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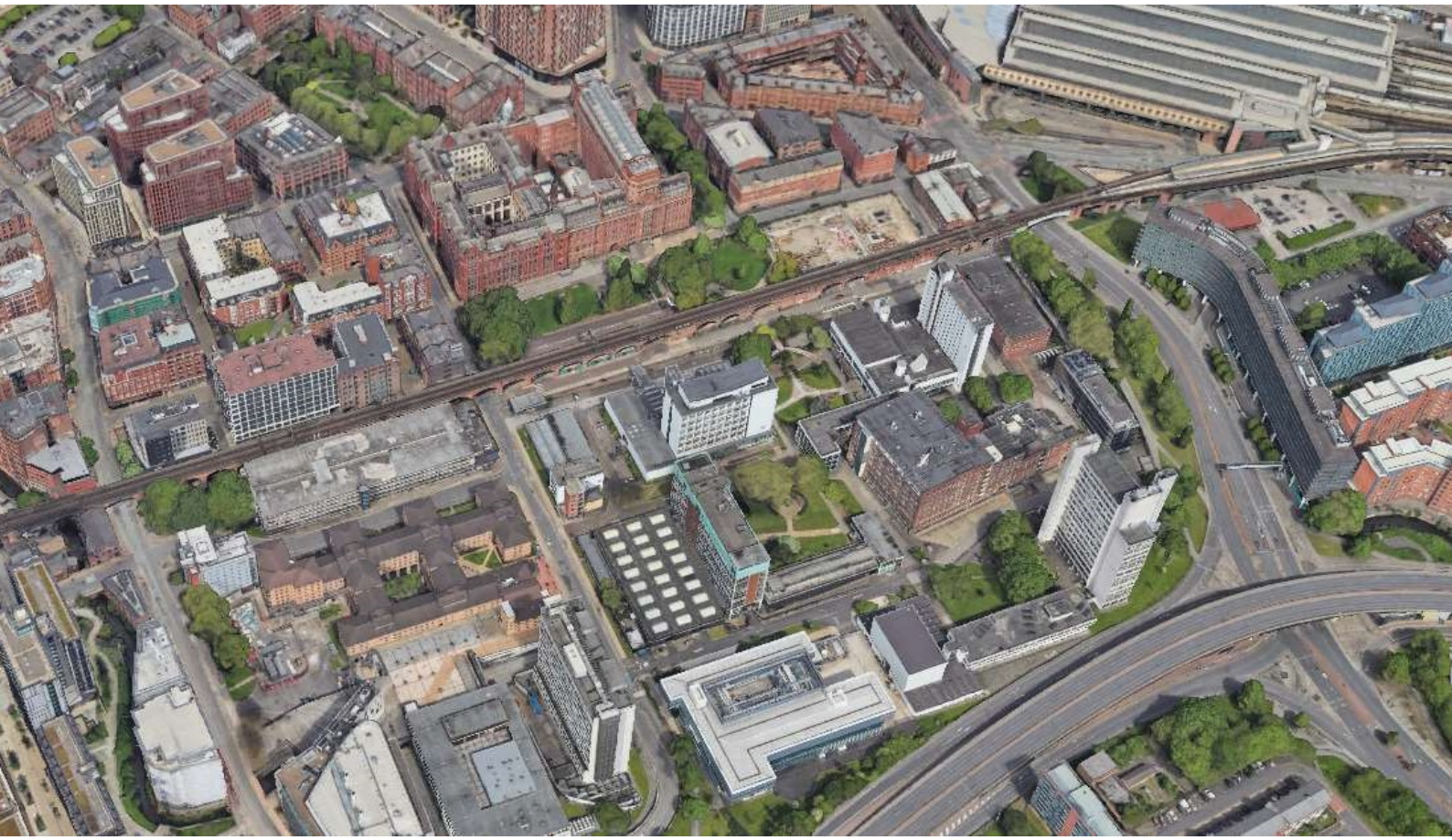
ID Manchester Masterplan Area

Factual Site Investigation Report

31 July 2024

Prepared For

ID Manchester Limited



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Factual Site Investigation Report

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Report Reference	51019-CE-02-XX-R-G-1001
Issued	31/07/2024
Status	P01 – First Issue

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1. Introduction

Civic Earth Limited was appointed on 21 February 2024 by Bruntwood SciTech (the Developer) on behalf of ID Manchester Limited (the Client) to undertake a geotechnical and geoenvironmental site investigation for the proposed redevelopment of the ID Manchester (IDM) masterplan area, herein referred to as “the site”.

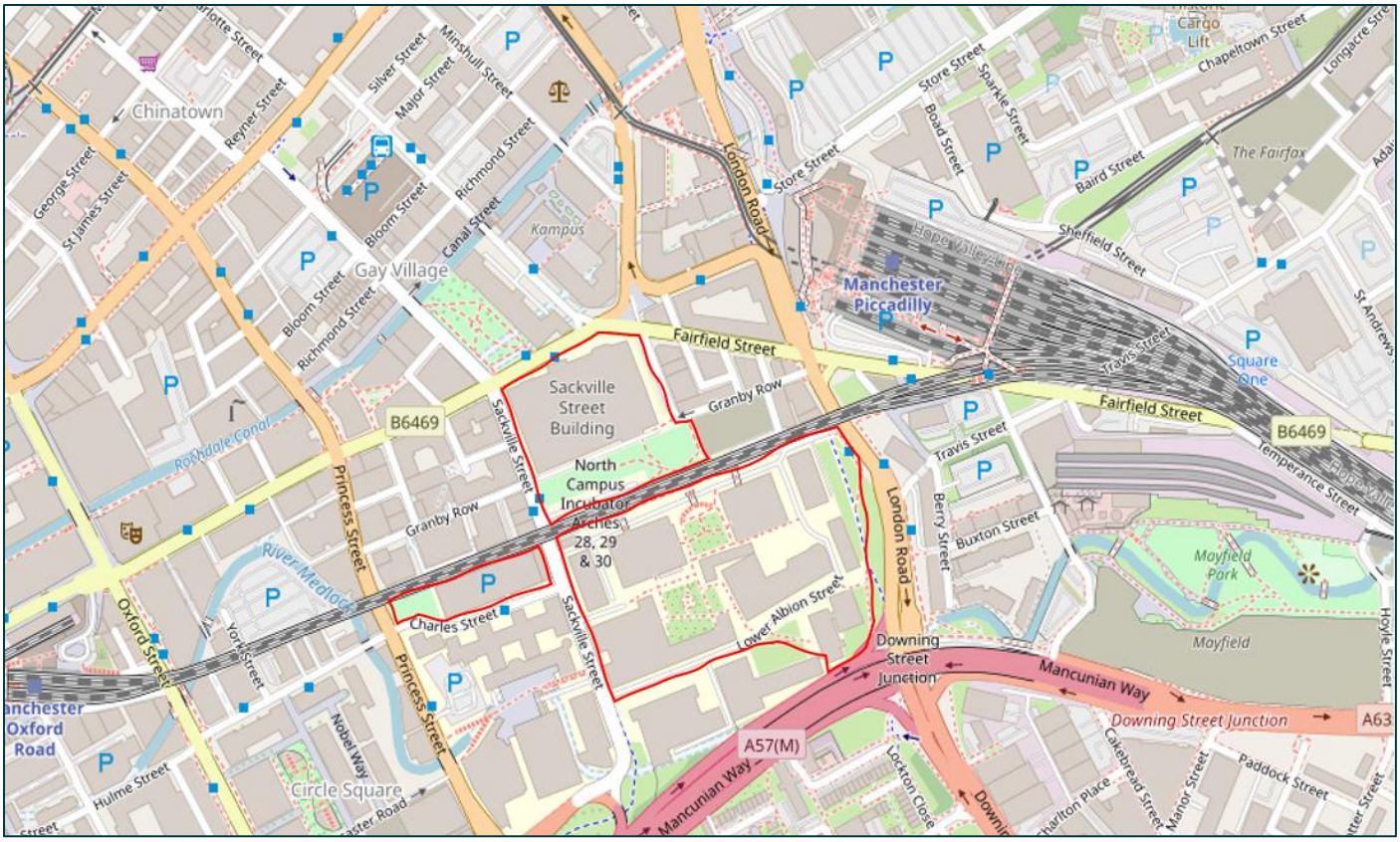
This document presents the factual data obtained from the site investigation to date including exploratory hole logs, chemical and geotechnical laboratory data, in-situ test data and ground gas and groundwater monitoring data. Interpretation of the data gathered in this investigation is not included within the scope of this report. Updates to this report will be made on completion of the outstanding borehole and monitoring rounds.

2. Site Context

2.1. Site Location

The site is located on the University of Manchester's (UOM) former North Campus, which occupies land between Fairfield Street, London Road, Mancunian Way and Princess Street. The site location is illustrated in Plate 1. The National Grid coordinates for the approximate centre of the site are 384620E, 397623N and the site is approximately 7.38 hectares in size.

