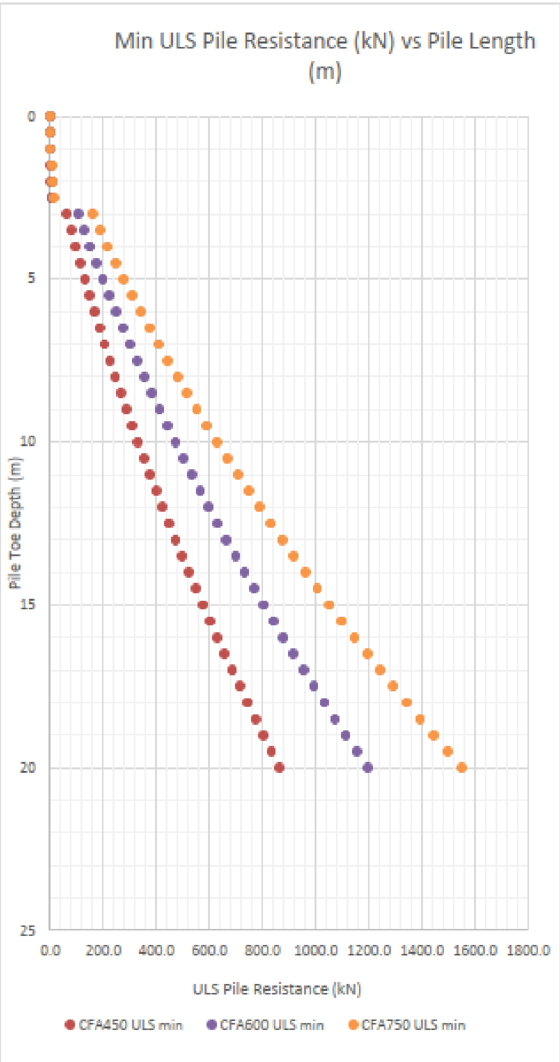
A preliminary pile design based on total stress using an undrained shear strength profile based on the in-situ SPT N results (Cu=4.5xSPTN) and laboratory triaxial test results gives is presented in Table 6-5 Summary ULS Pile Resistances (DA1-C1 and DA1-C2) for 450, 600 and 750 diameters. The preliminary pile design is based on the following assumptions:

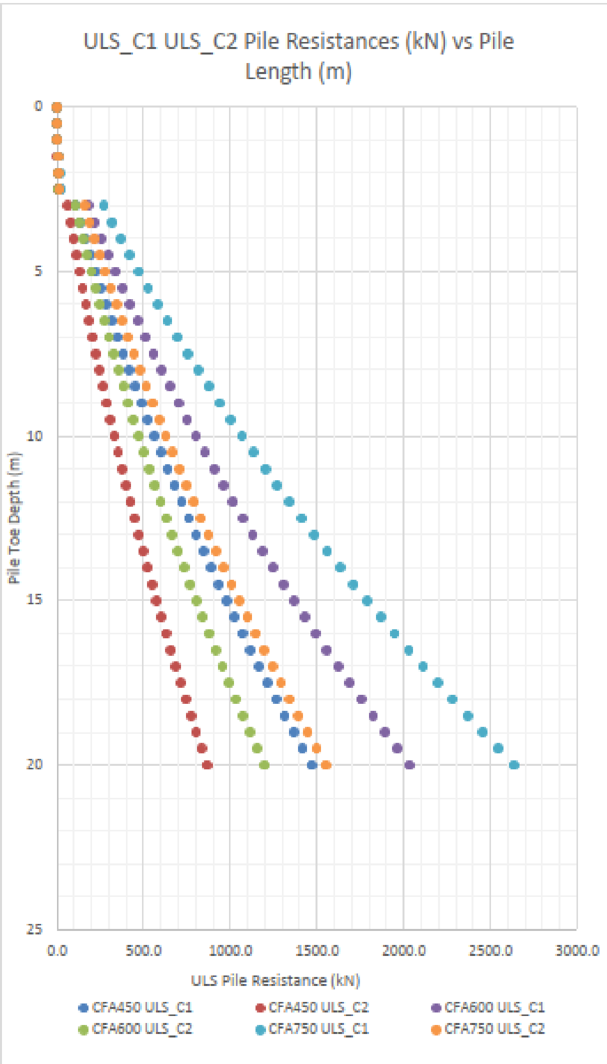
- An undrained shear strength profile Cu= 80+5z (where z is measured from the top of the LCF). This design line relies heavily on the insitu SPT N values. The U100 tests results in the Phase 1 GI indicate a lower design line that may be appropriate. **Reliance on this design line is dependent on it being substantiated by the later phases of the ground investigation**.
- No Maintained load tests will be carried out.
- An assessment to verify pile movements has been carried out.
- The geotechnical resistance is calculate including Shaft and Base in Compression.
- Pile embedment in London Clay should be limited to 17.3m – pile dia.

Table 6-5 Summary ULS Pile Resistances (DA1-C1 and DA1-C2) for 450, 600 and 750 diameters

Embedment into London Clay (m)	450mm dia Pile ULS Resistances (kN)		600mm dia Pile ULS Resistances (kN)		750 mm dia Pile ULS Resistances (kN)	
	DA1-C1	DA1-C2	DA1-C1	DA1-C2	DA1-C1	DA1-C2
11.5	933	549	1306	768	1710	1006
12.5	1023	602	1429	841	1867	1098
13.5	1117	657	1556	915	2029	1194
14	1165	685	1621	954	2112	1242
14.5	1214	714	1688	993	2196	1292
15	1263	743	1755	1032	2281	1342
15.5	1314	773	1823	1072	2368	1393
16	1365	803	1892	1113	2456	1445
16.5	1416	833	1962	1154	2545	1497
17	1469	864	2033	1196	2636	1550

Figure 6-1 Pile Resistance Curves (min ULS, ULS_C1, ULS_C2)





7. Land Contamination Assessment

7.1 Introduction

This section presents an initial Tier 2 contaminated land assessment following the completed Phase 1 GI works. The Phase 1 GI works covered a limited area of the Site and it is understood a Phase 2 GI will be completed at a later stage, after which this assessment will be updated.

This assessment aims to identify potential risks and constraints arising from land contamination. Both past and current potentially contaminative land uses, along with data obtained during the Phase 1 GIs, have been considered. Note localised areas of contamination may not have been identified due to the spread of the exploratory locations and the limited coverage of Phase 1 GI works.

7.2 Initial Conceptual Site Model and Preliminary Risk Assessment

This section summarizes the iCSM developed during the Stage 1, Tier 1 Assessment desk study[1]. The following iCSM is based on the proposed site redevelopment which will comprise demolishing an existing building and erecting a new six storey hospital building with basement and associated car parking, as identified in Section 2.

7.2.1 Sources of Potential Contamination

7.2.1.1 On Site

The Phase 1 desk study found that the site was predominantly agricultural land prior to being developed into the current day Hillingdon Hospital. The Hospital was built during the 1950's therefore there is the potential for asbestos to be present. Made ground associated with the site development and the infilling of the historical pond (as noted in historical maps) may be present.

The desk study identified the following potential on-site sources of contamination:

- Historical Agricultural Activities
- Hospital Operations including:
  - Diesel use and storage, including in tanks and overhead pipelines.
  - Radioactive material storage and waste disposal
  - Sediment discharge into the on-site watercourse
  - Liquid oxygen storage
  - Substations / plant rooms
  - Underground gas storage
- Asbestos
- Made Ground, including a potential infilled pond located on the eastern side of the site

7.2.1.2 Off Site

The site was predominantly surrounded by agricultural land in the late 1800s and early 1900s. The original hospital was known to exist to the north of the existing site from 1920 along with Uxbridge workhouse. There are several known wastewater releases which are no longer active. Historical information indicates that an area of the original hospital may have been bombed during World War II near the maternity ward.

Based on historical and existing land uses, the following potential sources of contamination were identified in close proximity to the Site:

- Historical Agricultural Activities (surrounding site)
- Historical Industrial Land Use (Hospital Operations 50m N and Workhouse 100m N)
- Timber Works (30m SE)

7.2.2 Potential Pathways

7.2.2.1 On Site Pathways

On-site pathways include direct contact, ingestion and dermal absorption of soil and inhalation of soil particles and soil vapour derived from soils, spillage / loss and run off from surface of site direct to the on-site river, leaching of chemicals and vertical migration via permeable unsaturated strata to shallow groundwater, lateral migration of impacted shallow groundwater to the on-site stream (draining to River Pinn), direct contact of buried concrete, services and pipes with contaminated soils and the migration of hazardous gases and chemicals via permeable strata and/or through preferential pathways created by buried services.

A pathway between shallow groundwater in the superficial Boyn Hill Gravel Member and groundwater within the Lambeth Group (Secondary A Aquifer) and underlying Chalk Principal Aquifer is considered unlikely to be present. The London Clay is up to 28m thick based on the nearest deep BGS borehole log to the north of Pield Heath Road (Ref. TQ08SE13) and is likely to offer sufficient protection to the underlying Lambeth Group and Chalk Principal Aquifer. The chalk was reported at approximately 53m bgl on the BGS log, with resting groundwater reported to rise to 8.8m bgl, indicating that deeper groundwater may be confined beneath the clay. Therefore, the likelihood of vertical migration of groundwater to the deeper Secondary A and Principal Aquifers is considered to be unlikely.

7.2.2.2 Off site Pathways

Off-site pathways include migration and leaching of hazardous gases and chemicals via permeable unsaturated strata, ingestion of fruit and vegetables and/or waters at off-site residential properties, contact with shallow impacted groundwater travelling horizontally offsite, migration of CoPC via underground drainage/ sewers (including granular backfilling materials) and spillage/loss/runoff via the unnamed inland river.

7.2.3 Potential Receptors

7.2.3.1 On Site

On-site receptors to include current and future site visitors, long-term patients, occupants and workers of the onsite nursery, and workers and construction and maintenance workers for human health. For controlled waters, receptors include the unnamed river running through site which discharges to a WFD surface water course and the superficial Secondary A aquifer underlying the site.

The deeper Lambeth Group (Secondary A Aquifer) and Chalk formation (principal aquifer), including an on-site groundwater abstraction, are not considered as receptors given these bedrock aquifers are protected by over 17m of London Clay.

7.2.3.2 Off Site

Off-site receptors for human health could include adjacent residential site users and off-site visitors and workers to commercial properties. The River Pinn is an off-site receptor for controlled waters and there are several open greenspaces surrounding the site.

7.2.4 Preliminary risk assessment

In accordance with Land Contamination Risk Management (LCRM) guidance, the Stage 1, Tier 1 assessment identified a range of viable contaminant linkages with a minimal/negligible to tolerable LCRM risk. The below table summarises the identified linkages.

Table 7-1 Summary of Tier 1 identified potential linkages

Contamination Source	Pathway	Receptor	Risk Magnitude
Identified COPC related to past and present land uses	Direct contact, dermal absorption, inhalation, or ingestion of soils/dust/vapours	Current and future site users (visitors, staff and long-term patients)	Very low / Low
	Direct contact with surface and groundwater	Neighbours – Residential and commercial	Low

Contamination Source	Pathway	Receptor	Risk Magnitude
	Leaching from overlying soils and migration of impacted groundwater	Groundwater - Secondary A Aquifer	Moderate / Low
	Lateral migration of impacted shallow groundwater	Surface water - On-site stream draining to River Pinn	Moderate / Low

7.3 Ground Investigation Geo-environmental Findings

Samples for geo-environmental analysis were collected from all exploratory locations, i.e. boreholes, DCP's and trial pits. A total of 22 soil samples, four (4) groundwater and two (2) surface water samples were tested. A range of soil samples (10) were also tested for leachate analyses based on observations during fieldwork. Ground gas readings were obtained on four occasions, measuring peak and stable flows and percentage volume of CH_4, CO_2 and O_2.

Soil samples were collected between 0.4m bgl and 4m bgl where made ground was encountered and/or where field observations of potential contamination were noted within superficial deposits.

No visual or olfactory evidence of contamination was found in any of the exploratory locations, apart from a moderate sulphur odour in BH3D between 0.55m bgl and 1.2m bgl. Headspace readings taken within made ground and superficial deposits samples showed readings between 0.0ppm and 1.0ppm.

Asbestos was not detected in any of the 22 samples tested.

Field data, together with the laboratory certificates are presented within the factual Socotec GI report.

Groundwater was not encountered during drilling activities; however, groundwater was measured in all boreholes during subsequent monitoring visits. Groundwater levels within the upper aquifer (superficial deposits of the Boyn Gravels formation) ranged between 1.25m bgl at BH-3D (38.41 m AOD) and 4.51m bgl at BH-10D (30.21m AOD) across the six gauging visits completed post installation. Complete dip rounds within the same day were completed on the 23-11-2021 and the 2-12-2021. The below table present measured groundwater elevations at these two dates. A groundwater flow direction towards the south is inferred from the above data from the superficial deposits. This is consistent with the expected flow in the area.

Table 7-2 Groundwater levels within upper/superficial aquifer.

Borehole ID	Date of dip	Well response depth (m)	Ground level elevation (m AOD)	Water depth (m bgl)	Water level (m AOD)
BH-3D	23/11/2021	0.75-5	39.66	1.79	37.87
	02/12/2021	0.75-5		1.70	37.96
BH-6D	23/11/2021	1-7.5	38.00	1.80	36.20
	02/12/2021	1-7.5		1.65	36.35
BH-7D	23/11/2021	0.75 – 4.2	38.15	1.88	36.27
	02/12/2021	0.75 – 4.2		1.82	36.33
BH-10D	23/11/2021	0.75-5.0	34.72	4.46	30.26
	02/12/2021	0.75-5.0		4.51	30.21

7.3.1 QA/QC data

The QA/QC data is presented in Appendix D. The following exceedances have identified from the geo-environmental testing completed.

A total of 492 holding times exceedances were identified in soil analyses, of these however none were reported as significant exceedances. A total of 176 holding times exceedances were identified in water analyses, nine of which were reported as major exceedances. These included phenols in surface water samples, and chloride, sulphide cyanide fee/total, electric conductivity and pH for the BH-10D groundwater sample. Exceedances are attributed to accumulated delays on the communication chain and laboratory registration delays. It should also be noted that surface water samples were only scheduled for a limited suite analyses due to (according to SOCOTEC) the laboratory failing to register some of the testing (only analyses not exceeding holdings times were subsequently scheduled).

Duplicate samples were collected for the SW Surface water sample and the BH-7D groundwater sample. BH-7D duplicate sample was labelled by Socotec as “Blank”, however further clarifications indicated that this was a mistake, and the “Blank” sample was actually a duplicate from BH-7D. Relative Percentage Difference (DPD) exceedances were reported for lead and zinc in the surface water sample. Numerous RPD exceedances for TPH fractions were reported for the groundwater duplicate sample which are considered elevated. It is also noted groundwater samples were collected using a bailer instead of a low flow technique which could potentially explain the elevated RPDs.

Overall, it is considered that the data is suitable for interpretation but with some caution with the samples for the more significant holding time and RPD exceedances.

7.4 Tier 2: Generic Quantitative Risk Assessment

7.4.1 Introduction

AECOM has completed a Tier 2 Generic Quantitative Risk Assessment (GQRA) for the chemical data collected as part of the GI works.

The purpose of GQRA as defined in the Land Contamination Risk Management (LCRM) guidance is to establish where Generic Assessment Criteria (GAC) and assumptions about a site are appropriate for assessing risks and, if so, to apply them to site data in order to establish whether there are actual or potentially unacceptable risks.

The GQRA also determines whether further detailed assessment is required. In doing so, it confirms whether the potential contaminant linkages identified in the preliminary risk assessment are of concern or not.

The assessment methods and criteria adopted for the GQRA are described below, followed by a comparison of the analytical data against the criteria.

7.4.2 Assessment Methodology

7.4.2.1 Selection of Human Health Generic Assessment Criteria

Analytical results for the 22 soil samples collected were compared against Generic Assessment Criteria (GAC) protective of a future commercial/industrial land use scenario. The adopted criteria are taken from the following published sources:

- Defra C4SL 12/2014: Commercial Land-use, sandy loam, 0.58 – 1.45% SOM;
- EIC/AGS/CL:AIRE GAC. Commercial Land-use, sandy loam, 0.58 – 1.45% SOM;
- LQM/CIEH S4ULs 2015. Commercial Land-use, sandy loam, 0.58 – 1.45% SOM; and
- USEPA RSL (May 2020). Commercial Land-use. (no vapour pathway).

Assessment criteria were chosen based on the potential for exposure to site users and or visitors to contaminants in the soil that users and visitors may come into contact with through dermal contact, inhalation and ingestion in a commercial / industrial land-use setting.

7.4.2.2 Selection of Controlled Water General Assessment Criteria

For the assessment of linkages associated with potential adverse effects to controlled waters and considering the identified Controlled Water receptors (supperficial secondary A aquifer and unnamed on – site stream discharging to a WFD surface water course located 409m west of the Site), GAC have been selected to be protective of groundwater as a drinking water resource and to be protective of surface water bodies that might be affected by lateral migration from affected groundwater. The GAC used for the screening of groundwater, leachate data and surface water results have been taken from the following sources:

- World Health Organisation (WHO), 2008 – Petroleum Products in Drinking-water
- UK Drinking Water Standards (DWS), 2016 – The Water Supply (Water Quality) Regulations 2016
- The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 - Freshwater Standards
- World Health Organisation (WHO), 2017 – Guidelines for Drinking-water Quality (4th Edition inc. the First Addendum)
- SEPA - Supporting Guidance (WAT-SG-53) Environmental Quality Standards for Discharges to Surface Waters. v6. Dec 2015. Fresh EQS – AA
- United States Environmental Protection Agency (USEPA), 2020 – Regional Screening Levels, May 2020. Tapwater
- AECOM Drinking Water Guidance (adopting WHO methodology)
- EU REACH – Freshwater Predicted No Effect Concentration (PNEC)
- The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 - AA-EQS Inland
- The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 - MAC-EQS Inland

7.4.3 Human Health GQRA

The laboratory chemical analysis results are presented within Socotec's factual report. The stage 2 human health screening table (soil) is included in Appendix D.

No HH exceedances have been identified for the selected commercial/industrial present and future use of the Site. An unacceptable HH risk to site users from direct contact (ingestion, dermal contact, inhalation of dusts and soil particles) or vapour intrusion from contaminated soils has therefore not been identified. Risks are not considered to be present to nearby neighbours during operation of the site for commercial/industrial land use. During redevelopment of the site, risks to construction workers should be considered separately.

7.4.4 Controlled Water GQRA

The laboratory chemical analysis results are presented within Socotec's factual report. The controlled waters screening table (water and leachate) is included in Appendix D.

For the assessment of the potential risk to CW, water data from the four installed shallow/superficial groundwater monitoring locations has first been assessed, only considering/assessing leachate data when and where groundwater data is not available (i.e. DCP locations).

The following water GAC exceedances have been identified:

- TPH concentrations in three out of four groundwater monitoring locations have been reported to exceed DWS GAC for mid to heavy end hydrocarbons chains. The highest concentrations were reported at BH-7D, which exceeded the EC21-EC35 TPH DWS GAC by over an order of magnitude. Exceedances reported in other locations (BH-10D and BH-6D) are limited to less than a factor of two.
- PAH DWS and EQS GAC exceedances have been reported in all four groundwater locations. Greater exceedances were reported at BH-7D for Benzo(a)pyrene, which exceeded the EQS GAC by approximately five orders of magnitude.
- Bis(2-ethylhexyl)phthalate was reported to exceed the DWS and EQS GAC in two out of four groundwater locations. Maximum concentrations were reported at BH-10D, with concentrations exceeding the GAC by between 1 and 2 orders of magnitude.

- Cadmium, copper, lead, nickel and zinc were reported to exceed their respective EQS GAC in three out of four groundwater locations. The highest exceedance was reported for nickel which was reported to exceed EQS and DWS GAC by a factor of 8.5 and 1.7 respectively.
- Surface water samples were reported to exceed EQS GAC for copper and zinc, and DWS for sodium. Exceedances were however limited to a factor of two. Concentrations were generally lower at the southeast downstream sampling locations than the northeast upstream sampling location. No other exceedances were reported in the stream samples. It should however be noted the results were reported with detection limits higher than the GAC due to the extremely low EQS values for some PAH compounds.

Leachate analyses were run for shallow soil samples collected at each of the DCP locations. The following exceedances have been reported:

- A number of PAH compounds were reported to exceed their respective GAC in four out of six DCP locations. Greater exceedances were reported in DCP1 and DCP5, with fluoranthene, benzo(a)pyrene and benzo(g,h,i)perylene which exceeded EQS GAC by approximately 2 orders of magnitude. Only marginal exceedances for benzo(a)pyrene and PAH (Sum of 4) were reported to the DWS GAC.
- Copper and nickel were reported to exceed their GAC in two out of six DCP locations, with copper exceeding by approximately 1 order of magnitude in three of the locations. Arsenic was reported to marginally exceed DWS GAC at one DCP location.

The greatest CW GAC exceedances have been identified in BH-7D (groundwater) where TPH and PAH compounds were reported to exceed GAC by over an order of magnitude. BH-7D is located in the central area of the Site. It is noted that although TPH and PAH exceedances have been detected in the potentially downgradient location (BH-10D), concentrations and exceedances are significantly lower. It is also noted that the reported concentrations in surface water samples collected from the stream crossing the south eastern area of the Site are higher in the upstream sampling locations than in the immediately downstream sampling location.

Overall a risk to the underlying secondary A aquifer and the on-site stream is considered unlikely, given the low resource potential of the superficial deposits (identified thickness between 0.5 and 4.2m) and the identified low sensitivity of the stream.

The reported mid and heavy end TPH concentrations are considered unlikely to represent a future risk to the future users of the basement due to their relatively low volatility.

7.5 Waste and Material Management

Earthworks associated with the proposed site re-development may include cut and fill works and therefore the re-use of site-won material should be considered during earthworks.

The data collected as part of the PH1 GI work suggest a high percentage of excavated material is likely to be suitable for on-site re-use if geotechnically suitable. It is recommended that a soil waste classification assessment (i.e: Hazwaste assessment) is completed based on the recommended Phase 2 GI works to determine the likely classification of soils in the event off-site disposal is required. It is however recommended any off-site disposal is kept to the minimum, prioritizing on-site reuse where possible.

7.6 Ground Gas Risk Assessment

The generation or migration of ground gases from gassing sources (such as Made Ground) beneath a site can pose a hazard to structures if the gases are able to accumulate within them.

Ground gas monitoring was completed on four occasions, between 12th November and 2nd December 2021, at each of the four wells. The collected field data is presented in Socotec report, appendix D. Findings included:

- Barometric pressure during sampling events ranged between 1007millibars (mb) (2nd December 2021) and between 1029 – 1037 mb (12, 19 and 23th November 2021 monitoring rounds).
- Measured gas flow rates (peak and static) ranged between -2.8 l/hr and 1.6 l/hr.
- Measured static CH_4 ranged between 0.1 and 0.2 %vol.
- Measured static CO_2 ranged between 1.1 and 6.3 %vol.

In accordance with guidelines within BS8485, Gas Screening Values (GSVs) have been calculated to assess the significance of gas generation at the site. This is achieved by multiplying the percentage gas concentration (as a decimal) by the flow rates. A Gas Screening Value has been calculated for each monitoring visit and well locations. This is presented in Appendix D.

A CIRIA characteristic situation 1 (very low risk) has been calculated for most of the readings collected throughout the completed four visits. A characteristic situation 2 (low risk) has been calculated in one out of four occasions in BH-3D with a GSV of 0.08, marginally above the 0.07l/hr limit for characteristic situation 1. This is driven by the positive flow measured at this location and for this particular monitoring round.

7.7 Land Contamination Assessment Conclusions

A Tier 2 Generic Quantitative Risk Assessment has been completed at the Hillingdon Hospital to support the future re-development of the Site and using the available data obtained as part of the Phase 1 Ground Investigation works. The GI findings and assessments are summarised below:

- No visual or olfactory evidence of contamination was found in any of the exploratory locations, apart from a moderate sulphur odour in BH3D between 0.55m bgl and 1.2m bgl. PID headspace readings recorded maximum concentrations of 1ppm.
- Groundwater was encountered within the superficial deposits (Boyn Gravels) between 1.25m bgl and 4.5m bgl. Groundwater is inferred to flow south.
- A total of 22 soil samples, four groundwater samples and two surface water samples were collected and analysed for the identified contaminants of potential concern.
- Asbestos was not detected in any of the tested samples.
- No HH GAC exceedances were identified based on a commercial/industrial land use scenario. An unacceptable HH risk is therefore considered unlikely for the proposed future hospital use of the Site.
- Water and leachate concentrations were reported to exceed a number of CW GAC protective of the identified CW receptors (underlying secondary A aquifer and on-site stream). Overall, however, a risk to the underlying secondary A aquifer and the on-site stream is considered unlikely, given the low resource potential of the superficial deposits (identified thickness between 0.5 and 4.2m) and the identified low sensitivity of the stream.
- The data collected as part of the PH1 GI work suggest a high percentage of excavated material is likely to be suitable for on-site re-use if geotechnically suitable.
- The ground gas assessment mostly indicated a Characteristic Situation 1 (very low risk). A Characteristic Situation 2 (low risk) was however calculated in one out of four monitoring rounds at BH-3D.

It is recommended that the second Phase of GI works goes ahead to target other areas of the site / potential source, after which the contaminated land assessment should be reviewed. It is recommended that surface water and groundwater samples from the PH1 monitoring points are resampled using a low flow technique during the PH2 GI works. It is also recommended future ground gas monitoring works includes the installed Phase 1 monitoring locations. Lastly, it is recommended that a soil waste classification assessment is completed based on the findings of the recommended Phase 2 GI works to determine the likely classification of soils in the event off-site disposal is required.

8. References

1. Eurocode 7 Part 1 Geotechnical Design BS EN 1997-1:2004+A1:2013 EN 1997-1:2004+A1:2013 21
2. Eurocode 7-Part 2 Ground Investigation and Testing, BS EN 1997-2 Incorporating corrigendum June 2010
3. BRE Special Digest 1 Concrete in aggressive ground. 3rd edition (SD1:2005) (Includes February 2017 amendments)
4. BRE Digest DG 365: 2016 : Soakaway design. Building Research Establishment, Garston, Watford.
5. BS EN 206:2013+A2:2021 Concrete. Specification, performance, production and conformity
6. BS 8500-1:2015+A2:2019 Concrete. Complementary British Standard to BS EN 206. Method of specifying and guidance for the specifier
7. Twenty-one years of heave monitoring in London Clay at Horseferry Road basement (https://www.geplus.co.uk/technical-paper/technical-paper-twenty-one-years-of-heave-monitoring-in-london-clay-at-horseferry-road-basement-09-10-2018) by Deryck Chan and Gopal Madabhushi, University of Cambridge; Duncan Nicholson and Tim Chapman, Arup; and Sergio Solera, Mott MacDonald, 09 OCTOBER, 2018

Appendix A Geotechnical Risk Register

A Geotechnical Risk Register has been compiled to show the degree of risk attached to various ground related aspects of the proposed scheme. The purpose of the register is to produce an assessment of the risk to the project posed by site specific ground related problems and identify suitable mitigation measures to control the risk to an acceptable level. The risk register should be developed and refined as the geotechnical design and assessment progresses such that the register will allow management of the geotechnical risks.

The degree of risk (R) is determined by combining an assessment of the likelihood (L) of the hazard with an assessment of the severity (S) of the hazard. The scale against which the likelihood and severity are measured, and the resulting degree of risk determined is presented below. Table 8-4 presents the risk register for the proposed scheme.

Table 8-1: Classification of Probability and Impact

Likelihood (L)		Severity (S)	
Very Likely	5	Very High	5
Likely	4	High	4
Probable	3	Medium	3
Unlikely	2	Low	2
Negligible	1	Very Low	1

Table 8-2: Risk Matrix

Likelihood	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
		1	2	3	4	5
		Severity				

Table 8-3: Classification of Risk Rating

Risk rating	Response
Intolerable	Unacceptable
Substantial	Early Attention
Tolerable	Regular Attention
Trivial	Monitor

Table 8-4: Geotechnical Risk Register

Identified Geotechnical Hazard	Location	Cause	Risk before Control			Consequence	Mitigation Measures	Risk after Control		
			L	S	RR (LxS)			L	S	RRR (LxS)
Unforeseen ground conditions	Site wide	Insufficient ground investigation	5	3	16	Insufficient information to inform geotechnical assessment and design of the project.	Undertake appropriate ground investigation in accordance with the recommendations in BS EN 1997-2	2	3	6
Unforeseen Unexploded Ordnance (UXO)	Site wide	Possible bombing in WW1 and/or WW2	3	5	15	Unforeseen UXO encountered in site operations can lead to delay, injury or death.	Undertake a detailed UXO assessment of the site.	1	5	5
Unforeseen buried obstructions	Site wide	Buried foundations, basement, buried structures, culvert may be encountered during ground investigation or construction.	5	2	10	Unforeseen buried obstructions can cause delay and extra cost to Ground Investigation Works and Site construction works. Potential damage to the buried obstruction. Potential H&S implications. Relocation of ground investigation or site area to avoid buried obstruction. Scheme design alterations to avoid obstruction.	Obtain existing building plans to determine location of existing basements/foundations/buried structures etc. Plan Ground Investigation to avoid buried services; Undertake ground investigation (including geophysics) to identify buried objects.	2	2	4
Aggressive Ground Chemistry	Site wide	London Clay is recorded by BRE SD1 to be a sulphide/sulphate bearing stratum	4	3	12	Deleterious effects on buried concrete/piles	Analyse BRE test results and design concrete mix and the additional protective measures during detailed design in accordance with BRE guidance.	1	3	3
Ground surface movements due to shrink-swell	Site wide	London Clay bedrock is highly susceptible to volumetric change depending on its moisture content.	5	3	15	Swelling and shrinkage can cause heave or subsidence in overlying strata or ground surface causing disturbance to shallow foundations and infrastructure.	Ground Investigation to identify underlying ground conditions and assess risk. Limit potential for variability in water level at the site (due to trees, drainage, dewatering etc). Design to NHBC guidelines.	3	2	6

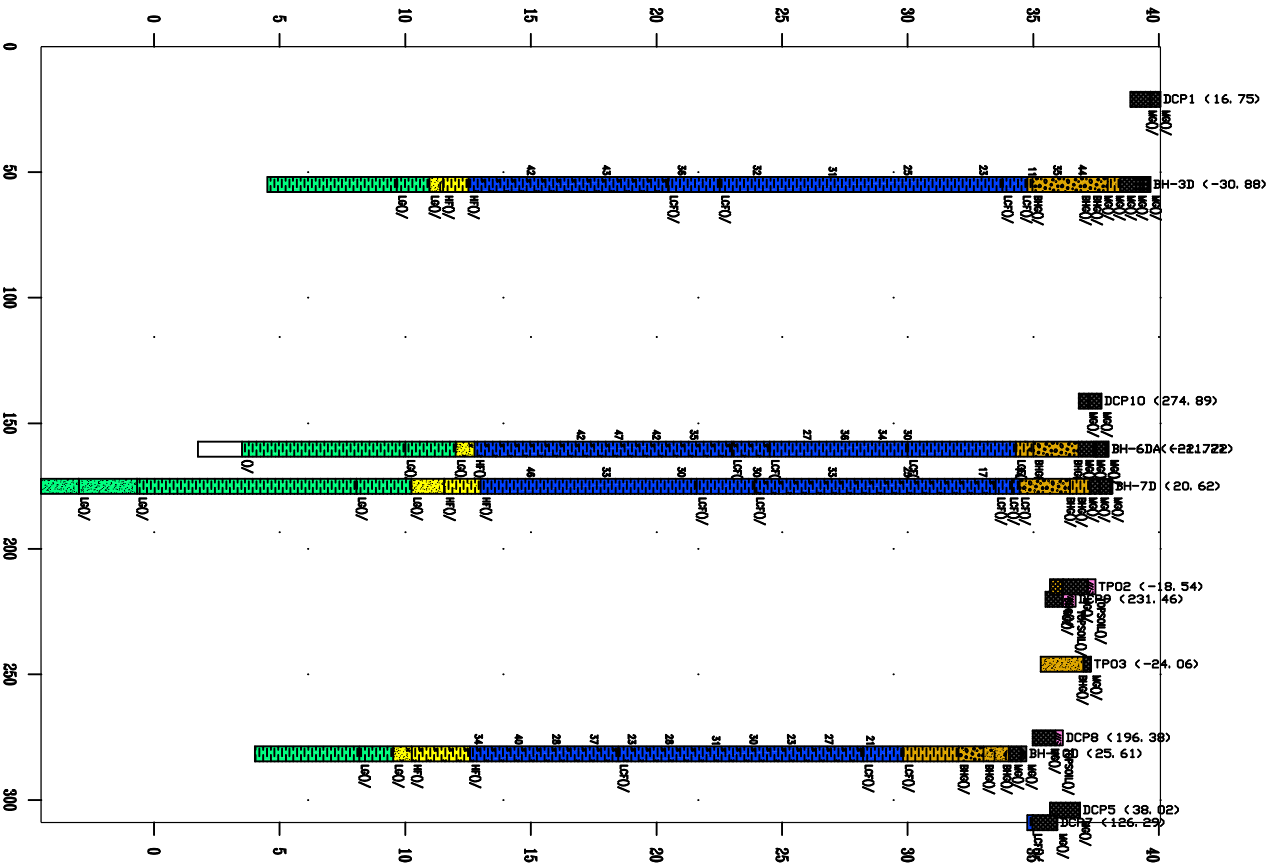
Table 8-4: Geotechnical Risk Register

Identified Geotechnical Hazard	Location	Cause	Risk before Control			Consequence	Mitigation Measures	Risk after Control		
			L	S	RR (LxS)			L	S	RRR (LxS)
High groundwater and unforeseen groundwater ingress	Site wide	Groundwater strikes recorded between 0.79m bgl to 2.2m bgl) in superficial deposits. Current data does not adequately confirm groundwater profile.	5	3	15	Seepage into excavations if not controlled; Softening of superficial deposits rendering them unacceptable; Unforeseen pressures on basement retaining walls, or uplift forces; Instability of excavations.	Ground Investigation and groundwater monitoring to identify site wide groundwater profile and assess risk; Provide temporary drainage and dewatering systems during construction. Appropriate temporary excavation support. Design permanent works to consider groundwater pressures.	4	2	8
Stress relief of over-consolidated clay on excavation	Site wide	Basement excavation removes overburden pressures and results in base heave (short and long term).	4	3	12	Additional pressures on base slab Base heave during temporary works	Ground Investigation to identify underlying ground conditions and assess risk; Temporary works design to consider base heave. Design in accordance with current standards.	3	2	6
Impact of excavation, piling works and possible temporary dewatering on adjacent operational hospital	Site wide	Excavation (deep or shallow) may lead to movement in adjacent ground, piling vibrations may impact adjacent structures. Temporary dewatering may affect shrink-swell susceptible London Clay.	4	4	16	Unforeseen subsidence or heave of the ground which supports the existing hospital foundations.	Constructability and temporary works to be assessed in same level of detail as the permanent works, Bored piling used instead of driven piles. A ground investigation will be required to confirm this. Use of finite element modelling in design to assess, control and contain the impact on surrounding properties. Monitoring during basement construction works, with alerts to stop work if required.	2	3	6
Buried pond and related watercourse	East of site	Old maps show a pond, now infilled. A watercourse flows from it along the southeast part of the site, often culverted.				Pond/watercourse may be infilled with low strength, unsuitable Made Ground unsuitable for foundations; Extra cost and time to remove Made Ground and place backfill;	Obtain all records of the site to determine location of pond and nature of infill. Site inspection to trace watercourse; Plan Ground Investigation to identify the pond/watercourse;			

Table 8-4: Geotechnical Risk Register

Identified Geotechnical Hazard	Location	Cause	Risk before Control			Consequence	Mitigation Measures	Risk after Control		
			L	S	RR (LxS)			L	S	RRR (LxS)
						Potential design changes; Potential H&S impact if infill is hazardous to health.	Consider findings in final design of proposed site layout.			
Existing Underground and Overhead Services at proposed site of works	Scheme Wide	Ground Investigation Works; Site construction works, site clearance and site set-up (compound, haul roads etc.)	4	4	16	Increased cost and delay to divert or lower services; H&S impact during any excavations during Ground Investigation or construction; Relocation of ground investigation or site area to avoid overhead services; Scheme design alterations to avoid overhead/underground services.	Obtain up to date service plans and records; Undertake safe digging procedures in accordance with HSG47 and PAS128; Undertake GPR surveys and mark out services prior to any investigations; Plan Ground Investigation to avoid buried services; Design proposed scheme to minimise impact on existing services.	2	4	8
Unstable deep ground conditions	Scheme Wide	Sand Channels in the Lambeth Group strata	5	3	15	Increased cost and delay to construction of piles	More piles and ensure toe levels remain in the overlying London Clay.	2	3	6