Plate 1: Approximate Site Location Plan (©OpenStreetMap Contributors)

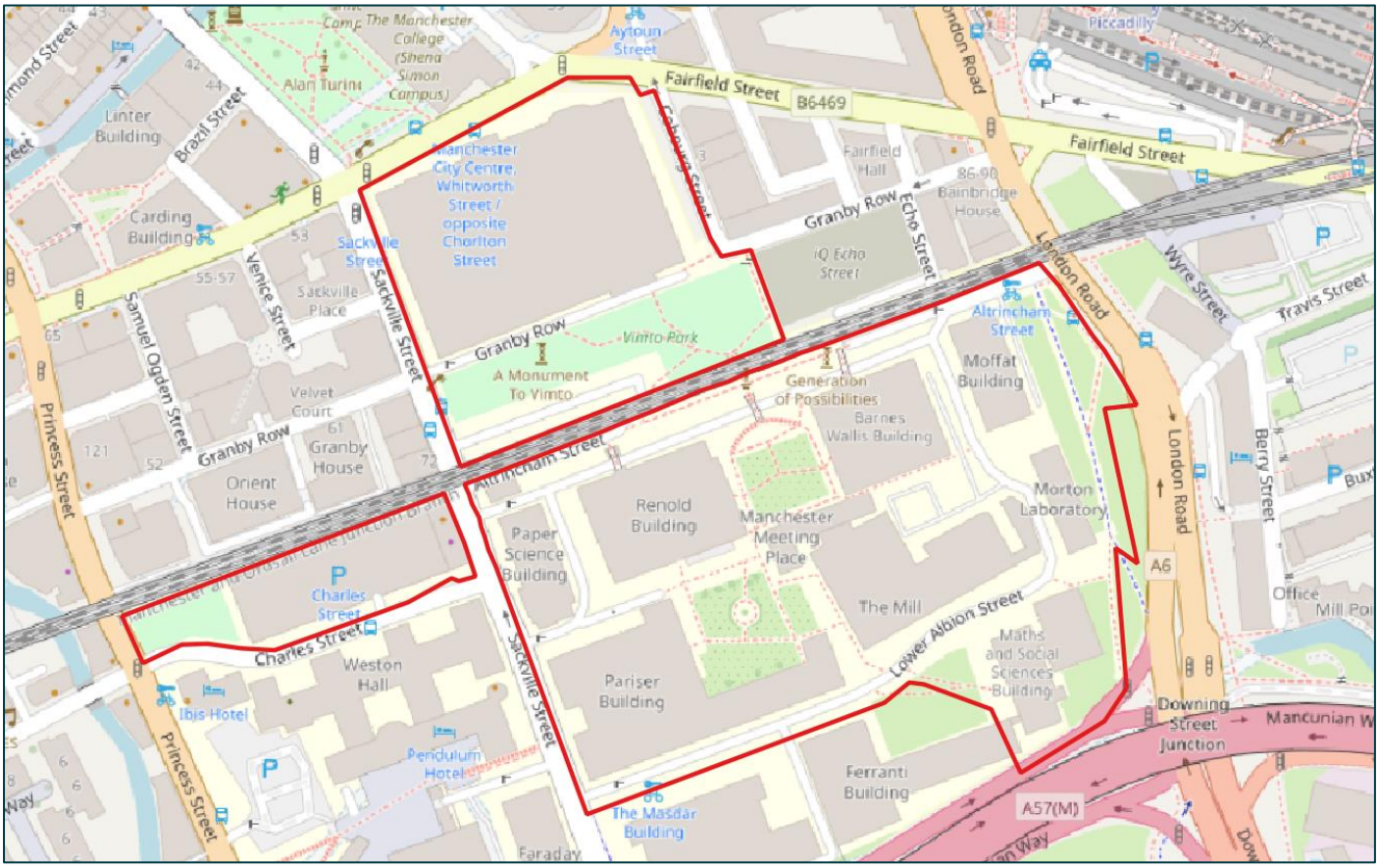


2.2. Site Description

The site can be divided into three zones; the zone to the north of Altrincham Street and the Network Rail viaduct, the central zone to the south of Altrincham Street and the Network Rail viaduct and to the east of Sackville Street, and the zone to the west of Sackville Street. A summary of the three areas is provided below and the existing site layout is illustrated in Plate 2.

- **North Zone**: comprises the Grade II Listed Sackville Street Building with public realm to the east and Vimto Gardens and a car park to the south. Fairfield Street bounds the zone to the north, Cobourg Street to the east, the Network Rail viaduct to the south and Sackville Street to the west.
- **Central Zone**: comprises 10 of the UOM former buildings including Morton Laboratory, Moffat Building, Maths and Social Science (MSS) Tower, The Mill, Manchester Meeting Place (MMP), Barnes Wallis Building, Wright Robinson Building, Pariser Building, Renolds Building and Paper Science Building. Areas of soft landscaping are present around the buildings with the Grade II Listed Holloway Wall in the east of the zone. Altrincham Street runs along the north of the zone with a raised Network Rail viaduct forming the zone's northern boundary. London Road and public realm bounds the zone to the east, Sackville Street to the west and the UOM Ferranti Building and Graphene Engineering Innovation Centre to the south.
- **West Zone**: comprises Charles Street Multistorey Car Park across the east and central areas of the zone with small commercial units in the east of the zone, and public realm in the west. The zone is bounded to the north by the Network Rail viaduct, to the east by Sackville Street, to the south by Charles Street and to the west by Princess Street.

Plate 2: Existing Site Layout



2.3. Proposed Development

The IDM masterplan redevelopment is split into seven development plots which are illustrated in Plate 3. At the time of writing, detailed design for the redevelopment of Plot C and the enabling works for Plots C, E and E are underway.

Plate 3: ID Manchester Indicative Masterplan Development Plots



3. Site Investigation

3.1. Introduction

A site investigation was undertaken across the site between 8 April and 8 May 2024. A summary of the intrusive works completed at the site is summarised in Table 1.

Table 1: Summary of Exploratory Hole Locations

Location Reference	Site Zone	Type of Exploratory Hole	Ground Level (mOD)	Base Depth (mbgl)	Base Levels (mOD)	Reason for Termination
Cable Percussion and /or Rotary Boreholes						
BH1001	Central	CP + RH	35.24*	25.00	10.24	Achieved target depth
BH1002	Central	CP + RH	38.79*	25.00	13.79	Achieved target depth
BH1003	Central	CP + RH	34.06*	25.00	9.06	Achieved target depth
BH1004	Central	RH	36.50	19.50	17.00	Achieved target depth
BH1005	Central	CP + RH	33.51*	16.50	17.01	Terminated due to contamination
BH1006	Central	CP + RH	34.19	15.00	19.19	Achieved target depth
BH1007	Central	CP + RH	34.10*	15.00	19.10	Achieved target depth
BH1008	Central	CP + RH	33.60*	10.50	23.10	Achieved target depth
BH1009	North	CP + RH	40.51*	15.00	25.51	Achieved target depth
BH1012	North	CP	40.60	6.50	34.10	Achieved target depth
BH1013	Central	CP	33.40*	0.40	33.00	Terminated due to obstruction
BH1013A	Central	CP + RH	33.60*	20.00	13.60	Achieved target depth
BH1014	Central	WS	32.62*	2.20	30.42	Terminated due to obstruction
BH1014A	Central	WS	32.62*	4.50	28.12	Terminated due to refusal
BH1015	Central	CP	33.26	0.90	32.36	Terminated due to obstruction
BH1015A	Central	CP	33.00*	1.00	32.00	Terminated due to obstruction
BH1015B	Central	CP	33.83*	6.00	27.83	Achieved target depth
BH1016	Central	RH	34.03*	1.10	32.93	Terminated due to obstruction
Window Sampler Boreholes						
WS1001	North	WS	41.50	5.45	36.05	Achieved target depth
WS1002	North	WS	38.40	4.45	33.95	Terminated due to refusal
WS1003	North	WS	37.62	4.45	33.17	Terminated due to refusal
WS1004	Central	WS	32.88	0.70	32.18	Terminated due to obstruction
WS1004A	Central	WS	32.96	0.60	32.36	Terminated due to obstruction
WS1005	Central	WS	38.62	4.45	34.17	Terminated due to instability
WS1006	Central	WS	33.62	2.50	31.12	Terminated due to refusal
WS1007	Central	WS	33.20	3.45	29.75	Terminated due to refusal
WS1008	Central	WS	35.00	2.45	32.55	Terminated due to obstruction
WS1009	Central	WS	38.70	3.40	35.30	Terminated due to refusal
WS1010	Central	WS	33.76	0.10	33.66	Terminated due to obstruction
WS1010A	Central	WS	33.76	3.45	30.31	Terminated due to refusal
WS1011	Central	WS	34.53	5.45	29.08	Achieved target depth
WS1012	Central	WS	37.91	5.45	32.46	Achieved target depth
WS1013	West	WS	33.60	5.45	28.15	Achieved target depth
WS1014	West	WS	34.30	5.45	28.85	Achieved target depth
WS1015	Central	WS	34.08	3.45	30.63	Terminated under instruction of UXO Engineer