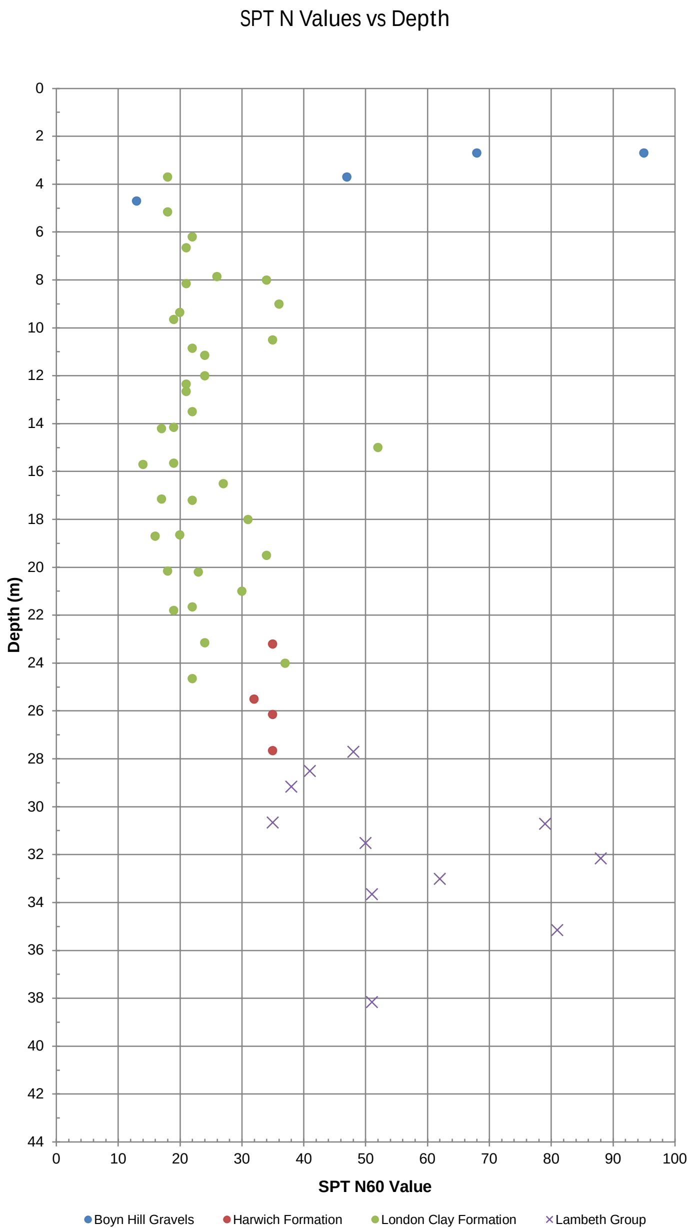
Appendix B Borehole Section

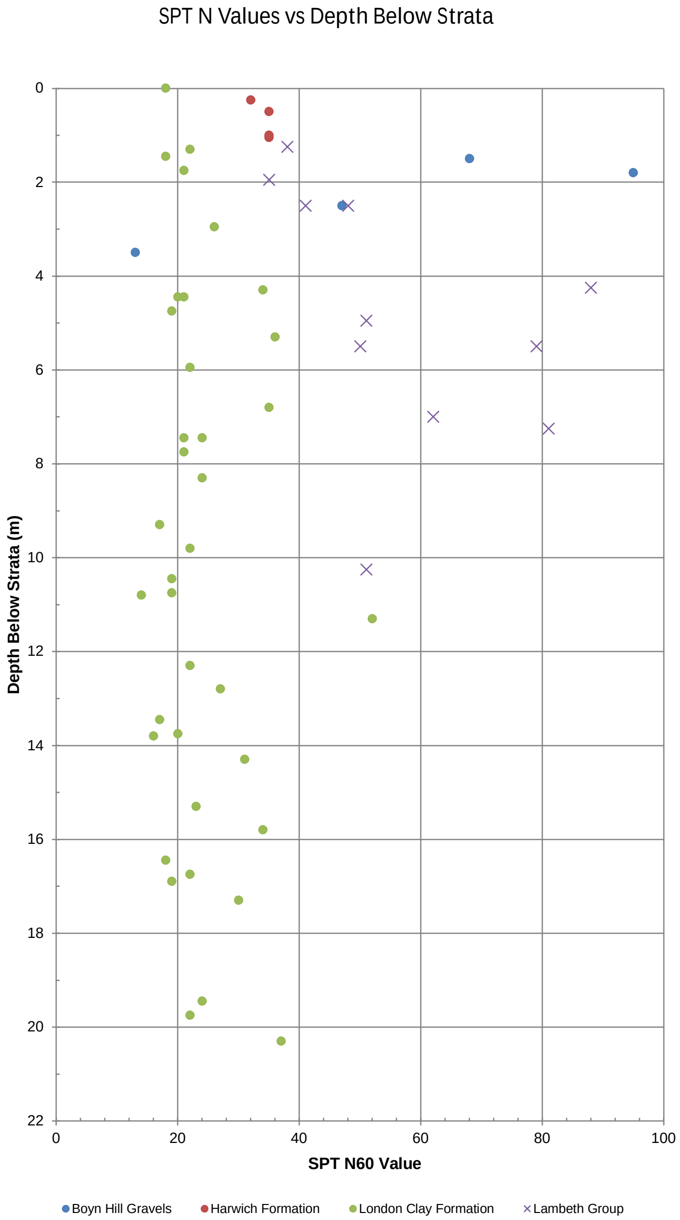


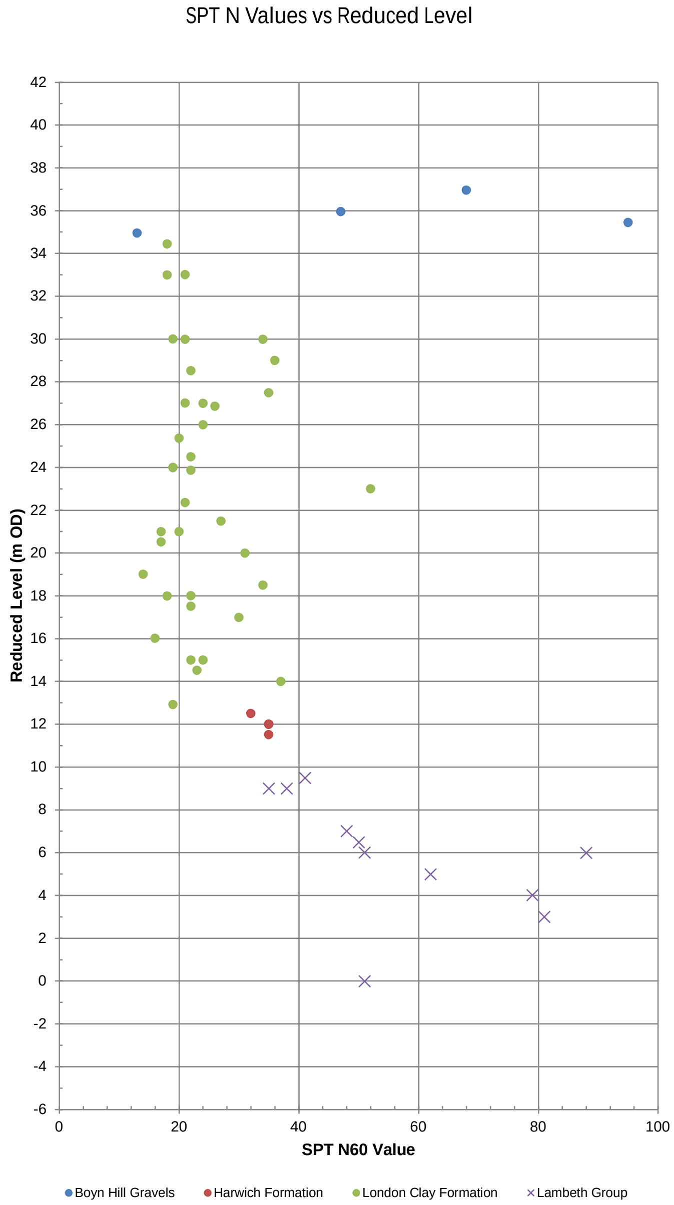
DCP1 (16.75)
BH-3D (-30.88)
DCP10 (274.89)
BH-7D (20.62)
TP02 (-18.54)
TP03 (-24.06)
DCP8 (196.38)
DCP5 (38.02)

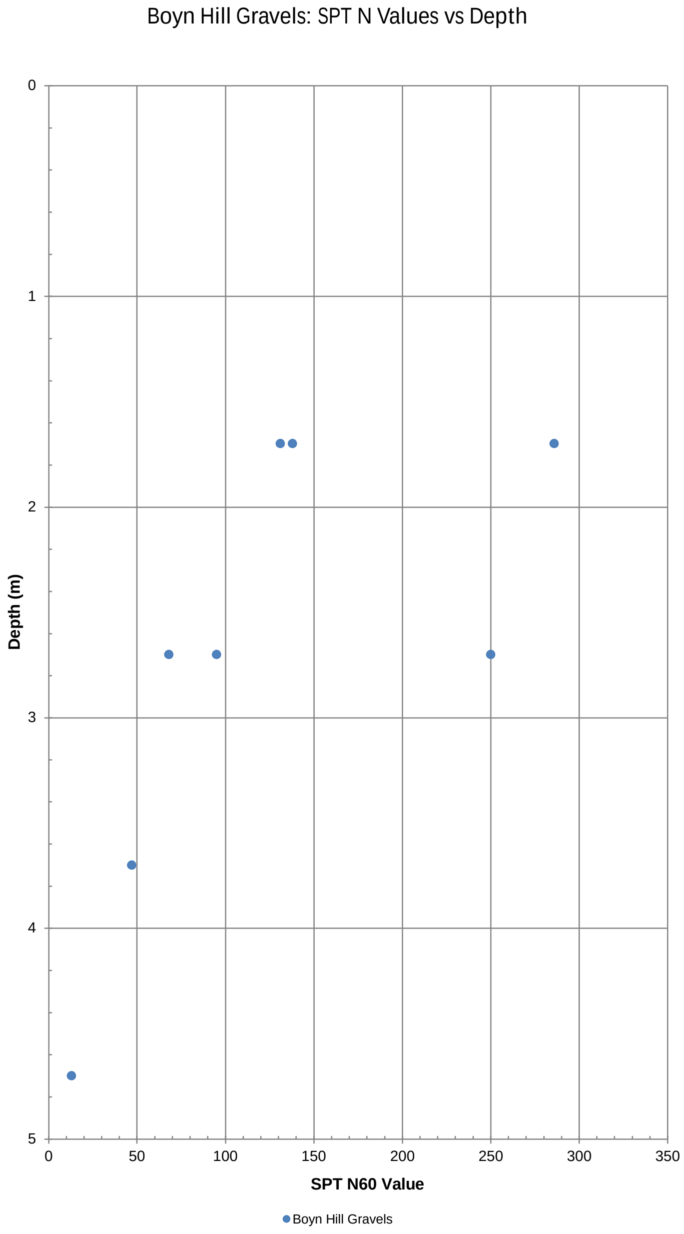
Appendix C Charts of Geotechnical Results

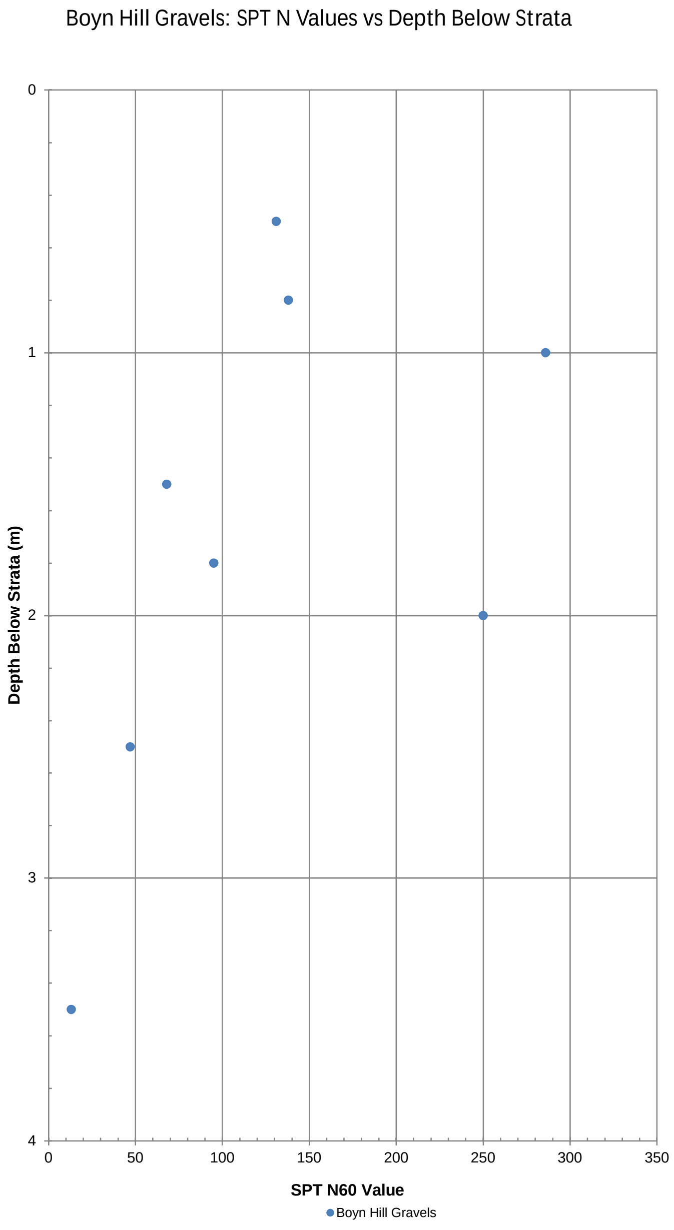
- SPTN vs Depth, Depth Below Strata and Elevation by Geology
- Dynamic Cone Penetration Blows by Depth, Equivalent N10 by Depth and Blows by Elevation
- Undrained Shear Strength vs Depth, Depth Below Strata and Elevation by Geology
- Particle Size Distributions by Sample and Geology
- Moisture Content vs Depth, Depth Below Strata and Elevation by Geology
- Plasticity Index, Liquid limit, and Plastic Limit vs Depth, Depth Below Strata and Elevation by Geology
- Groundwater Monitoring in Upper and Lower Aquifers

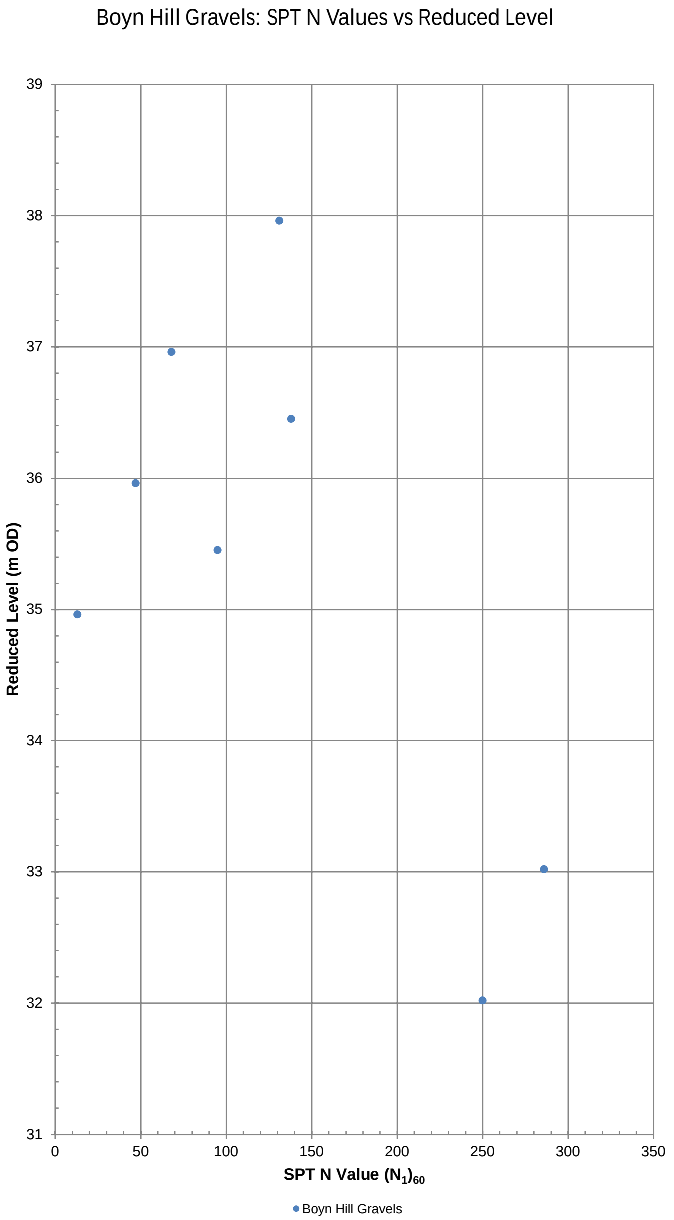

SPT N Values vs Depth
Depth (m)
SPT N60 Value
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44
0 10 20 30 40 50 60 70 80 90 100
Boyn Hill Gravels
Harwich Formation
London Clay Formation
Lambeth Group


SPT N Values vs Depth Below Strata
Depth Below Strata (m)
SPT N60 Value
0 2 4 6 8 10 12 14 16 18 20 22
0 20 40 60 80 100
Boyn Hill Gravels
Harwich Formation
London Clay Formation
Lambeth Group

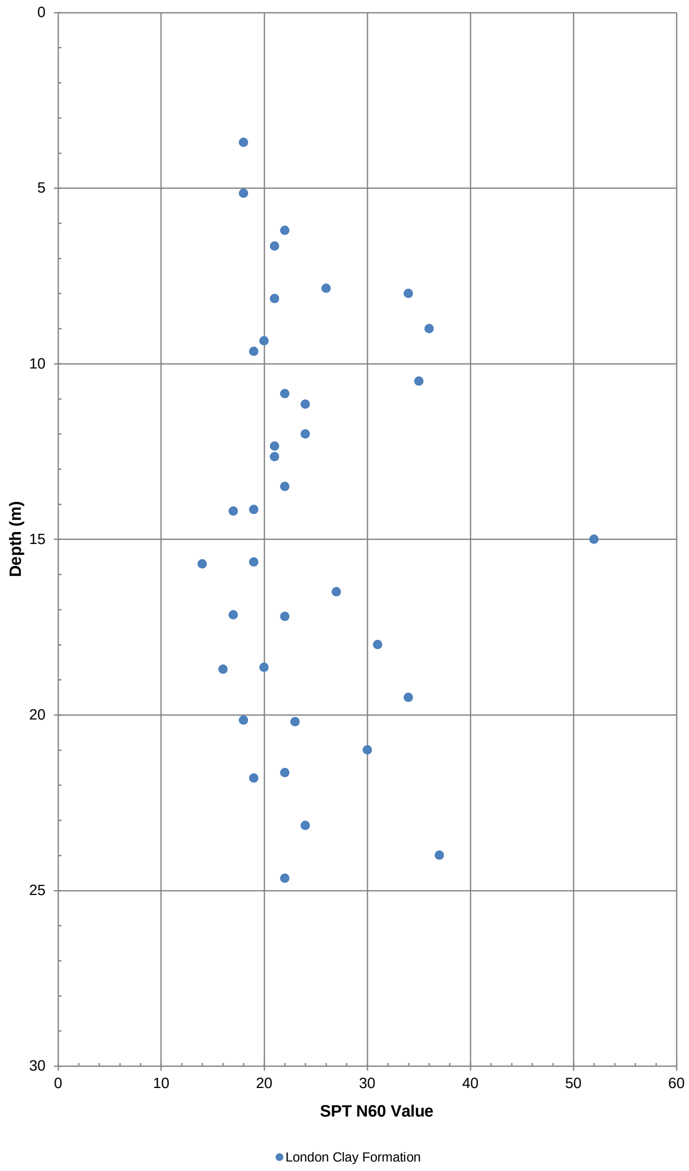

SPT N Values vs Reduced Level
Reduced Level (m OD)
SPT N60 Value
42 40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0 -2 -4 -6
0 20 40 60 80 100
Boyn Hill Gravels
Harwich Formation
London Clay Formation
Lambeth Group


Boyn Hill Gravels: SPT N Values vs Depth
Depth (m)
SPT N60 Value
Boyn Hill Gravels
0
1
2
3
4
5
0
50
100
150
200
250
300
350

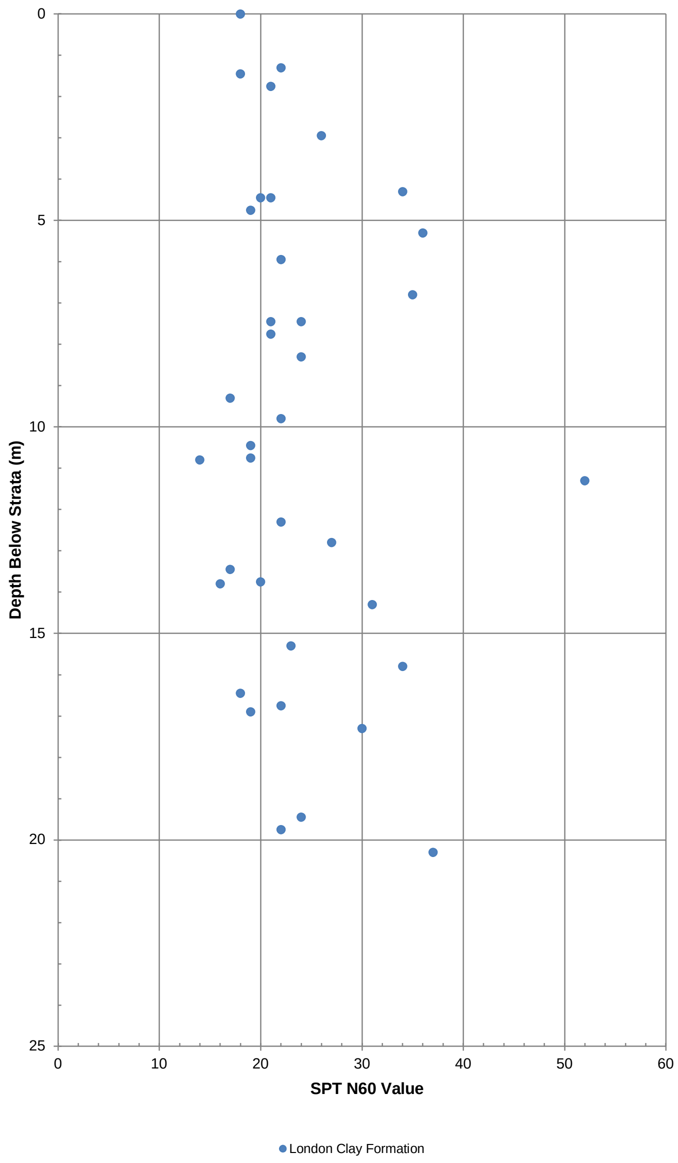

Boyn Hill Gravels: SPT N Values vs Depth Below Strata
Depth Below Strata (m)
SPT N60 Value
Boyn Hill Gravels
0
1
2
3
4
0
50
100
150
200
250
300
350


Boyn Hill Gravels: SPT N Values vs Reduced Level
Reduced Level (m OD)
SPT N Value $(N_1)_{60}$
Boyn Hill Gravels
39
38
37
36
35
34
33
32
31
0
50
100
150
200
250
300
350

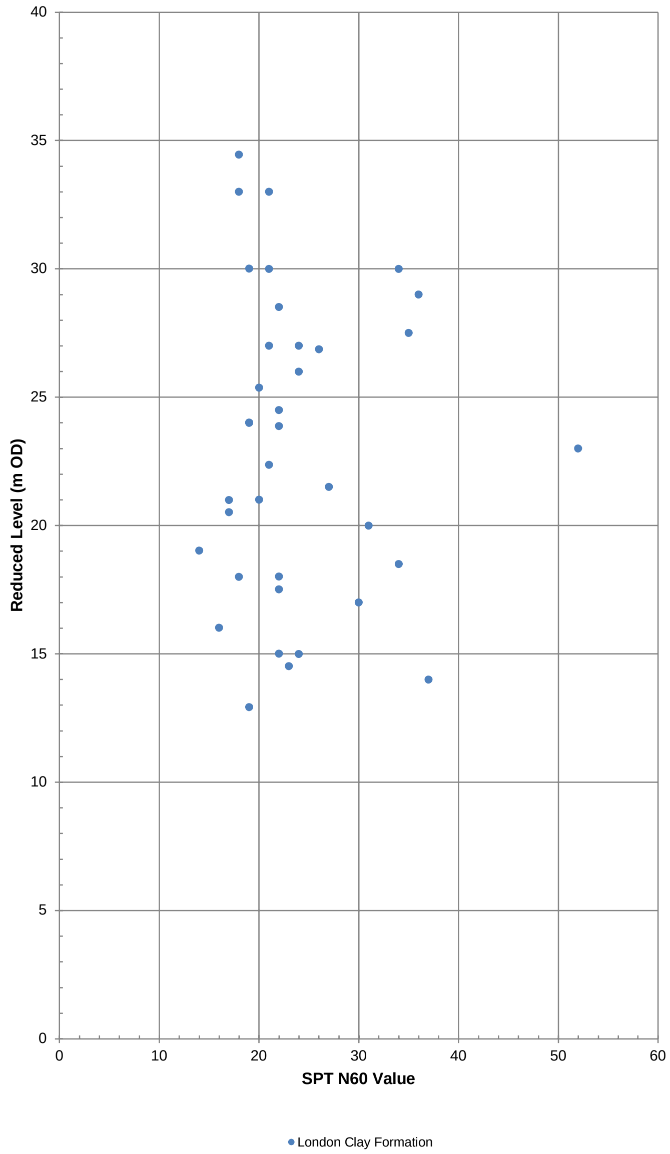
London Clay Formation: SPT N Values vs Depth

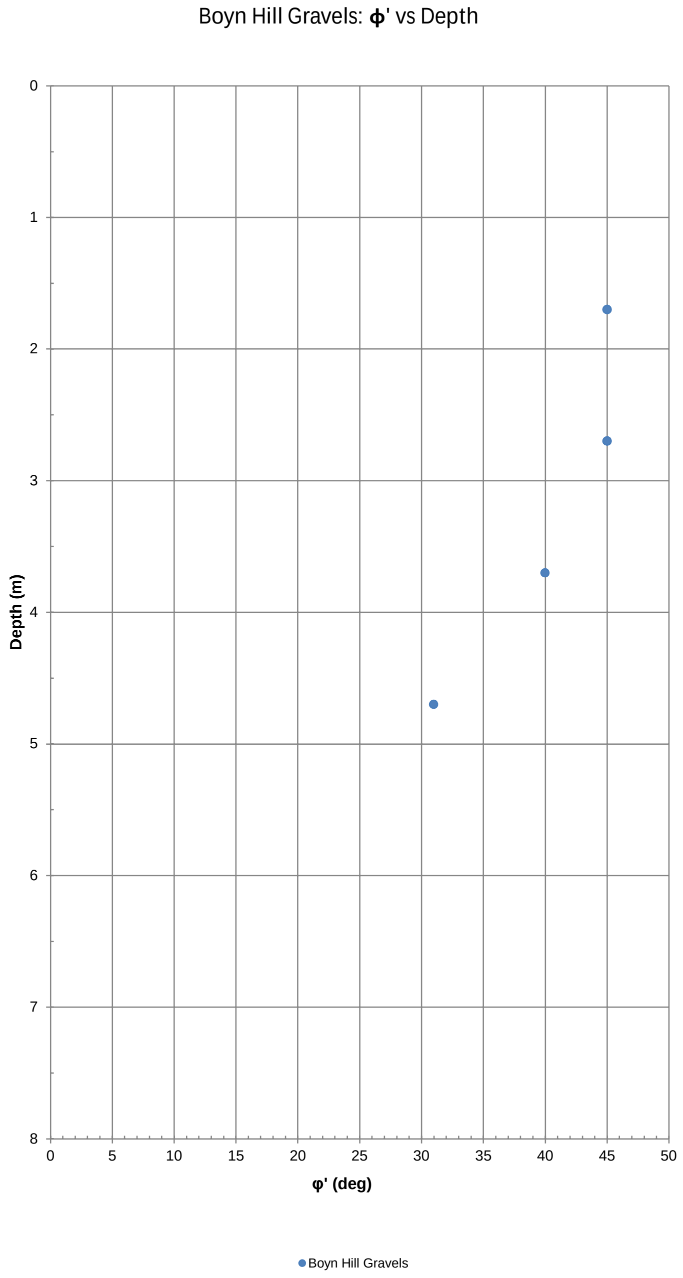


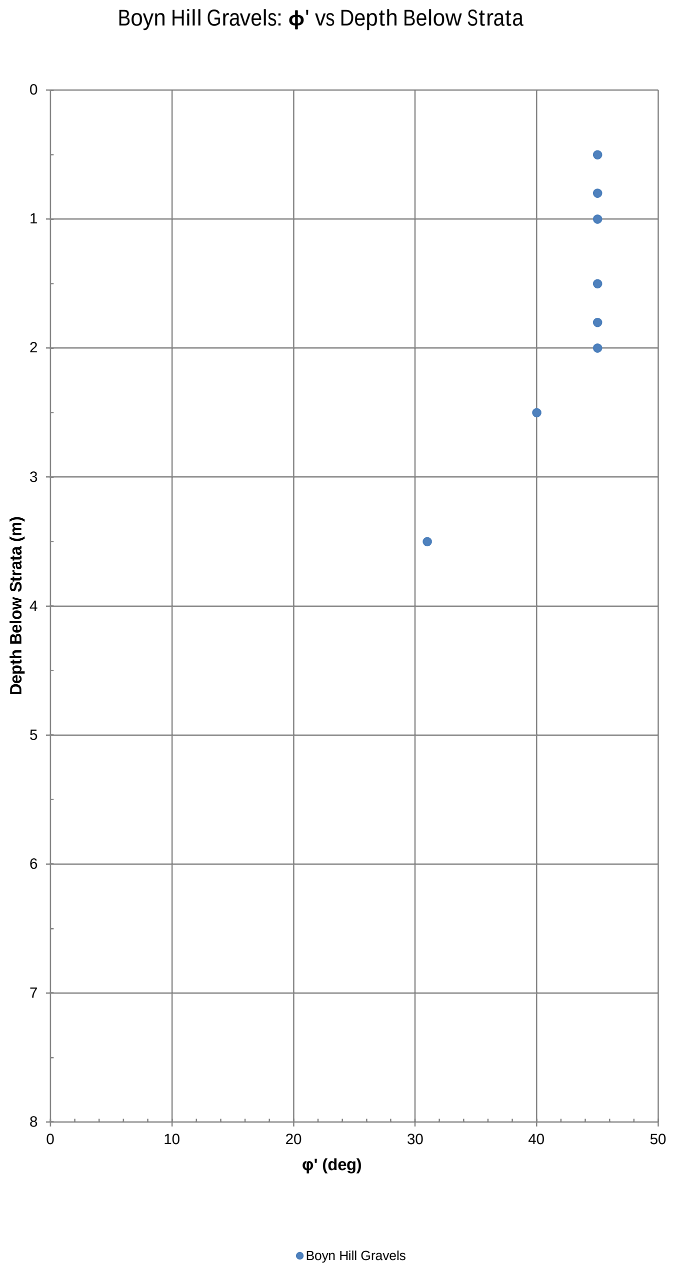
London Clay Formation: SPT N Values vs Depth Below Strata

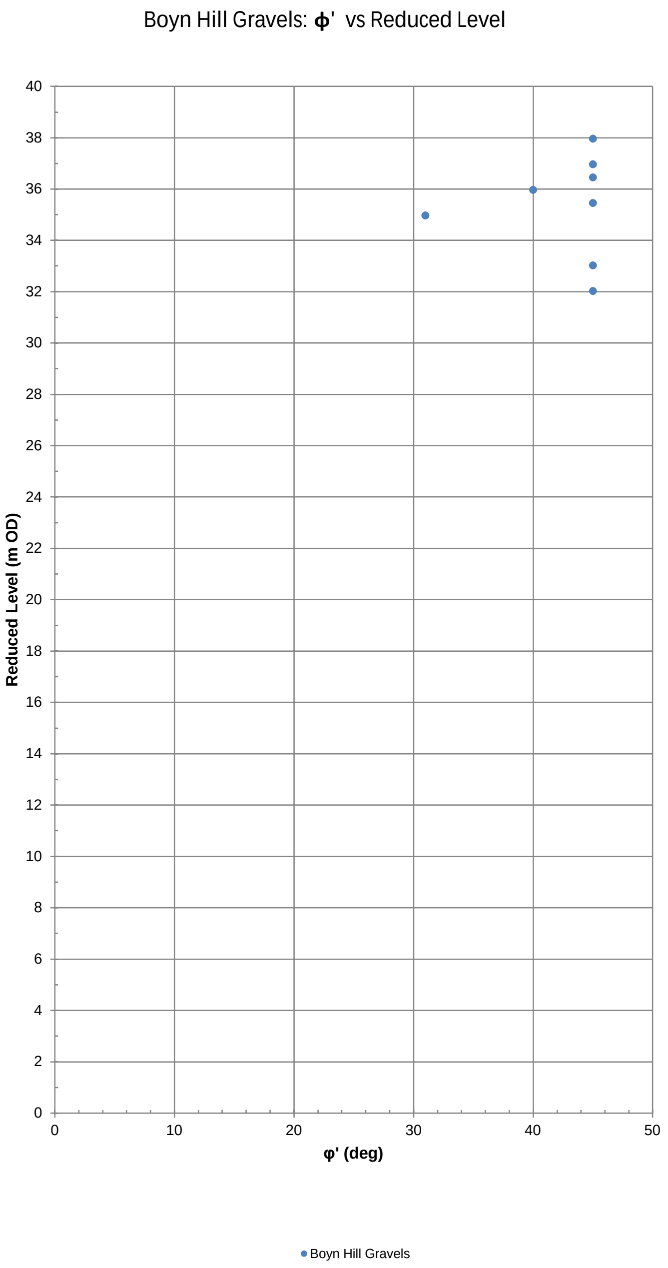


London Clay Formation: SPT N Values vs Reduced Level

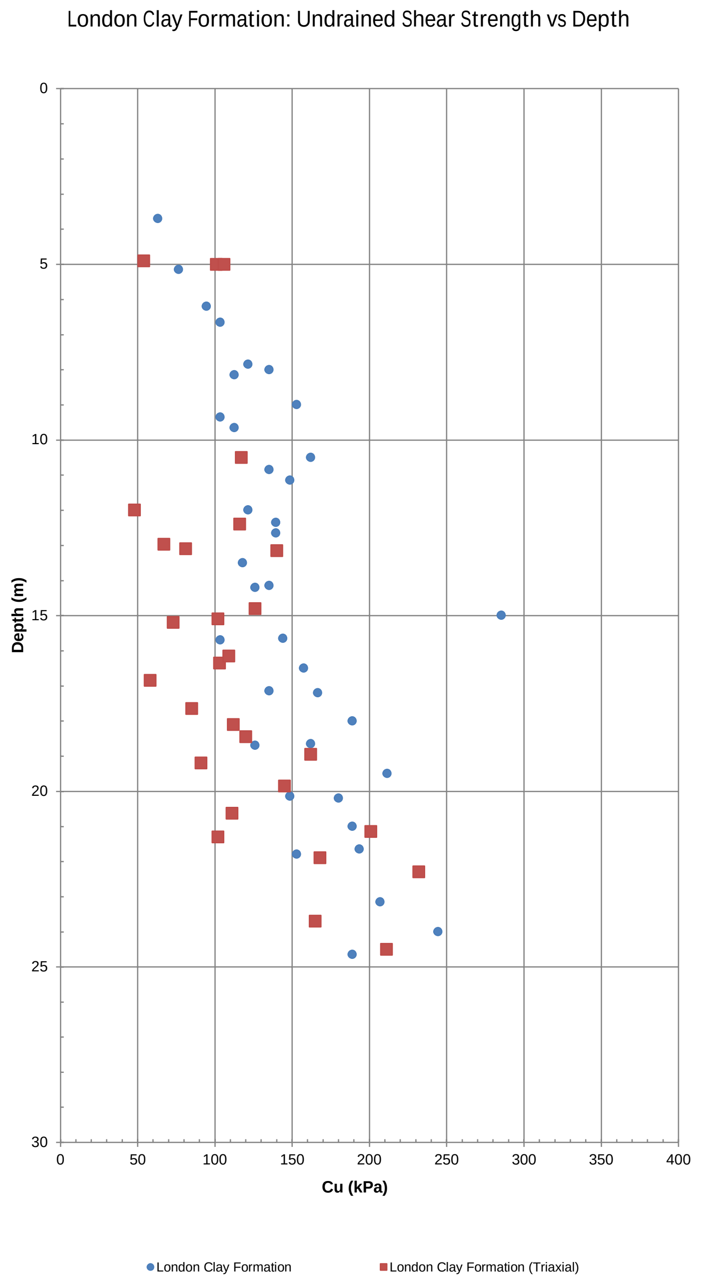


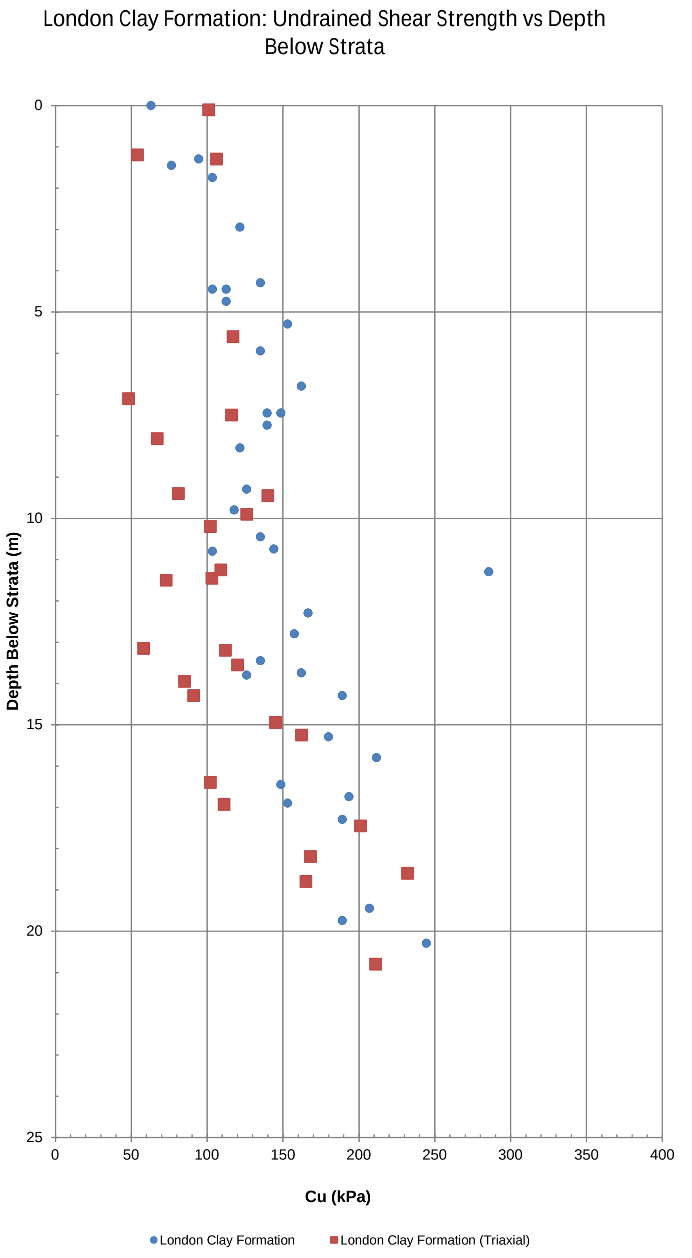

Boyn Hill Gravels: ϕ' vs Depth
Depth (m)
φ' (deg)
0
1
2
3
4
5
6
7
8
0
5
10
15
20
25
30
35
40
45
50
Boyn Hill Gravels