Location Reference	Site Zone	Type of Exploratory Hole	Ground Level (mOD)	Base Depth (mbgl)	Base Levels (mOD)	Reason for Termination
WS1016	Central	WS	34.17	5.45	28.72	Achieved target depth
WS1017	Central	WS	34.00	3.70	30.30	Terminated due to refusal
WS1018	Central	WS	34.30	4.45	29.85	Terminated due to refusal
WS1019	Central	WS	33.30	5.45	27.85	Achieved target depth
WS1020	Central	WS	32.88	5.45	27.43	Achieved target depth
WS1021	Central	WS	34.30	3.45	30.85	Terminated due to refusal
WS1022	Central	WS	34.03	0.70	33.33	Terminated due to obstruction
WS1022A	Central	WS	34.03	0.90	33.13	Terminated due to obstruction
WS1022B	Central	WS	34.03	1.20	32.83	Terminated due to obstruction
WS1023	Central	WS	33.00	0.20	32.80	Terminated due to obstruction
WS1023A	Central	WS	33.00	3.45	29.55	Terminated due to instability
WS1024	Central	WS	35.00	5.45	29.55	Achieved target depth
WS1025	Central	WS	35.41	5.45	29.96	Achieved target depth
WS1026	Central	WS	33.14	3.45	29.69	Terminated due to refusal
Foundation Inspection Trial Pits						
FIP1001	Central	FIP	34.04*	0.21	34.03	Terminated due to obstruction
FIP1002	Central	FIP	34.07*	0.32	33.75	Terminated due to obstruction
FIP1003	Central	FIP	34.06*	1.57	32.49	Maximum excavation depth
FIP1004	Central	FIP	34.06*	0.48	33.58	Terminated due to obstruction
FIP1005	Central	FIP	34.07*	0.70	33.37	Maximum pilot hole depth
FIP1006	Central	FIP	36.00*	0.37	35.63	Terminated due to obstruction
FIP1007	Central	FIP	37.47*	1.10	36.37	Base of foundation located
FIP1010	Central	FIP	33.08*	1.00	32.08	Terminated due to obstruction
FIP1011	Central	FIP	33.15*	1.50	31.65	Maximum excavation depth
FIP1012	Central	FIP	33.12*	1.60	31.52	Maximum excavation depth
FIP1013	Central	FIP	33.01*	1.50	31.51	Maximum excavation depth
FIP1014	Central	FIP	NA	1.10	NA	Base of foundation located
FIP1015	Central	FIP	NA	1.60	NA	Maximum excavation depth
FIP1016	Central	FIP	NA	1.20	NA	Base of foundation located
FIP1017	Central	FIP	33.50*	1.50	32.00	Maximum excavation depth
FIP1018	Central	FIP	34.24*	1.60	32.64	Maximum excavation depth
FIP1019	Central	FIP	33.30*	1.50	31.80	Maximum pilot hole depth
FIP1020	Central	FIP	33.30*	1.50	31.80	Maximum pilot hole depth
FIP1021	Central	FIP	33.09*	1.10	31.99	Base of foundation located
FIP1022	Central	FIP	34.30*	0.50	33.80	Maximum pilot hole depth
FIP1023	Central	FIP	34.19*	1.00	33.19	Base of foundation located
FIP1024	Central	FIP	NA	1.50	NA	Maximum pilot hole depth
FIP1029	Central	FIP	37.42	1.50	35.92	Maximum excavation depth
FIP1033	Central	FIP	39.42*	1.50	37.92	Maximum excavation depth
FIP1034	Central	FIP	38.20*	1.50	36.70	Terminated due to refusal
FIP1035	Central	FIP	38.95*	1.50	37.45	Maximum excavation depth
FIP1036	Central	FIP	34.66*	1.60	33.06	Maximum excavation depth
Horizontal Cores						

Location Reference	Site Zone	Type of Exploratory Hole	Ground Level (mOD)	Base Depth (mbgl)	Base Levels (mOD)	Reason for Termination
HC1001	Central	CC	35.60	2.00	35.60	Achieved target length
HC1002	Central	CC	34.09	2.00	34.09	Achieved target length
HC1003	Central	CC	34.59*	2.50	34.59	Achieved target length
HC1004	Central	CC	36.56*	2.00	36.56	Achieved target length

CP = cable percussion borehole; CP + RH = cable percussion with follow on rotary cored borehole; RH = rotary cored hole; WS = window sample borehole; FIP = foundation inspection trial pit; * = ground level estimated from topographical survey; ** = Not Available as internal position; CC = horizontal concrete core.

Prior to breaking ground, exploratory holes were cleared for buried services by a specialist utility contractor utilising a cable avoidance tool (CAT) and signal generator. Coordinates and ground levels were surveyed where possible for each exploratory hole position; however, due to the heights of the surrounding buildings a GPS signal was unable to be achieved at a number of positions. Where no GPS signal was available, the exploratory hole position was measured in from fixed points and the coordinates and ground level generated from the site's topographical survey.

Due to access restrictions at borehole BH1014/BH1014A (originally proposed as a cable percussion borehole), the borehole was undertaken during a window sample terrier rig.

The investigation was undertaken in general accordance with the requirements of BS 5930:2015+A1:2020 [1]and BS 10175:2011+A2:2017[2]. Exploratory hole location plans are included in Appendix A. The borehole and window sample exploratory hole records are included in Appendix B. Foundation inspection pit drawings are included in Appendix C and photographs of the foundation inspection pits and horizontal cores are included in Appendix D.

In-situ Standard Penetration Tests (SPTs) were carried out within the cable/rotary boreholes and window sample boreholes. In addition, headspace volatile monitoring with a Photoionisation Detector (PID) was carried out on samples of Made Ground and hand shear vane (HSV) tests where suitable cohesive soil samples were retrieved.

Downhole unexploded ordnance (UXO) magnetometer testing was carried out in boreholes which were located within the moderate risk area as identified in the detailed UXO assessment for the site[3].

It is noted that two additional boreholes, BH1010 and BH1011, are yet to be completed as permission from British Telecom (BT) is required as the boreholes are proposed in proximity to the BT Guardian Tunnel which crosses the site at depth. Liaison with BT is currently on-going. In addition, six foundation inspection pits (FIP1026, FIP1027, FIP1028, FIP1030, FIP1031 and FIP1032) are scheduled to be undertaken to investigate the construction and foundations of Network Rail assets; it is noted that these locations are not indicated on the exploratory hole location plans included in Appendix A as the locations will be determined during a future site visit. Liaison with Network Rail is currently on-going to obtain permission for these works. This report will be updated to incorporate the results of these four boreholes once completed.

3.2. Ground Gas Monitoring

A total of six ground gas monitoring rounds are scheduled to be carried out at the site with five rounds completed to date on 29 May, 10 June, 26 June, 9 July and 23 July 2024. One further round will be completed and the results included within an update to this report, once complete.

A summary of the monitoring wells installed is provided in Table 2 and the ground gas monitoring records are included in Appendix E.

Table 2: Summary of Ground Gas Monitoring Well Response Zones

Location Reference	Target Response Zone	Response Zone Top Depth (mbgl)	Response Zone Base Depth (mbgl)	Response Zone Top Level (mOD)	Response Zone Base Level (mOD)
BH1003	Alluvium	4.50	25.00	29.56	9.06
BH1014A	Made Ground	1.00	4.00	31.62	28.62
WS1001	Made Ground	1.00	5.00	40.50	36.50
WS1006	Made Ground	1.00	1.50	32.62	32.12
WS1008	Made Ground	0.50	2.00	34.50	33.00
WS1012	Made Ground	1.00	4.00	36.91	33.91
WS1014	Made Ground	1.00	2.00	33.30	32.30

[1] British Standards Institution (2015) Code of practice for ground investigations. BS 5930:2015+A1:2020.

[2] British Standards Institution (2017) Investigation of potentially contaminated sites – Code of practice. BS 10175:2011+A2:2017.

[3] 1st Line Defence (2022) Detailed Unexploded Ordnance (UXO) Risk Assessment. ID Manchester. Reference DA14968-00. 8 April 2022.

Location Reference	Target Response Zone	Response Zone Top Depth (mbgl)	Response Zone Base Depth (mbgl)	Response Zone Top Level (mOD)	Response Zone Base Level (mOD)
WS1016	Made Ground	1.00	5.00	33.17	29.17
WS1020	Made Ground	1.00	4.00	31.88	28.88
WS1023A	Made Ground	1.00	1.45	32.00	31.55
WS1024	Made Ground	1.00	3.70	34.00	31.30

3.3. Groundwater Monitoring

A total of 12 monthly groundwater level monitoring rounds are scheduled to be carried out at the site. Three rounds have been completed to date on 14 and 15 May 2024, 25 June 2024 and 23 July 2024. In addition, groundwater divers for continuous groundwater level monitoring have been installed in boreholes BH1002, BH1005, BH1006, BH1008 and BH1013A.

A summary of the groundwater monitoring wells installed is provided in Table 2 and the groundwater monitoring records from the three monitoring rounds completed to date are included in Appendix E.

Table 3: Summary of Groundwater Monitoring Well Response Zones

Location Reference	Target Response Zone	Response Zone Top Depth (mbgl)	Response Zone Base Depth (mbgl)	Response Zone Top Level (mOD)	Response Zone Base Level (mOD)
BH1001	Chester Formation	5.00	25.00	30.24	10.24
BH1002	Chester Formation	5.50	25.00	33.29	13.79
BH1003	Alluvium	4.50	25.00	29.56	9.06
BH1004	Chester Formation	7.00	19.50	29.50	17.00
BH1005	Chester Formation	7.00	16.50	26.51	17.01
BH1006	Chester Formation	7.00	15.00	27.19	19.19
BH1007	Chester Formation	4.00	15.00	30.10	19.10
BH1008	Chester Formation	3.00	10.50	30.60	23.10
BH1009	Glacial Till	6.00	15.00	34.51	25.51
BH1012	Glacial Till	4.00	5.50	36.60	35.10
BH1013A	Chester Formation	5.00	20.00	28.60	13.60
BH1014A	Made Ground	1.00	4.00	31.62	28.62
BH1015B	Chester Formation	4.50	6.00	29.33	27.83
WS1001	Made Ground	1.00	5.00	40.50	36.50
WS1002	Glacial Till	3.60	4.00	34.80	34.40
WS1006	Made Ground	1.00	1.50	32.62	32.12
WS1008	Made Ground	0.50	2.00	34.50	33.00
WS1009	Glacial Till	1.90	2.60	36.80	36.10
WS1012	Made Ground	1.00	4.00	36.91	33.91
WS1014	Made Ground	1.00	2.00	33.30	32.30
WS1016	Made Ground	1.00	5.00	33.17	29.17
WS1020	Made Ground	1.00	4.00	31.88	28.88
WS1023A	Made Ground	1.00	1.45	32.00	31.55
WS1024	Made Ground	1.00	3.70	34.00	31.30

3.4. Groundwater Sampling

Three rounds of groundwater sampling have been carried out at the site; the first on 14 and 15 May 2024, the second on 10 and 11 June 2024 and the third on 25 June 2024. The groundwater sampling records are included in Appendix E.

3.5. Chemical Laboratory

3.5.1. Soil Testing

Selected soil samples were submitted to i2 Analytical Limited (a UKAS and MCERTS accredited laboratory) for chemical soil testing. The analysis included the following determinants and the results are included in Appendix F.

- 87 Nr. pH
- 87 Nr. soil organic matter (SOM);
- 87 Nr. total sulphate as SO4;
- 87 Nr. total cyanide;
- 87 Nr. heavy metal suite (antimony, arsenic, barium, beryllium, boron, cadmium, chromium (III and VI), copper, lead, mercury, nickel, selenium, vanadium and zinc);
- 87 Nr. polycyclic aromatic hydrocarbons (PAH);
- 87 Nr. total petroleum hydrocarbons (TPH);
- 87 Nr. total monohydric phenols;
- 87 Nr. BTEX compounds (benzene, toluene, ethylbenzene, xylenes);
- 16 Nr. volatile organic compounds (VOC);
- 16 Nr. semi-volatile organic compounds (SVOC);
- 3 Nr. tributyltin;
- 5 Nr. ammoniacal nitrogen;
- 17 Nr. Waste Acceptance Criteria (WAC) tests;
- 4 Nr. polychlorinated biphenyls (PCB) tests;
- 1 Nr. acid/alkali reserve test;
- 69 Nr. asbestos screen and identification; and
- 13 Nr. asbestos quantification.

3.5.2. Leachate Testing

Selected soil samples were submitted to i2 Analytical Limited (a UKAS and MCERTS accredited laboratory) for chemical soil leachate testing. The analysis included the following determinants and the results are included in Appendix F.

- 20 Nr. pH
- 20 Nr. dissolved organic carbon (DOC);
- 20 Nr. total sulphate as SO4;
- 20 Nr. total cyanide;
- 20 Nr. heavy metal suite (antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium (III and VI), copper, lead, mercury, nickel, selenium, vanadium and zinc);
- 20 Nr. PAH;
- 20 Nr. TPH;
- 20 Nr. total monohydric phenols;
- 1 Nr. tin; and
- 1 Nr. tributyltin.

3.5.3. Groundwater Testing

Selected water samples were submitted to i2 Analytical Limited (a UKAS and MCERTS accredited laboratory) for chemical water testing. The analysis included the following determinants and the results are included in Appendix G.

- 20 Nr. pH
- 20 Nr. dissolved organic carbon (DOC);
- 20 Nr. redox potential;
- 20 Nr. total sulphate as SO4;

- 20 Nr. ammoniacal nitrogen as N;
- 20 Nr. total cyanide;
- 20 Nr. free cyanide;
- 20 Nr. hardness;
- 20 Nr. heavy metal suite (antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium (III and VI), copper, lead, magnesium, mercury, nickel, selenium, vanadium and zinc);
- 20 Nr. PAH;
- 20 Nr. BTEX compounds;
- 20 Nr. TPH;
- 20 Nr. total monohydric phenols;
- 20 Nr. VOC and SVOC;
- 4 Nr. tin; and
- 4 Nr. tributyltin.

3.6. Geotechnical Laboratory Analysis

Selected soil samples were submitted to Geolabs Limited (a UKAS accredited laboratory) for geotechnical testing in general accordance with BS 1377[4]. The following tests were scheduled and the results are included in Appendix H.

- 23 Nr. particle size distribution (PSD) (wet sieve);
- 6 Nr. PSD sedimentation (by pipette);
- 11Nr. Atterberg (4 Point);
- 12 Nr. water content;
- 1 Nr. single stage quick undrained triaxial;
- 13 Nr. point load strength of rock;
- 5 Nr. uniaxial compressive strength of rock including 3 Nr. determination of Young's Modulus and Poisson's Ratio; and
- 36 Nr. Building Research Establishment (BRE) Special Digest (SD)[5] Suite – including 2:1 water soluble sulphate, 2:1 water soluble chloride, 2:1 water soluble nitrate, water soluble magnesium and pH.

[4] British Standard (2018). Methods of testing for soils for civil engineering purposes. BS 1377:2018.

[5] Building Research Establishment (2006). BRE Special Digest Part 1: Concrete in aggressive ground

4. Ground and Groundwater Conditions

4.1. Summary of Ground Model

A summary of the ground conditions encountered during the site investigation is provided in Table 4. It is noted that the ground conditions recorded in the foundation inspection trial pits are not included in Table 4 and are reported separately in Section 4.10.