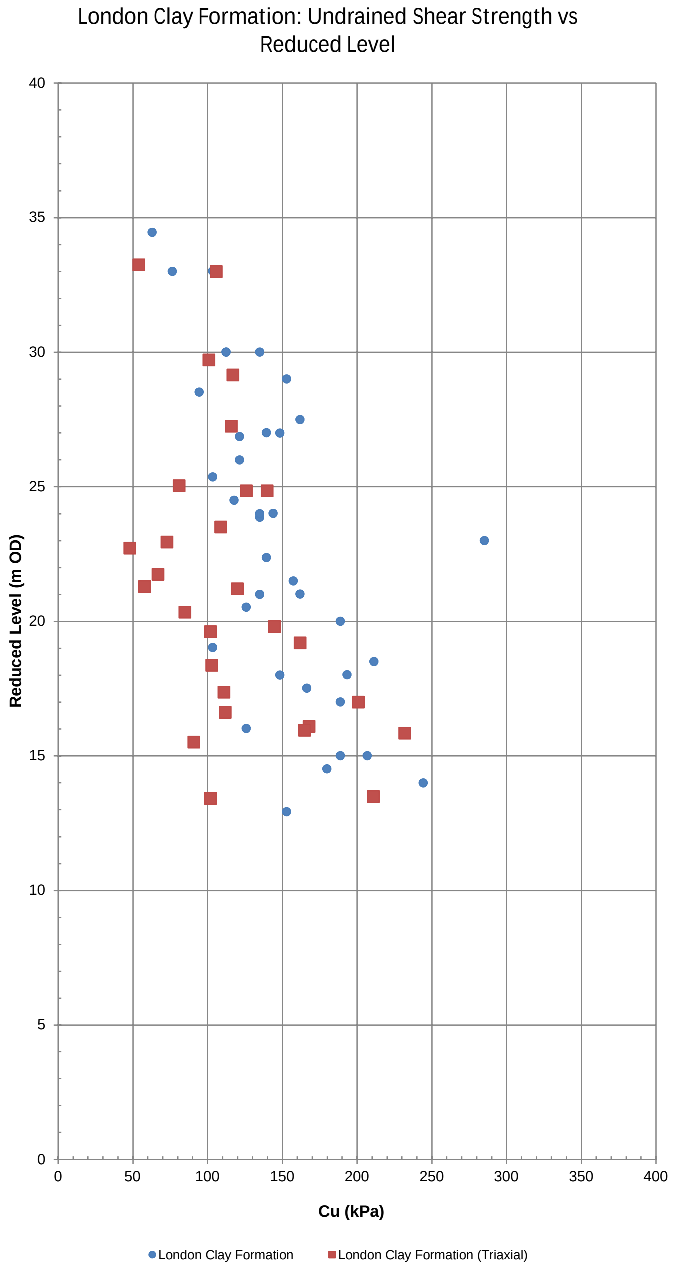

Boyn Hill Gravels: ϕ' vs Depth Below Strata
Depth Below Strata (m)
φ' (deg)
0
1
2
3
4
5
6
7
8
0
10
20
30
40
50
Boyn Hill Gravels


Boyn Hill Gravels: ϕ' vs Reduced Level
Reduced Level (m OD)
φ' (deg)
40
38
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
0
10
20
30
40
50
Boyn Hill Gravels

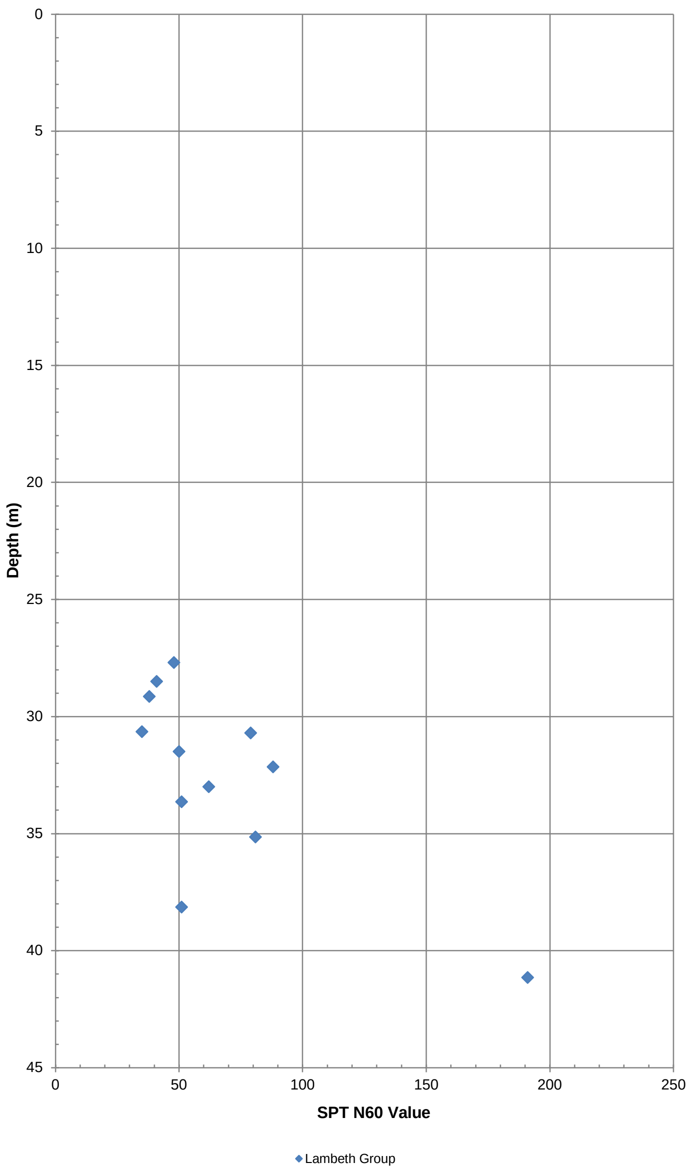
Hillingdon Hospital Phase 1 GI



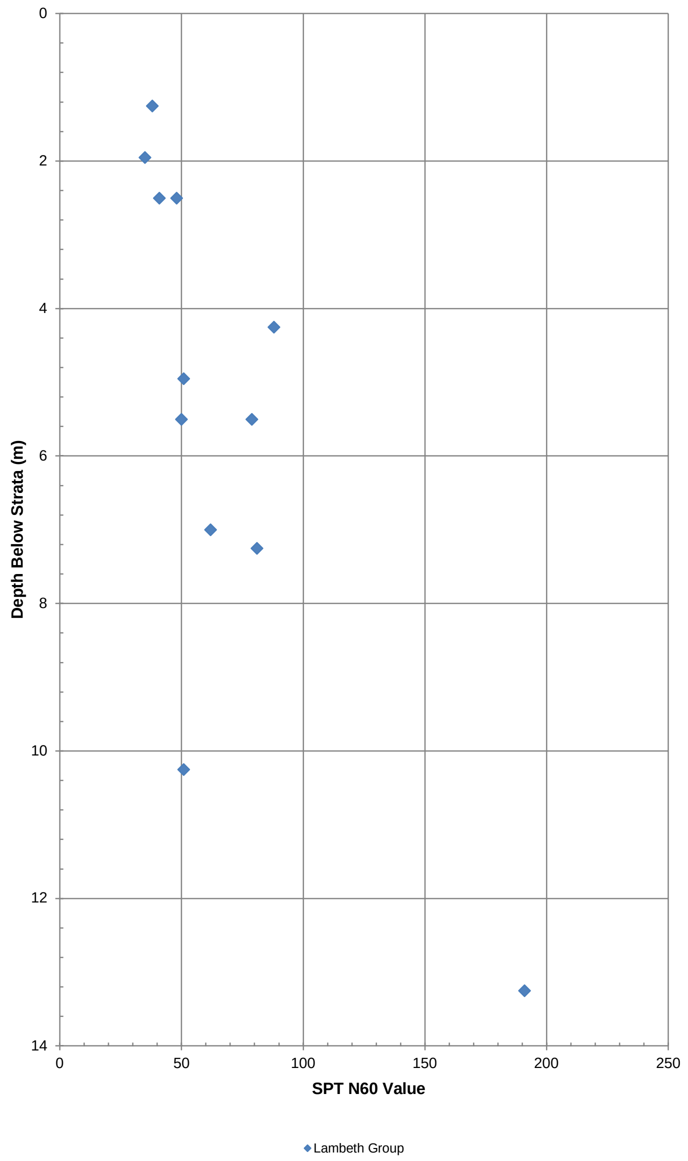




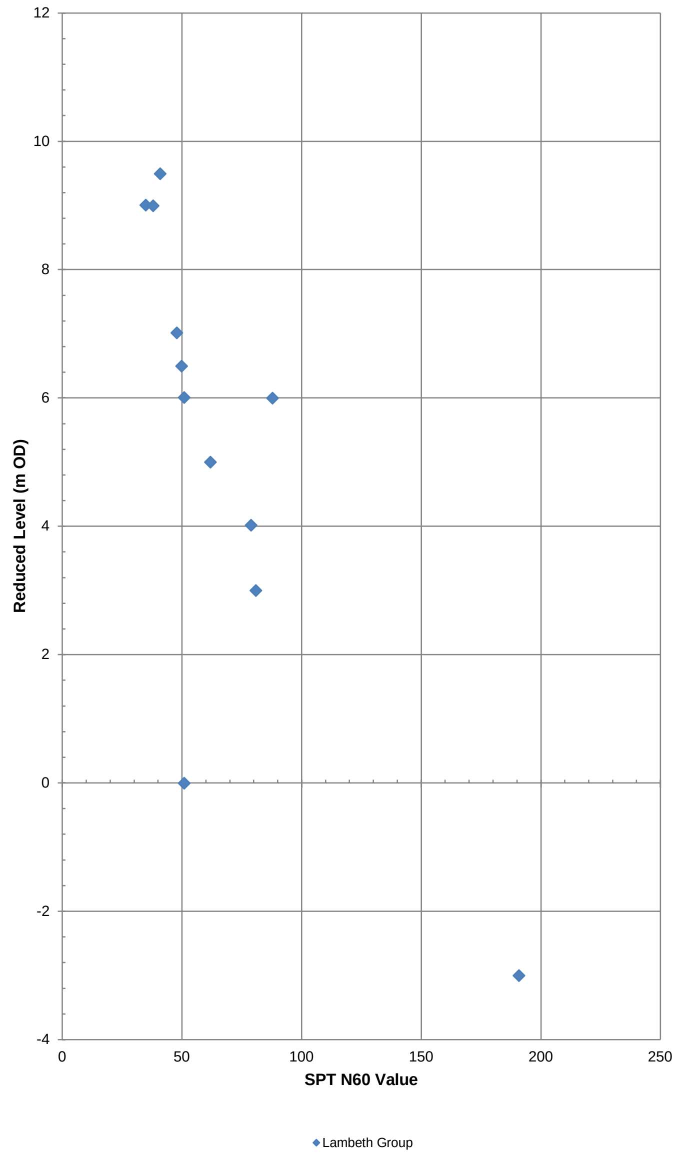
Lambeth Group Formation: SPT N Values vs Depth

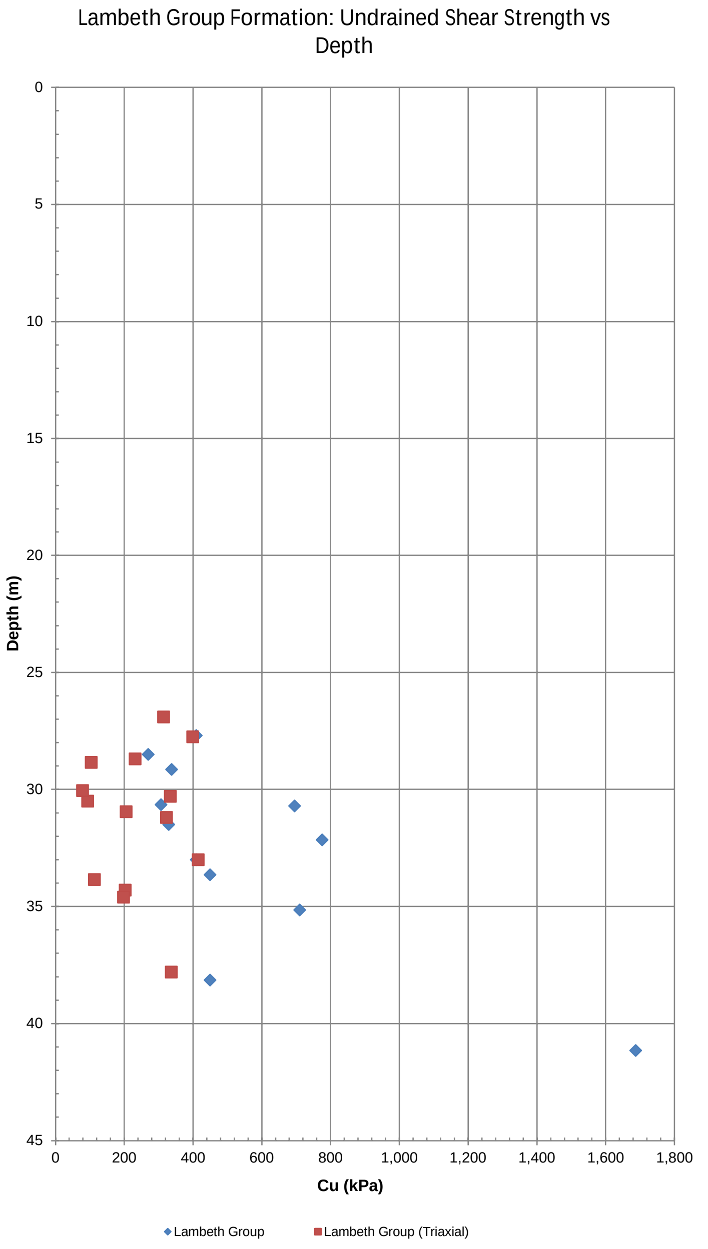


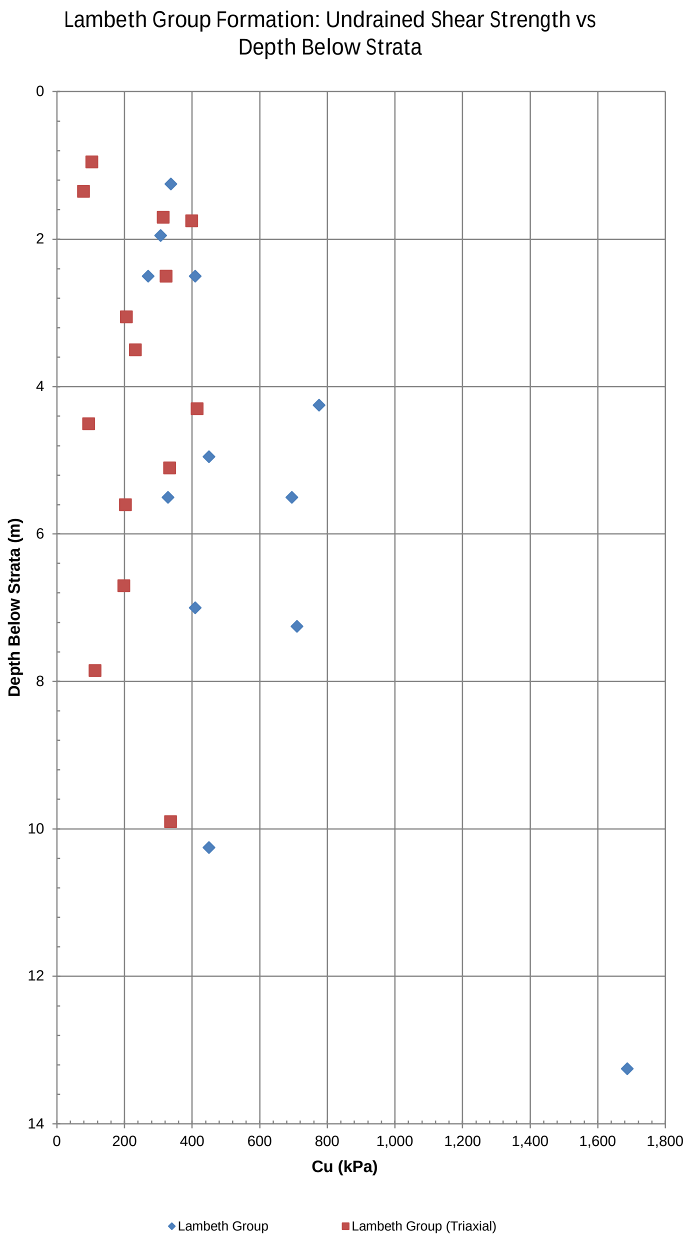
Lambeth Group Formation: SPT N Values vs Depth Below Strata

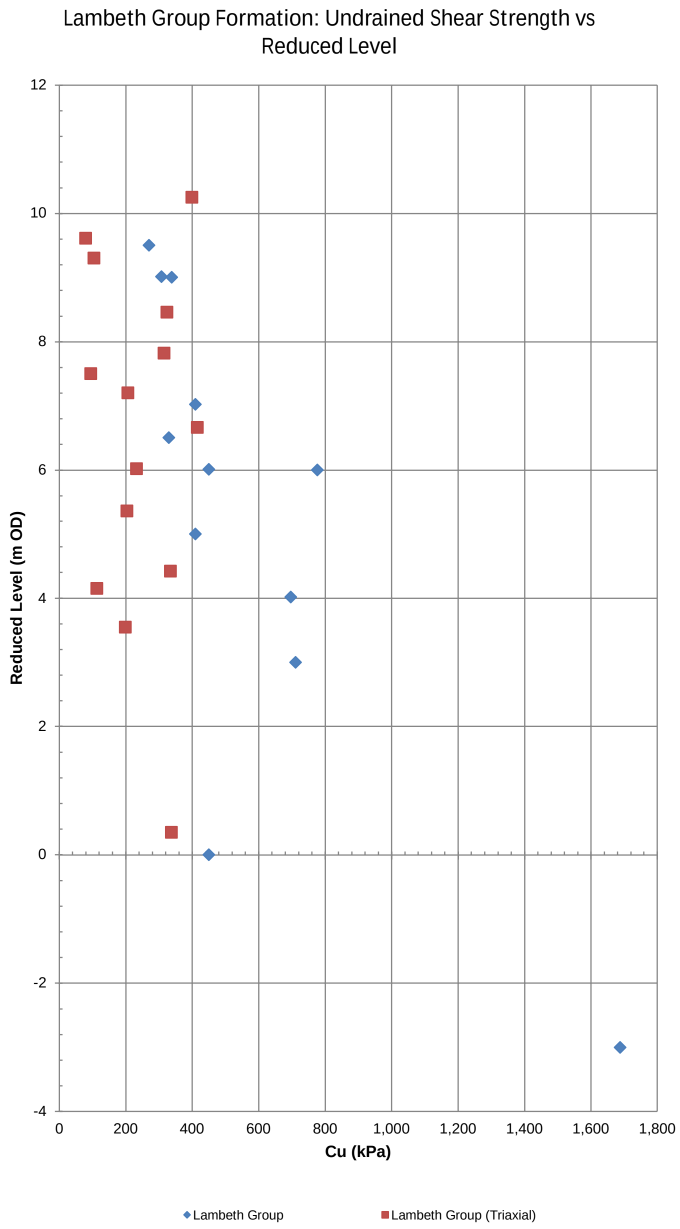


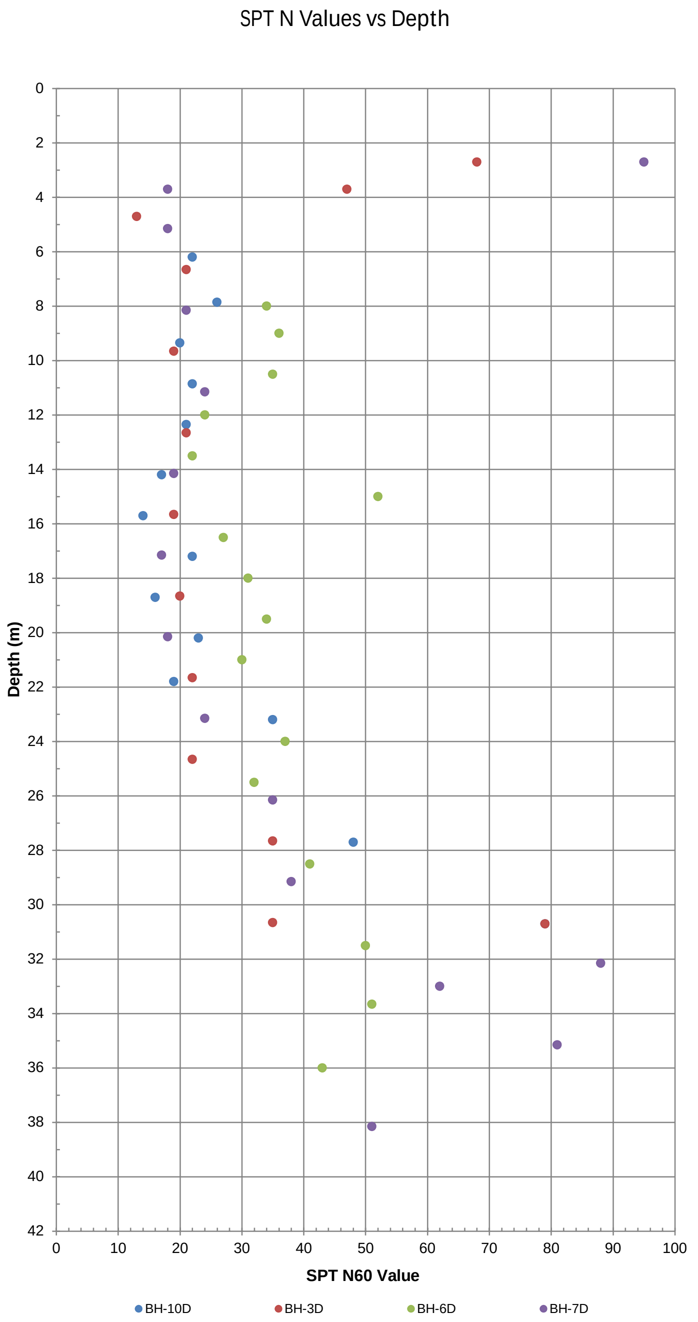
Lambeth Group Formation: SPT N Values vs Reduced Level

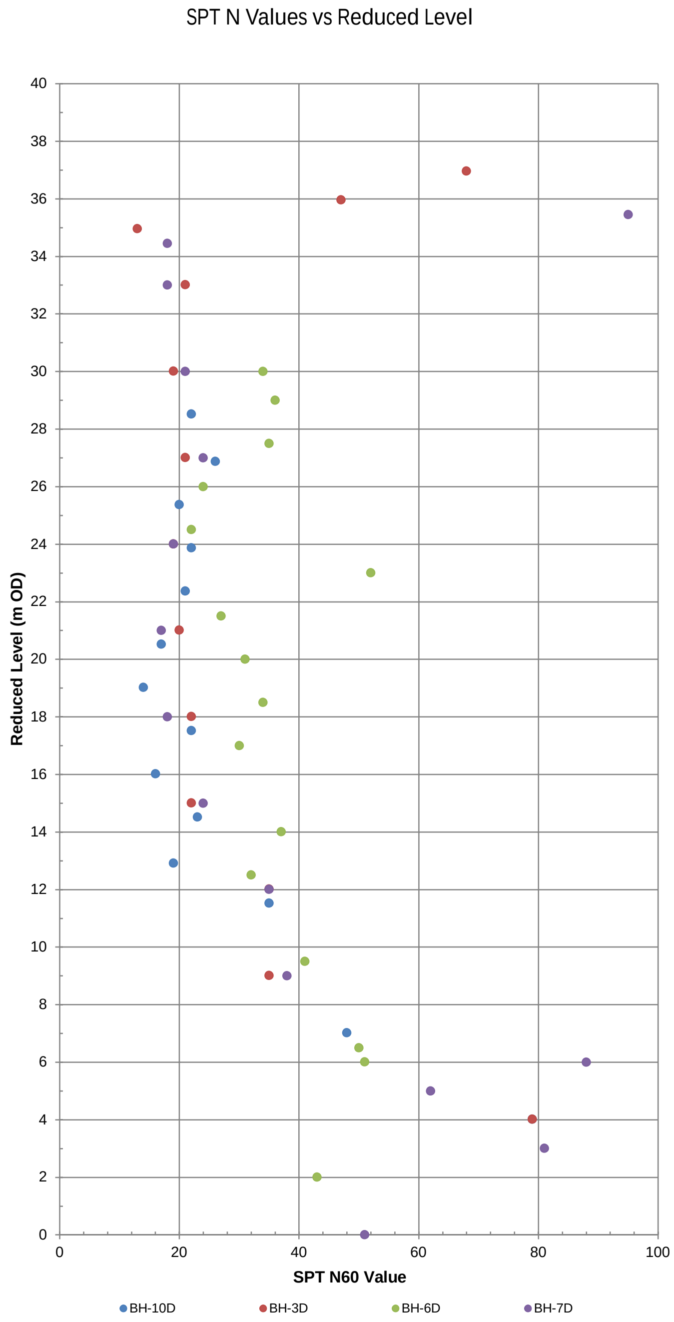



Lambeth Group Formation: Undrained Shear Strength vs Depth
Depth (m)
Cu (kPa)
Lambeth Group
Lambeth Group (Triaxial)


Lambeth Group Formation: Undrained Shear Strength vs Depth Below Strata
Depth Below Strata (m)
Cu (kPa)
Lambeth Group
Lambeth Group (Triaxial)


Lambeth Group Formation: Undrained Shear Strength vs Reduced Level
Reduced Level (m OD)
Cu (kPa)
Lambeth Group
Lambeth Group (Triaxial)


SPT N Values vs Depth
Depth (m)
SPT N60 Value
BH-10D
BH-3D
BH-6D
BH-7D


SPT N Values vs Reduced Level
Reduced Level (m OD)
SPT N60 Value
BH-10D
BH-3D
BH-6D
BH-7D

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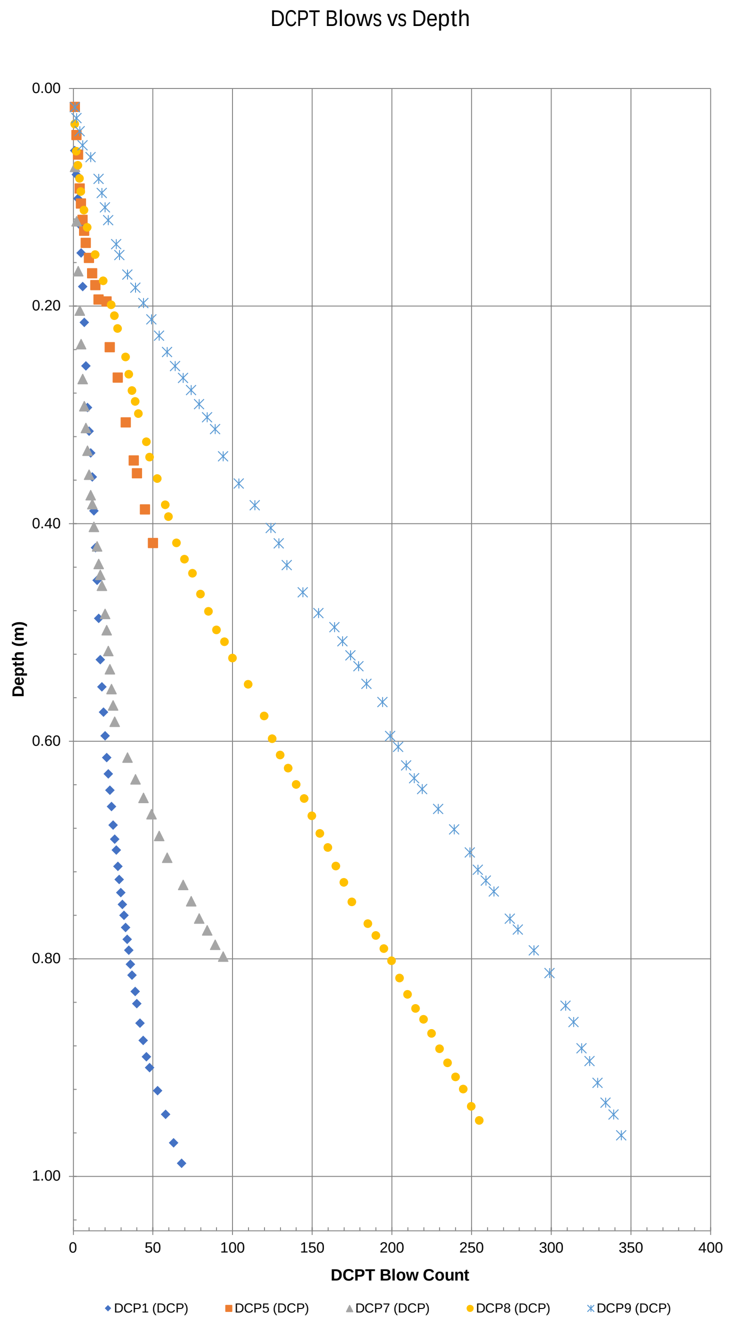

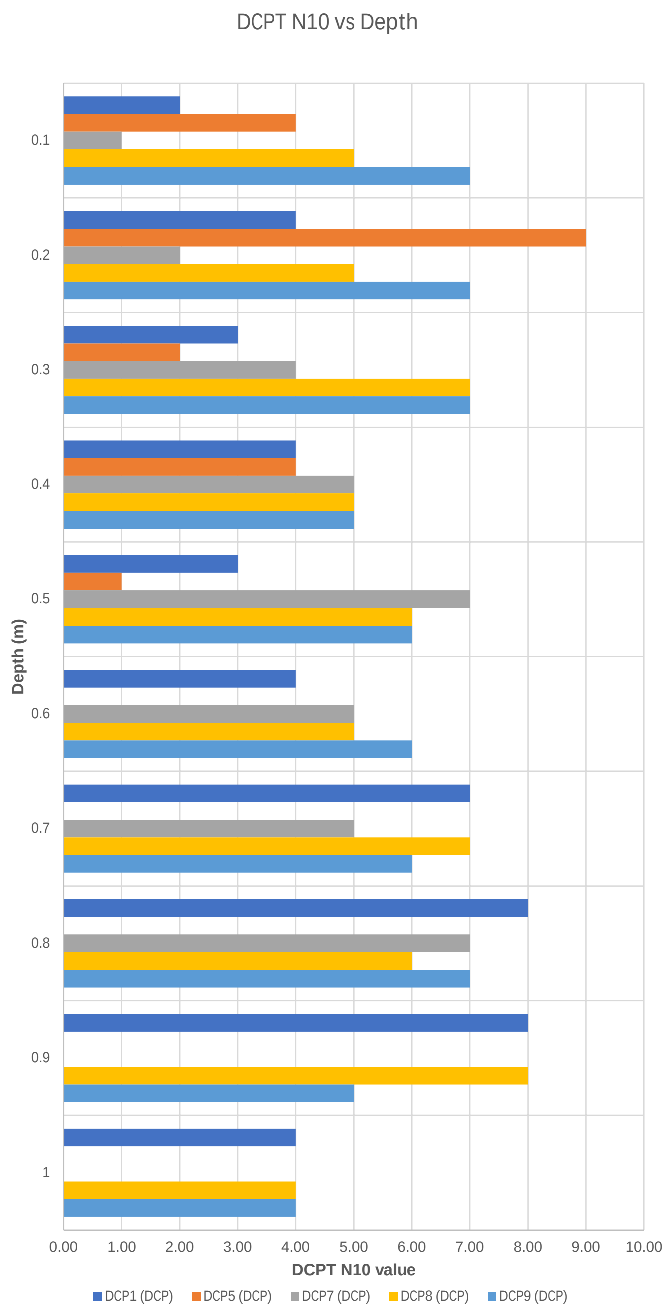

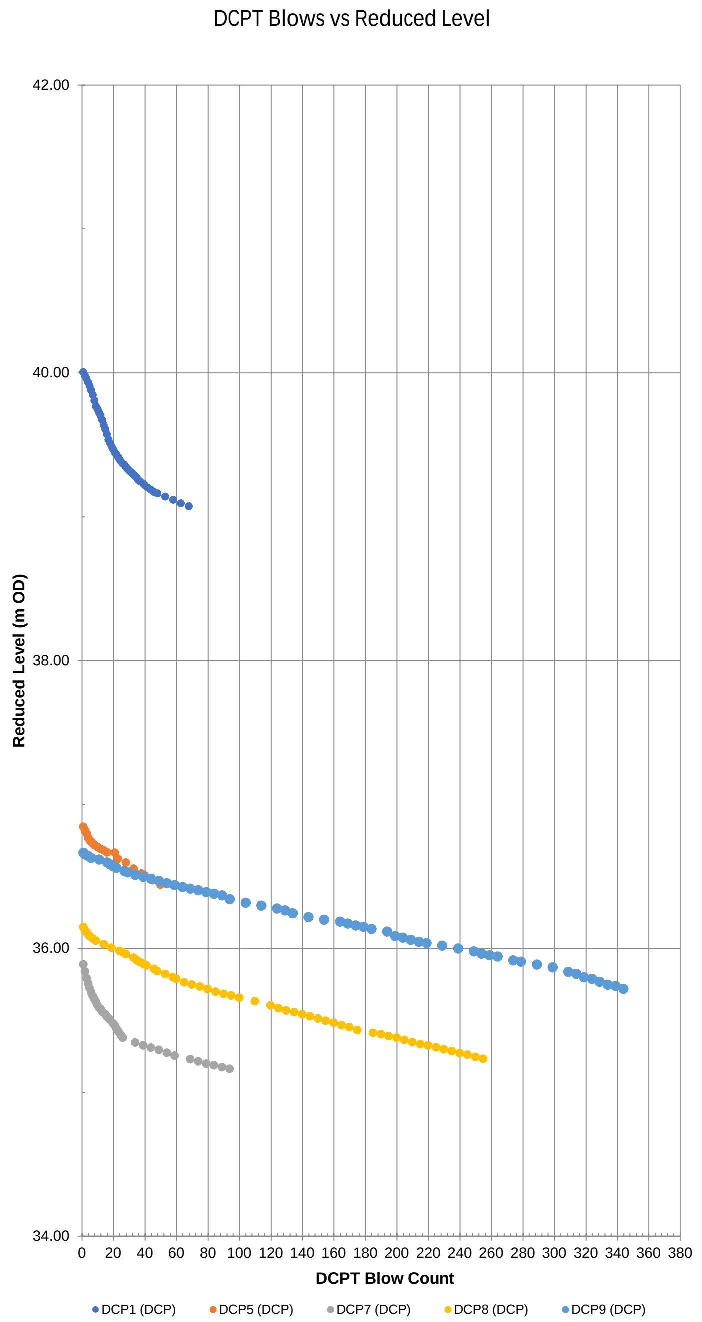

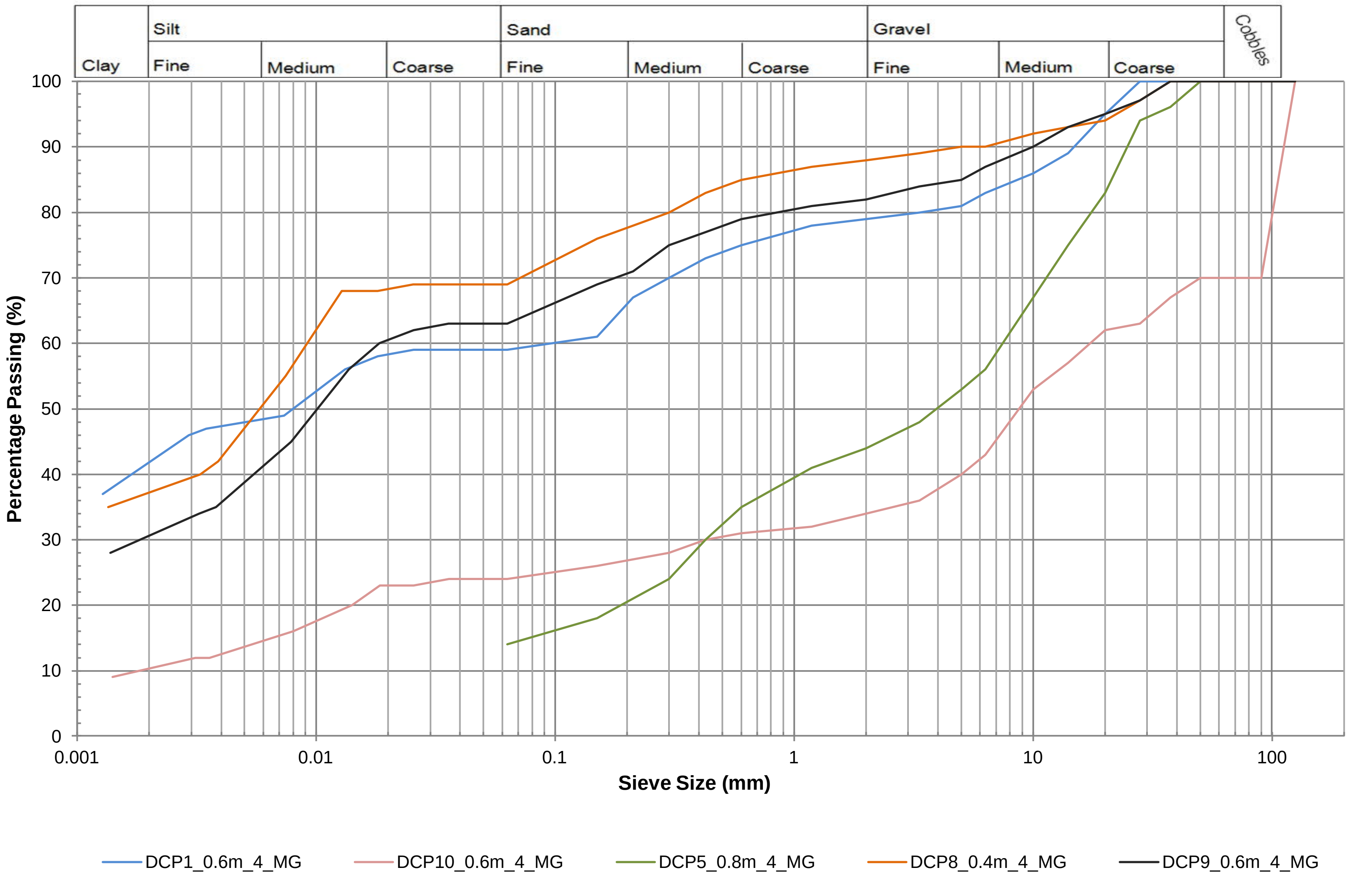

Figure title	**Particle Size Distribution - Made Ground**
Project title	Hillingdon Hospital GI Phase 1

AECOM

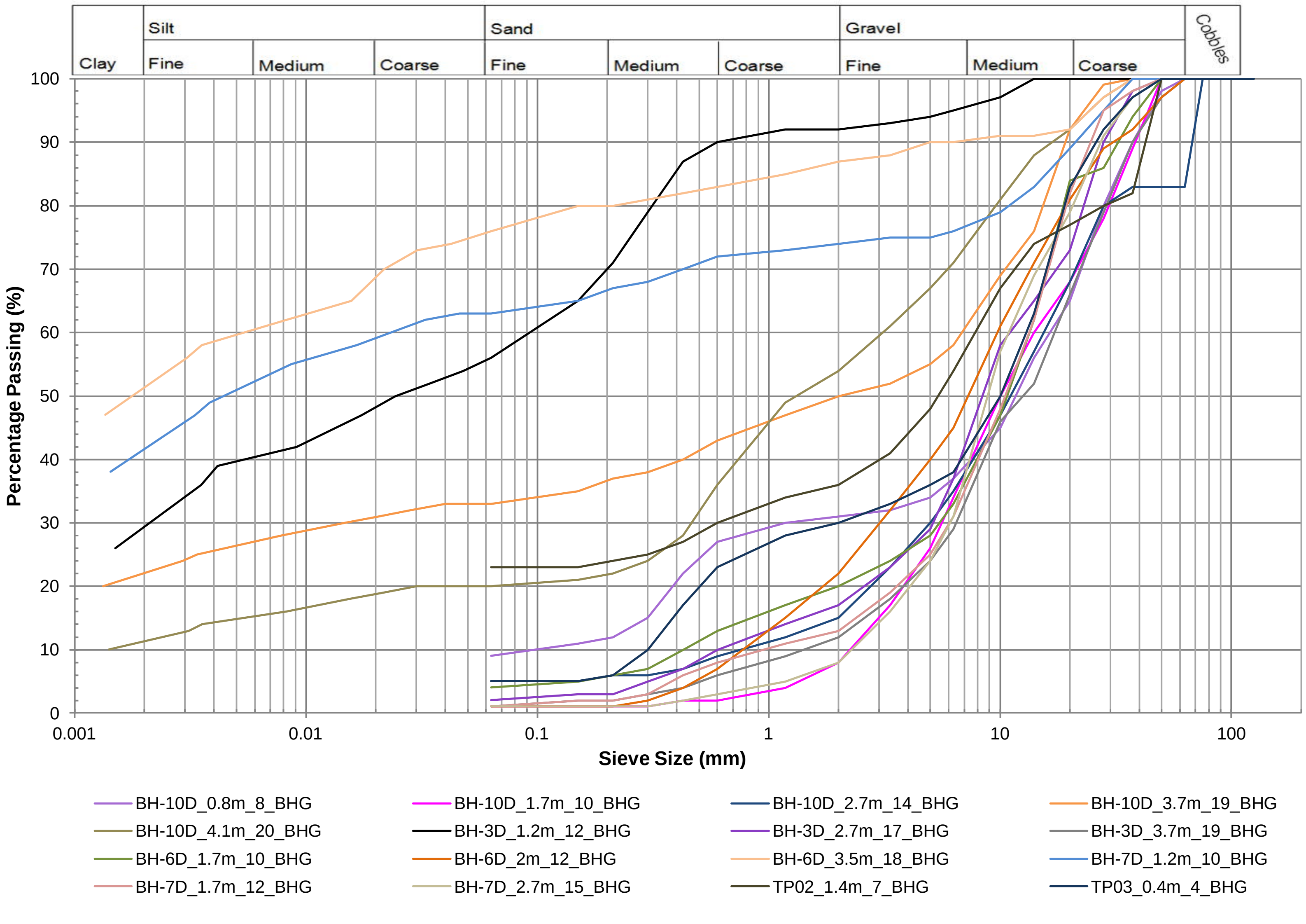

Figure title	**Particle Size Distribution - Boyle Hill Gravels**
Project title	Hillingdon Hospital GI Phase 1

AECOM

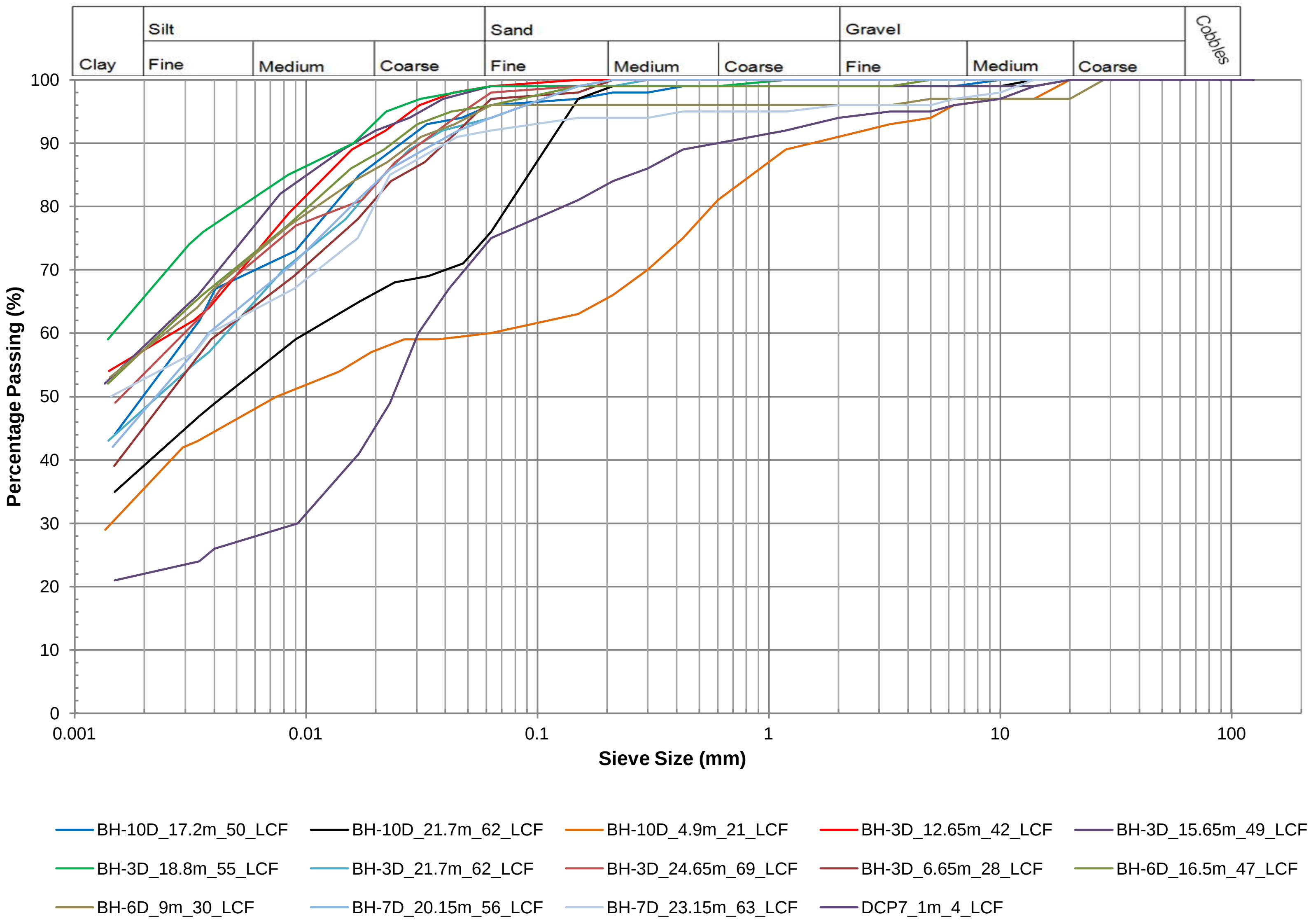

Figure title	**Particle Size Distribution - London Clay Formation**	
Project title	Hillingdon Hospital GI Phase 1	AECOM

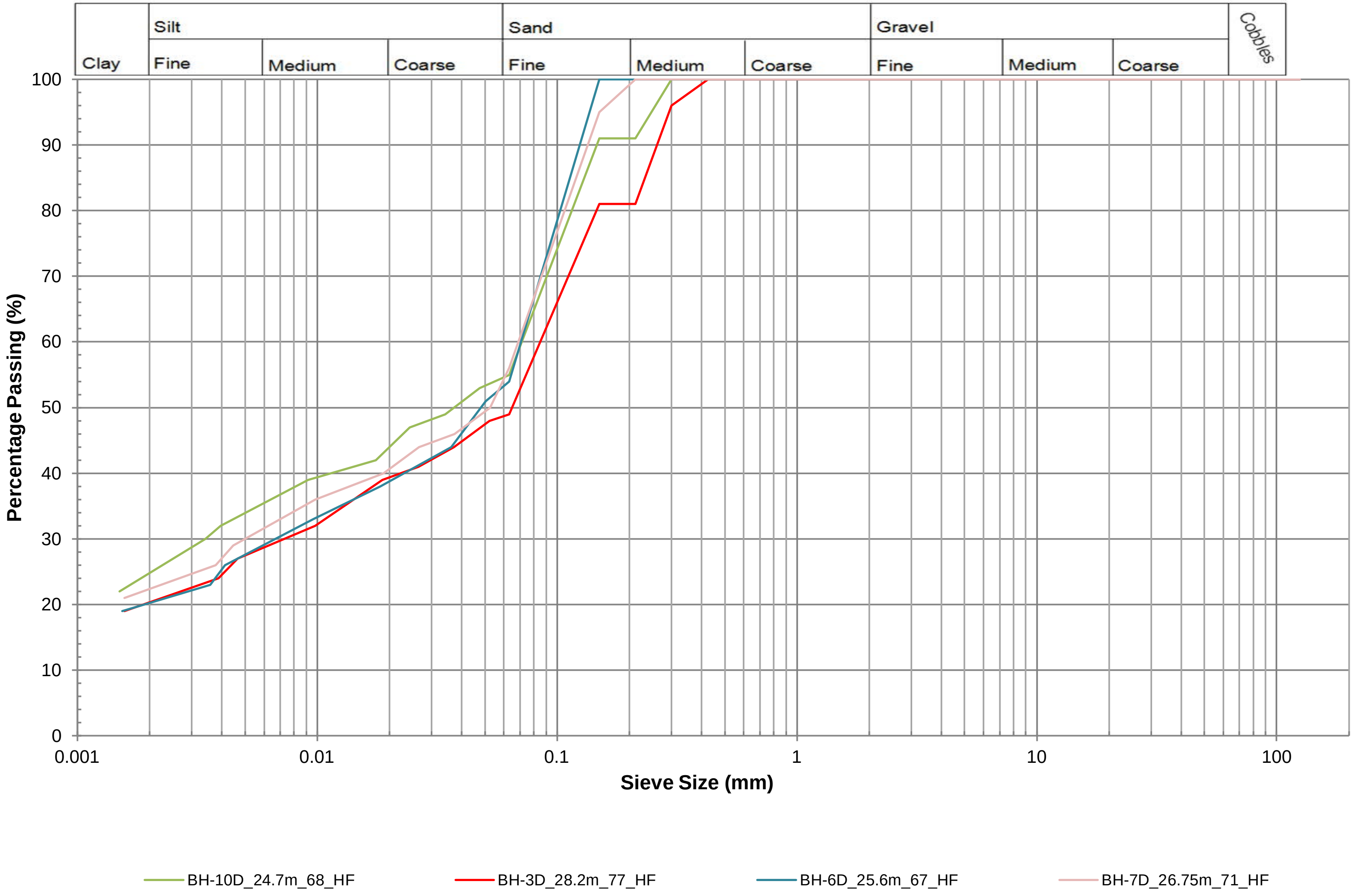

Figure title	Particle Size Distribution - Harwich Formation
Project title	Hillingdon Hospital GI Phase 1

AECOM

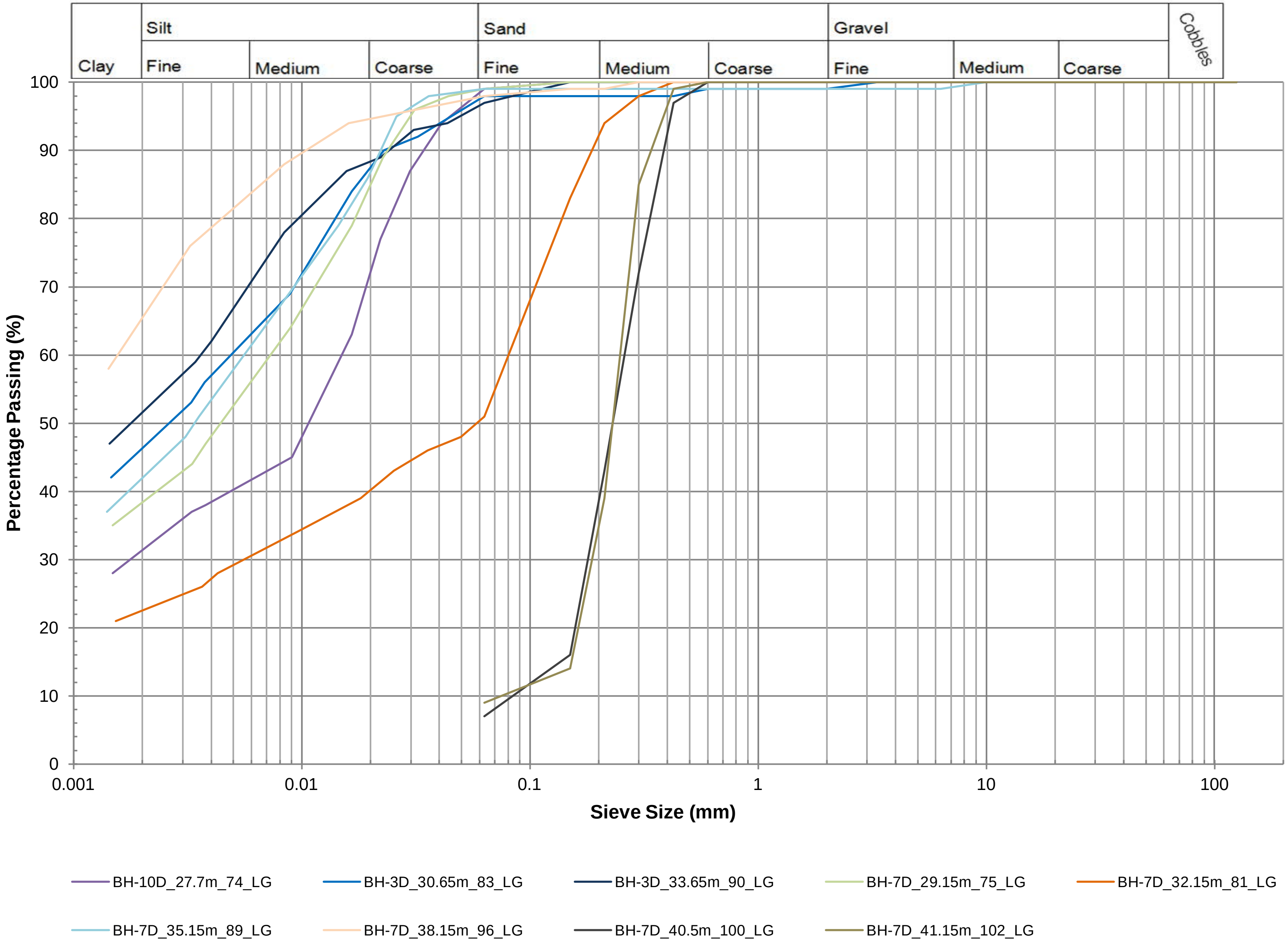

Figure title	**Particle Size Distribution - Lambeth Group**
Project title	Hillingdon Hospital GI Phase 1

AECOM

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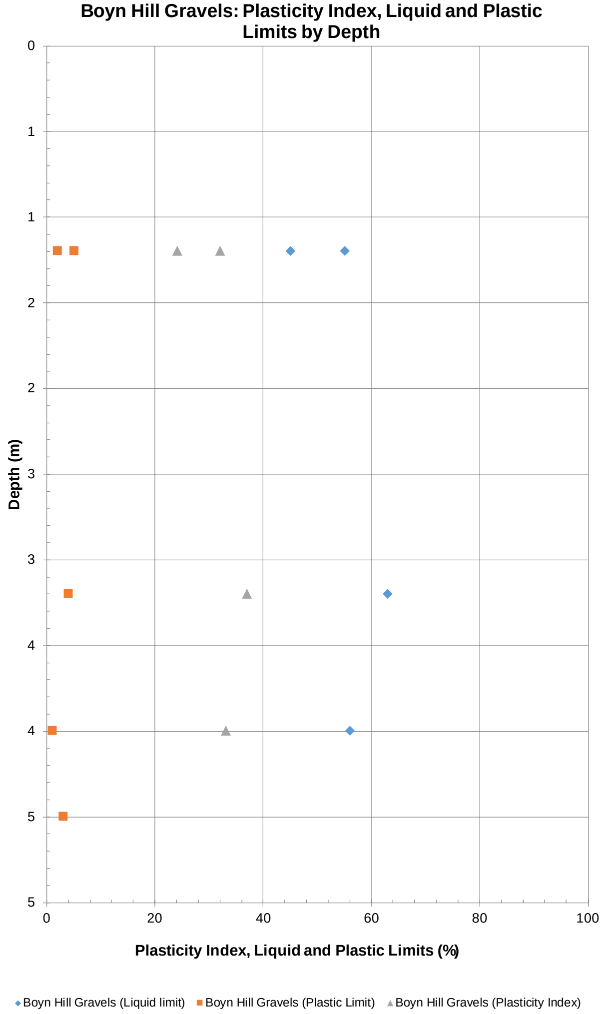
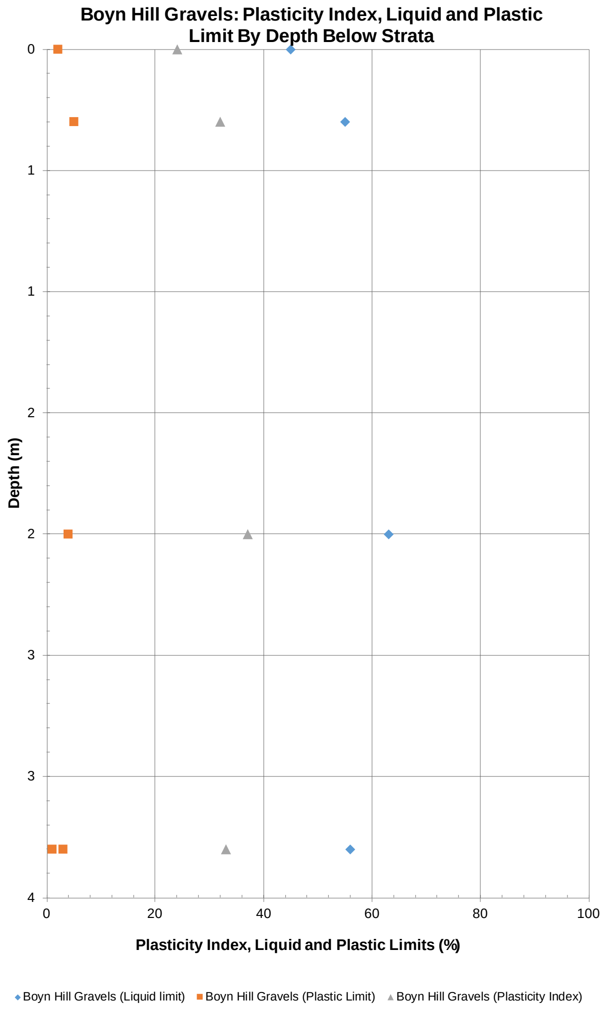
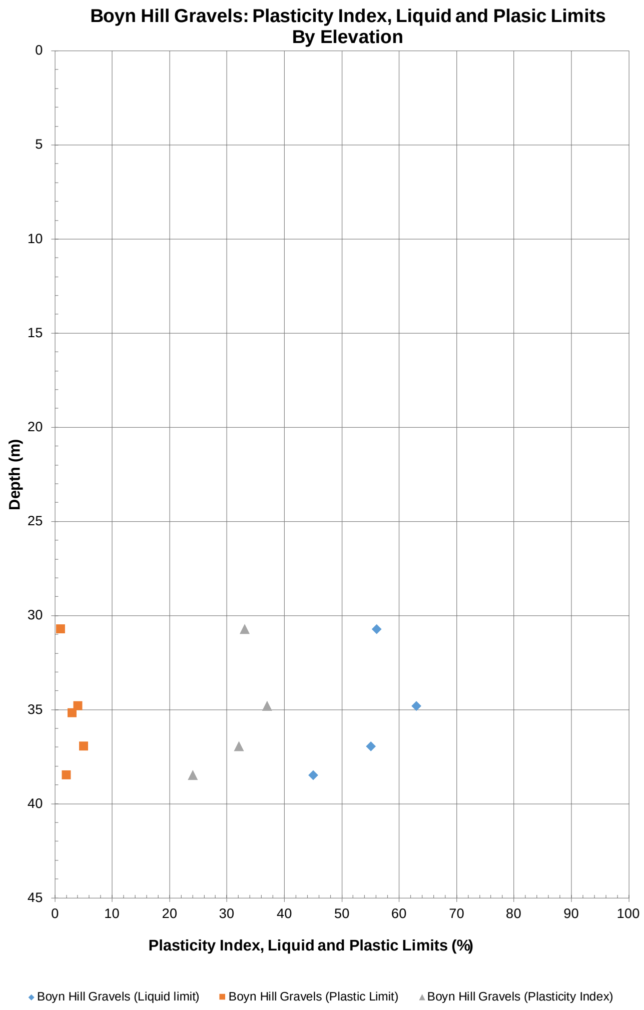
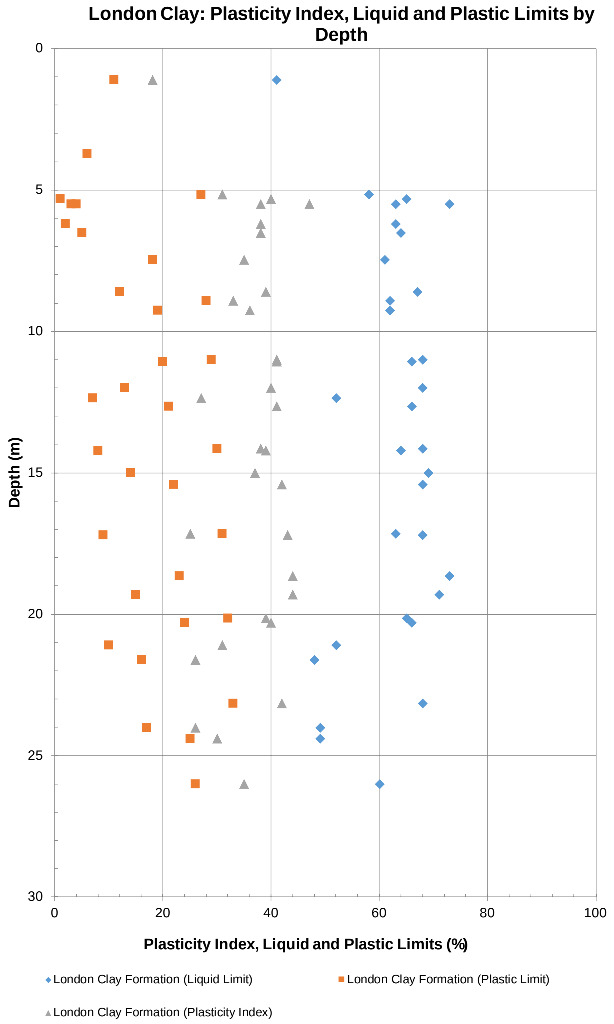
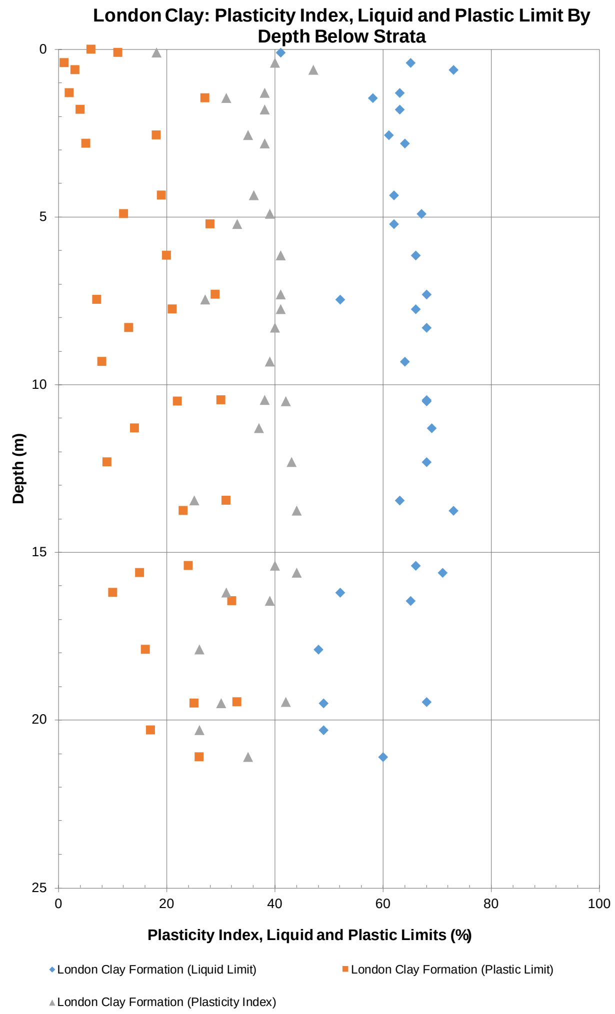
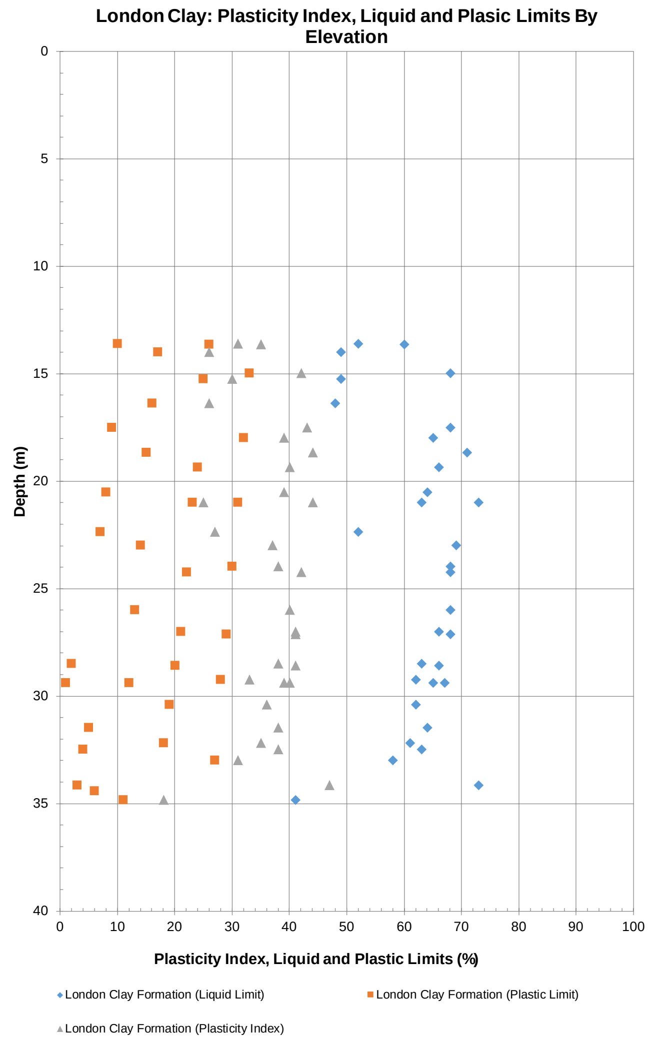


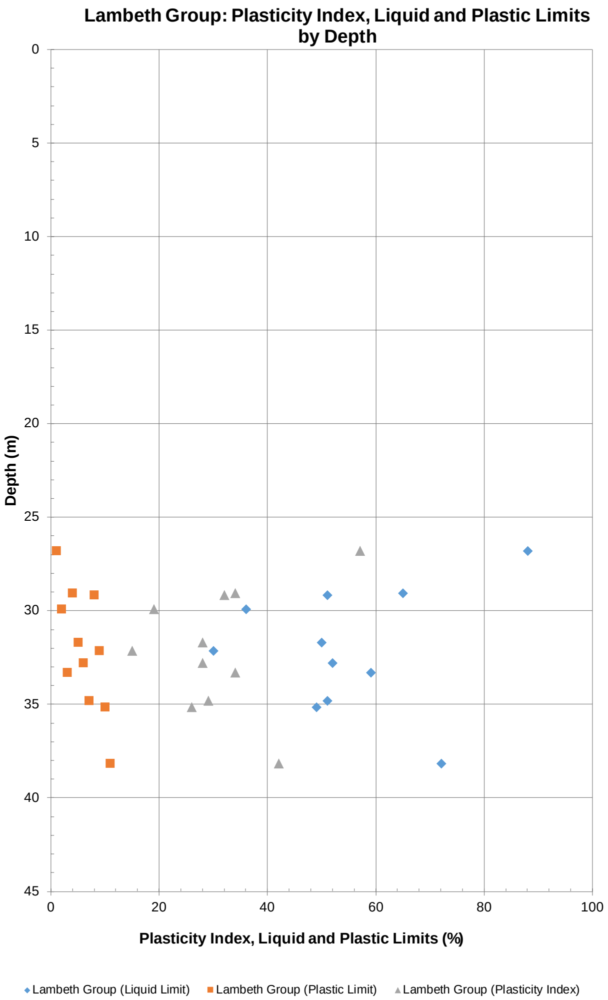


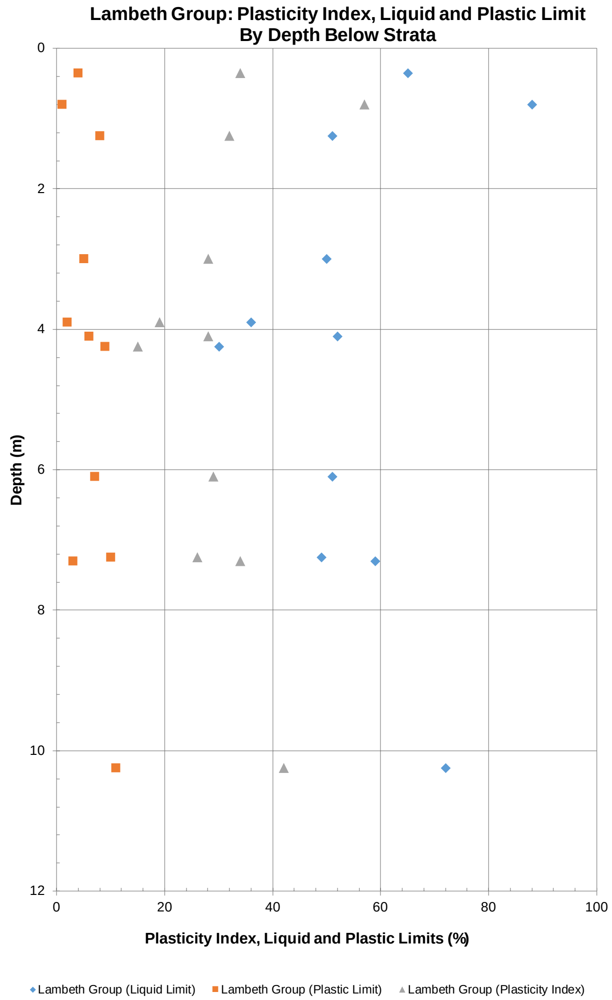


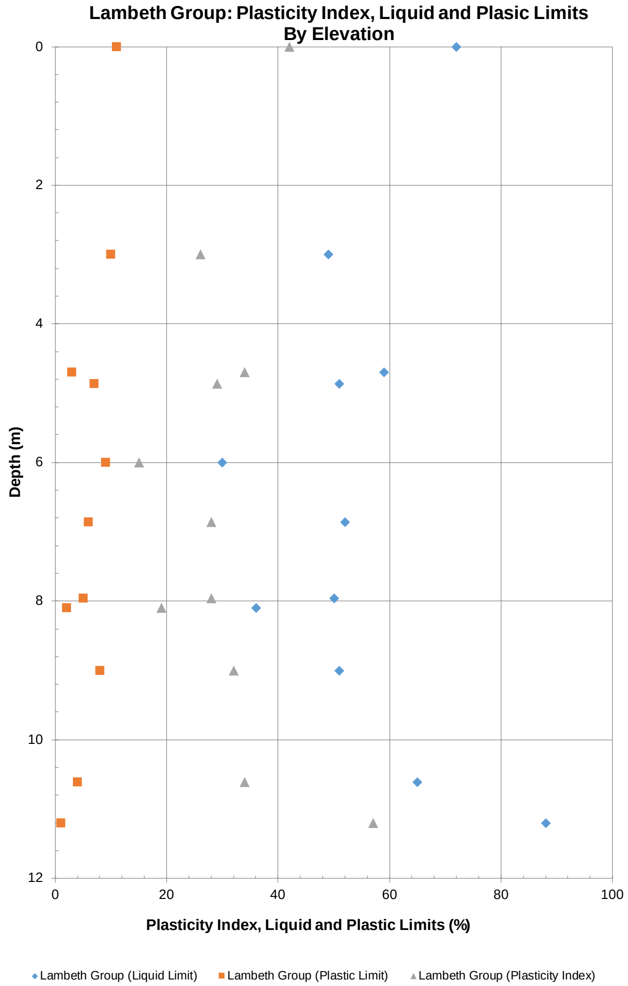

London Clay: Plasticity Index, Liquid and Plastic Limits by Depth
Depth (m)
Plasticity Index, Liquid and Plastic Limits (%)
London Clay Formation (Liquid Limit)
London Clay Formation (Plastic Limit)
London Clay Formation (Plasticity Index)

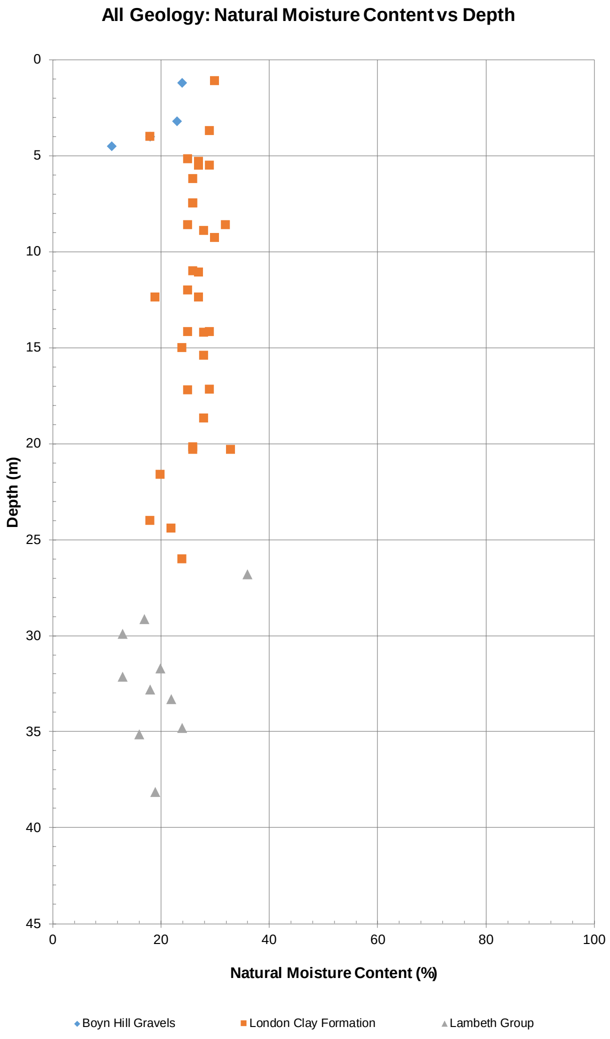

London Clay: Plasticity Index, Liquid and Plastic Limit By Depth Below Strata
Depth (m)
Plasticity Index, Liquid and Plastic Limits (%)
London Clay Formation (Liquid Limit)
London Clay Formation (Plastic Limit)
London Clay Formation (Plasticity Index)

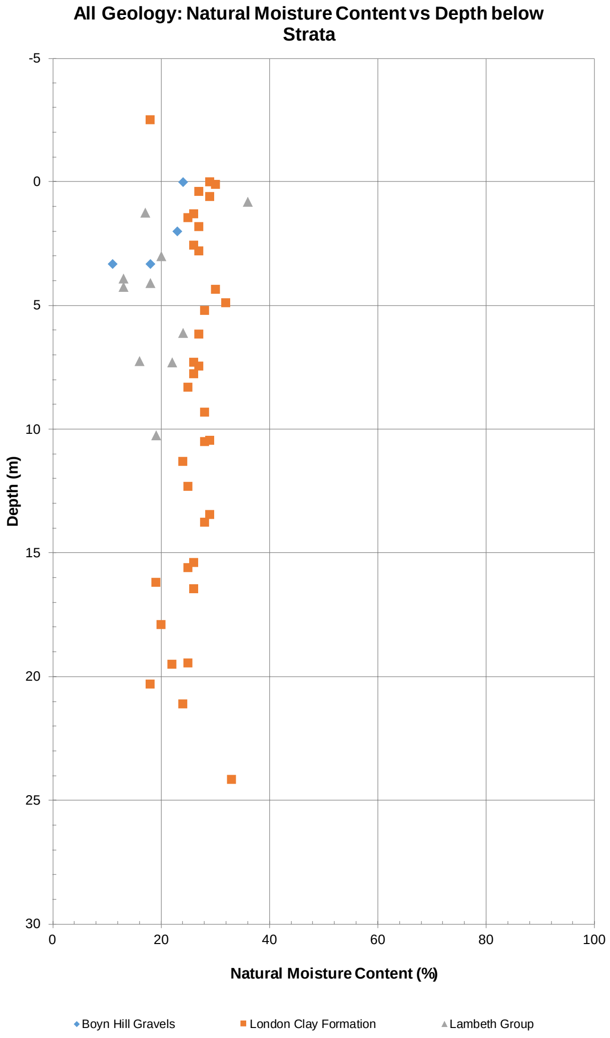

London Clay: Plasticity Index, Liquid and Plasic Limits By Elevation
Depth (m)
Plasticity Index, Liquid and Plastic Limits (%)
London Clay Formation (Liquid Limit)
London Clay Formation (Plastic Limit)
London Clay Formation (Plasticity Index)