Table 4: Summary of Site Investigation Ground Conditions

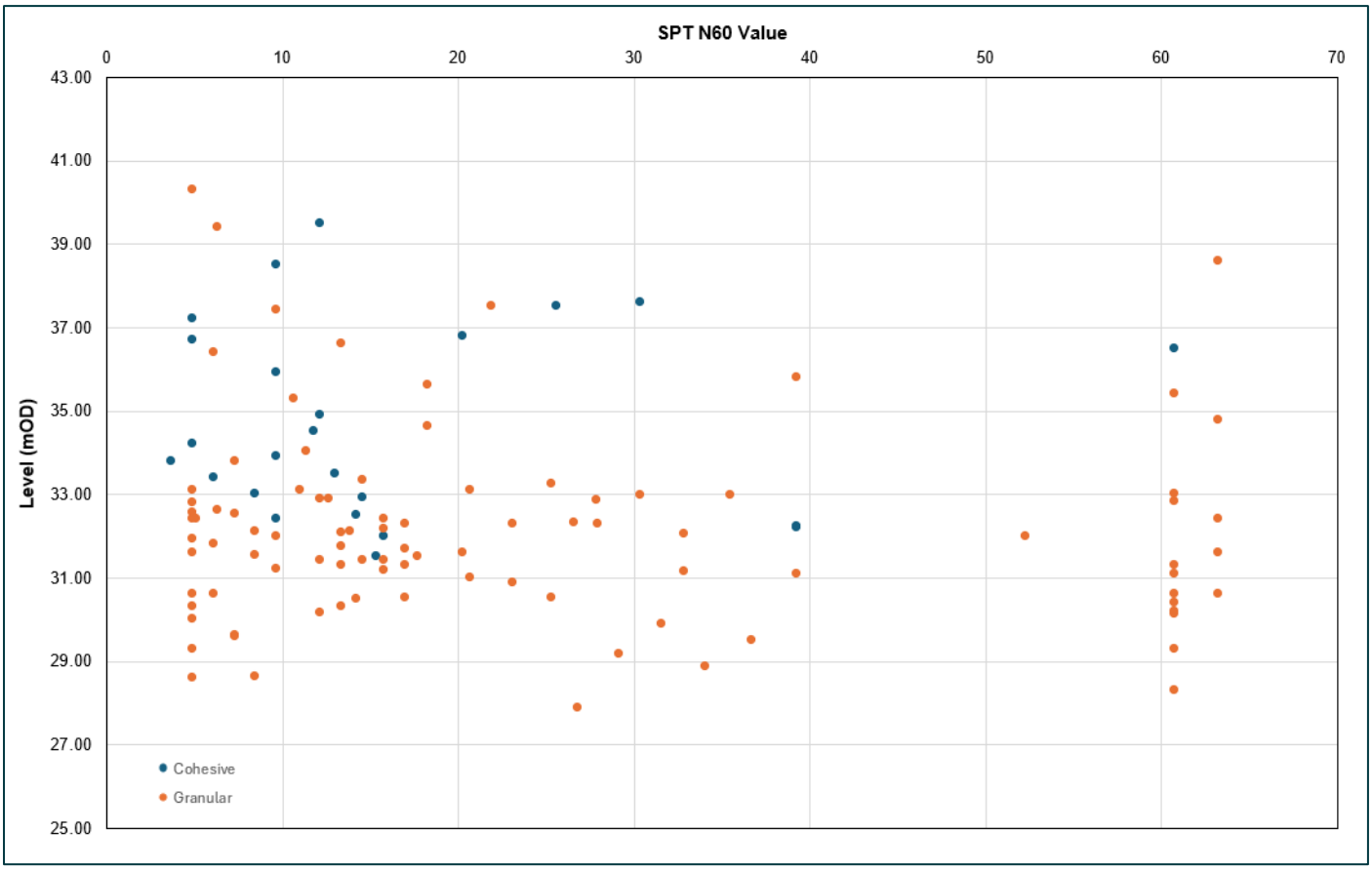
Stratum	Top of Stratum (mbgl) [mOD]	Thickness (m)
Vegetation overlying soft dark brown slightly sandy silt. Sand is fine to medium. Occasional rootlets noted. *Encountered in WS1011, WS1013, WS1014 and WS1017.* **[TOPSOIL]**	0.00 [34.53 to 33.60]	0.10 to 0.30
Concrete / bituminous macadam over: *Granular horizons*: typically very loose to medium dense, occasionally very dense, yellow grey brown to grey black cobbly sandy gravel / clayey sandy gravel / cobbly gravelly sand / silty sand. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of brick, concrete, dolomite, macadam, granite, mortar, tile, clinker, wood, sandstone, siltstone, coal and ceramic. Cobbles are angular of brick and sandstone. Frequent ash and occasional metal wire noted. *Cohesive horizons*: typically soft to stiff dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of coal, sandstone, brick and concrete. Sand is fine to coarse. Occasional pockets of clayey gravelly fine to medium sand. Buried possible brick structure encountered in BH1013A between 2.60m and 3.40m (31.00mOD to 30.20mOD). **[MADE GROUND]**	0.00 to 0.30 [41.50 to 32.62]	>0.10 to 6.90
Medium dense to very dense red brown to brown grey sandy GRAVEL / gravelly SAND. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of sandstone, mudstone, siltstone, quartzite, coal, flint and limestone. Cohesive horizon recorded between 1.40m and 6.60m comprising firm dark grey brown slightly sandy silty CLAY. Sand is fine to coarse. Rare gravel of angular to subrounded fine to coarse sandstone, mudstone and coal noted within the horizon. *Encountered in BH1003, BH1006, BH1007, BH1015B and WS1006 only.* **[ALLUVIUM]**	1.40 to 3.20 [32.43 to 30.90]	0.30 to 3.50
Stiff to very stiff light to dark brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to rounded fine to coarse of coal, sandstone, mudstone and siltstone. Sand is fine to coarse. Granular horizon of medium dense slightly gravelly SAND recorded in borehole BH1009 between 3.50m and 4.50m. Sand is *Encountered in BH1009, BH1012, WS1002, WS1003 and WS1009 only.* **[GLACIAL TILL]**	0.55 to 3.70 [39.96 to 34.80]	0.40 to 5.25
Dense to very dense red orange brown SAND / slightly gravelly to gravelly SAND. Sand is fine to coarse with occasional areas of weak cementation. Gravel is angular to subrounded fine to coarse of sandstone and quartz. *Encountered in BH1001 to BH1009, BH1015B, WS1002, WS1003, WS1009, WS1010A, WS1017, WS1018 and WS1024.* **[WEATHERED CHESTER FORMATION – SANDSTONE]**	2.30 to 6.90 [35.80 to 27.69]	0.40 to 20.10
Extremely weak to weak thinly to medium bedded light reddish brown medium to coarse grained SANDSTONE, moderately cemented. Rare subrounded siliceous clasts and fragments of mudstone. Discontinuities: 1) 10 - 15 degrees closely to medium spaced rough planar, mostly infilled with fine to medium sand, some clean. *Encountered in BH1001, BH1003, BH1004, BH1005, BH1008 and BH1013A.* **[CHESTER FORMATION – SANDSTONE]**	3.00 to 13.50 [30.60 to 23.00]	>6.00 to >20.50

4.2. Made Ground

Made Ground was encountered from below hardstanding or from surface at each exploratory hole location and ranged up to 6.90m in thickness. The stratum comprised both granular horizons and cohesive horizons, both of variable consistency and density.

A total of 91 SPTs were undertaken within the granular Made Ground horizons where SPT N60 values ranged from 5 to >50 corresponding to 'very loose' to 'very dense' granular deposits[1]. It is noted that the frequent presence of cobbles within the Made Ground potentially influenced the SPT results in some locations, particularly where >50 values were recorded. A total of 25 SPTs were undertaken within the cohesive Made Ground horizons where SPT N60 values ranged typically from 4 to 40, correlating to a 'soft to very stiff clay[1], with two SPT N60 values of >50 recorded in boreholes WS1001 at 5.00mbgl and BH1002 at 1.20mbgl. A summary of the SPT N60 values versus level are provided in Plate 4.

Plate 4: SPT N60 versus Level (mOD) – Made Ground



A total of 15 HSV tests carried out in the cohesive Made Ground deposits recorded undrained shear strengths (c_u) between 44kPa and 215kPa, correlating to clay of 'medium to very high' strength[1]; however, it is noted that the granular includes in the Made Ground may have influenced the tests.

Sulphate and pH testing was undertaken on samples of the Made Ground retrieved during the ground investigation. The results are summarised in Table 5.

Table 5: Summary of pH and Sulphate Testing – Made Ground

Number of Tests	pH	Water Soluble SO_4* (mg/l)	Water Soluble Chloride* (mg/l)	Water Soluble Nitrate as N* (mg/l)
21	6.9 to 12.2	12.6 to 812	2 to 28	<2 to 7.4

*2:1 Leachate Equivalent

A single PSD test was undertaken on a selected sample from the Made Ground and the results are provided in Table 6.

Table 6: Summary of PSD Testing – Made Ground

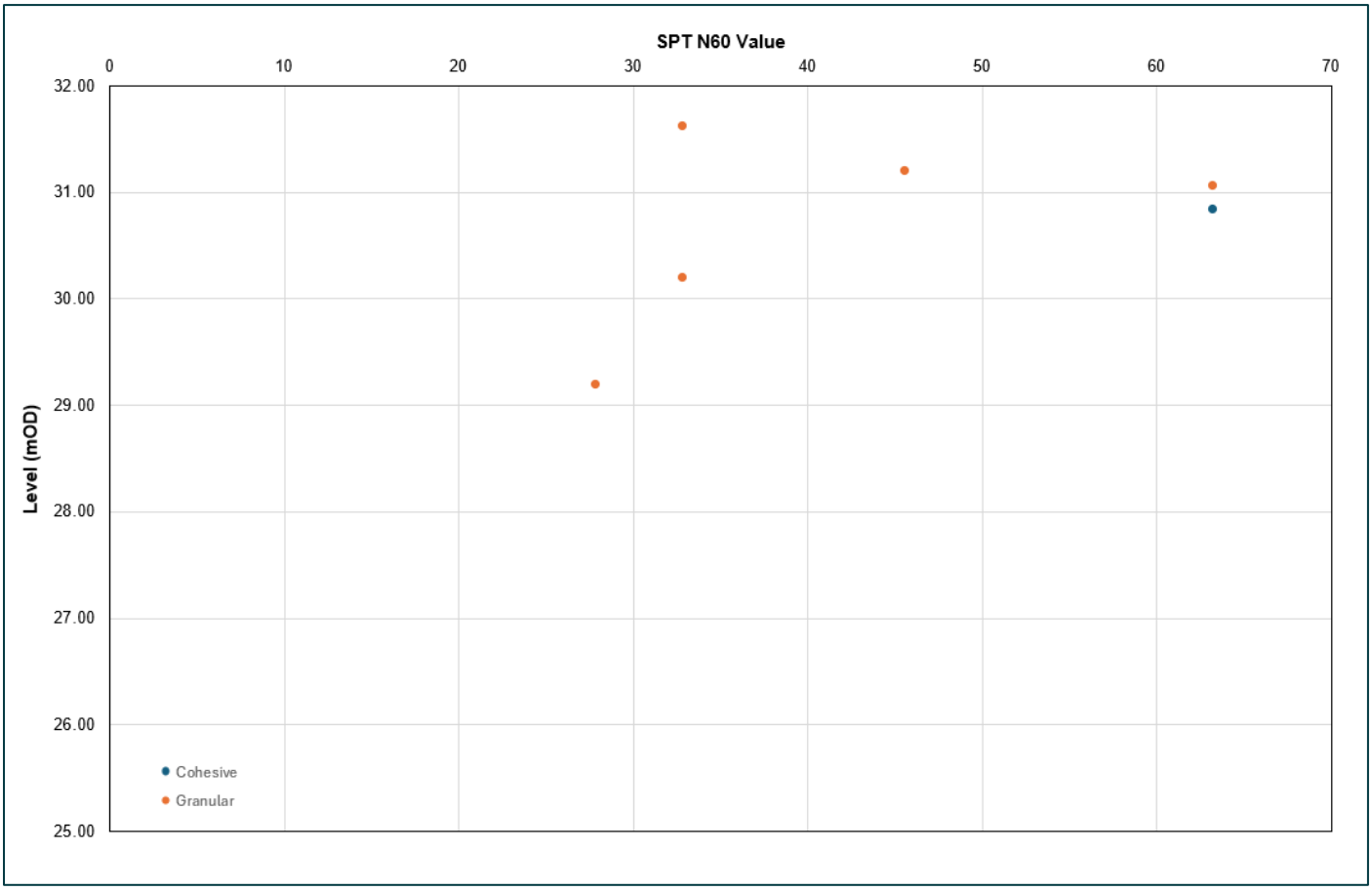
Number of Tests	Cobble Content (%)	Gravel Content (%)	Sand Content (%)	Silt Content (%)	Clay Content (%)
1	0.0	18.2	61.4	15.5	4.9

4.3. Alluvium

Superficial deposits of Alluvium were encountered in boreholes BH1003, BH1006, BH1007, BH1015B and WS1006 within the central zone of the site. The top of the superficial deposits was recorded between 32.43mOD and 30.90mOD and recorded to range between 0.30m and 3.50m in thickness.