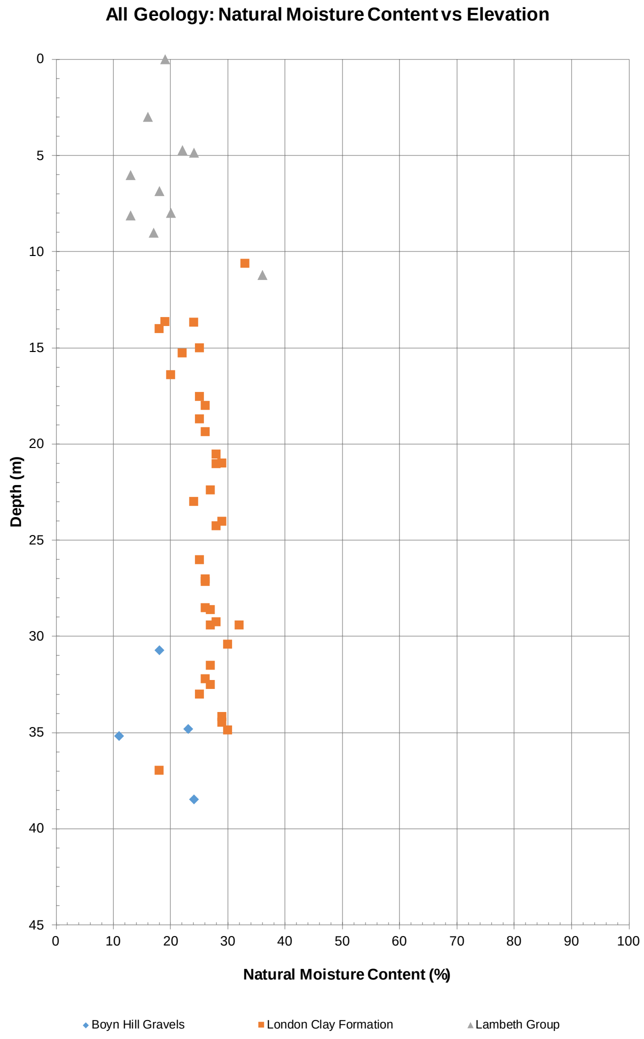

Lambeth Group: Plasticity Index, Liquid and Plastic Limits by Depth
Depth (m)
Plasticity Index, Liquid and Plastic Limits (%)
Lambeth Group (Liquid Limit)
Lambeth Group (Plastic Limit)
Lambeth Group (Plasticity Index)

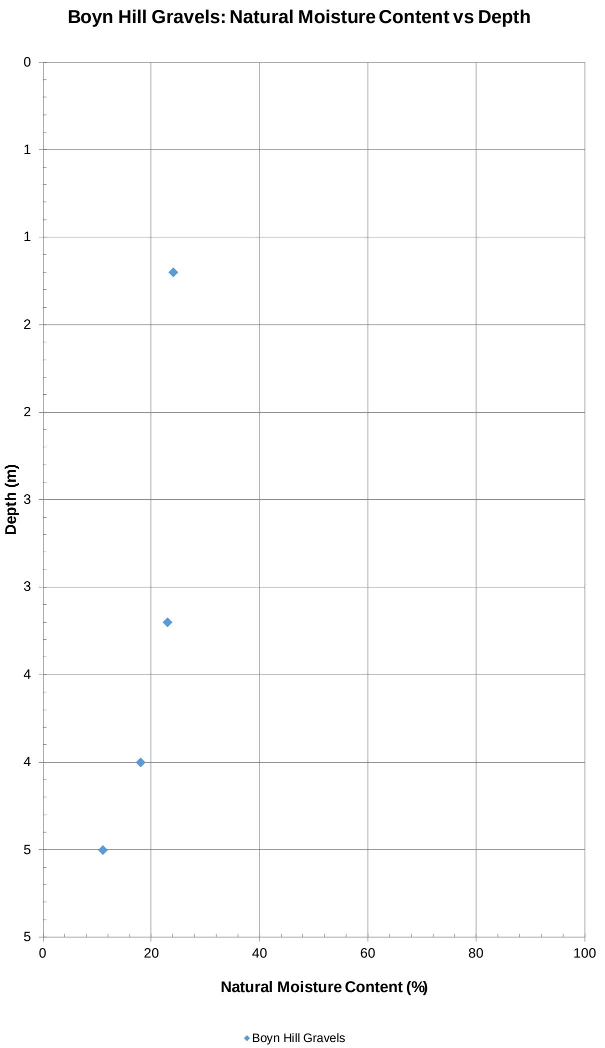

Lambeth Group: Plasticity Index, Liquid and Plastic Limit By Depth Below Strata
Depth (m)
Plasticity Index, Liquid and Plastic Limits (%)
Lambeth Group (Liquid Limit)
Lambeth Group (Plastic Limit)
Lambeth Group (Plasticity Index)

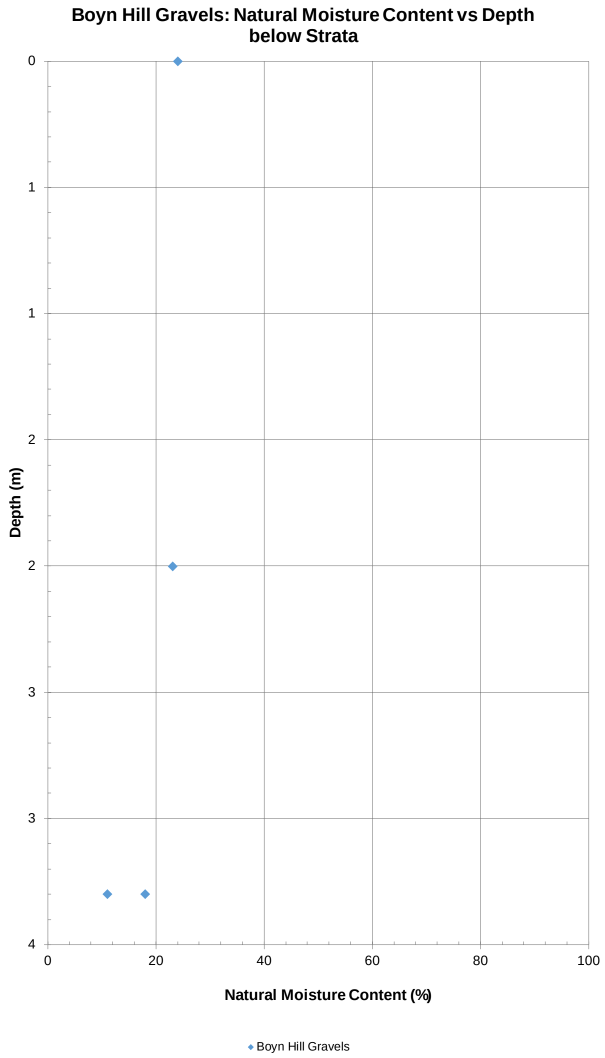

Lambeth Group: Plasticity Index, Liquid and Plasic Limits By Elevation
Depth (m)
Plasticity Index, Liquid and Plastic Limits (%)
Lambeth Group (Liquid Limit)
Lambeth Group (Plastic Limit)
Lambeth Group (Plasticity Index)

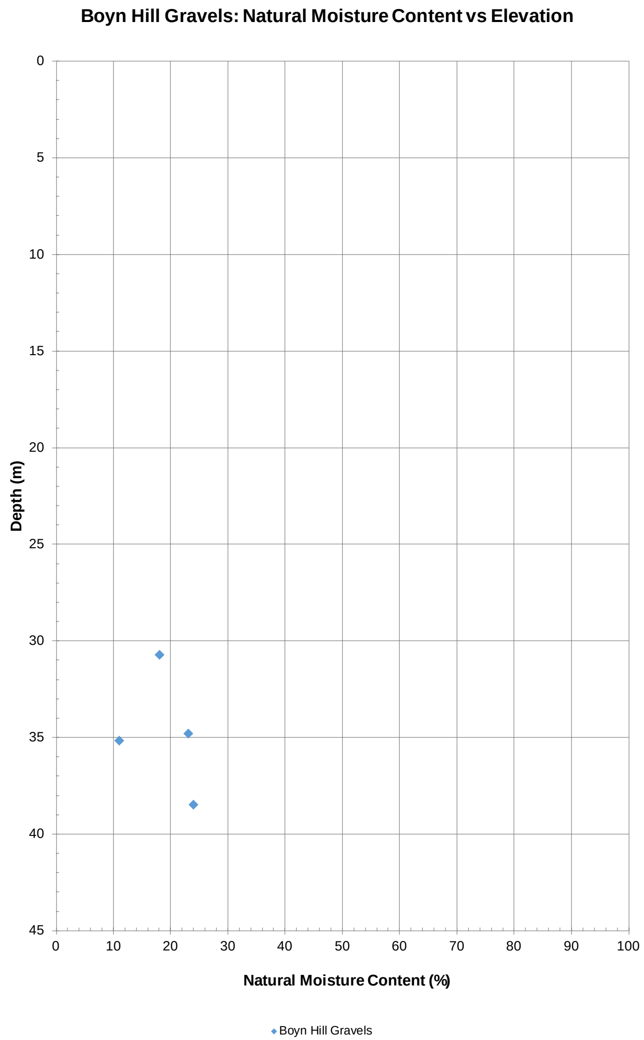

All Geology: Natural Moisture Content vs Depth
Depth (m)
Natural Moisture Content (%)
Boyn Hill Gravels
London Clay Formation
Lambeth Group

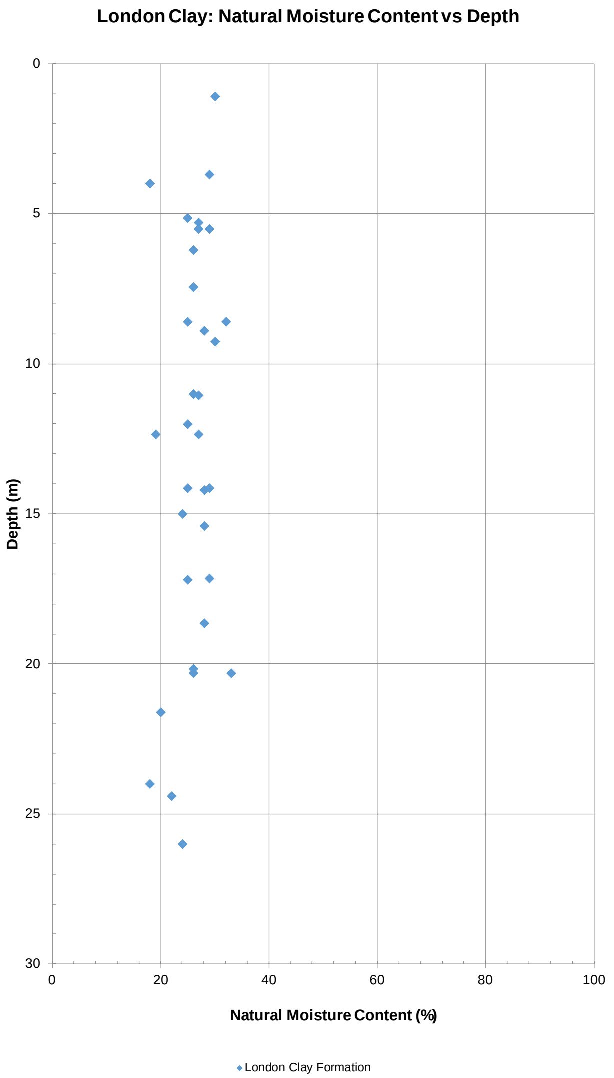

All Geology: Natural Moisture Content vs Depth below Strata
Depth (m)
Natural Moisture Content (%)
Boyn Hill Gravels
London Clay Formation
Lambeth Group

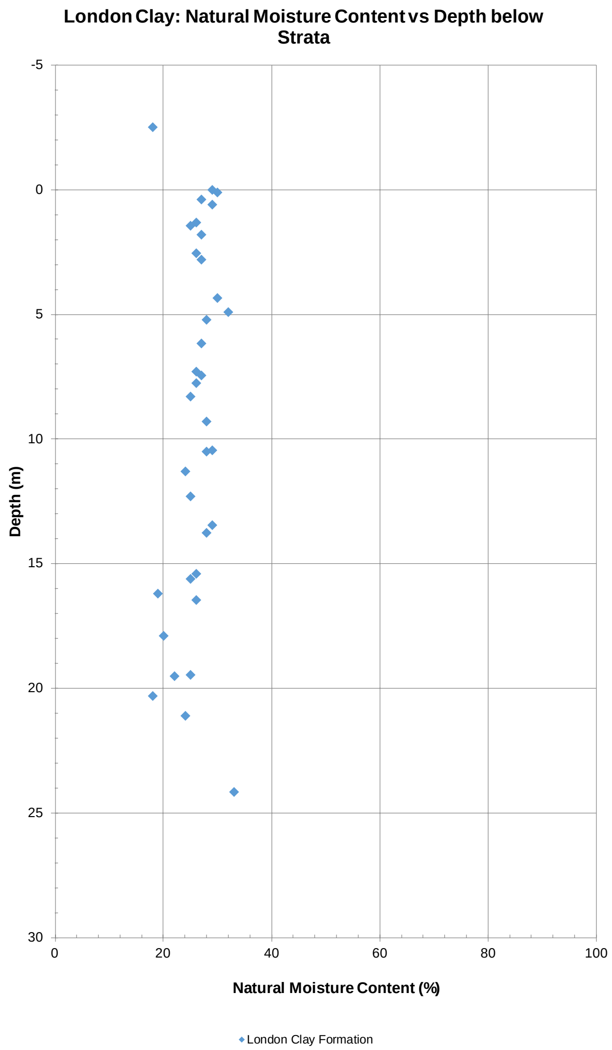

All Geology: Natural Moisture Content vs Elevation
Depth (m)
Natural Moisture Content (%)
Boyn Hill Gravels
London Clay Formation
Lambeth Group

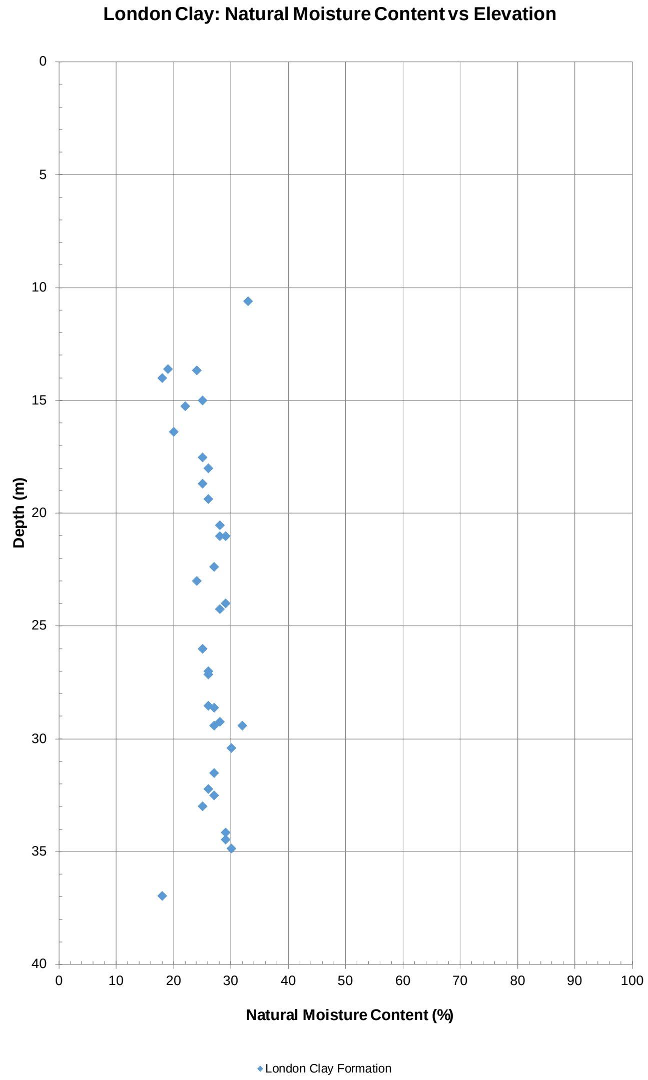

Boyn Hill Gravels: Natural Moisture Content vs Depth
Depth (m)
Natural Moisture Content (%)
Boyn Hill Gravels


Boyn Hill Gravels: Natural Moisture Content vs Depth below Strata
Depth (m)
Natural Moisture Content (%)
Boyn Hill Gravels


Boyn Hill Gravels: Natural Moisture Content vs Elevation
Depth (m)
Natural Moisture Content (%)
Boyn Hill Gravels


London Clay: Natural Moisture Content vs Depth
Depth (m)
0
5
10
15
20
25
30
0
20
40
60
80
100
Natural Moisture Content (%)
London Clay Formation


London Clay: Natural Moisture Content vs Depth below Strata
Depth (m)
-5
0
5
10
15
20
25
30
0
20
40
60
80
100
Natural Moisture Content (%)
London Clay Formation


London Clay: Natural Moisture Content vs Elevation
Depth (m)
0
5
10
15
20
25
30
35
40
0
10
20
30
40
50
60
70
80
90
100
Natural Moisture Content (%)
London Clay Formation

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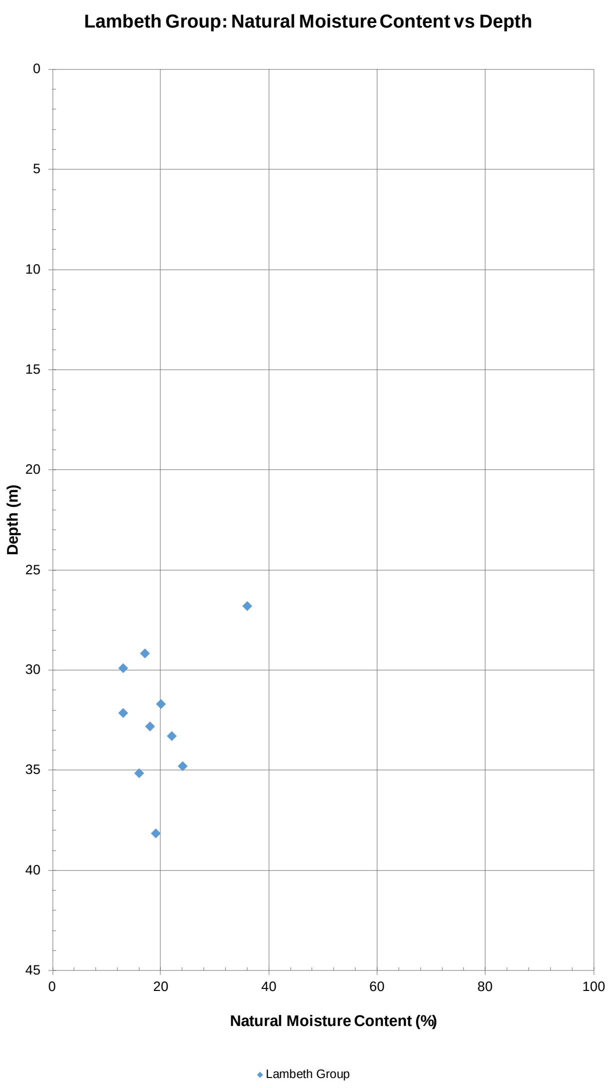
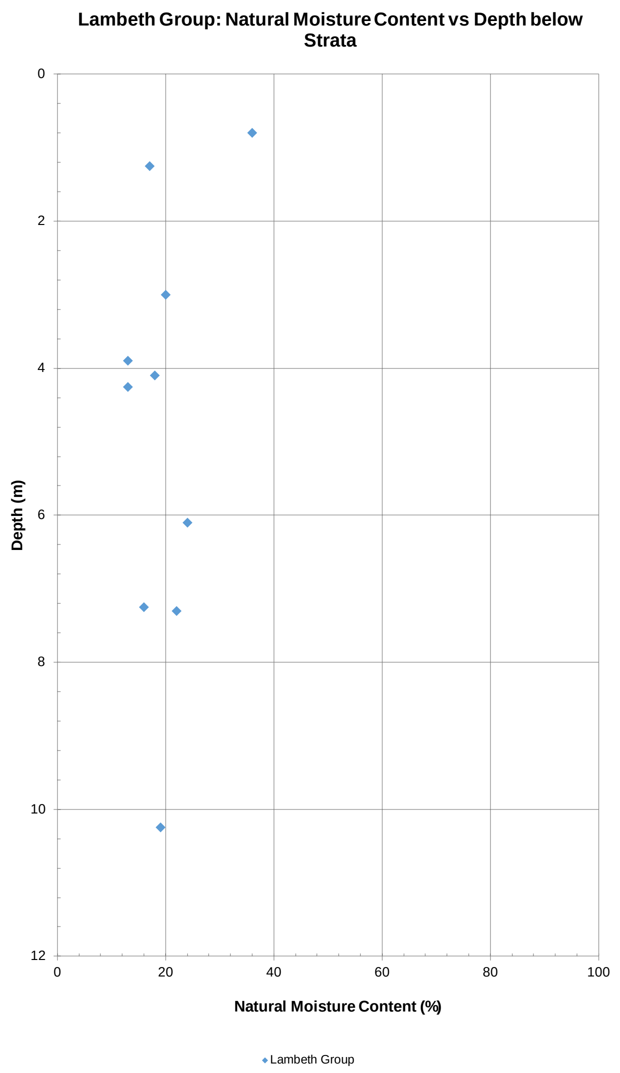
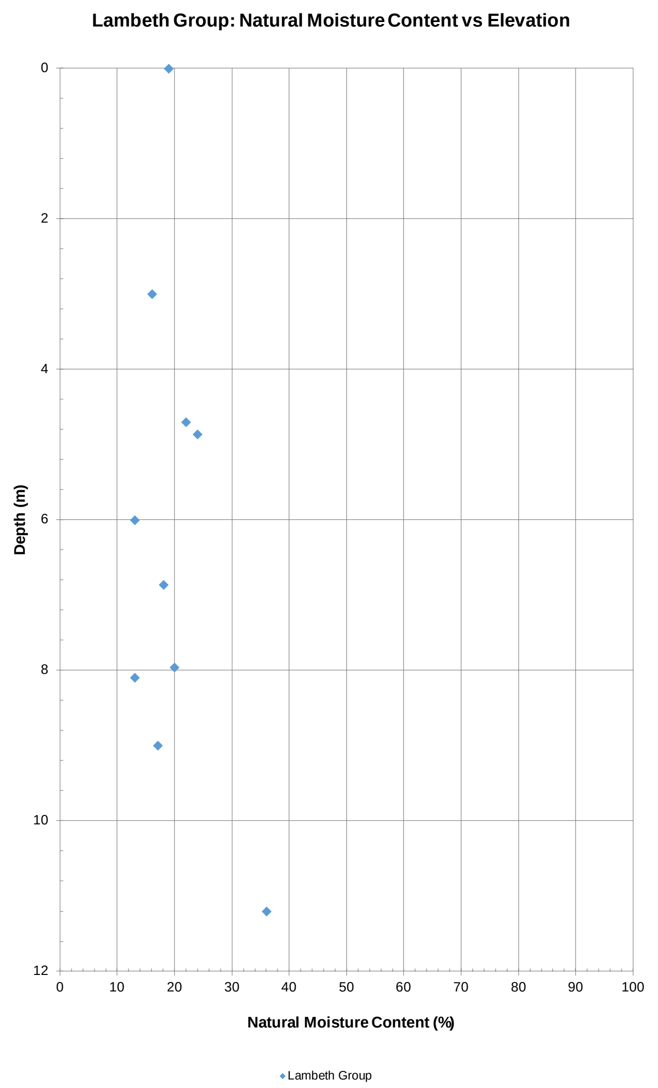
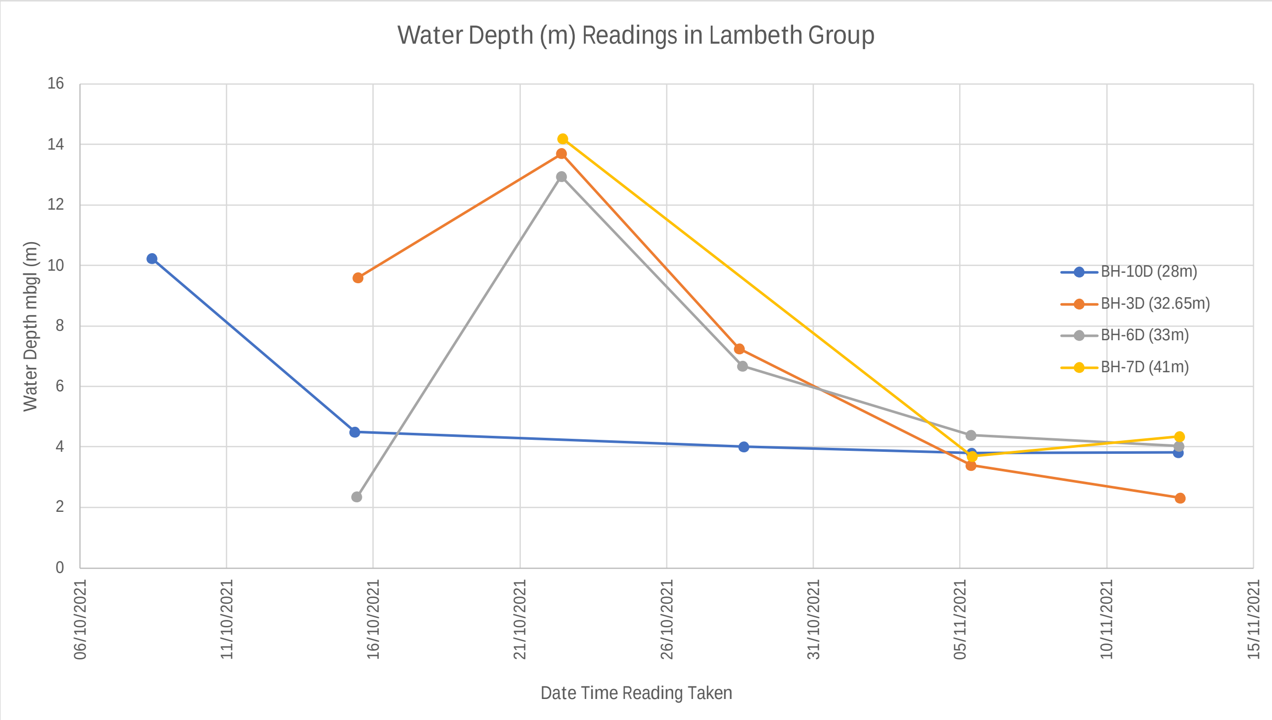
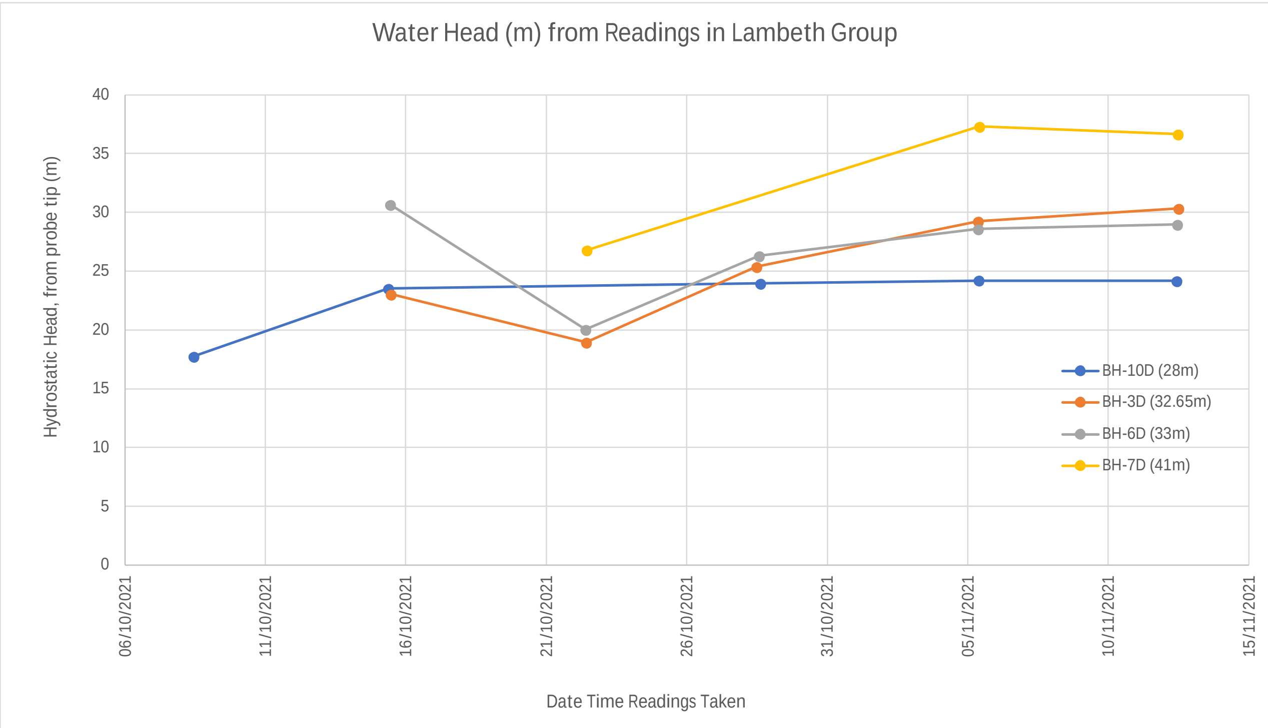
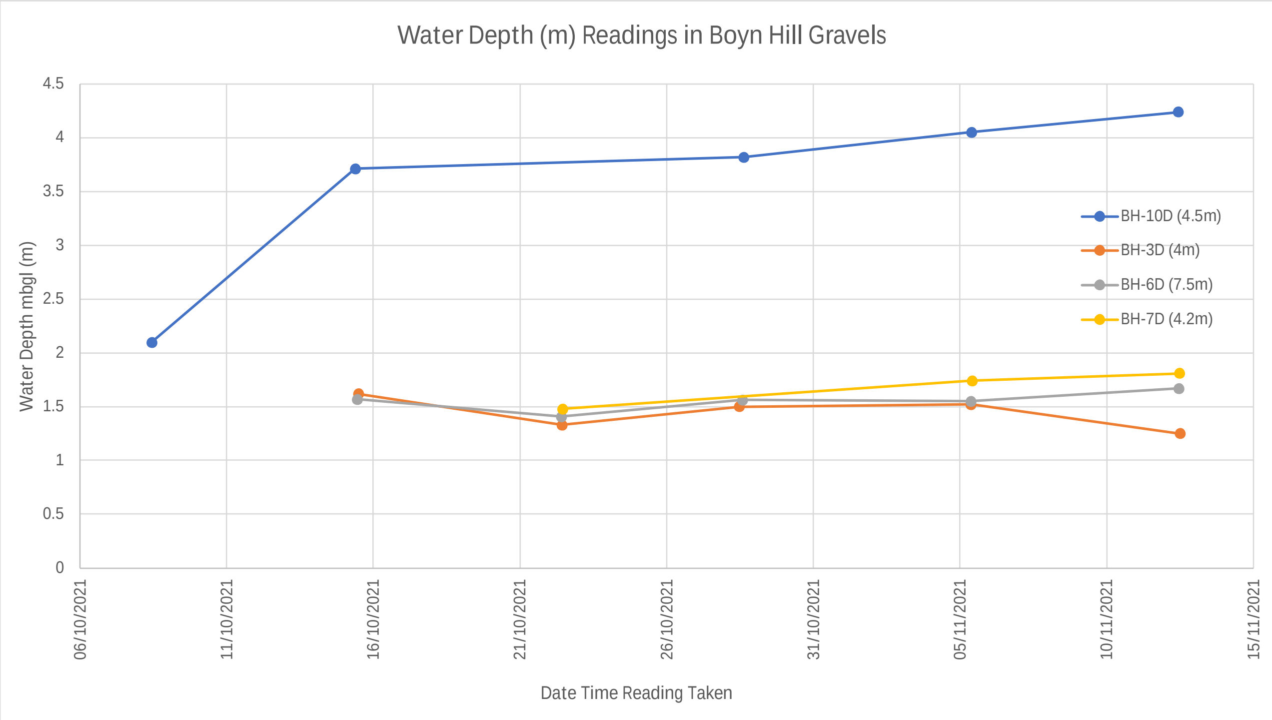


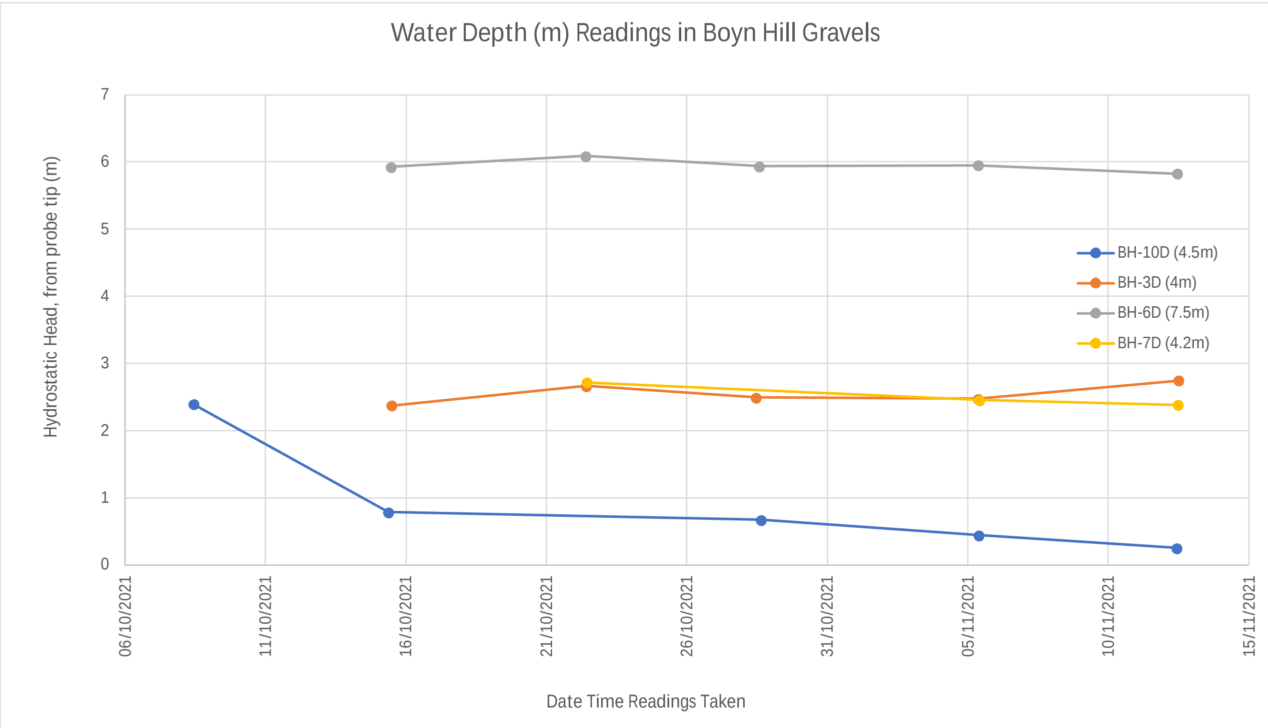





Water Depth (m) Readings in Lambeth Group
Water Depth mbgl (m)
Date Time Reading Taken
BH-10D (28m)
BH-3D (32.65m)
BH-6D (33m)
BH-7D (41m)
16
14
12
10
8
6
4
2
0
06/10/2021
11/10/2021
16/10/2021
21/10/2021
26/10/2021
31/10/2021
05/11/2021
10/11/2021
15/11/2021


Water Head (m) from Readings in Lambeth Group
Hydrostatic Head, from probe tip (m)
Date Time Readings Taken
BH-10D (28m)
BH-3D (32.65m)
BH-6D (33m)
BH-7D (41m)
40
35
30
25
20
15
10
5
0
06/10/2021
11/10/2021
16/10/2021
21/10/2021
26/10/2021
31/10/2021
05/11/2021
10/11/2021
15/11/2021


Water Depth (m) Readings in Boyn Hill Gravels
Water Depth mbgl (m)
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
06/10/2021
11/10/2021
16/10/2021
21/10/2021
26/10/2021
31/10/2021
05/11/2021
10/11/2021
15/11/2021
Date Time Reading Taken
BH-10D (4.5m)
BH-3D (4m)
BH-6D (7.5m)
BH-7D (4.2m)


Water Depth (m) Readings in Boyn Hill Gravels
Hydrostatic Head, from probe tip (m)
7
6
5
4
3
2
1
0
06/10/2021
11/10/2021
16/10/2021
21/10/2021
26/10/2021
31/10/2021
05/11/2021
10/11/2021
15/11/2021
Date Time Readings Taken
BH-10D (4.5m)
BH-3D (4m)
BH-6D (7.5m)
BH-7D (4.2m)

Appendix D Geo-environmental Stage 2 screening tables, ground gas assessment and QA/QC tables

- Stage 2 soil screening data tables
- Stage 2 leachate screening data tables
- Stage 2 water screening data tables
- QA/QC data tables
- Ground Gas assessment

	Units	MDL	GAC_HH_COM/IND_SLOAM_0.58-1.45%TOC	GAC_HH_EN/IE/NI/WA_C4SL_COM_0.58-3.48%TOC	Location	BH10D		BH3D				BH6D			BH6DA	BH7D				DCP1	DCP10	DCP5	DCP7	DCP8	DCP9	TP02	TP03
					Average Depth (m)	0.5	1	0.5	1	2	5	0.6	1.1	1.7	0.5	0.6	1.1	2.15	4	0.3	0.9	1.2	0.2	0.7	1	1	1.5
					Date	28/09/2021	28/09/2021	30/09/2021	30/09/2021	06/10/2021	06/10/2021	29/09/2021	29/09/2021	30/09/2021	29/09/2021	30/09/2021	30/09/2021	04/10/2021	05/10/2021	14/10/2021	14/10/2021	12/10/2021	12/10/2021	13/10/2021	13/10/2021	06/10/2021	06/10/2021
					Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
					Lab Report Number	617299	617299	616845	616845	617868	617868	616838	616838	617533	617533	617054	617054	617903	617903	624379	624379	624379	624379	624379	624379	617903	617903
TPH																											
>C10-C44 Aliphatics	mg/kg	5				98.4	<5	37	<5	<5	<5	<5	<5	<5	11	6	<5	<5	<5	18.8	<5	<5	18.4	7.01	<5	9.39	<5
>EC10-EC44 Aromatics	mg/kg	5				36.7	<5	1,230	<5	<5	<5	<5	<5	147	13.5	23.7	<5	<5	<5	565	116	23.2	47.3	22.4	<5	389	<5
GRO >C5-C10	mg/kg	0.02				<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
>C5-C6 Aliphatics	mg/kg	0.01	3,200[#1]			0.0141	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>C5-C10 Aliphatics	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
>C6-C8 Aliphatics	mg/kg	0.01	7,800[#1]			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>C8-C10 Aliphatics	mg/kg	0.01	2,000[#1]			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>C10-C12 Aliphatics	mg/kg	1	9,700[#1]			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
>C12-C16 Aliphatics	mg/kg	1	59,000[#1]			1.66	<1	4.65	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
>C16-C21 Aliphatics	mg/kg	1				6.93	<1	11.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	8.78	<1	<1	<1	<1	<1	2.5	<1
>C21-C35 Aliphatics	mg/kg	1				48.5	<1	17.9	1.35	<1	<1	<1	<1	<1	7.63	3.42	<1	<1	<1	6.94	2.98	<1	16.1	6.06	2.4	5.89	<1
>C35-C44 Aliphatics	mg/kg	1	1,600,000[#1]			41.3	<1	3.23	<1	<1	<1	<1	<1	<1	3.35	2.58	<1	<1	<1	1.62	<1	<1	1.62	<1	<1	<1	<1
>C5-C10 Aromatics	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
>EC5-EC7 Aromatics	mg/kg	0.01	26,000[#1]			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>EC7-EC8 Aromatics	mg/kg	0.01	56,000[#1]			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>EC8-EC10 Aromatics	mg/kg	0.01	3,500[#1]			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>EC10-EC12 Aromatics	mg/kg	1	16,000[#1]			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
>EC12-EC16 Aromatics	mg/kg	1	36,000[#1]			<1	<1	44.1	<1	<1	<1	<1	<1	4.88	<1	<1	<1	<1	<1	<1	1.83	<1	<1	1.56	<1	8.88	<1
>EC16-EC21 Aromatics	mg/kg	1	28,000[#1]			5.94	<1	325	<1	<1	<1	<1	<1	49.8	1.99	4.45	<1	<1	<1	17.5	22.8	5.51	5.39	6.37	<1	98.2	<1
>EC21-EC35 Aromatics	mg/kg	1	28,000[#1]			26.2	<1	761	1.82	<1	<1	<1	2.82	82.5	8.93	16.9	<1	2.43	1.81	358	81.5	16	37.1	13.2	<1	248	<1
>EC35-EC44 Aromatics	mg/kg	1	28,000[#1]			3.68	<1	98.8	<1	<1	<1	<1	<1	9.51	2.58	2.25	<1	<1	<1	189	10.3	1.74	4.35	1.09	<1	33.8	<1
>EC40-EC44 Aromatics	mg/kg	1				<1	<1	14.1	<1	<1	<1	<1	<1	1.17	<1	<1	<1	<1	<1	39.2	2.57	<1	<1	<1	<1	6.1	<1
>C5-C44 Aliphatics & Aromatics	mg/kg	10				135	<10	1,270	<10	<10	<10	<10	<10	147	24.5	29.7	<10	<10	<10	584	116	23.2	65.7	29.5	<10	399	<10
PAH 16 Total + Coronene	mg/kg	0.318				8.42	<0.318	128	2.69	<0.318	<0.318	1.15	3.03	0.66	2.51	3.02	16.3	2.17	<0.318	1.82	25.8	20.4	10.1	1.97	<0.318	21.7	<0.318
TPH (Ali & Aro)	mg/kg	10				135	<10	1,270	<10	<10	<10	<10	<10	148	24.5	29.7	<10	<10	<10	584	120	23.3	65.7	29.5	<10	399	<10
BTEX																											
Benzene	mg/kg	0.009	27[#1]	27[#2]		<0.18	<0.009	<0.009	<0.009	<0.009	<0.09	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.09	<0.18	<0.009	<0.009	<0.18	<0.009	<0.009	<0.09	<0.009
Toluene	mg/kg	0.007	56,000[#1]			<0.14	<0.007	<0.007	<0.007	<0.007	<0.07	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.07	<0.14	<0.007	<0.007	<0.14	<0.007	<0.007	<0.07	<0.007
Ethylbenzene	mg/kg	0.004	5,700[#1]			<0.08	<0.004	<0.004	<0.004	<0.004	<0.04	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.04	<0.08	<0.004	<0.004	<0.08	<0.004	<0.004	<0.04	<0.004
Xylene (m & p)	mg/kg	0.01				<0.2	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.2	<0.01	<0.01	<0.2	<0.01	<0.01	<0.1	<0.01
Xylene Total	mg/kg	0.02	5,900[#1]			<0.4	<0.02	<0.02	<0.02	<0.02	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.2	<0.4	<0.02	<0.02	<0.4	<0.02	<0.02	<0.2	<0.02
Xylene (o)	mg/kg	0.01	6,600[#1]			<0.2	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.2	<0.01	<0.01	<0.2	<0.01	<0.01	<0.1	<0.01
Total BTEX	mg/kg	0.04				<0.8	<0.04	<0.04	<0.04	<0.04	<0.4	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.4	<0.8	<0.04	<0.04	<0.8	<0.04	<0.04	<0.4	<0.04
Oxygenates																											
MTBE	mg/kg	0.01	7,900[#3]			<0.2	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.2	<0.01	<0.01	<0.2	<0.01	<0.01	<0.1	<0.01
Tert Amyl Methyl Ether	mg/kg	0.01				<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
Chlorinated Hydrocarbons																											
Chloromethane	mg/kg	0.007	1[#3]			<0.14	-	-	<0.007	-	-	<0.007	-	-	-	<0.007	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	0.006	0.059[#1]			<0.12	-	-	<0.006	-	-	<0.006	-	-	-	<0.006	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	0.01	960[#3]			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
1,1-dichloroethene	mg/kg	0.01	26[#3]			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	mg/kg	0.01	270[#3]			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-dichloroethene	mg/kg	0.01	22[#3]			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
1,1-dichloroethane	mg/kg	0.008	280[#3]			<0.16	-	-	<0.008	-	-	<0.008	-	-	-	<0.008	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-dichloroethene	mg/kg	0.006	14[#3]			<0.12	-	-	<0.006	-	-	<0.006	-	-	-	<0.006	-	-	-	-	-	-	-	-	-	-	-
Chloroform	mg/kg	0.008	99[#1]			<0.16	-	-	<0.008	-	-	<0.008	-	-	-	<0.008	-	-	-	-	-	-	-	-	-	-	-
1,1,1-trichloroethane	mg/kg	0.007	660[#1]			<0.14	-	-	<0.007	-	-	<0.007	-	-	-	<0.007	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	0.01	2.9[#1]			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	0.009	1.2[#1]			<0.18	-	-	<0.009	-	-	<0.009	-	-	-	<0.009	-	-	-	-	-	-	-	-	-	-	-
1,1,2-trichloroethane	mg/kg	0.01	94[#3]			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	0.005	19[#1]			<0.1	-	-	<0.005	-	-	<0.005	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-
Sum of PCE and TCE	mg/kg					0[#2]	-	-	0[#2]	-	-	0[#2]	-	-	-	0[#2]	-	-	-	-	-	-	-	-	-	-	-
VOC																											
2,2-dichloropropane	mg/kg	0.01				<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
Bromochloromethane	mg/kg	0.01	630[#4]			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
1,1-dichloropropene	mg/kg	0.01				<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
1,2-dichloroethane	mg/kg	0.005	0.67[#1]			<0.1	-	-	<0.005	-	-	<0.005	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-
1,2-dichloropropane	mg/kg	0.01	3.3[#3]			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	mg/kg	0.009	99[#4]			<0.18	-	-	<0.009	-	-	<0.009	-	-	-	<0.009	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	0.007	1.3[#4]			<0.14	-	-	<0.007	-	-	<0.007	-	-	-	<0.007	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-dichloropropene	mg/kg	0.01				<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-dichloropropene	mg/kg	0.01				<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
1,3-dichloropropane	mg/kg	0.007	23,000[#4]			<0.14	-	-	<0.007	-	-	<0.007	-	-	-	<0.007	-	-	-	-	-	-	-	-	-	-	-
Chlorodibromomethane	mg/kg	0.01	39[#4]			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
1,1,1,2-tetrachloroethane	mg/kg	0.01	110[#1]			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	0.01	3,300[#3]			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	0.01	760[#3]			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
Isopropylbenzene	mg/kg	0.005	1,400[#3]			<0.1	-	-	<0.005	-	-	<0.005	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-tetrachloroethane	mg/kg	0.01	270[#1]			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
1,2,3-trichloropropane	mg/kg	0.016	0.11[#4]			<0.32	-	-	<0.016	-	-	<0.016	-	-	-	<0.016	-	-	-	-	-	-	-	-	-	-	-
n-propylbenzene	mg/kg	0.01	4,100[#3]			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
1,3,5-trimethylbenzene	mg/kg	0.008	1,500[#4]			<0.16	-	-	<0.008	-	-	<0.008	-	-	-	<0.008	-	-	-	-	-	-	-	-	-	-	-
tert-butylbenzene	mg/kg	0.014	120,000[#4]			<0.28	-	-	<0.014	-	-	<0.014	-	-	-	<0.014	-	-	-	-	-	-	-	-	-	-	-
1,2,4-trimethylbenzene	mg/kg	0.009	42[#3]			<0.18	-	-	<0.009	-	-	<0.009	-	-	-	<0.009	-	-	-	-	-	-	-	-	-	-	-
sec-butylbenzene	mg/kg	0.01	120,000[#4]			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
p-isopropyltoluene	mg/kg	0.01				<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
n-butylbenzene	mg/kg	0.011	58,000[#4]			<0.22	-	-	<0.011	-	-	<0.011	-	-	-	<0.011	-	-	-	-	-	-	-	-	-	-	-
1,2-dibromo-3-chloropropane	mg/kg	0.014	0.064[#4]			<0.28	-	-	<0.014	-	-	<0.014	-	-	-	<0.014	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.02	31[#1]			<0.2	-	-	<0.02	-	-	<0.02	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethene	mg/kg		Use cis and trans isomers[#3]			0[#2]	-	-	0[#2]	-	-	0[#2]	-	-	-	0[#2]	-	-	-	-	-	-	-	-	-	-	-
PAH																											
Naphthalene	mg/kg	0.009	190[#1]			<0.09	<0.009	<0.036	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	0.0155	<0.013 - 0.0153	<0.009	<0.009	<0.009	0.011	0.0298	<0.009	<0.009	<0.009	<0.009	0.0217	<0.009
Acenaphthylene	mg/kg	0.012	83,000[#1]			<0.12	<0.012	0.159	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.0371	<0.012	0.0179	<0.012	<0.012	0.0157	0.244	<0.012	0.0438	0.0234	<0.012	0.0387	<0.012
Acenaphthene	mg/kg	0.008	84,000[#1]			<0.2 - 0.106	<0.008	2.12	<0.1 - 0.0194	<0.008	<0.008	<0.008	0.00888	<0.008	0.0137	0.0607 - 0.111	0.262	0.0157	<0.008	<0.008	0.102	0.0268	0.0165	<0.008	<0.008	0.222	<0.008
Fluorene	mg/kg	0.01	63,000[#1]			<0.2 - 0.145	<0.01	2.2	<0.1 - 0.0232	<0.01	<0.01	<0.01	<0.01	<0.01	0.0195	<0.1 - 0.0536	0.409	0.0134	<0.01	<0.01	0.0993	0.0404	0.0176	<0.01	<0.01	0.133	<0.01
Phenanthrene	mg/kg	0.015	22,000[#1]			0.597 - 0.964	<0.015	13.1	<0.1 - 0.175	<0.015	<0.015	0.0504 - 0.141	0.145	0.0509	0.162	0.27 - 0.688	2.55	0.14	<0.015	0.121	1.39	1.03	0.302	0.0829	<0.015	1.65	<0.015
Anthracene	mg/kg	0.016	520,000[#1]			<0.2 - 0.27	<0.016	5.93	<0.1 - 0.0695	<0.016	<0.016	<0.1 - 0.0195	0.0522	0.0191	0.0543	0.1 - 0.189	0.934	0.0536	<0.016	0.0255	0.454	0.326	0.0756	0.0195	<0.016	0.525	<0.016
Fluoranthene	mg/kg	0.017	23,000[#1]			0.803 - 1.4	<0.017	24.6	<0.1 - 0.476	0.036	<0.017	0.15 - 0.26	0.493	0.115	0.323	0.541 - 1.04	3.03	0.399	0.0221	0.311	4.57	3.93	1.24	0.299	0.029	3.87	0.0388
Pyrene	mg/kg	0.015	54,000[#1]			0.749 - 1.19	<0.015	20.5	<0.1 - 0.414	0.032	<0.015	0.152 - 0.282	0.482	0.0974	0.289	0.445 - 0.91	2.51	0.344	0.0191	0.275	3.99	3.09	1.17	0.253	0.0253	3.16	0.0378
Benz(a)anthracene	mg/kg	0.014	170[#1]			0.315 - 0.661	<0.014	10.5	<0.1 - 0.234	0.0267	<0.014	<0.1 - 0.102	0.28	0.0619	0.193	0.251 - 0.411	1.22	0.203	<0.014	0.147	2.23	1.95	0.805	0.154	<0.014	1.9	0.0254
Chrysene	mg/kg	0.01	350[#1]			0.521 - 0.564	<0.01	8.97	<0.1 - 0.202	0.0246	<0.01	0.0825 - 0.195	0.225	0.0481	0.183	0.218 - 0.455	0.995	0.183	<0.01	0.146	1.87	1.93	0.862	0.166	0.0147	1.77	0.0239
Benzo(a) pyrene	mg/kg	0.015	35[#1]	77[#2]		0.293 - 0.715	<0.015	11	<0.1 - 0.257	0.0315	<0.015	0.119 - 0.14	0.311	0.0598	0.279	0.254 - 0.389	1.08	0.214	<0.015	0.163	2.5	1.58	1.17	0.205	<0.015	1.86	0.034
Indeno(1,2,3-c,d)pyrene	mg/kg	0.018	500[#1]			<0.2 - 0.54	<0.018	7.35	<0.1 - 0.171	0.0248	<0.018	0.11 - 0.152	0.234	0.0495	0.216	0.164 - 0.244	0.685	0.139	<0.018	0.141	1.94	1.31	0.985	0.201	<0.018	1.35	0.0317
Dibenz(a,h)anthracene	mg/kg	0.023	3.5[#1]			<0.2	<0.023	1.31	<0.1 - 0.0305	<0.023	<0.023	<0.023	0.0387	<0.023	0.0426	<0.1 - 0.0319	0.129	<0.023	<0.023	0.0261	0.36	0.263	0.153	0.0273	<0.023	0.245	<0.023
Benzo(g,h,i)perylene	mg/kg	0.024	3,900[#1]			0.228 - 0.509	<0.024	6.83	<0.1 - 0.175	<0.024	<0.024	<0.1 - 0.1	0.207	0.0419	0.233	0.168 - 0.244	0.684	0.125	<0.024	0.13	1.82	1.15	0.929	0.167	<0.024	1.22	0.0312
Benzo(b)fluoranthene	mg/kg	0.015	44[#1]			0.25 - 0.993	<0.015	14.2	<0.1 - 0.338	0.0449	<0.015	0.141 - 0.187	0.409	0.0863	0.345	0.278 - 0.323	1.38	0.249	<0.015	0.221	2.62	2.7	1.53	0.285	0.0232	2.55	0.0429
Benzo(k)fluoranthene	mg/kg	0.014	1,200[#1]			0.356 - 0.358	<0.014	4.53	<0.1 - 0.107	<0.014	<0.014	<0.1 - 0.0569	0.14	0.0298	0.101	0.119 - 0.344	0.461	0.0883	<0.014	0.083	1.11	0.836	0.482	0.083	<0.014	0.858	<0.014
Benzo(b)&(k)fluoranthene	mg/kg					1.351[#1]	0[#1]	18.73[#1]	0.445[#1]	0.0449[#1]	0[#1]	0.2439[#1]	0.549[#1]	0.1161[#1]	0.446[#1]	0.667[#1]	1.841[#1]	0.3373[#1]	0[#1]	0.304[#1]	3.73[#1]	3.536[#1]	2.012[#1]	0.368[#1]	0.0232[#1]	3.408[#1]	0.0429[#1]
PAHs (sum of 4)	mg/kg					2.4[#1]	0[#2]	32.91[#2]	0.791[#1]	0.0697[#2]	0[#2]	0.4959[#1]	0.99[#2]	0.2075[#2]	0.895[#2]	1.155[#1]	3.21[#2]	0.6013[#2]	0[#2]	0.575[#2]	7.49[#2]	5.996[#2]	3.926[#2]	0.736[#2]	0.0232[#2]	5.978[#2]	0.1058[#2]
PAH 16 Total	mg/kg	0.118				8.42	<0.118	133	2.69	0.221	<0.118	1.15	3.03	0.66	2.51	3.01	16.3	2.17	<0.118	1.82	25.3	20.2	9.79	1.97	<0.118	21.4	0.266
benzo(g,h,i)perylene + indeno(1,2	mg/kg					1.049[#1]	0[#1]	14.18[#1]	0.346[#1]	0.0248[#1]	0[#1]	0.252[#1]	0.441[#1]	0.0914[#1]	0.449[#1]	0.488[#1]	1.369[#1]	0.264[#1]	0[#1]	0.271[#1]	3.76[#1]	2.46[#1]	1.914[#1]	0.368[#1]	0[#1]	2.57[#1]	0.0629[#1]
Benzo(a)pyrene (surrogate marke	mg/kg		15[#1]			0.715[#1]	0[#1]	11[#1]	0.257[#1]	0.0315[#1]	0[#1]	0.14[#1]	0.311[#1]	0.0598[#1]	0.279[#1]	0.389[#1]	1.08[#1]	0.214[#1]	0[#1]	0.163[#1]	2.5[#1]	1.58[#1]	1.17[#1]	0.205[#1]	0[#1]	1.86[#1]	0.034[#1]
SVOC																											
Coronene	mg/kg	0.2				<0.2	<0.2	1.25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.513	0.264	0.28	<0.2	<0.2	0.287	<0.2

	Units	MDL	GAC_HH_COM/IND_SLOAM_0.58-1.45%TOC	GAC_HH_EN/IE/NI/WA_C4SL_COM_0.58-3.48%TOC	Location	BH10D		BH3D				BH6D			BH6DA	BH7D				DCP1	DCP10	DCP5	DCP7	DCP8	DCP9	TP02	TP03
					Average Depth (m)	0.5	1	0.5	1	2	5	0.6	1.1	1.7	0.5	0.6	1.1	2.15	4	0.3	0.9	1.2	0.2	0.7	1	1	1.5
					Date	28/09/2021	28/09/2021	30/09/2021	30/09/2021	06/10/2021	06/10/2021	29/09/2021	29/09/2021	30/09/2021	29/09/2021	30/09/2021	30/09/2021	04/10/2021	05/10/2021	14/10/2021	14/10/2021	12/10/2021	12/10/2021	13/10/2021	13/10/2021	06/10/2021	06/10/2021
					Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
					Lab Report Number	617299	617299	616845	616845	617868	617868	616838	616838	617533	617533	617054	617054	617903	617903	624379	624379	624379	624379	624379	624379	617903	617903
2-methylnaphthalene	mg/kg	0.1	3,000#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
4-bromophenyl phenyl ether	mg/kg	0.1				<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
4-chlorophenyl phenyl ether	mg/kg	0.1				<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Azobenzene	mg/kg	0.1	26#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethoxy) methane	mg/kg	0.1	2,500#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.1	1#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	0.1				<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	0.1	1,200#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	0.1	7.5#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	0.1	22#3			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Phenolics																											
2-methylphenol	mg/kg	0.1	Use Cresol Total#3			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
2-nitrophenol	mg/kg	0.1				<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
2,4-dimethylphenol	mg/kg	0.1	16,000#3			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
4-chloro-3-methylphenol	mg/kg	0.1	82,000#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
4-methylphenol	mg/kg	0.1	Use Cresol Total#3			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
4-nitrophenol	mg/kg	0.1				<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	0.01	440#1			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0108	<0.01	<0.01	<0.01
2-chloronaphthalene	mg/kg	0.1	390#3			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Amino Aliphatics																											
N-nitrosodi-n-propylamine	mg/kg	0.1	0.33#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Anilines																											
2-nitroaniline	mg/kg	0.1	8,000#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
3-nitroaniline	mg/kg	0.1				<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
4-chloroaniline	mg/kg	0.1	11#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
4-nitroaniline	mg/kg	0.1	110#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Explosives																											
2,4-Dinitrotoluene	mg/kg	0.1	3,700#3			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
2,6-dinitrotoluene	mg/kg	0.1	1,900#3			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	mg/kg	0.1	22#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Halogenated Benzenes																											
1,3,5-Trichlorobenzene	mg/kg	0.02	23#1			<0.4	-	-	<0.02	-	-	<0.02	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	0.005	56#1			<0.1	-	-	<0.005	-	-	<0.005	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-
Bromobenzene	mg/kg	0.01	97#3			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
2-chlorotoluene	mg/kg	0.009	23,000#4			<0.18	-	-	<0.009	-	-	<0.009	-	-	-	<0.009	-	-	-	-	-	-	-	-	-	-	-
4-chlorotoluene	mg/kg	0.01	23,000#4			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
1,3-dichlorobenzene	mg/kg	0.008	30#1			<0.16	-	-	<0.008	-	-	<0.008	-	-	-	<0.008	-	-	-	-	-	-	-	-	-	-	-
1,4-dichlorobenzene	mg/kg	0.005	4,400#1			<0.1	-	-	<0.005	-	-	<0.005	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-
1,2-dichlorobenzene	mg/kg	0.01	2,000#1			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
1,2,4-trichlorobenzene	mg/kg	0.02	220#1			<0.2	-	-	<0.02	-	-	<0.02	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-
1,2,3-trichlorobenzene	mg/kg	0.02	102#1			<0.4	-	-	<0.02	-	-	<0.02	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.1	110#1			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Halogenated Hydrocarbons																											
Dichlorodifluoromethane	mg/kg	0.006	370#4			<0.12	-	-	<0.006	-	-	<0.006	-	-	-	<0.006	-	-	-	-	-	-	-	-	-	-	-
Bromomethane	mg/kg	0.01	30#4			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	mg/kg	0.006	350,000#4			<0.12	-	-	<0.006	-	-	<0.006	-	-	-	<0.006	-	-	-	-	-	-	-	-	-	-	-
1,2-dibromoethane	mg/kg	0.01	0.16#4			<0.2	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-
Halogenated Phenols																											
2-chlorophenol	mg/kg	0.1	5,800#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
2,4-dichlorophenol	mg/kg	0.1	2,500#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
2,4,5-trichlorophenol	mg/kg	0.1	82,000#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
2,4,6-trichlorophenol	mg/kg	0.1	210#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	0.1	400#1			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Phthalates																											
Bis(2-ethylhexyl) phthalate	mg/kg	0.1	85,000#3			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.1	940,000#3			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Di-n-butyl phthalate	mg/kg	0.1	15,000#3			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate	mg/kg	0.1	89,000#3			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Diethylphthalate	mg/kg	0.1	150,000#3			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	0.1				<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Solvents																											
Carbon disulfide	mg/kg	0.007	11#1			<0.14	-	-	<0.007	-	-	<0.007	-	-	-	<0.007	-	-	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	0.1	2,400#4			<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Metals																											
Arsenic	mg/kg	0.6	640#1	640#2		7.91	9.56	11.9	16.5	5.1	13.2	11.9	8.74	15	11.2	9.87	15.7	1.89	7.88	11.4	8.33	9.59	10.8	7.25	6	9.4	18.6
Barium	mg/kg	0.6	22,000#3			108	23.5	159	64.7	13.2	44.4	52.2	30.4	33.4	95.2	56.9	71	11.6	70.5	113	142	59.5	166	68.4	50.8	61.1	24.5
Beryllium	mg/kg	0.01	12#1			0.159	0.451	0.695	1.25	0.502	1.01	0.445	0.26	0.565	0.577	0.619	0.913	0.161	0.983	0.585	0.466	0.54	1.01	0.625	0.507	0.521	0.513
Boron	mg/kg	0.7	240,000#1			8.97	4.65	7.9	8.67	1.07	17.1	9.43	2.65	3.7	8.38	7.63	9.21	<0.7	17.9	5.3	3.82	6	9.15	6.5	4.76	4.25	3.59
Cadmium	mg/kg	0.02	190#1	410#2		0.373	0.182	0.298	0.234	0.0694	0.275	0.239	0.155	0.22	0.332	0.204	0.233	0.0325	0.16	0.126	0.246	<0.02	0.0659	<0.02	<0.02	0.197	0.162
Chromium (III+VI)	mg/kg	0.9	e either CrIII or CrVI#1			9.08	12.6	11.9	21.6	7.16	27.3	28.3	6.88	10.6	14.9	18.2	20.8	51.8	34.8	13.4	7.21	16.4	14.2	16.9	11.7	11.5	6.27
Copper	mg/kg	1.4	68,000#1			28.3	7.59	22	13.8	3.66	28.7	12.8	5.61	8.63	22.9	14.3	15.3	3.36	24.1	28	11.7	9.56	22.9	11.2	6.72	13.8	6.72
Lead	mg/kg	0.7	2,300#2	2,300#2		56.6	8.16	160	25	6.25	13.9	12.2	8.91	9.19	43.4	15.9	18.4	4.03	14.3	67.5	58.3	12.4	101	26.6	20.2	44.3	7.85
Mercury	mg/kg	0.1	350#4 |1100#1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.191	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	0.2	980#1			10.9	17.8	11.1	20.3	9.83	44.5	30.6	11.7	16.3	17.7	17.9	24.9	36.7	45.9	19	9.1	13.1	17.8	14.4	10.6	14.7	15.4
Selenium	mg/kg	1	12,000#1			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium	mg/kg	0.2	9,000#1			29.1	31.1	31.6	47.8	15.6	67.2	57.1	21.4	30.7	37.5	36.1	51.2	10.1	74.7	31.3	20.8	35.2	36.4	34.8	26.4	29.5	23.7
Zinc	mg/kg	1.9	730,000#1			91.9	30.9	59.9	42.6	10.4	92.4	47.6	21.3	21.4	73.6	51	45.2	6.59	72.8	76.4	63.5	38.5	91	50.2	31.5	52.8	22.1
Chromium (hexavalent)	mg/kg	0.6	33#1	49#2		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	0.883	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Inorganics																											
Sulphur	%	0.0016				0.299	<0.0016	0.0312	0.00459	<0.0016	0.0323	0.00169	<0.0016	0.00568	0.145	0.00557	0.00684	0.00249	0.00171	0.00619	0.0172	<0.0016	0.0106	0.00593	0.00314	0.00988	<0.0016
Cyanide (Free)	mg/kg	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cyanide Total	mg/kg	1	150#4			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Moisture	%					7.8	7.1	13	11	5.3	19	7.8	3.8	13	7.6	10	10	5.5	18	11	4.4	10	16	7.6	5.7	9.2	8.1
Easily Liberated Sulphide (Moistur	mg/kg	15				16.3	<15	118	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
pH (Lab)	pH_Units	1				10.9	8.16	8.09	7.98	8.97	8.54	8.59	9.04	9.22	8.44	7.86	7.96	8.92	7.92	7.12	9.04	8.41	7.61	5.95	7.76	8.32	8.86
Other																											
Bis(2-chloroisopropyl)ether	mg/kg	0.1				<0.2	-	-	<0.1	-	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-

Env Stds Comments
#1:LQM/CIEH S4ULs 2015
#2:Defra C4SL 12/2014
#3:EIC/AGS/CL:AIRE
#4:USEPA RSL (May 2020)

GAC: Generic Assessment Criteria
(blank): No assessment criteria available
-: Not analysed

HH: Human Health
MDL: Method Detection Limit

Key
XXX Exceedance of HH Soil. Commercial/Industrial. Sandy Loam. TOC >=0.58 to <1.45%
XXX Exceedance of HH Soil. C4SL Commercial (England, Ireland, Northern Ireland, Wales). TOC >=0.58 to <3.48%

#NAME?

	Units	MDL	GAC_WTV_EN/WA_DWS	GAC_WTV_EN/WA_EQS-Fresh	Location	BH10D	BH3D	BH6D	BH7D	DCP1	DCP10	DCP5	DCP7	DCP8	DCP9
					Average Depth (m)	0.5	1	0.6	0.6	0.3	0.9	1.2	0.2	0.7	1
					Date	28/09/2021	30/09/2021	29/09/2021	30/09/2021	14/10/2021	14/10/2021	12/10/2021	12/10/2021	13/10/2021	13/10/2021
					Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
					Lab Report Number	617299	616845	616838	617054	624379	624379	624379	624379	624379	624379
Field															
pH	pH_Units					10.5	7.98	-	7.89	8.07	8.81	8.55	8.61	7.21	7.82
Electrical Conductivity	µS/cm					2,430	730	-	1,110	148	385	228	459	31.7	143
Temp	°C					18.6	18.4	-	17	20.3	19.8	20.8	21.1	20.8	21
TPH															
GRO >C5-C12	µg/L	50				<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C5-C6 Aliphatics	µg/L	10	15.000[#1]			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
>C6-C8 Aliphatics	µg/L	10	15.000[#1]			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
>C8-C10 Aliphatics	µg/L	10	300[#1]			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
>C10-C12 Aliphatics	µg/L	10	300[#1]			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
>C12-C16 Aliphatics	µg/L	10	300[#1]			-	<20	-	-	<20	<20	<10	<20	<50	<30
>C16-C21 Aliphatics	µg/L	10	300[#1]			-	<20	-	-	<20	<20	<10	<20	<50	<30
>C16-C35 Aliphatics	µg/L	20				-	139	-	-	-	-	-	-	-	-
>C21-C35 Aliphatics	µg/L	10	300[#1]			-	<20 - 139	-	-	<20	<20	<10	<20	<50	<30
>C12-C35 Aliphatics	µg/L	10				-	<20 - 139	-	-	<20	<20	<10	<20	<50	<30
>EC5-EC7 Aromatics	µg/L	10	1[#2]	10[#3]		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
>EC7-EC8 Aromatics	µg/L	10	700[#1]	74[#4]		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
>EC8-EC10 Aromatics	µg/L	10	300[#1]			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
>EC10-EC12 Aromatics	µg/L	10	90[#1]			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
>EC12-EC16 Aromatics	µg/L	10	90[#1]			-	<20	-	-	<20	<20	<10	<20	<50	<30
>EC16-EC21 Aromatics	µg/L	10	90[#1]			-	<20	-	-	<20	<20	<10	<20	<50	<30
>EC16-EC35 Aromatics	µg/L	10				-	<20	-	-	<20	<20	<10	<20	<50	<30
>EC21-EC35 Aromatics	µg/L	10	90[#1]			-	<20	-	-	<20	<20	<10	<20	<50	<30
>EC12-EC35 Aromatics	µg/L	10				-	<20	-	-	<20	<20	<10	<20	<50	<30
>C5-C35 Aliphatics & Aromatics	µg/L	10				<10	<10	-	-	<10	<10	<10	<10	<10	<10
BTEX															
Benzene	µg/L	1	1[#2]	10[#3]		<1	<1	<1	<1	<10	<1	<1	<1	<1	<1
Toluene	µg/L	1	700[#5]	74[#4]		<1	<1	<1	<1	<10	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	1	300[#5]	20[#6]		<1	<1	<1	<1	<10	<1	<1	<1	<1	<1
Xylene (m & p)	µg/L	1				1.07	<1	<1	<1	<10	1.24	<1	<1	<1	<1
Xylene Total	µg/L	2	500[#5]	30[#6]		<2	<2	<2	<2	<20	<2	<2	<2	<2	<2
Xylene (o)	µg/L	1	190[#7]			<1	<1	<1	<1	<10	<1	<1	<1	<1	<1
Total BTEX	µg/L					1.07[#1]	0[#1]	0[#1]	0[#1]	0[#1]	1.24[#1]	0[#1]	0[#1]	0[#1]	0[#1]
Oxygenates															
MTBE	µg/L	1	1.800[#8]	5.100[#9]		<1	<1	<1	<1	<10	<1	<1	<1	<1	<1
PAH															
Naphthalene	µg/L	0.01	6[#8]	2[#3]		-	<0.02	-	-	<0.02	<0.02	<0.01	<0.02	<0.05	<0.03
Acenaphthylene	µg/L	0.005	18[#8]			-	<0.01	-	-	<0.01	<0.01	<0.005	<0.01	<0.025	<0.015
Acenaphthene	µg/L	0.005	18[#8]			-	0.154 - 0.206	-	-	<0.01	<0.01	<0.005	<0.01	<0.025	<0.015
Fluorene	µg/L	0.005	12[#8]			-	0.114 - 0.123	-	-	<0.01	<0.01	<0.005	<0.01	<0.025	<0.015
Phenanthrene	µg/L	0.005	4[#8]			-	0.251 - 0.302	-	-	0.0344	0.0281	<0.005	<0.01	<0.025	0.026
Anthracene	µg/L	0.005	90[#8]	0.1[#3]		-	0.0625 - 0.0703	-	-	<0.01	<0.01	<0.005	<0.01	<0.025	<0.015
Fluoranthene	µg/L	0.005	4[#5]	0.0063[#3]		-	0.126 - 0.168	-	-	0.0354	0.0349	0.506	<0.01	<0.025	0.0215
Pyrene	µg/L	0.005	9[#8]			-	0.0731 - 0.102	-	-	0.0323	0.0277	0.317	<0.01	<0.025	0.0172
Benz(a)anthracene	µg/L	0.005	3.5[#8]			-	<0.01	-	-	0.0372	0.0196	0.0873	<0.01	<0.025	<0.015
Chrysene	µg/L	0.005	7[#8]			-	<0.01	-	-	0.0375	0.0222	0.111	<0.01	<0.025	<0.015
Benzo(a) pyrene	µg/L	0.002	0.01[#2]	0.00017[#3]		-	<0.004	-	-	0.0329	0.0201	0.0301	<0.004	<0.01	<0.006
Indeno(1,2,3-c,d)pyrene	µg/L	0.005	Use PAHs (sum of 4)[#2]	see BaP and notes[#10]		-	<0.01	-	-	0.0706	<0.01	<0.005	<0.01	<0.025	<0.015
Dibenz(a,h)anthracene	µg/L	0.005	0.07[#8]			-	<0.01	-	-	<0.01	<0.01	<0.005	<0.01	<0.025	<0.015
Benzo(g,h,i)perylene	µg/L	0.005	Use PAHs (sum of 4)[#2]	0.0082[#11]		-	<0.01	-	-	0.11	0.0601	0.0427	<0.01	<0.025	<0.015
Benzo(b)fluoranthene	µg/L	0.005	Use PAHs (sum of 4)[#2]	0.017[#11]		-	<0.01	-	-	0.106	0.0471	0.0737	<0.01	<0.025	<0.015
Benzo(k)fluoranthene	µg/L	0.005	Use PAHs (sum of 4)[#2]	0.017[#11]		-	<0.01	-	-	0.0224	0.0136	0.0201	<0.01	<0.025	<0.015
Benzo(b)&(k)fluoranthene	µg/L					-	0[#2]	-	-	0.1284[#2]	0.0607[#2]	0.0938[#2]	0[#2]	0[#2]	0[#2]
PAHs (sum of 4)	µg/L		0.1[#2]			-	0[#3]	-	-	0.309[#3]	0.1208[#3]	0.1365[#3]	0[#3]	0[#3]	0[#3]
PAH 16 Total	µg/L	0.082				-	0.86 - 0.893	-	-	0.519	0.273	1.19	<0.164	<0.41	<0.246
benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene	µg/L					-	0[#2]	-	-	0.1806[#2]	0.0601[#2]	0.0427[#2]	0[#2]	0[#2]	0[#2]