A total of 6 SPT tests were undertaken in the granular Alluvium which recorded SPT N60 values between 28 and >50, correlating to 'medium dense to very dense' deposits[1]. A single SPT test was undertaken in the cohesive horizon encountered in borehole BH1015B which recorded an SPT N60 value of >50. A summary of the SPT N60 values versus level are provided in Plate 5.

Plate 5: SPT N60 versus Level (mOD) – Alluvium



The result of the triaxial test undertaken on an undisturbed sample of the Alluvium from borehole BH1015B returned an undrained shear strength of 36kPa, correlating to clay of low strength[1]. A summary of the classification testing undertaken on a sample of the cohesive Alluvium is provided in Table 7.

Table 7: Summary of Classification Testing – Alluvium

Number of Tests	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	% Passing (>450µm)	Modified Plasticity Index (%)
1	18.2	27	17	74	7.4

Two PSD tests were undertaken on a selected samples from the Alluvium and the results are provided in Table 8.

Table 8: Summary of PSD Testing – Alluvium

Number of Tests	Cobble Content (%)	Gravel Content (%)	Sand Content (%)	Silt Content (%)	Clay Content (%)
2	0.0	6.1 to 21.7	62.1 to 65.9	12.4 to 31.7	

Sulphate and pH testing was undertaken on samples of Alluvium retrieved during the site investigation. The results are summarised in Table 9.

Table 9: Summary of pH and Sulphate Testing – Alluvium

Number of Tests	pH	Water Soluble SO_4* (mg/l)	Water Soluble Chloride* (mg/l)	Water Soluble Nitrate as N* (mg/l)
3	7.8 to 8.3	6.65 to 1260	1.4 to 12	<2.0

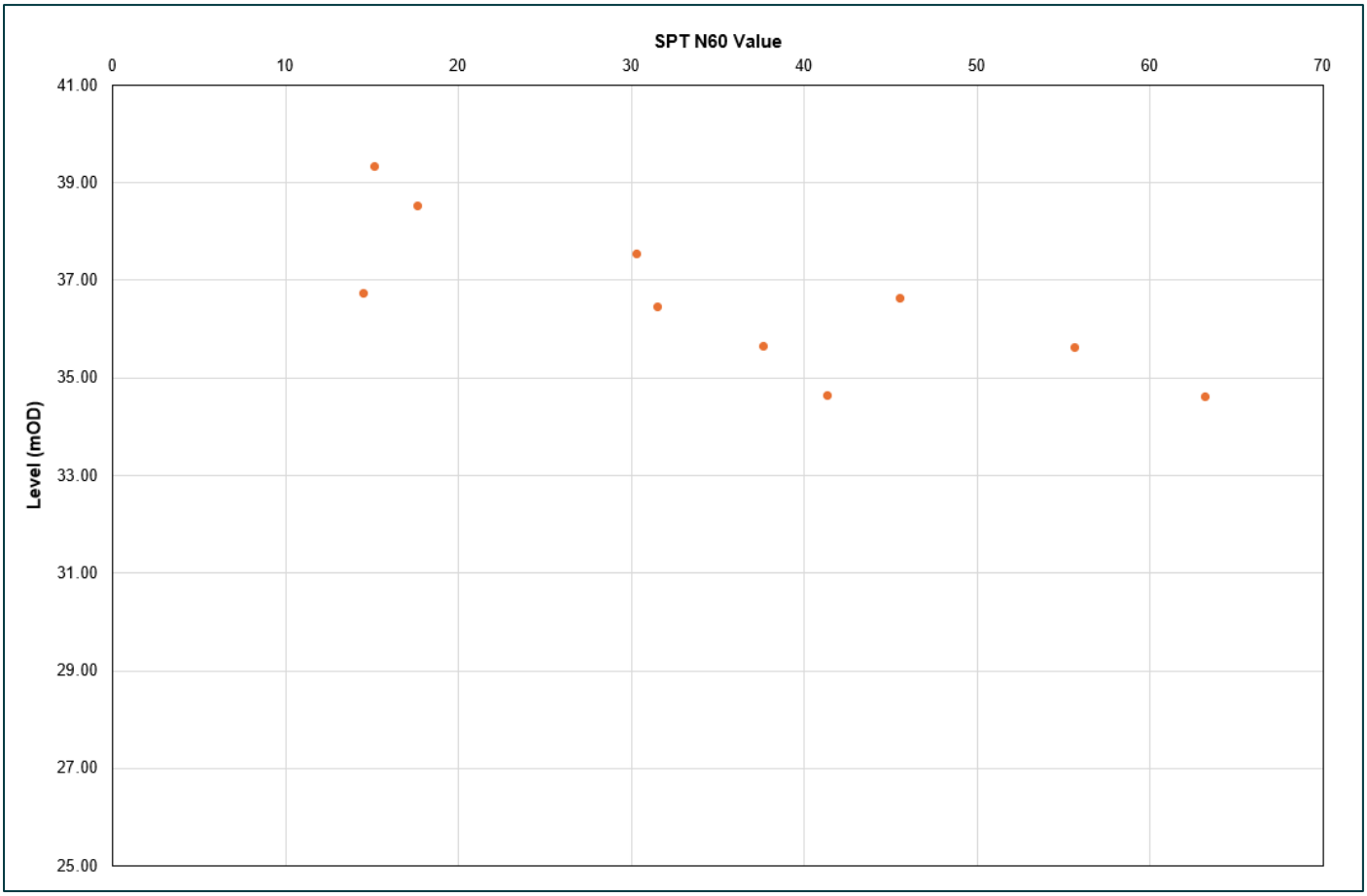
*2:1 Leachate Equivalent

4.4. Glacial Till

Superficial deposits of Glacial Till were encountered in boreholes BH1009, BH1012, WS1002, WS1003 and WS1009, each located in the northern zone of the site with the exception of borehole WS1009 which is located in the east of the site. The top of the superficial deposits was recorded between 39.96mOD and 34.80mOD and recorded to range between 0.40m and 5.25m in thickness.

A total of 10 SPT tests were undertaken in the Glacial Till which recorded SPT N60 values between 14 and >50, correlating to 'firm to very stiff' deposits[1]. A summary of the SPT N60 values versus level are provided in Plate 6.

Plate 6: SPT N60 versus Level (mOD) – Glacial Till



Triaxial testing was scheduled on undisturbed samples of the Glacial Till; however, the laboratory was unable to test the samples which broke into untestable pieces on extraction from the sample tubes.

A summary of the classification testing undertaken on samples of the Glacial Till is provided in Table 10.

Table 10: Summary of Classification Testing – Glacial Till

Number of Tests	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	% Passing (>450µm)	Modified Plasticity Index (%)
5	19.6 to 26.3	33 to 56	15 to 22	87 to 100	14.2 to 31.6

Sulphate and pH testing was undertaken on samples of Alluvium retrieved during the site investigation. The results are summarised in Table 11.