	Units	MDL	GAC_WTV_EN/WA_DWS	GAC_WTV_EN/WA_EQS-Fresh	Location	BH10D	BH3D	BH6D	BH7D	DCP1	DCP10	DCP5	DCP7	DCP8	DCP9
					Average Depth (m)	0.5	1	0.6	0.6	0.3	0.9	1.2	0.2	0.7	1
					Date	28/09/2021	30/09/2021	29/09/2021	30/09/2021	14/10/2021	14/10/2021	12/10/2021	12/10/2021	13/10/2021	13/10/2021
					Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
					Lab Report Number	617299	616845	616838	617054	624379	624379	624379	624379	624379	624379
Benzo(a)pyrene (surrogate marker for PAH mixture)	µg/L					-	0[#2]	-	-	0.0329[#2]	0.0201[#2]	0.0301[#2]	0[#2]	0[#2]	0[#2]
Phenolics															
Phenol	µg/L	0.5	5.800[#7]	7.7[#4]		-	0.94	-	-	<0.5	<0.5	<0.5	0.55	<0.5	-
Metals															
Arsenic	µg/L	0.5	10[#2]	50[#4]		-	2.6	-	-	3.31	14.2	2.35	3.78	0.776	-
Barium	µg/L	0.2	1.300[#5]			-	440	-	-	18.1	23.5	4.84	50.5	1.29	-
Beryllium	µg/L	0.1	12[#5]			-	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	-
Boron	µg/L	10	1.000[#2]	2.000[#6]		-	166	-	-	96.4	66.8	29.3	52.1	101	-
Cadmium	µg/L	0.08	5[#2]	0.08[#3]		-	<0.08	-	-	<0.08	<0.08	<0.08	<0.08	<0.08	-
Calcium	mg/L	0.2				-	107	-	-	-	-	-	-	-	-
Chromium (III+VI)	µg/L	1	50[#2]			-	<1	-	-	<1	2.09	<1	<1	<1	-
Copper	µg/L	0.3	2.000[#2]	1[#4]		-	2.59	-	-	22.5	4.81	2.34	11.1	12.3	-
Lead	µg/L	0.2	10[#2]	1.2[#3]		-	<0.2	-	-	<0.2	0.227	<0.2	0.934	0.529	-
Magnesium	mg/L	0.036				-	11.6	-	-	-	-	-	-	-	-
Mercury	µg/L	0.01	1[#2]	0.07[#11]		<0.01	<0.01	-	-	0.334	0.0285	<0.01	0.0114	0.0253	-
Nickel	µg/L	0.4	20[#2]	4[#3]		-	3.37	-	-	4.98	1.17	0.58	2.11	5.08	-
Selenium	µg/L	1	10[#2]			-	1.57	-	-	1.31	1.24	1.25	<1	<1	-
Vanadium	µg/L	1	86[#7]	20[#6]		-	<1	-	-	5.24	8.65	1.72	4.72	1.17	-
Zinc	µg/L	1	6.000[#7]	10.9[#4]		-	107	-	-	5.86	3.05	<1	4.76	2.61	-
Potassium	mg/L	0.2				-	5.41	-	-	-	-	-	-	-	-
Chromium (hexavalent)	µg/L	30	Use Chromium (total)[#2]	3.4[#4]		-	<30	-	-	<30	<30	<30	<30	<30	-
Chromium (Trivalent)	µg/L	30	Use Chromium (total)[#2]	4.7[#4]		-	<30	-	-	-	-	-	-	-	-
Inorganics															
Sulphur	µg/L	1000				-	38,600	-	-	2,900	3,420	1,430	1,590	1,480	-
Sodium	mg/L	0.076	200[#2]			-	40.1	-	-	-	-	-	-	-	-
Cyanide (Free)	mg/L	0.0025	Use Cyanide Total[#2]	0.001[#6]		-	<0.0025	-	-	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	-
Cyanide Total	mg/L	0.005	0.05[#2]	0.001[#4]		-	<0.005	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
Electrical conductivity *(lab)	µS/cm	20				2,310 - 2,330	669 - 708	-	915 - 950	103	411	179	278	33.2	-
Chloride	mg/L	2	250[#2]	250[#6]		37.9	57.1	-	261	3.4	17.1	10.4	2.7	2.2	-
Nitrate (as NO3-)	mg/L	0.3	50[#2]			1.69	0.905	-	-	14.5	2.18	0.704	30	<0.3	-
Sulphide	mg/L	0.01				-	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	-
Ammoniacal Nitrogen as N	mg/L	0.01		0.3 #11		0.821	5.01	-	0.046	0.015	0.021	<0.01	0.011	0.012	-
Sulphate (soluble)	mg/L	2				1,520	120	-	46.7	<2	9	<2	<2	<2	-
pH (Lab)	pH_Units	1				10.2 - 10.4	8.45 - 8.47	-	8.63 - 8.68	7.77	8.86	8.6	8.41	6.98	-

Env Stds Comments
#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:WFD England/Wales. 2015 - AA-EQS Inland
#4:WFD England/Wales. 2015 - Freshwater Standards
#5:WHO DWG 2017
#6:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#7:USEPA RSL (tapwater) [May 2020]
#8:AECOM DWG (WHO method)
#9:PNEC (EU REACH) - Freshwater
#10:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#11:WFD England/Wales. 2015 - MAC-EQS Inland

GAC: Generic Assessment Criteria
(blank): No assessment criteria available
 - : Not analysed

MDL: Method Detection Limit
EQS: Environmental Quality Standard

Key

XXX	Exceedance of CW/WE Water. DWS - England/Wales
XXX	Exceedance of CW/WE Water. Aquatic Toxicity - England/Wales - Freshwater

	Units	MDL	GAC_WTV_EN/WA_DWS	GAC_WTV_EN/WA_EQS-Fresh		BH10D	BH3D	BH6D	BH7D	NE Culvert	SW Culvert
					Location	BH10D	BH3D	BH6D	BH7D	NE Culvert	SW Culvert
					Well						
					Date	28/10/2021	22/10/2021	22/10/2021	12/11/2021	19/11/2021	
					Sample Type	Normal	Normal	Normal	Normal	Normal	
					Lab Report Number	622003	619879	619879	622651	628617	
TPH											
GRO >C5-C12	µg/L	50				<50	<50	<50	<50	-	-
>C5-C6 Aliphatics	µg/L	10	15,000[#1]			<10	<10	<10	<10	-	-
>C6-C8 Aliphatics	µg/L	10	15,000[#1]			<10	<10	<10	<10	-	-
>C8-C10 Aliphatics	µg/L	10	300[#1]			<10	<10	<10	<10	-	-
>C10-C12 Aliphatics	µg/L	10	300[#1]			<10	<10	<10	<10	-	-
>C12-C16 Aliphatics	µg/L	10	300[#1]			<50	<10	<10	65	-	-
>C16-C21 Aliphatics	µg/L	10	300[#1]			<50	<10	<10	111	-	-
>C16-C35 Aliphatics	µg/L	10				442	48	376	925	-	-
>C21-C35 Aliphatics	µg/L	10	300[#1]			442	48	376	814	-	-
>C12-C35 Aliphatics	µg/L	10				442	48	376	990	-	-
>EC5-EC7 Aromatics	µg/L	10	1[#2]	10[#3]		<10	<10	<10	<10	-	-
>EC7-EC8 Aromatics	µg/L	10	700[#1]	74[#4]		<10	<10	<10	<10	-	-
>EC8-EC10 Aromatics	µg/L	10	300[#1]			<10	<10	<10	<10	-	-
>EC10-EC12 Aromatics	µg/L	10	90[#1]			<10	<10	<10	<10	-	-
>EC12-EC16 Aromatics	µg/L	10	90[#1]			<50	<10	<10	69	-	-
>EC16-EC21 Aromatics	µg/L	10	90[#1]			<50	<10	<10	241	-	-
>EC21-EC35 Aromatics	µg/L	10	90[#1]			141	48	123	1,100	-	-
>EC12-EC35 Aromatics	µg/L	10				141	48	123	1,410	-	-
>C5-C35 Aliphatics & Aromatics	µg/L	10				583	96	499	2,400	-	-
BTEX											
Benzene	µg/L	1	1[#2]	10[#3]		<1	<1	<1	<1	<1	<1
Toluene	µg/L	1	700[#5]	74[#4]		<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	1	300[#5]	20[#6]		<1	<1	<1	<1	<1	<1
Xylene (m & p)	µg/L	1				<1	<1	<1	<1	<1	<1
Xylene Total	µg/L	2	500[#5]	30[#6]		<2	<2	<2	<2	-	-
Xylene (o)	µg/L	1	190[#7]			<1	<1	<1	<1	<1	<1
Total BTEX	µg/L	5				<5	<5	<5	<5	0[#2]	0[#2]
Oxygenates											
MTBE	µg/L	1	1,800[#8]	5,100[#9]		<1	<1	<1	<1	<1	<1
Tert Amyl Methyl Ether	µg/L	1		510[#9]		<1	<1	<1	<1	<1	<1
Chlorinated Hydrocarbons											
Chloromethane	µg/L	1	190[#7]			<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	1	0.5[#2]	77[#9]		<1	<1	<1	<1	<1	<1
Chloroethane	µg/L	1	21,000[#7]			<1	<1	<1	<1	<1	<1
1,1-dichloroethene	µg/L	1	140[#5]	9[#9]		<1	<1	<1	<1	<1	<1
Dichloromethane	µg/L	3	20[#5]	20[#3]		<3	<3	<3	<3	<3	<3
trans-1,2-dichloroethene	µg/L	1	Use '1,2 dichloroethene' [#5]			<1	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	1	2.8[#7]			<1	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	µg/L	1	Use '1,2 dichloroethene' [#5]			<1	<1	<1	<1	<1	<1
Chloroform	µg/L	1	Use trihalomethanes[#2]	2.5[#3]		<1	<1	<1	<1	<1	1.1
1,1,1-trichloroethane	µg/L	1	2,000[#5]	100[#6]		<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	1	3[#2]	12[#3]		<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1	Use PCE + TCE[#2]	10[#3]		<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	1	0.28[#7]	400[#6]		<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	1	Use PCE + TCE[#2]	10[#3]		<1	<1	<1	<1	<1	<1
Sum of PCE and TCE	µg/L		10[#2]			0[#3]	0[#3]	0[#3]	0[#3]	0[#3]	0[#3]
VOC											
2,2-dichloropropane	µg/L	1				<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	1	83[#7]			<1	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	1				<1	<1	<1	<1	<1	<1

	Units	MDL	GAC_WTV_EN/WA_DWS	GAC_WTV_EN/WA_EQS-Fresh							
					Location	BH10D	BH3D	BH6D	BH7D	NE Culvert	SW Culvert
					Well						
					Date	28/10/2021	22/10/2021	22/10/2021	12/11/2021	19/11/2021	
					Sample Type	Normal	Normal	Normal	Normal	Normal	
					Lab Report Number	622003	619879	619879	622651	628617	
1,2-dichloroethane	µg/L	1	3[#2]	10[#3]		<1	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	1	40[#5]			<1	<1	<1	<1	<1	<1
Dibromomethane	µg/L	1	8.3[#7]			<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	1	Use trihalomethanes[#2]			<1	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	1				<1	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	1				<1	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	1	370[#7]			<1	<1	<1	<1	<1	<1
Chlorodibromomethane	µg/L	1	Use trihalomethanes[#2]			<1	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	1	0.57[#7]			<1	<1	<1	<1	<1	<1
Styrene	µg/L	1	20[#5]	50[#6]		<1	<1	<1	<1	<1	<1
Bromoform	µg/L	1	Use trihalomethanes[#2]			<1	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	1	450[#7]			<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	1	0.076[#7]	140[#4]		<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	1	0.00075[#7]			<1	<1	<1	<1	<1	<1
n-propylbenzene	µg/L	1	660[#7]			<1	<1	<1	<1	<1	<1
1,3,5-trimethylbenzene	µg/L	1	60[#7]			<1	<1	<1	<1	<1	<1
tert-butylbenzene	µg/L	1	690[#7]			<1	<1	<1	<1	<1	<1
1,2,4-trimethylbenzene	µg/L	1	56[#7]			<1	<1	<1	<1	<1	<1
sec-butylbenzene	µg/L	1	2,000[#7]			<1	<1	<1	<1	<1	<1
p-isopropyltoluene	µg/L	1				<1	<1	<1	<1	<1	<1
n-butylbenzene	µg/L	1	1,000[#7]			<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	1	1[#5]			<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	1	0.1[#2]	0.6[#10]		<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	µg/L		50[#5]			0[#3]	0[#3]	0[#3]	0[#3]	0[#3]	0[#3]
PAH											
Naphthalene	µg/L	0.01	6[#8]	2[#3]		<0.05	<0.01	<0.01	<1 - 0.263	<1	<1
Acenaphthylene	µg/L	0.005	18[#8]			<0.025	<0.005	<0.005	<10 - 0.389	<1	<1
Acenaphthene	µg/L	0.005	18[#8]			<0.025	<10 - 0.148	<20 - 0.0142	<10 - 3.33	<1	<1
Fluorene	µg/L	0.005	12[#8]			<20 - 0.028	<10 - 0.0747	<20 - 0.0144	<10 - 2.66	<1	<1
Phenanthrene	µg/L	0.005	4[#8]			<20 - 0.169	<10 - 0.492	<20 - 0.177	11.1 - 17.4	<1	<1
Anthracene	µg/L	0.005	90[#8]	0.1[#3]		<0.025	<10 - 0.21	<20 - 0.064	<10 - 6.16	<1	<1
Fluoranthene	µg/L	0.005	4[#5]	0.0063[#3]		<20 - 0.292	<10 - 2.7	<20 - 0.862	25 - 60.1	<1	<1
Pyrene	µg/L	0.005	9[#8]			<20 - 0.251	<10 - 2.38	<20 - 0.922	21.2 - 52.4	<1	<1
Benz(a)anthracene	µg/L	0.005	3.5[#8]			<20 - 0.097	<10 - 1.34	<20 - 0.474	12.7 - 22.1	<1	<1
Chrysene	µg/L	0.005	7[#8]			<20 - 0.185	<10 - 1.52	<20 - 0.504	11.3 - 23.6	<1	<1
Benzo(a) pyrene	µg/L	0.002	0.01[#2]	0.00017[#3]		<20 - 0.143	<10 - 2.16	<20 - 0.83	12.4 - 29.3	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	0.005	Use PAHs (sum of 4)[#2]	see BaP and notes[#11]		<20 - 0.184	<0.005	<20 - 0.725	<10 - 17	<1	<1
Dibenz(a,h)anthracene	µg/L	0.005	0.07[#8]			<0.025	<0.005	<0.005	<10 - 3.25	<1	<1
Benzo(g,h,i)perylene	µg/L	0.005	Use PAHs (sum of 4)[#2]	0.0082[#10]		<20 - 0.178	<10 - 1.79	<20 - 0.921	10.9 - 19.5	<1	<1
Benzo(b)fluoranthene	µg/L	0.005	Use PAHs (sum of 4)[#2]	0.017[#10]		<20 - 0.263	<10 - 2.78	<20 - 1.13	16.4 - 33.9	<1	<1
Benzo(k)fluoranthene	µg/L	0.005	Use PAHs (sum of 4)[#2]	0.017[#10]		<20 - 0.0783	<10 - 1.17	<20 - 0.497	<10 - 15.5	<1	<1
Benzo(b)&(k)fluoranthene	µg/L					0.3413[#1]	3.95[#1]	1.627[#1]	49.4[#1]	0[#3]	0[#3]
PAHs (sum of 4)	µg/L		0.1[#2]			0.7033[#1]	5.74[#1]	3.273[#1]	85.9[#1]	0[#3]	0[#3]
PAH 16 Total	µg/L	0.082				1.87	16.8	7.14	307	-	-
benzo(g,h,i)perylene + indeno(1,2,3-c	µg/L					0.362[#1]	1.79[#1]	1.646[#1]	36.5[#1]	0[#3]	0[#3]
Benzo(a)pyrene (surrogate marker for	µg/L					0.143[#1]	2.16[#1]	0.83[#1]	29.3[#1]	0[#3]	0[#3]
SVOC											
2-methylnaphthalene	µg/L	1	36[#7]			<20	<10	<20	<10	<1	<1
4-bromophenyl phenyl ether	µg/L	1				<20	<10	<20	<10	<1	<1
4-chlorophenyl phenyl ether	µg/L	1				<20	<10	<20	<10	<1	<1
Azobenzene	µg/L	1	0.12[#7]			<20	<10	<20	<10	<1	<1
Bis(2-chloroethoxy) methane	µg/L	1	59[#7]			<20	<10	<20	<10	<1	<1
Bis(2-chloroethyl)ether	µg/L	1	0.014[#7]			<20	<10	<20	<10	<1	<1
Carbazole	µg/L	1				<20	<10	<20	<10	<1	<1
Dibenzofuran	µg/L	1	7.9[#7]			<20	<10	<20	<10	<1	<1
Hexachlorocyclopentadiene	µg/L	1	0.41[#7]			<20	<10	<20	<10	<1	<1
Hexachloroethane	µg/L	1	0.33[#7]			<20	<10	<20	<10	<1	<1
Phenolics											

	Units	MDL	GAC_WTV_EN/WA_DWS	GAC_WTV_EN/WA_EQS-Fresh		BH10D	BH3D	BH6D	BH7D	NE Culvert	SW Culvert
					Location	BH10D	BH3D	BH6D	BH7D	NE Culvert	SW Culvert
					Well						
					Date	28/10/2021	22/10/2021	22/10/2021	12/11/2021	19/11/2021	
					Sample Type	Normal	Normal	Normal	Normal	Normal	
					Lab Report Number	622003	619879	619879	622651	628617	
2-methylphenol	µg/L	1	930[#7]			<20	<10	<20	<10	<1	<1
2-nitrophenol	µg/L	1				<20	<10	<20	<10	<1	<1
2,4-dimethylphenol	µg/L	1	360[#7]			<20	<10	<20	<10	<1	<1
4-chloro-3-methylphenol	µg/L	1	1,400[#7]	40[#6]		<20	<10	<20	<10	<1	<1
4-methylphenol	µg/L	1	1,900[#7]			<20	<10	<20	<10	<1	<1
4-nitrophenol	µg/L	1				<20	<10	<20	<10	<1	<1
Phenol	µg/L	1	5,800[#7]	7.7[#4]		<20	<10	<20	<10	<1	<1
Phenol (Filtered)	µg/L	0.5	5,800[#7]	7.7[#4]		<0.5	<0.5	<0.5	1.14	<0.5	<0.5
2-chloronaphthalene	µg/L	1	750[#7]			<20	<10	<20	<10	<1	<1
Amino Aliphatics											
N-nitrosodi-n-propylamine	µg/L	1	0.011[#7]			<20	<10	<20	<10	<1	<1
Anilines											
2-nitroaniline	µg/L	1	190[#7]			<20	<10	<20	<10	<1	<1
3-nitroaniline	µg/L	1				<20	<10	<20	<10	<1	<1
4-chloroaniline	µg/L	1	0.37[#7]			<20	<10	<20	<10	<1	<1
4-nitroaniline	µg/L	1	3.8[#7]			<20	<10	<20	<10	<1	<1
Explosives											
2,4-Dinitrotoluene	µg/L	1	0.24[#7]			<20	<10	<20	<10	<1	<1
2,6-dinitrotoluene	µg/L	1	0.049[#7]			<20	<10	<20	<10	<1	<1
Nitrobenzene	µg/L	1	8 to 63[#5]			<20	<10	<20	<10	<1	<1
Halogenated Benzenes											
1,3,5-Trichlorobenzene	µg/L	1	0.1[#2]	Refer to 'Trichlorobenzene (total)'[#11]		<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	1	300[#5]			<1	<1	<1	<1	<1	<1
Bromobenzene	µg/L	1	62[#7]			<1	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	1	240[#7]			<1	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	1	250[#7]			<1	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	1				<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	1	300[#5]			<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	1	1,000[#5]			<1	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	1	0.1[#2]	Refer to 'Trichlorobenzene (total)'[#11]		<1	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	1	0.1[#2]	Refer to 'Trichlorobenzene (total)'[#11]		<1	<1	<1	<1	<1	<1
Hexachlorobenzene	µg/L	1	0.1[#2]	0.05[#10]		<20	<10	<20	<10	<1	<1
Halogenated Hydrocarbons											
Dichlorodifluoromethane	µg/L	1	200[#7]			<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	1	7.5[#7]			<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	µg/L	1	5,200[#7]			<1	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	1	0.4[#5]			<1	<1	<1	<1	<1	<1
Halogenated Phenols											
2-chlorophenol	µg/L	1	91[#7]	50[#6]		<20	<10	<20	<10	<1	<1
2,4-dichlorophenol	µg/L	1	46[#7]	4.2[#4]		<20	<10	<20	<10	<1	<1
2,4,5-trichlorophenol	µg/L	1	1,200[#7]			<20	<10	<20	<10	<1	<1
2,4,6-trichlorophenol	µg/L	1	200[#5]			<20	<10	<20	<10	<1	<1
Pentachlorophenol	µg/L	1	9[#5]	0.4[#3]		<20	<10	<20	<10	<1	<1
Phthalates											
Bis(2-ethylhexyl) phthalate	µg/L	2	8[#5]	1.3[#3]		80.6	<20	<40	23.8	<2	<2
Butyl benzyl phthalate	µg/L	1	16[#7]	7.5[#4]		<20	<10	<20	<10	<1	<1
Di-n-butyl phthalate	µg/L	1	900[#7]	8[#6]		<20	<10	<20	<10	<1	<1
Di-n-octyl phthalate	µg/L	5	200[#7]	20[#6]		<100	<50	<100	<50	<5	<5
Diethylphthalate	µg/L	1	15,000[#7]	200[#6]		<20	<10	<20	<10	<1	<1
Dimethyl phthalate	µg/L	1		800[#6]		<20	<10	<20	<10	<1	<1
Solvents											
Carbon disulfide	µg/L	1	810[#7]			1.2	<1	<1	<1	<1	<1
Isophorone	µg/L	1	78[#7]			<20	<10	<20	<10	<1	<1
Metals											
Arsenic (Filtered)	µg/L	0.5	10[#2]	50[#4]		1.56	0.762	<0.5	4.58	1.11	0.942
Barium (Filtered)	µg/L	0.2	1,300[#5]			52.2	58.4	124	89.6	59.4	42.5
Beryllium (Filtered)	µg/L	0.1	12[#5]			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron (Filtered)	µg/L	10	1,000[#2]	2,000[#6]		171	111	159	124	117	74.9

	Units	MDL	GAC_WTV_EN/WA_DWS	GAC_WTV_EN/WA_EQS-Fresh							
					Location	BH10D	BH3D	BH6D	BH7D	NE Culvert	SW Culvert
					Well						
					Date	28/10/2021	22/10/2021	22/10/2021	12/11/2021	19/11/2021	
					Sample Type	Normal	Normal	Normal	Normal	Normal	
					Lab Report Number	622003	619879	619879	622651	628617	
Cadmium (Filtered)	µg/L	0.08	5#2	0.08#3		<0.08	0.128	<0.08	<0.08	<0.08	<0.08
Calcium (Filtered)	mg/L	0.2				66.5	108	124	98.4	108	103
Chromium (III+VI) (Filtered)	µg/L	1	50#2			<1	<1	<1	<1	<1	<1
Copper (Filtered)	µg/L	0.3	2,000#2	1#4		<0.3	0.57	<0.3	2.93	2.42	2.24
Lead (Filtered)	µg/L	0.2	10#2	1.2#3		<0.2	0.4	<0.2	2.08	<0.2	<0.2
Magnesium (Filtered)	mg/L	0.036				16.5	33.2	15.4	14.2	11.9	8.22
Mercury (Filtered)	µg/L	0.01	1#2	0.07#10		<0.01	<0.01	<0.01	<0.01	-	-
Nickel (Filtered)	µg/L	0.4	20#2	4#3		1.25	34	7.41	5.61	3.71	2
Selenium (Filtered)	µg/L	1	10#2			<1	<1	3.36	<1	<1	<1
Vanadium (Filtered)	µg/L	1	86#7	20#6		<1	<1	<1	1.58	<1	<1
Zinc (Filtered)	µg/L	1	6,000#7	10.9#4		<1	26.4	10.4	16.4	20.2	10.9
Potassium (Filtered)	mg/L	0.2				5.57	1.59	11.9	8.25	36.9	19.6
Chromium (hexavalent) (Filtered)	µg/L	30	Use Chromium (total)#2	3.4#4		<30	<30	<30	<30	-	-
Chromium (Trivalent) (Filtered)	µg/L	30	Use Chromium (total)#2	4.7#4		<30	<30	<30	<30	-	-
Inorganics											
Sulphur (Filtered)	µg/L	1000				25,700	65,300	73,800	22,500	30,300	25,000
Sodium (Filtered)	mg/L	0.076	200#2			113	151	105	111	348	204
Cyanide (Free) (Filtered)	mg/L	0.0025	Use Cyanide Total#2	0.001#6		<0.0025	<0.0025	<0.0025	<0.0025	-	-
Cyanide Total (Filtered)	mg/L	0.005	0.05#2	0.001#4		<0.005	<0.005	<0.005	<0.005	-	-
Electrical conductivity *(lab)	µS/cm	20				822	1,370	1,080	814	-	-
Chloride (Filtered)	mg/L	2	250#2	250#6		89.3	249	132	79.6	-	-
Nitrate (as NO3-) (Filtered)	mg/L	0.3	50#2			<0.3	5.99	37.2	<0.3	-	-
Sulphide (Filtered)	mg/L	0.01				0.325	0.346	0.0657	0.275	-	-
Hardness as CaCO3	mg/L	0.35				11,500	566	1,060	1,170	344	317
Ammoniacal Nitrogen as N (Filtered)	mg/L	0.01		0.3 #11		0.065	0.108	0.397	0.113	0.167	0.049
Sulphate (soluble) (Filtered)	mg/L	2				87.7	199	224	77.7	-	-
pH (Lab)	pH_Units	1				7.65	6.72	7.48	7.17	-	-

Env Stds Comments
#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:WFD England/Wales. 2015 - AA-EQS Inland
#4:WFD England/Wales. 2015 - Freshwater Standards
#5:WHO DWG 2017
#6:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#7:USEPA RSL (tapwater) [May 2020]
#8:AECOM DWG (WHO method)
#9:PNEC (EU REACH) - Freshwater
#10:WFD England/Wales. 2015 - MAC-EQS Inland
#11:Water Env't Regs (Scotland) 2015. AA-EQS Inland
GAC: Generic Assessment Criteria
(blank): No assessment criteria available
-: Not analysed
EQS: Environmental Quality Standard
MDL: Method Detection Limit
Field_D: Field Duplicate

Key

XXX	Exceedance of CW/WE Water. DWS - England/Wales
XXX	Exceedance of CW/WE Water. Aquatic Toxicity - England/Wales - Freshwater

Contents
Holding Time Errors

SDG	Matrix_Type	SampleCode	Field_ID	Depth	Sampled_Date_Time	Volatility	ChemName	Result	Sampled_to_Extraction_Days	Sampled_to_Analysis_Days	Major_Exceedance
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Ethylbenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Styrene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	cis-1,3-dichloropropene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	trans-1,3-dichloropropene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	n-propylbenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	n-butylbenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	4-chlorotoluene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,4-dichlorobenzene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,4-dichlorobenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,2-dibromoethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,2-dichloroethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Xylene (m & p)	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,3,5-trimethylbenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Bromobenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Toluene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Chlorobenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,2,4-trichlorobenzene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,2,4-trichlorobenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Chlorodibromomethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Tetrachloroethene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Xylene Total	2 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	sec-butylbenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,3-dichloropropane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	cis-1,2-dichloroethene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	trans-1,2-dichloroethene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	MTBE	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,3-dichlorobenzene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,3-dichlorobenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Carbon tetrachloride	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,1-dichloropropene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	2,2-dichloropropane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,1,1,2-tetrachloroethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Chloroform	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Benzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,1,1-trichloroethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Bromomethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Chloromethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Dibromomethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Bromochloromethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Chloroethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Vinyl chloride	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Dichloromethane	3 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Carbon disulfide	1.2 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Bromoform	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Bromodichloromethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,1-dichloroethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,1-dichloroethene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Trichlorofluoromethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Dichlorodifluoromethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,2-dichloropropane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,1,2-trichloroethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Trichloroethene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,1,2,2-tetrachloroethane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,2,3-trichlorobenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Hexachlorobutadiene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Hexachlorobutadiene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Xylene (o)	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	2-chlorotoluene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,2-dichlorobenzene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,2-dichlorobenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,2,4-trimethylbenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,2-dibromo-3-chloropropane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	1,2,3-trichloropropane	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	tert-butylbenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	Isopropylbenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	p-isopropyltoluene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	GRO >C5-C12	50 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	>C5-C6 Aliphatics	10 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	>C5-C35 Aliphatics & Aroma	583 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	>C6-C8 Aliphatics	10 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	>C8-C10 Aliphatics	10 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	>C10-C12 Aliphatics	10 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	>C12-C16 Aliphatics	50 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	>C12-C35 Aliphatics	442 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	>EC5-EC7 Aromatics	10 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	>EC7-EC8 Aromatics	10 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	>EC8-EC10 Aromatics	10 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	>EC10-EC12 Aromatics	10 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	>EC12-EC16 Aromatics	50 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	VOC	>EC12-EC35 Aromatics	141 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	4-nitroaniline	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	4-nitrophenol	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	4-bromophenyl phenyl ether	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Azobenzene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	2,4-dimethylphenol	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	4-methylphenol	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	4-chloroaniline	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	1,3,5-Trichlorobenzene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Phenol	0.5 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Phenol	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Bis(2-chloroethyl)ether	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Bis(2-chloroethoxy) methane	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Bis(2-ethylhexyl) phthalate	80.6 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Di-n-octyl phthalate	100 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Hexachlorobenzene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Anthracene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Anthracene	0.025 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	2,4-dichlorophenol	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	2,4-Dinitrotoluene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Pyrene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Pyrene	0.251 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Dimethyl phthalate	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Dibenzofuran	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Benzo(g,h,i)perylene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Benzo(g,h,i)perylene	0.178 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Indeno(1,2,3-c,d)pyrene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Indeno(1,2,3-c,d)pyrene	0.184 µg/l		22	N

211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Benzo(b)fluoranthene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Benzo(b)fluoranthene	0.263 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Fluoranthene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Fluoranthene	0.292 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Benzo(k)fluoranthene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Benzo(k)fluoranthene	0.0783 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Acenaphthylene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Acenaphthylene	0.025 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Chrysene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Chrysene	0.185 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Benzo(a) pyrene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Benzo(a) pyrene	0.143 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Dibenz(a,h)anthracene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Dibenz(a,h)anthracene	0.025 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Benz(a)anthracene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Benz(a)anthracene	0.097 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	4-chloro-3-methylphenol	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	2,6-dinitrotoluene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	N-nitrosodi-n-propylamine	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Hexachloroethane	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	4-chlorophenyl phenyl ether	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Hexachlorocyclopentadiene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Isophorone	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Acenaphthene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Acenaphthene	0.025 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Diethylphthalate	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Di-n-butyl phthalate	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Phenanthrene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Phenanthrene	0.169 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Butyl benzyl phthalate	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Fluorene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Fluorene	0.028 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Carbazole	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Pentachlorophenol	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	2,4,6-trichlorophenol	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	2-nitroaniline	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	2-nitrophenol	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Naphthalene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Naphthalene	0.05 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Naphthalene	1 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	2-methylnaphthalene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	2-chloronaphthalene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	2-methylphenol	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	2-chlorophenol	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	2,4,5-trichlorophenol	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Nitrobenzene	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	3-nitroaniline	20 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	Total BTEX	5 µg/l		20	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	>C16-C21 Aliphatics	50 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	>C16-C35 Aliphatics	442 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	>C21-C35 Aliphatics	442 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	>EC16-EC21 Aromatics	50 µg/l		22	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	SVOC	>EC21-EC35 Aromatics	141 µg/l		22	N
211123-89	water	25388408	NE Culvert	0.000 - 0.000	19/11/2021	SVOC	Phenol	0.5 µg/l		40	Y
211123-89	water	25388420	SW Culvert	0.000 - 0.000	19/11/2021	SVOC	Phenol	0.5 µg/l		40	Y
211123-89	water	25388437	SW Culvert Du	0.000 - 0.000	19/11/2021	SVOC	Phenol	0.5 µg/l		40	Y
211027-72	water	25223736	BH-6D	7.000 - 7.000	22/10/2021	Low_Stability	Chloride	132 mg/l		11	N
211027-72	water	25223736	BH-6D	7.000 - 7.000	22/10/2021	Low_Stability	Sulphide	0.0657 mg/l		12	N
211027-72	water	25223736	BH-6D	7.000 - 7.000	22/10/2021	Low_Stability	Cyanide Total	5 µg/l		13	N
211027-72	water	25223736	BH-6D	7.000 - 7.000	22/10/2021	Low_Stability	Cyanide (Free)	2.5 µg/l		13	N
211027-72	water	25223756	BH-3D	4.000 - 4.000	22/10/2021	Low_Stability	Chloride	249 mg/l		11	N
211027-72	water	25223756	BH-3D	4.000 - 4.000	22/10/2021	Low_Stability	Cyanide Total	5 µg/l		13	N
211027-72	water	25223756	BH-3D	4.000 - 4.000	22/10/2021	Low_Stability	Cyanide (Free)	2.5 µg/l		13	N
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	Low_Stability	Chloride	89.3 mg/l		21	Y
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	Low_Stability	Sulphide	0.325 mg/l		21	Y
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	Low_Stability	Cyanide Total	5 µg/l		19	Y
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	Low_Stability	Electrical conductivity *(lab)	0.822 mS/cm		20	Y
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	Low_Stability	Cyanide (Free)	2.5 µg/l		19	Y
211102-46	water	25257549	EW1 BH10D	3.820 - 4.500	28/10/2021	Low_Stability	pH (Lab)	7.65 pH Units		15	Y
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	Ethylbenzene	0.001 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	Xylene (m & p)	0.00107 m(	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	Toluene	0.001 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	Xylene Total	0.002 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	MTBE	0.001 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	Benzene	0.001 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	Xylene (o)	0.001 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	GRO >C5-C12	0.05 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	>C5-C6 Aliphatics	0.01 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	>C5-C35 Aliphatics & Aroma	0.01 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	>C6-C8 Aliphatics	0.01 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	>C8-C10 Aliphatics	0.01 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	>C10-C12 Aliphatics	0.01 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	>EC5-EC7 Aromatics	0.01 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	>EC7-EC8 Aromatics	0.01 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	>EC8-EC10 Aromatics	0.01 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	VOC	>EC10-EC12 Aromatics	0.01 mg/l	13	13	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	Ethylbenzene	0.001 mg/l	12	12	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	Xylene (m & p)	0.001 mg/l	12	12	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	Toluene	0.001 mg/l	12	12	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	Xylene Total	0.002 mg/l	12	12	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	MTBE	0.001 mg/l	12	12	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	Benzene	0.001 mg/l	12	12	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	Xylene (o)	0.001 mg/l	12	12	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	GRO >C5-C12	0.05 mg/l	12	12	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	>C5-C6 Aliphatics	0.01 mg/l	12	12	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	>C6-C8 Aliphatics	0.01 mg/l	12	12	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	>C8-C10 Aliphatics	0.01 mg/l	12	12	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	>C10-C12 Aliphatics	0.01 mg/l	12	12	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	>EC5-EC7 Aromatics	0.01 mg/l	12	12	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	>EC7-EC8 Aromatics	0.01 mg/l	12	12	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	>EC8-EC10 Aromatics	0.01 mg/l	12	12	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	VOC	>EC10-EC12 Aromatics	0.01 mg/l	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	Ethylbenzene	0.001 mg/l	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	Xylene (m & p)	0.001 mg/l	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	Toluene	0.001 mg/l	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	Xylene Total	0.002 mg/l	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	MTBE	0.001 mg/l	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	Benzene	0.001 mg/l	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	Xylene (o)	0.001 mg/l	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	GRO >C5-C12	0.05 mg/l	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>C5-C6 Aliphatics	0.01 mg/l	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>C5-C35 Aliphatics & Aroma	0.01 mg/l	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>C6-C8 Aliphatics	0.01 mg/l	12	12	N

211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>C8-C10 Aliphatics	0.01 mg/l	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>C10-C12 Aliphatics	0.01 mg/l	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>C12-C16 Aliphatics	0.02 mg/l	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>C12-C16 Aliphatics	0.02 mg/l	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>C12-C35 Aliphatics	0.02 mg/l	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>C12-C35 Aliphatics	0.139 mg/l	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>EC5-EC7 Aromatics	0.01 mg/l	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>EC7-EC8 Aromatics	0.01 mg/l	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>EC8-EC10 Aromatics	0.01 mg/l	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>EC10-EC12 Aromatics	0.01 mg/l	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>EC12-EC16 Aromatics	0.02 mg/l	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>EC12-EC16 Aromatics	0.02 mg/l	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>EC12-EC35 Aromatics	0.02 mg/l	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	VOC	>EC12-EC35 Aromatics	0.02 mg/l	11	11	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	Ethylbenzene	0.001 mg/l	11	11	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	Xylene (m & p)	0.001 mg/l	11	11	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	Toluene	0.001 mg/l	11	11	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	Xylene Total	0.002 mg/l	11	11	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	MTBE	0.001 mg/l	11	11	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	Benzene	0.001 mg/l	11	11	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	Xylene (o)	0.001 mg/l	11	11	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	GRO >C5-C12	0.05 mg/l	12	12	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	>C5-C6 Aliphatics	0.01 mg/l	12	12	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	>C6-C8 Aliphatics	0.01 mg/l	12	12	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	>C8-C10 Aliphatics	0.01 mg/l	12	12	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	>C10-C12 Aliphatics	0.01 mg/l	12	12	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	>EC5-EC7 Aromatics	0.01 mg/l	12	12	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	>EC7-EC8 Aromatics	0.01 mg/l	12	12	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	>EC8-EC10 Aromatics	0.01 mg/l	12	12	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	VOC	>EC10-EC12 Aromatics	0.01 mg/l	12	12	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	Ethylbenzene	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	Xylene (m & p)	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	Toluene	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	Xylene Total	0.02 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	MTBE	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	Benzene	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	Xylene (o)	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	GRO >C5-C12	0.05 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	>C5-C6 Aliphatics	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	>C5-C35 Aliphatics & Aroma	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	>C6-C8 Aliphatics	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	>C8-C10 Aliphatics	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	>C10-C12 Aliphatics	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	>C12-C16 Aliphatics	0.02 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	>C12-C35 Aliphatics	0.02 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	>EC5-EC7 Aromatics	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	>EC7-EC8 Aromatics	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	>EC8-EC10 Aromatics	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	>EC10-EC12 Aromatics	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	>EC12-EC16 Aromatics	0.02 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	VOC	>EC12-EC35 Aromatics	0.02 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	Ethylbenzene	0.001 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	Xylene (m & p)	0.00124 m	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	Toluene	0.001 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	Xylene Total	0.002 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	MTBE	0.001 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	Benzene	0.001 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	Xylene (o)	0.001 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	GRO >C5-C12	0.05 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	>C5-C6 Aliphatics	0.01 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	>C5-C35 Aliphatics & Aroma	0.01 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	>C6-C8 Aliphatics	0.01 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	>C8-C10 Aliphatics	0.01 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	>C10-C12 Aliphatics	0.01 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	>C12-C16 Aliphatics	0.02 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	>C12-C35 Aliphatics	0.02 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	>EC5-EC7 Aromatics	0.01 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	>EC7-EC8 Aromatics	0.01 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	>EC8-EC10 Aromatics	0.01 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	>EC10-EC12 Aromatics	0.01 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	>EC12-EC16 Aromatics	0.02 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	VOC	>EC12-EC35 Aromatics	0.02 mg/l	11	11	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	Ethylbenzene	0.001 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	Xylene (m & p)	0.001 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	Toluene	0.001 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	Xylene Total	0.002 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	MTBE	0.001 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	Benzene	0.001 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	Xylene (o)	0.001 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	GRO >C5-C12	0.05 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	>C5-C6 Aliphatics	0.01 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	>C5-C35 Aliphatics & Aroma	0.01 mg/l	13	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	>C6-C8 Aliphatics	0.01 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	>C8-C10 Aliphatics	0.01 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	>C10-C12 Aliphatics	0.01 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	>C12-C16 Aliphatics	0.01 mg/l	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	>C12-C35 Aliphatics	0.01 mg/l	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	>EC5-EC7 Aromatics	0.01 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	>EC7-EC8 Aromatics	0.01 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	>EC8-EC10 Aromatics	0.01 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	>EC10-EC12 Aromatics	0.01 mg/l	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	>EC12-EC16 Aromatics	0.01 mg/l	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	VOC	>EC12-EC35 Aromatics	0.01 mg/l	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	Ethylbenzene	0.001 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	Xylene (m & p)	0.001 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	Toluene	0.001 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	Xylene Total	0.002 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	MTBE	0.001 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	Benzene	0.001 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	Xylene (o)	0.001 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	GRO >C5-C12	0.05 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	>C5-C6 Aliphatics	0.01 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	>C5-C35 Aliphatics & Aroma	0.01 mg/l	13	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	>C6-C8 Aliphatics	0.01 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	>C8-C10 Aliphatics	0.01 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	>C10-C12 Aliphatics	0.01 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	>C12-C16 Aliphatics	0.02 mg/l	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	>C12-C35 Aliphatics	0.02 mg/l	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	>EC5-EC7 Aromatics	0.01 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	>EC7-EC8 Aromatics	0.01 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	>EC8-EC10 Aromatics	0.01 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	>EC10-EC12 Aromatics	0.01 mg/l	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	>EC12-EC16 Aromatics	0.02 mg/l	10	13	N