Table 11: Summary of pH and Sulphate Testing – Glacial Till

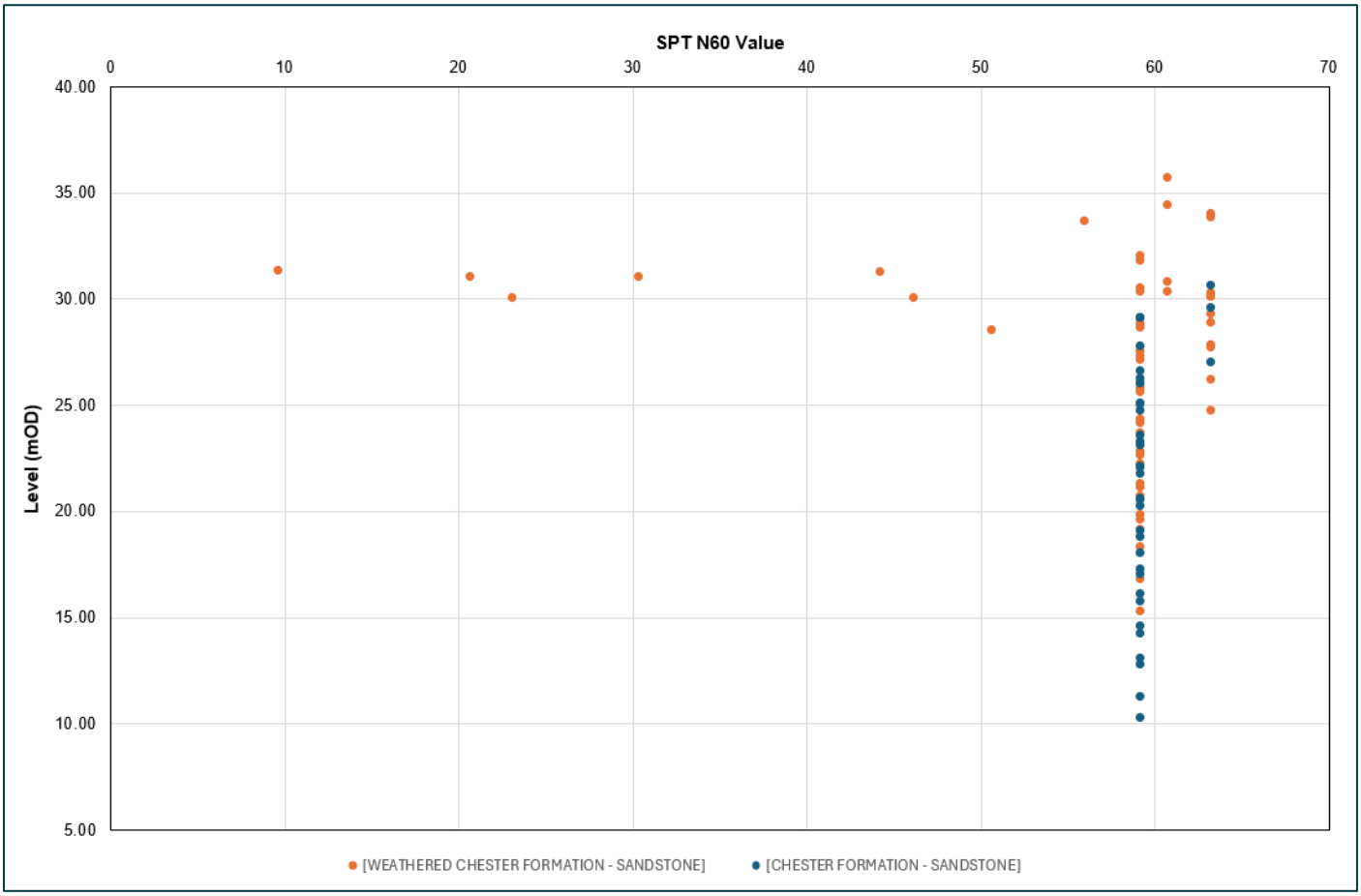
Number of Tests	pH	Water Soluble SO_4* (mg/l)	Water Soluble Chloride* (mg/l)	Water Soluble Nitrate as N* (mg/l)
3	8.0 to 8.5	22.6 to 67	1.4 to 8.2	<2.0

4.5. Chester Formation – Sandstone

The weathered Chester Formation, typically recovered as a dense to very dense sand with areas of weak cementation was encountered between 35.80mOD and 27.69mOD and ranged between 0.40m and 20.10m in thickness. The upper surface of the more competent bedrock, typically recovered as an extremely weak to weak sandstone, was encountered between 30.60mOD and 23.00mOD and proven to the maximum borehole penetration depth.

A total of 52 SPTs were carried out within the Weathered Chester Formation where SPT N60 values were typically recorded as >50 corresponding to 'very dense' granular deposits[1]. Six SPT N60 values of 10 to 46 were recorded, corresponding to 'loose to dense' granular deposits[1]. A total of 34 SPTs were carried out in the competent Chester Formation and the SPT N60 values were recorded to be >50. A summary of the SPT N60 values versus level are provided Plate 7.

Plate 7: SPT N60 versus Level (mOD) – Chester Formation



A summary of the PSD tests undertaken on selected samples from the Chester Formation is provided in Table 12.

Table 12: Summary of PSD Testing – Chester Formation

Number of Tests	Cobble Content (%)	Gravel Content (%)	Sand Content (%)	Silt Content (%)	Clay Content (%)
20	0.0	0.0 to 33.8	62.3 to 97.3	7.8 to 20.4	3.9 to 9.7
				1.8 to 30.2	

Sulphate and pH testing was undertaken on samples of the Chester Formation retrieved during the site investigation. The results are summarised in Table 13.

Table 13: Summary of pH and Sulphate Testing – Chester Formation

Number of Tests	pH	Water Soluble SO_4* (mg/l)	Water Soluble Chloride* (mg/l)	Water Soluble Nitrate as N* (mg/l)
9	8.5 to 9.3	3.73 to 63.4	1.3 to 5.4	<2.0

*2:1 Leachate Equivalent

Unconfined compressive strength (UCS) tests were carried out on five core samples retrieved from boreholes BH1004, BH1005 and BH1008. The results of the five UCS tests recorded UCS values between 5.21MPa and 7.94MPa. The Young's Modulus was determined on one sample as 2.31GPa with the Poisson's Ratio determined as 0.47.

A total of 13 Point Load Tests were carried out with the recorded Point Load Index typically ranging between 0.03MPa and 0.19MPa, with a higher result of 0.71MPa recorded in borehole BH1003 at 15.00mbgl.

It is noted that additional rock cores scheduled for UCS testing were stated to be unsuitable for testing by the laboratory following failure in the re-coring process to obtain a suitable sample for analysis.

4.6. Obstructions

A summary of the obstructions encountered during the site investigation is provided in Table 14.

Table 14: Summary of Obstructions encountered during Site Investigation

Location	Top Depth of Obstruction (mbgl)	Top Level of Obstruction (mOD)	Thickness of Obstruction (m)	Details of Obstruction Encountered
BH1013	0.40	33.00	Not Proven	Concrete obstruction encountered.
BH1013	2.60	30.80	0.80	Possible brick wall.
BH1014	2.20	30.42	Not Proven	Concrete obstruction encountered.
BH1015	0.90	32.36	Not Proven	Concrete obstruction encountered.
BH1015A	1.00	32.00	Not Proven	Concrete obstruction encountered.
BH1016	1.10	32.93	Not Proven	Concrete obstruction encountered.
WS1004	0.70	32.18	Not Proven	Concrete obstruction encountered.
WS1004A	0.60	32.36	Not Proven	Brick obstruction encountered.
WS1015	3.45*	30.63	Not Proven	Possible positive UXO reading.
WS1022	0.70	33.33	Not Proven	Brick obstruction encountered.
WS1022A	0.90	33.13	Not Proven	Concrete obstruction encountered.
WS1022B	1.20	31.84	Not Proven	Concrete obstruction encountered.
WS1023	0.20	32.80	Not Proven	Concrete obstruction encountered.
FIP1001	0.21	34.03	Not Proven	Concrete obstruction encountered.
FIP1002	0.32	33.75	Not Proven	Concrete obstruction encountered.
FIP1004	0.48	33.58	Not Proven	Concrete obstruction encountered.
FIP1006	0.37	35.63	Not Proven	Concrete and brick obstructions encountered.
FIP1010	1.00	32.08	Not Proven	Suspected concrete obstruction encountered.

*Depth at which UXO Engineer advised drilling to cease due to elevated magnetometer signal.

4.7. Visual and Olfactory Potential Contamination

Olfactory and visual signs of potential hydrocarbon contamination (strong hydrocarbon odour and oily sheen in the borehole water flush) were noted within borehole BH1005 at 16.50mbgl within the sandstone bedrock The borehole was terminated at 16.50mbgl on encountering the contamination. A hydrocarbon odour and sheen were observed on the groundwater during the groundwater sampling rounds at borehole BH1005. In addition, a potential hydrocarbon or organic sheen was observed on the groundwater extracted from borehole WS1002 during the second groundwater sampling round.

A high ash content / frequent ash was recorded within the Made Ground as well as fragments of clinker and slag. The fragments of clinker and slag were recorded in boreholes WS1001, WS1003, WS1005, WS1012, WS1022, WS1022A, WS1022B and WS1024. The presence of foreign materials such as bricks, concrete, coal, and ceramic was noted within the Made Ground.

Headspace PID analysis was carried out on samples of Made Ground during the site investigation with concentrations between 0.0ppm and 8.9ppm recorded.

4.8. Groundwater

Groundwater was encountered during the site investigation as detailed in Table 15.

Table 15: Summary of Groundwater Strikes during Site Investigation

Location	Stratum	Strike Depth (mbgl)	Strike Level (mOD)	Depth after 20 Mins (mbgl)	Level after 20 Mins (mOD)	Rise in Depth after 20 Mins (m)
BH1001	Chester Formation	10.50	24.74	10.50	24.74	20
BH1002	Chester Formation	14.40	24.39	14.50	24.29	20
BH1003	Chester Formation	10.00	24.06	10.00	24.06	20
BH1004	Chester Formation	14.20	22.30	14.10	22.40	20
BH1005	Made Ground	3.60	29.91	3.50	30.01	20
BH1005	Chester Formation	15.60	17.91	15.60	17.91	20
BH1006	Alluvium	3.70	30.49	3.70	30.49	20
BH1006	Chester Formation	9.50	24.69	9.50	24.69	20
BH1007	Made Ground	3.00	31.10	3.00	31.10	20
BH1007	Chester Formation	10.30	23.80	10.30	23.80	20
BH1008	Chester Formation	9.80	23.80	9.80	23.80	20
BH1009	Chester Formation	13.00	27.51	13.00	27.51	20
BH1013A	Chester Formation	9.90	23.70	23.70	23.70	20
BH1015B	Chester Formation	5.10	28.73	5.10	28.73	20
WS1019	Made Ground	3.00	30.30	3.00	30.30	20

Two groundwater monitoring rounds have been undertaken to date in May and June 2024 following completion of the site investigation and the results are summarised in Table 16.