211016-93	soil	25168496	DCP7	0.200	12/10/2021	VOC	>EC12-EC35 Aromatics	0.02 mg/l	10	13	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	Ethylbenzene	0.001 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	Xylene (m & p)	0.001 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	Toluene	0.001 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	Xylene Total	0.002 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	MTBE	0.001 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	Benzene	0.001 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	Xylene (o)	0.001 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	GRO >C5-C12	0.05 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	>C5-C6 Aliphatics	0.01 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	>C5-C35 Aliphatics & Aroma	0.01 mg/l	12	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	>C6-C8 Aliphatics	0.01 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	>C8-C10 Aliphatics	0.01 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	>C10-C12 Aliphatics	0.01 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	>C12-C16 Aliphatics	0.05 mg/l	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	>C12-C35 Aliphatics	0.05 mg/l	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	>EC5-EC7 Aromatics	0.01 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	>EC7-EC8 Aromatics	0.01 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	>EC8-EC10 Aromatics	0.01 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	>EC10-EC12 Aromatics	0.01 mg/l	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	>EC12-EC16 Aromatics	0.05 mg/l	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	VOC	>EC12-EC35 Aromatics	0.05 mg/l	9	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	Ethylbenzene	0.001 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	Xylene (m & p)	0.001 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	Toluene	0.001 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	Xylene Total	0.002 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	MTBE	0.001 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	Benzene	0.001 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	Xylene (o)	0.001 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	GRO >C5-C12	0.05 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	>C5-C6 Aliphatics	0.01 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	>C5-C35 Aliphatics & Aroma	0.01 mg/l	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	>C6-C8 Aliphatics	0.01 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	>C8-C10 Aliphatics	0.01 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	>C10-C12 Aliphatics	0.01 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	>C12-C16 Aliphatics	0.03 mg/l	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	>C12-C35 Aliphatics	0.03 mg/l	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	>EC5-EC7 Aromatics	0.01 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	>EC7-EC8 Aromatics	0.01 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	>EC8-EC10 Aromatics	0.01 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	>EC10-EC12 Aromatics	0.01 mg/l	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	>EC12-EC16 Aromatics	0.03 mg/l	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	VOC	>EC12-EC35 Aromatics	0.03 mg/l	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Phenol	0.00094 m	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Anthracene	7.03e-005	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Anthracene	6.25e-005	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Pyrene	0.000102 r	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Pyrene	7.31e-005	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Benzo(g,h,i)perylene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Benzo(g,h,i)perylene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Indeno(1,2,3-c,d)pyrene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Indeno(1,2,3-c,d)pyrene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Benzo(b)fluoranthene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Benzo(b)fluoranthene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Fluoranthene	0.000168 r	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Fluoranthene	0.000126 r	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Benzo(k)fluoranthene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Benzo(k)fluoranthene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Acenaphthylene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Acenaphthylene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Chrysene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Chrysene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Benzo(a) pyrene	4e-006 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Benzo(a) pyrene	4e-006 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Dibenz(a,h)anthracene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Dibenz(a,h)anthracene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Benz(a)anthracene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Benz(a)anthracene	1e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Acenaphthene	0.000154 r	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Acenaphthene	0.000206 r	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Phenanthrene	0.000251 r	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Phenanthrene	0.000302 r	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Fluorene	0.000114 r	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Fluorene	0.000123 r	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Naphthalene	2e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	Naphthalene	2e-005 mg/	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	>C16-C21 Aliphatics	0.02 mg/l	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	>C16-C21 Aliphatics	0.02 mg/l	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	>C16-C35 Aliphatics	0.139 mg/l	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	>C21-C35 Aliphatics	0.02 mg/l	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	>C21-C35 Aliphatics	0.139 mg/l	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	>EC16-EC21 Aromatics	0.02 mg/l	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	>EC16-EC21 Aromatics	0.02 mg/l	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	>EC16-EC35 Aromatics	0.02 mg/l	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	>EC21-EC35 Aromatics	0.02 mg/l	11	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	SVOC	>EC21-EC35 Aromatics	0.02 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Phenol	0.0005 mg/	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Anthracene	1e-005 mg/	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Pyrene	3.23e-005	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Benzo(g,h,i)perylene	0.00011 m	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Indeno(1,2,3-c,d)pyrene	7.06e-005	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Benzo(b)fluoranthene	0.000106 r	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Fluoranthene	3.54e-005	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Benzo(k)fluoranthene	2.24e-005	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Acenaphthylene	1e-005 mg/	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Chrysene	3.75e-005	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Benzo(a) pyrene	3.29e-005	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Dibenz(a,h)anthracene	1e-005 mg/	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Benz(a)anthracene	3.72e-005	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Acenaphthene	1e-005 mg/	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Phenanthrene	3.44e-005	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Fluorene	1e-005 mg/	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	Naphthalene	2e-005 mg/	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	>C16-C21 Aliphatics	0.02 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	>C21-C35 Aliphatics	0.02 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	>EC16-EC21 Aromatics	0.02 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	>EC16-EC35 Aromatics	0.02 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	SVOC	>EC21-EC35 Aromatics	0.02 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Phenol	0.0005 mg/	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Anthracene	1e-005 mg/	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Pyrene	2.77e-005	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Benzo(g,h,i)perylene	6.01e-005	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Indeno(1,2,3-c,d)pyrene	1e-005 mg/	11	11	N

211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Benzo(b)fluoranthene	4.71e-005	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Fluoranthene	3.49e-005	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Benzo(k)fluoranthene	1.36e-005	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Acenaphthylene	1e-005 mg/	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Chrysene	2.22e-005	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Benzo(a) pyrene	2.01e-005	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Dibenz(a,h)anthracene	1e-005 mg/	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Benz(a)anthracene	1.96e-005	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Acenaphthene	1e-005 mg/	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Phenanthrene	2.81e-005	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Fluorene	1e-005 mg/	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	Naphthalene	2e-005 mg/	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	>C16-C21 Aliphatics	0.02 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	>C21-C35 Aliphatics	0.02 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	>EC16-EC21 Aromatics	0.02 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	>EC16-EC35 Aromatics	0.02 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	SVOC	>EC21-EC35 Aromatics	0.02 mg/l	11	11	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Phenol	0.0005 mg/	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Anthracene	5e-006 mg/	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Pyrene	0.000317 r	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Benzo(g,h,i)perylene	4.27e-005	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Indeno(1,2,3-c,d)pyrene	5e-006 mg/	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Benzo(b)fluoranthene	7.37e-005	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Fluoranthene	0.000506 r	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Benzo(k)fluoranthene	2.01e-005	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Acenaphthylene	5e-006 mg/	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Chrysene	0.000111 r	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Benzo(a) pyrene	3.01e-005	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Dibenz(a,h)anthracene	5e-006 mg/	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Benz(a)anthracene	8.73e-005	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Acenaphthene	5e-006 mg/	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Phenanthrene	5e-006 mg/	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Fluorene	5e-006 mg/	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	Naphthalene	1e-005 mg/	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	>C16-C21 Aliphatics	0.01 mg/l	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	>C21-C35 Aliphatics	0.01 mg/l	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	>EC16-EC21 Aromatics	0.01 mg/l	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	>EC16-EC35 Aromatics	0.01 mg/l	10	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	SVOC	>EC21-EC35 Aromatics	0.01 mg/l	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Phenol	0.00055 m	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Anthracene	1e-005 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Pyrene	1e-005 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Benzo(g,h,i)perylene	1e-005 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Indeno(1,2,3-c,d)pyrene	1e-005 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Benzo(b)fluoranthene	1e-005 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Fluoranthene	1e-005 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Benzo(k)fluoranthene	1e-005 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Acenaphthylene	1e-005 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Chrysene	1e-005 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Benzo(a) pyrene	4e-006 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Dibenz(a,h)anthracene	1e-005 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Benz(a)anthracene	1e-005 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Acenaphthene	1e-005 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Phenanthrene	1e-005 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Fluorene	1e-005 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	Naphthalene	2e-005 mg/	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	>C16-C21 Aliphatics	0.02 mg/l	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	>C21-C35 Aliphatics	0.02 mg/l	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	>EC16-EC21 Aromatics	0.02 mg/l	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	>EC16-EC35 Aromatics	0.02 mg/l	10	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	SVOC	>EC21-EC35 Aromatics	0.02 mg/l	10	13	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Phenol	0.0005 mg/	12	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Anthracene	2.5e-005 m	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Pyrene	2.5e-005 m	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Benzo(g,h,i)perylene	2.5e-005 m	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Indeno(1,2,3-c,d)pyrene	2.5e-005 m	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Benzo(b)fluoranthene	2.5e-005 m	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Fluoranthene	2.5e-005 m	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Benzo(k)fluoranthene	2.5e-005 m	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Acenaphthylene	2.5e-005 m	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Chrysene	2.5e-005 m	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Benzo(a) pyrene	1e-005 mg/	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Dibenz(a,h)anthracene	2.5e-005 m	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Benz(a)anthracene	2.5e-005 m	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Acenaphthene	2.5e-005 m	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Phenanthrene	2.5e-005 m	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Fluorene	2.5e-005 m	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	Naphthalene	5e-005 mg/	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	>C16-C21 Aliphatics	0.05 mg/l	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	>C21-C35 Aliphatics	0.05 mg/l	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	>EC16-EC21 Aromatics	0.05 mg/l	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	>EC16-EC35 Aromatics	0.05 mg/l	9	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	SVOC	>EC21-EC35 Aromatics	0.05 mg/l	9	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Anthracene	1.5e-005 m	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Pyrene	1.72e-005	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Benzo(g,h,i)perylene	1.5e-005 m	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Indeno(1,2,3-c,d)pyrene	1.5e-005 m	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Benzo(b)fluoranthene	1.5e-005 m	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Fluoranthene	2.15e-005	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Benzo(k)fluoranthene	1.5e-005 m	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Acenaphthylene	1.5e-005 m	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Chrysene	1.5e-005 m	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Benzo(a) pyrene	6e-006 mg/	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Dibenz(a,h)anthracene	1.5e-005 m	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Benz(a)anthracene	1.5e-005 m	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Acenaphthene	1.5e-005 m	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Phenanthrene	2.6e-005 m	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Fluorene	1.5e-005 m	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	Naphthalene	3e-005 mg/	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	>C16-C21 Aliphatics	0.03 mg/l	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	>C21-C35 Aliphatics	0.03 mg/l	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	>EC16-EC21 Aromatics	0.03 mg/l	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	>EC16-EC35 Aromatics	0.03 mg/l	12	12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	SVOC	>EC21-EC35 Aromatics	0.03 mg/l	12	12	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	Low_Stability	Chloride	37.9 mg/l	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	Low_Stability	Cyanide Total	1 mg/kg		10	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	Low_Stability	Electrical conductivity *(lab)	2.33 mS/cn	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	Low_Stability	Electrical conductivity *(lab)	2.31 mS/cn	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	Low_Stability	Cyanide (Free)	1 mg/kg		10	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	Low_Stability	pH	10.5 pH Un	10	10	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	Low_Stability	pH (Lab)	10.4 pH Un	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	Low_Stability	pH (Lab)	10.2 pH Un	13	13	N
211005-36	soil	25092922	BH10D ES4	0.500	28/09/2021	Low_Stability	pH (Lab)	10.9 pH Units		8	N

211005-36	soil	25092923	BH10D ES7	1.000	28/09/2021	Low_Stability	Cyanide Total	1 mg/kg		14	N
211005-36	soil	25092923	BH10D ES7	1.000	28/09/2021	Low_Stability	Cyanide (Free)	1 mg/kg		14	N
211005-36	soil	25092923	BH10D ES7	1.000	28/09/2021	Low_Stability	pH (Lab)	8.16 pH Units		10	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	Low_Stability	Cyanide Total	1 mg/kg		9	N
211005-46	soil	25093814	BH-6D ES6	0.600	29/09/2021	Low_Stability	Cyanide (Free)	1 mg/kg		9	N
211005-46	soil	25093816	BH-6D ES9	1.100	29/09/2021	Low_Stability	Cyanide Total	1 mg/kg		9	N
211005-46	soil	25093816	BH-6D ES9	1.100	29/09/2021	Low_Stability	Cyanide (Free)	1 mg/kg		9	N
211005-51	soil	25094031	BH-6DA	0.500	29/09/2021	Low_Stability	Cyanide Total	1 mg/kg		13	N
211005-51	soil	25094031	BH-6DA	0.500	29/09/2021	Low_Stability	Cyanide (Free)	1 mg/kg		13	N
211005-51	soil	25094031	BH-6DA	0.500	29/09/2021	Low_Stability	pH (Lab)	8.44 pH Units		9	N
211005-51	soil	25094032	BH-6D	1.700	30/09/2021	Low_Stability	Cyanide Total	1 mg/kg		13	N
211005-51	soil	25094032	BH-6D	1.700	30/09/2021	Low_Stability	Cyanide (Free)	1 mg/kg		13	N
211005-51	soil	25094032	BH-6D	1.700	30/09/2021	Low_Stability	pH (Lab)	9.22 pH Units		12	N
211005-52	soil	25094103	BH-3D	0.500	30/09/2021	Low_Stability	Cyanide Total	1 mg/kg		12	N
211005-52	soil	25094103	BH-3D	0.500	30/09/2021	Low_Stability	Cyanide (Free)	1 mg/kg		12	N
211005-52	soil	25094103	BH-3D	0.500	30/09/2021	Low_Stability	pH (Lab)	8.09 pH Units		8	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	Low_Stability	Chloride	57.1 mg/l	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	Low_Stability	Sulphide	0.01 mg/l	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	Low_Stability	Cyanide Total	0.005 mg/l	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	Low_Stability	Cyanide Total	1 mg/kg		12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	Low_Stability	Electrical conductivity *(lab)	0.669 mS/c	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	Low_Stability	Electrical conductivity *(lab)	0.708 mS/c	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	Low_Stability	Cyanide (Free)	0.0025 mg/	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	Low_Stability	Cyanide (Free)	1 mg/kg		12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	Low_Stability	pH	7.98 pH Un	11	11	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	Low_Stability	pH (Lab)	8.47 pH Un	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	Low_Stability	pH (Lab)	8.45 pH Un	12	12	N
211005-52	soil	25094104	BH-3D	1.000	30/09/2021	Low_Stability	pH (Lab)	7.98 pH Units		8	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	Low_Stability	Chloride	261 mg/l	11	11	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	Low_Stability	Cyanide Total	1 mg/kg		12	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	Low_Stability	Electrical conductivity *(lab)	0.95 mS/cn	11	11	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	Low_Stability	Electrical conductivity *(lab)	0.915 mS/c	11	11	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	Low_Stability	Cyanide (Free)	1 mg/kg		12	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	Low_Stability	pH	7.89 pH Un	11	11	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	Low_Stability	pH (Lab)	8.68 pH Un	12	12	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	Low_Stability	pH (Lab)	8.63 pH Un	12	12	N
211005-55	soil	25094249	BH7D	0.600	30/09/2021	Low_Stability	pH (Lab)	7.86 pH Units		8	N
211005-55	soil	25094251	BH7D	1.100	30/09/2021	Low_Stability	Cyanide Total	1 mg/kg		12	N
211005-55	soil	25094251	BH7D	1.100	30/09/2021	Low_Stability	Cyanide (Free)	1 mg/kg		12	N
211005-55	soil	25094251	BH7D	1.100	30/09/2021	Low_Stability	pH (Lab)	7.96 pH Units		8	N
211012-23	soil	25131121	BH-7D	2.150 - 2.150	04/10/2021	Low_Stability	Cyanide Total	1 mg/kg		10	N
211012-23	soil	25131121	BH-7D	2.150 - 2.150	04/10/2021	Low_Stability	Cyanide (Free)	1 mg/kg		10	N
211012-23	soil	25131121	BH-7D	2.150 - 2.150	04/10/2021	Low_Stability	pH (Lab)	8.92 pH Units		9	N
211012-23	soil	25131129	BH-7D	4.000 - 4.000	05/10/2021	Low_Stability	Cyanide Total	1 mg/kg		9	N
211012-23	soil	25131129	BH-7D	4.000 - 4.000	05/10/2021	Low_Stability	Cyanide (Free)	1 mg/kg		9	N
211012-23	soil	25131129	BH-7D	4.000 - 4.000	05/10/2021	Low_Stability	pH (Lab)	7.92 pH Units		8	N
211012-23	soil	25131150	TP02	1.000 - 1.000	06/10/2021	Low_Stability	Cyanide Total	1 mg/kg		8	N
211012-23	soil	25131150	TP02	1.000 - 1.000	06/10/2021	Low_Stability	Cyanide (Free)	1 mg/kg		8	N
211012-23	soil	25131175	TP03	1.500 - 1.500	06/10/2021	Low_Stability	Cyanide Total	1 mg/kg		9	N
211012-23	soil	25131175	TP03	1.500 - 1.500	06/10/2021	Low_Stability	Cyanide (Free)	1 mg/kg		9	N
211012-23	soil	25131175	TP03	1.500 - 1.500	06/10/2021	Low_Stability	pH (Lab)	8.86 pH Units		9	N
211012-39	soil	25131957	BH-3D	2.000 - 2.000	06/10/2021	Low_Stability	Cyanide Total	1 mg/kg		9	N
211012-39	soil	25131957	BH-3D	2.000 - 2.000	06/10/2021	Low_Stability	Cyanide (Free)	1 mg/kg		9	N
211012-39	soil	25131966	BH-3D	5.000 - 5.000	06/10/2021	Low_Stability	Cyanide Total	1 mg/kg		9	N
211012-39	soil	25131966	BH-3D	5.000 - 5.000	06/10/2021	Low_Stability	Cyanide (Free)	1 mg/kg		9	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	Low_Stability	Chloride	3.4 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	Low_Stability	Sulphide	0.01 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	Low_Stability	Cyanide Total	0.005 mg/l	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	Low_Stability	Cyanide Total	1 mg/kg		11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	Low_Stability	Electrical conductivity *(lab)	0.103 mS/c	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	Low_Stability	Cyanide (Free)	0.0025 mg/	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	Low_Stability	Cyanide (Free)	1 mg/kg		11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	Low_Stability	pH	8.07 pH Un	8	8	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	Low_Stability	pH (Lab)	7.77 pH Un	11	11	N
211016-93	soil	25168469	DCP1	0.300	14/10/2021	Low_Stability	pH (Lab)	7.12 pH Units		11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	Low_Stability	Chloride	17.1 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	Low_Stability	Sulphide	0.01 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	Low_Stability	Cyanide Total	0.005 mg/l	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	Low_Stability	Cyanide Total	1 mg/kg		11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	Low_Stability	Electrical conductivity *(lab)	0.411 mS/c	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	Low_Stability	Cyanide (Free)	0.0025 mg/	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	Low_Stability	Cyanide (Free)	1 mg/kg		11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	Low_Stability	pH	8.81 pH Un	8	8	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	Low_Stability	pH (Lab)	8.86 pH Un	11	11	N
211016-93	soil	25168481	DCP10	0.900	14/10/2021	Low_Stability	pH (Lab)	9.04 pH Units		11	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	Low_Stability	Chloride	10.4 mg/l	13	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	Low_Stability	Sulphide	0.01 mg/l	13	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	Low_Stability	Cyanide Total	0.005 mg/l	13	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	Low_Stability	Cyanide Total	1 mg/kg		10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	Low_Stability	Electrical conductivity *(lab)	0.179 mS/c	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	Low_Stability	Cyanide (Free)	0.0025 mg/	13	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	Low_Stability	Cyanide (Free)	1 mg/kg		10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	Low_Stability	pH	8.55 pH Un	10	10	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	Low_Stability	pH (Lab)	8.6 pH Unit	13	13	N
211016-93	soil	25168488	DCP5	1.200	12/10/2021	Low_Stability	pH (Lab)	8.41 pH Units		13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	Low_Stability	Chloride	2.7 mg/l	13	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	Low_Stability	Sulphide	0.01 mg/l	13	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	Low_Stability	Cyanide Total	0.005 mg/l	13	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	Low_Stability	Cyanide Total	1 mg/kg		10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	Low_Stability	Electrical conductivity *(lab)	0.278 mS/c	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	Low_Stability	Cyanide (Free)	0.0025 mg/	13	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	Low_Stability	Cyanide (Free)	1 mg/kg		10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	Low_Stability	pH	8.61 pH Un	10	10	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	Low_Stability	pH (Lab)	8.41 pH Un	13	13	N
211016-93	soil	25168496	DCP7	0.200	12/10/2021	Low_Stability	pH (Lab)	7.61 pH Units		13	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	Low_Stability	Chloride	2.2 mg/l	12	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	Low_Stability	Sulphide	0.01 mg/l	12	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	Low_Stability	Cyanide Total	0.005 mg/l	12	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	Low_Stability	Cyanide Total	1 mg/kg		9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	Low_Stability	Electrical conductivity *(lab)	0.0332 mS/	12	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	Low_Stability	Cyanide (Free)	0.0025 mg/	12	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	Low_Stability	Cyanide (Free)	1 mg/kg		9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	Low_Stability	pH	7.21 pH Un	9	9	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	Low_Stability	pH (Lab)	6.98 pH Un	12	12	N
211016-93	soil	25168503	DCP8	0.700	13/10/2021	Low_Stability	pH (Lab)	5.95 pH Units		12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	Low_Stability	Cyanide Total	1 mg/kg		12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	Low_Stability	Cyanide (Free)	1 mg/kg		12	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	Low_Stability	pH	7.82 pH Un	9	9	N
211016-93	soil	25168511	DCP9	1.000	13/10/2021	Low_Stability	pH (Lab)	7.76 pH Units		12	N

Field Duplicates (Wa		SDG	211117-112	211117-112		211123-89	211123-89	
Filter: ALL		**Field ID**	BH-7D	Blank	**RPD**	SW Culvert	SW Culvert Duplicate	**RPD**
		Sampled Date/Time	12/11/2021	12/11/2021		19/11/2021	19/11/2021	
Parameter	**Units**	**Method Detection Limit**						
TPH								
GRO >C5-(	µg/l	50	<50	<50	0			
>C5-C6 Ali	µg/l	10	<10	<10	0			
>C6-C8 Ali	µg/l	10	<10	<10	0			
>C8-C10 A	µg/l	10	<10	<10	0			
>C10-C12	µg/l	10	<10	<10	0			
>C12-C16	µg/l	10	**65**	**<10**	**147**			
>C16-C21	µg/l	10	**111**	**14**	**155**			
>C16-C35	µg/l	10	**925**	**232**	**120**			
>C21-C35	µg/l	10	**814**	**218**	**116**			
>C12-C35	µg/l	10	**990**	**232**	**124**			
>EC5-EC7	µg/l	10	<10	<10	0			
>EC7-EC8	µg/l	10	<10	<10	0			
>EC8-EC1	µg/l	10	<10	<10	0			
>EC10-EC	µg/l	10	<10	<10	0			
>EC12-EC	µg/l	10	**69**	**<10**	**149**			
>EC16-EC	µg/l	10	**241**	**36**	**148**			
>EC21-EC	µg/l	10	**1100**	**200**	**138**			
>EC12-EC	µg/l	10	**1410**	**236**	**143**			
>C5-C35 A	µg/l	10	**2400**	**468**	**135**			
BTEX								
Benzene	µg/l	1	<1	<1	0	<1	<1	0
Toluene	µg/l	1	<1	1.12	11	<1	<1	0
Ethylbenze	µg/l	1	<1	<1	0	<1	<1	0
Xylene (m	µg/l	1	<1	<1	0	<1	<1	0
Xylene Tot	µg/l	2	<2	<2	0			
Xylene (o)	µg/l	1	<1	<1	0	<1	<1	0
Total BTEX	µg/l	5	<5	<5	0			
Total BTEX	µg/l					0.0E0	0.0E0	0
Oxygenates								
MTBE	µg/l	1	<1	<1	0	<1	<1	0
Tert Amyl M	µg/l	1	<1	<1	0	<1	<1	0
Chlorinated Hydrocarbons								
Chlorometh	µg/l	1	<1	<1	0	<1	<1	0
Vinyl chlori	µg/l	1	<1	<1	0	<1	<1	0
Chloroetha	µg/l	1	<1	<1	0	<1	<1	0
1,1-dichlor	µg/l	1	<1	<1	0	<1	<1	0
Dichlorome	µg/l	3	<3	<3	0	<3	<3	0
trans-1,2-d	µg/l	1	<1	<1	0	<1	<1	0
1,1-dichlor	µg/l	1	<1	<1	0	<1	<1	0
cis-1,2-dich	µg/l	1	<1	<1	0	<1	<1	0
Chloroform	µg/l	1	<1	<1	0	1.1	1.1	0
1,1,1-trichl	µg/l	1	<1	<1	0	<1	<1	0
Carbon tet	µg/l	1	<1	<1	0	<1	<1	0
Trichloroet	µg/l	1	<1	<1	0	<1	<1	0
1,1,2-trichl	µg/l	1	<1	<1	0	<1	<1	0
Tetrachloro	µg/l	1	<1	<1	0	<1	<1	0
Sum of PC	µg/l					0.0E0	0.0E0	0
VOC								
2,2-dichlor	µg/l	1	<1	<1	0	<1	<1	0
Bromochlo	µg/l	1	<1	<1	0	<1	<1	0
1,1-dichlor	µg/l	1	<1	<1	0	<1	<1	0
1,2-dichlor	µg/l	1	<1	<1	0	<1	<1	0
1,2-dichlor	µg/l	1	<1	<1	0	<1	<1	0
Dibromome	µg/l	1	<1	<1	0	<1	<1	0
Bromodich	µg/l	1	<1	<1	0	<1	<1	0
cis-1,3-dich	µg/l	1	<1	<1	0	<1	<1	0
trans-1,3-d	µg/l	1	<1	<1	0	<1	<1	0
1,3-dichlor	µg/l	1	<1	<1	0	<1	<1	0
Chlorodibr	µg/l	1	<1	<1	0	<1	<1	0
1,1,1,2-tetr	µg/l	1	<1	<1	0	<1	<1	0
Styrene	µg/l	1	<1	<1	0	<1	<1	0
Bromoform	µg/l	1	<1	<1	0	<1	<1	0
Isopropylbe	µg/l	1	<1	<1	0	<1	<1	0
1,1,2,2-tetr	µg/l	1	<1	<1	0	<1	<1	0
1,2,3-trichl	µg/l	1	<1	<1	0	<1	<1	0
n-propylbe	µg/l	1	<1	<1	0	<1	<1	0
1,3,5-trime	µg/l	1	<1	<1	0	<1	<1	0
tert-butylbe	µg/l	1	<1	<1	0	<1	<1	0
1,2,4-trime	µg/l	1	<1	<1	0	<1	<1	0

Field Duplicates (Wa		SDG	211117-112	211117-112		211123-89	211123-89	
Filter: ALL		**Field ID**	BH-7D	Blank	**RPD**	SW Culvert	SW Culvert Duplicate	**RPD**
		Sampled Date/Time	12/11/2021	12/11/2021		19/11/2021	19/11/2021	
sec-butylbe	µg/l	1	<1	<1	0	<1	<1	0
p-isopropyl	µg/l	1	<1	<1	0	<1	<1	0
n-butylbenz	µg/l	1	<1	<1	0	<1	<1	0
1,2-dibrom	µg/l	1	<1	<1	0	<1	<1	0
Hexachloro	µg/l	1				<1	<1	0
Hexachloro	µg/l	1	<1	<1	0	<1	<1	0
1,2-Dichlor	µg/l					0.0E0	0.0E0	0
PAH								
Naphthaler	µg/l	1				<1	<1	0
Naphthaler	µg/l	1	<1	<1	0	<1	<1	0
Acenaphth	µg/l	1				<1	<1	0
Acenaphth	µg/l	1				<1	<1	0
Fluorene	µg/l	1				<1	<1	0
Phenanthre	µg/l	1				<1	<1	0
Anthracene	µg/l	1				<1	<1	0
Fluoranthe	µg/l	1				<1	<1	0
Pyrene	µg/l	1				<1	<1	0
Benz(a)ant	µg/l	1				<1	<1	0
Chrysene	µg/l	1				<1	<1	0
Benzo(a) p	µg/l	1				<1	<1	0
Indeno(1,2	µg/l	1				<1	<1	0
Dibenz(a,h	µg/l	1				<1	<1	0
Benzo(g,h,	µg/l	1				<1	<1	0
Benzo(b)flu	µg/l	1				<1	<1	0
Benzo(k)flu	µg/l	1				<1	<1	0
Benzo(b)&(	µg/l					0.0E0	0.0E0	0
PAHs (sum	µg/l					0.0E0	0.0E0	0
benzo(g,h,i	µg/l					0.0E0	0.0E0	0
Benzo(a)py	µg/l					0.0E0	0.0E0	0
SVOC								
2-methylna	µg/l	1				<1	<1	0
4-bromoph	µg/l	1				<1	<1	0
4-chloroph	µg/l	1				<1	<1	0
Azobenzen	µg/l	1				<1	<1	0
Bis(2-chlor	µg/l	1				<1	<1	0
Bis(2-chlor	µg/l	1				<1	<1	0
Carbazole	µg/l	1				<1	<1	0
Dibenzofur	µg/l	1				<1	<1	0
Hexachloro	µg/l	1				<1	<1	0
Hexachloro	µg/l	1				<1	<1	0
Phenolics								
2-methylph	µg/l	1				<1	<1	0
2-nitropher	µg/l	1				<1	<1	0
2,4-dimeth	µg/l	1				<1	<1	0
4-chloro-3-	µg/l	1				<1	<1	0
4-methylph	µg/l	1				<1	<1	0
4-nitropher	µg/l	1				<1	<1	0
Phenol	µg/l	1				<1	<1	0
Phenol (Fil	µg/l	0.5				<0.5	<0.5	0
2-chlorona	µg/l	1				<1	<1	0
Amino Aliphatics								
N-nitrosodi	µg/l	1				<1	<1	0
Anilines								
2-nitroanilir	µg/l	1				<1	<1	0
3-nitroanilir	µg/l	1				<1	<1	0
4-chloroani	µg/l	1				<1	<1	0
4-nitroanilir	µg/l	1				<1	<1	0
Explosives								
2,4-Dinitrot	µg/l	1				<1	<1	0
2,6-dinitrot	µg/l	1				<1	<1	0
Nitrobenze	µg/l	1				<1	<1	0
Halogenated Benzenes								
1,3,5-Trich	µg/l	1	<1	<1	0	<1	<1	0
Chlorobenz	µg/l	1	<1	<1	0	<1	<1	0
Bromobenz	µg/l	1	<1	<1	0	<1	<1	0
2-chlorotolu	µg/l	1	<1	<1	0	<1	<1	0
4-chlorotolu	µg/l	1	<1	<1	0	<1	<1	0
1,3-dichlor	µg/l	1				<1	<1	0
1,3-dichlor	µg/l	1	<1	<1	0	<1	<1	0
1,4-dichlor	µg/l	1				<1	<1	0
1,4-dichlor	µg/l	1	<1	<1	0	<1	<1	0

Field Duplicates (Wa		SDG	211117-112	211117-112		211123-89	211123-89	
Filter: ALL		**Field ID**	BH-7D	Blank	**RPD**	SW Culvert	SW Culvert Duplicate	**RPD**
		Sampled Date/Time	12/11/2021	12/11/2021		19/11/2021	19/11/2021	
1,2-dichlor	µg/l	1				<1	<1	0
1,2-dichlor	µg/l	1	<1	<1	0	<1	<1	0
1,2,4-trichl	µg/l	1				<1	<1	0
1,2,4-trichl	µg/l	1	<1	<1	0	<1	<1	0
1,2,3-trichl	µg/l	1	<1	<1	0	<1	<1	0
Hexachloro	µg/l	1				<1	<1	0
Halogenated Hydrocarbons								
Dichlorodifl	µg/l	1	<1	<1	0	<1	<1	0
Bromometh	µg/l	1	<1	<1	0	<1	<1	0
Trichloroflu	µg/l	1	<1	<1	0	<1	<1	0
1,2-dibrom	µg/l	1	<1	<1	0	<1	<1	0
Halogenated Phenols								
2-chloroph	µg/l	1				<1	<1	0
2,4-dichlor	µg/l	1				<1	<1	0
2,4,5-trichl	µg/l	1				<1	<1	0
2,4,6-trichl	µg/l	1				<1	<1	0
Pentachlor	µg/l	1				<1	<1	0
Phthalates								
Bis(2-ethyl	µg/l	2				<2	<2	0
Butyl benz	µg/l	1				<1	<1	0
Di-n-butyl p	µg/l	1				<1	<1	0
Di-n-octyl p	µg/l	5				<5	<5	0
Diethylphth	µg/l	1				<1	<1	0
Dimethyl p	µg/l	1				<1	<1	0
Solvents								
Carbon dis	µg/l	1	<1	<1	0	<1	<1	0
Isophorone	µg/l	1				<1	<1	0
Metals								
Arsenic (Fi	µg/l	0.5				0.942	1	6
Barium (Fil	µg/l	0.2				42.5	44.1	4
Beryllium (	µg/l	0.1				<0.1	<0.1	0
Boron (Filte	µg/l	10				74.9	74.9	0
Cadmium (	µg/l	0.08				<0.08	<0.08	0
Calcium (F	mg/l	0.2				103	105	2
Chromium	µg/l	1				<1	<1	0
Copper (Fil	µg/l	0.3				2.24	3.17	34
Lead (Filte	µg/l	0.2				**<0.2**	**1.22**	**144**
Magnesium	mg/l	0.036				8.22	8.27	1
Nickel (Filte	µg/l	0.4				2	2.31	14
Selenium (	µg/l	1				<1	<1	0
Vanadium	µg/l	1				<1	1.08	8
Zinc (Filter	µg/l	1				**10.9**	**20.4**	**61**
Potassium	mg/l	0.2				19.6	19.6	0
Inorganics								
Sulphur (Fi	µg/l	1000				25000	25200	1
Sodium (Fi	mg/l	0.076				204	204	0
Hardness a	mg/l	0.35				317	300	6
Ammoniac	mg/l	0.01				0.049	0.071	37

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 80 (1-10 x EQL); 50 (10-30 x EQL); 30 (> 30 x

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row

Ground Gas monitoring data and assessment

Site	Hillingdon Hospital	
Sample Round:	12 November 2021	19 November 2021
	23 November 2021	02 December 2021

Sample Location	Sample Date	Flow Pod (L/hr)		Barometric Pressure (mb)	Methane (CH_4) % v/v			Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		
		Peak	Steady		Peak	Steady	GSV	Peak	Steady	Peak	Stead y	GSV
BH-3(D)	11/12/2021	-1.5	-1.5	1037	0.1	0.1	-0.002	16.3	16.3	4.3	4.3	-0.065
	19/11/2021	1.6	1.6	1029	0.1	0.1	0.002	15.2	15.2	4.9	4.9	0.078
	23/11/2021	-1.7	-1.7	1032	0.2	0.2	-0.003	14.5	14.5	5.7	5.7	-0.097
	12/02/2021	-2.4	-2.4	1007	0.2	0.2	-0.005	15.6	15.6	6.3	6.3	-0.151
BH-6D (2)	11/12/2021	-0.3	-0.3	1037	0.1	0.1	0.000	17.2	17.2	3.0	2.6	-0.008
	19/11/2021	-3	-3	1030	0.1	0.1	-0.003	12.1	12.1	1.8	1.8	-0.054
	23/11/2021	-5	-5	1032	0.1	0.1	-0.005	11.7	11.8	2.0	2.0	-0.100
	12/02/2021	-1.9	-1.9	1007	0.2	0.2	-0.004	12.9	12.9	2.2	2.2	-0.042
BH-7D(2)	11/12/2021	-0.3	-0.3	1037	0.1	0.1	0.000	9.1	9.1	3.5	3.3	-0.010
	19/11/2021	-2.8	-2.8	1029	0.2	0.1	-0.003	20.8	20.8	1.2	1.1	-0.031
	23/11/2021	-0.7	-0.7	1032	0.2	0.2	-0.001	5.0	5.0	4.5	4.5	-0.032
	12/02/2021	0.1	0.1	1007	0.2	0.2	0.000	0.5	0.5	5.6	5.4	0.005
BH-10D(2)	11/12/2021	-0.3	-0.3	1037	0.3	0.1	0.000	13.3	13.3	4.3	4.3	-0.013
	19/11/2021	-0.3	-0.3	1030	0.2	0.1	0.000	12.5	12.5	4.4	4.4	-0.013
	23/11/2021	-0.4	-0.4	1032	0.2	0.2	-0.001	10.5	10.5	4.6	4.5	-0.018
	12/02/2021	0.1	0.1	1008	0.1	0.1	0.000	12.2	12.2	4.6	4.6	0.005

Legend:

ppm - parts per million
L/hr - litres per hour
LEL - lower explosive limit
-- - not encountered
mb - milliBar
m bgl - metres below ground level
GSV - Gas Screening Values in accordance to BS8485

CS: CIRIA Characteristic Situation. Volumetric flow rate of CH_4 or CO_2 (litre/hour):

CS1 (very low risk): <0.07l/hr (CH_4 <1% and/or CO_2 <5%).

CS2 (low risk): <0.7l/hr (CH4 >1% and/or CO2 >5%).

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