Table 16: Summary of Groundwater Monitoring

Location	Stratum	Date	Groundwater Depth (mbgl)	Groundwater Level (mOD)
BH1001	Chester Formation	14/05/24	6.96	28.28
		25/06/24	Not Accessible	
		23/07/24	7.22	28.02
BH1002	Chester Formation	14/05/24	10.61	28.16
		25/06/24	10.60	28.19
		23/07/24	10.88	27.91
BH1003	Alluvium	14/05/24	Damp	Damp
		25/06/24	Damp	Damp
		23/07/24	Damp	Damp
BH1004*	Chester Formation	14/05/24	Dry	Dry
		25/06/24	Dry	Dry
		23/07/24	Dry	Dry
BH1005	Chester Formation	14/05/24	5.20	28.31
		25/06/24	5.32	28.19
		23/07/24	5.44	28.07
BH1006	Chester Formation	14/05/24	6.00	28.19
		25/06/24	Not Accessible	
		23/07/24	6.21	27.98
BH1007	Chester Formation	14/05/24	5.65	28.45
		25/06/24	2.86	28.24

Location	Stratum	Date	Groundwater Depth (mbgl)	Groundwater Level (mOD)
		23/07/24	5.81	28.29
BH1008	Chester Formation	14/05/24	5.57	28.03
		25/06/24	5.72	27.88
		23/07/24	6.09	27.51
BH1009	Glacial Till	14/05/24	Damp	Damp
		25/06/24	Dry	Dry
		23/07/24	Dry	Dry
BH1012	Glacial Till	14/05/24	Damp	Damp
		25/06/24	4.04	36.56
		23/07/24	3.88	36.72
BH1013A	Chester Formation	14/05/24	5.33	28.27
		25/06/24	5.46	28.14
		23/07/24	Not Accessible	
BH1014A	Made Ground	14/05/24	Dry	Dry
		25/06/24	Dry	Dry
		23/07/24	Dry	Dry
BH1015B	Chester Formation	14/05/24	Damp	Damp
		25/06/24	Not Accessible	
		23/07/24	Not Accessible	
WS1001	Made Ground	14/05/24	Damp	Damp
		25/06/24	4.30	37.20
		23/07/24	4.00	37.50
WS1002	Glacial Till	14/05/24	3.57	34.83
		25/06/24	3.54	34.86
		23/07/24	3.60	34.80
WS1006	Made Ground	14/05/24	Dry	Dry
		25/06/24	Dry	Dry
		23/07/24	Dry	Dry
WS1008	Made Ground	14/05/24	Dry	Dry
		25/06/24	Dry	Dry
		23/07/24	Dry	Dry
WS1009	Glacial Till	14/05/24	Dry	Dry
		25/06/24	Dry	Dry
		23/07/24	Dry	Dry
WS1012	Made Ground	14/05/24	4.10	33.81
		25/06/24	4.11	33.80
		23/07/24	3.46	34.45
WS1014	Made Ground	14/05/24	Dry	Dry
		25/06/24	Dry	Dry
		23/07/24	Dry	Dry
WS1016	Made Ground	14/05/24	Dry	Dry
		25/06/24	Dry	Dry
		23/07/24	Dry	Dry
WS1020	Made Ground	14/05/24	Dry	Dry

Location	Stratum	Date	Groundwater Depth (mbgl)	Groundwater Level (mOD)
		25/06/24	Dry	Dry
		23/07/24	Dry	Dry
WS1023A	Made Ground	14/05/24	Dry	Dry
		25/06/24	Dry	Dry
		23/07/24	Dry	Dry
WS1024	Made Ground	14/05/24	Damp	Damp
		25/06/24	Not Accessible	
		23/07/24	Not Accessible	

* Borehole standpipe blocked at approximately 2.9mbgl.

The groundwater results indicate a groundwater body within the Chester Formation between +28.45mOD and +27.51mOD. Perched water was recorded in the Made Ground and Glacial Till.

4.9. Ground Gas

Five rounds of ground gas monitoring have been carried out to date in May, June and July 2024. The monitoring rounds were carried out in atmospheric pressures ranging between 999 to 1014mbar in falling, rising and steady pressure systems. A summary of the ground gas monitoring results is provided in Table 17.

Table 17: Summary of Ground Gas Conditions

Location	Stratum	Date	Steady Flow Rate (l/hr)	Maximum Steady CO_2 (% vol. in air)	Maximum CH_4 (% vol. in air)	Maximum PID (ppm)
BH1003	Alluvium	29/05/24	0.0	0.2	0.0	0.3
		10/06/24	0.0	0.6	0.0	0.1
		25/06/24	0.0	0.0	0.0	0.1
		09/07/24	0.0	0.1	0.0	NR
		23/07/24	0.0	0.1	0.0	0.0
BH1014A	Made Ground	29/05/24	0.0	0.1	0.0	0.1
		11/06/24	0.0	0.1	0.0	0.0
		25/06/24	0.0	0.0	0.0	0.0
		09/07/24	0.0	0.0	0.0	NR
		23/07/24	0.0	0.3	0.0	0.0
WS1001	Made Ground	29/05/24	Not Recorded – Unable to Access			
		11/06/24	Not Recorded – Gas Tap Open			
		25/06/24	0.0	1.5	0.0	0.0
		09/07/24	0.0	1.2	0.0	NR
		23/07/24	0.0	1.8	0.0	0.0
WS1006	Made Ground	29/05/24	0.0	7.6	0.0	0.2
		11/06/24	0.0	0.3	0.0	0.2
		25/06/24	0.0	9.5	0.0	0.5
		09/07/24	0.0	4.7	0.0	NR
		23/07/24	0.0	8.5	0.0	0.1
WS1008	Made Ground	29/05/24	0.0	0.1	0.0	0.3
		10/06/24	0.0	0.0	0.0	0.0
		25/06/24	0.0	0.0	0.0	0.0
		09/07/24	0.0	0.0	0.0	NR
		23/07/24	0.0	0.1	0.0	0.0
WS1012	Made Ground	29/05/24	0.0	0.8	0.0	0.2
		10/06/24	0.0	0.8	0.0	0.0

Location	Stratum	Date	Steady Flow Rate (l/hr)	Maximum Steady CO_2 (% vol. in air)	Maximum CH_4 (% vol. in air)	Maximum PID (ppm)
		25/06/24	0.0	0.7	0.0	0.0
		09/07/24	0.0	1.2	0.0	NR
		23/07/24	0.0	0.9	0.0	0.0
WS1014	Made Ground	29/05/24	0.0	0.0	0.0	0.1
		10/06/24	0.0	0.5	0.0	0.0
		25/06/24	0.0	0.4	0.0	0.0
		09/07/24	0.0	0.5	0.0	NR
		23/07/24	0.0	0.5	0.0	0.0
WS1016	Made Ground	29/05/24	0.0	0.8	0.0	0.1
		11/06/24	0.0	0.8	0.0	0.0
		25/06/24	0.0	0.9	0.0	0.0
		09/07/24	0.0	0.8	0.0	NR
		23/07/24	0.0	1.3	0.0	0.0
WS1020	Made Ground	29/05/24	0.0	2.3	0.0	1.1
		10/06/24	0.0	3.4	0.0	0.8
		25/06/24	0.0	3.5	0.0	0.5
		09/07/24	0.0	2.9	0.0	NR
		23/07/24	0.0	2.8	0.0	0.5
WS1023A	Made Ground	29/05/24	0.0	21.1	0.0	1.1
		10/06/24	0.0	0.3	0.0	0.0
		25/06/24	0.0	0.3	0.0	0.0
		09/07/24	0.0	0.4*	0.0	NR
		23/07/24	0.0	0.3	0.0	0.0
WS1024	Made Ground	29/05/24	Not Recorded – Unable to Access			
		10/06/24	0.0	0.1	0.0	0.0
		25/06/24	Not Recorded – Unable to Access			
		09/07/24	Not Recorded – Unable to Access			
		23/07/24	Not Recorded – Unable to Access			

*Maximum concentration stated as steady conditions not reached. NR = Not Recorded due to equipment error.

4.10. Horizontal Cores

A summary of the horizontal core investigations through Altrincham Street retaining wall is provided in Table 18.

Table 18: Summary of Horizontal Core Investigations

Location	Height above Ground Level (m)	Level of Core (mOD)	Thickness of Retaining Wall (m)	Details of Material Encountered
HC1001	0.85	35.60	2.00	0.00 to 0.25: Brick of good condition 0.25 to 0.32: Concrete of good condition 0.32 to 2.00: Brick of very poor crumbling condition
HC1002	1.05	34.09	2.50	0.00 to 0.25: Brick of good condition 0.25 to 0.30: Concrete of poor condition 0.30 to 2.00: Concrete and brick of poor condition
HC1003	0.89	34.59	2.00	0.00 to 0.35: Brick of poor condition 0.35 to 0.45: Concrete of poor condition (gravel) 0.45 to 2.50: Brick of poor condition
HC1004	0.96	36.56	2.00	0.00 to 0.22: Brick of good condition 0.22 to 0.32: Concrete of good condition 0.32 to 0.42: Brick of good condition 0.42 to 2.00: Concrete and brick of poor condition

4.11. Foundation Inspection Trial Pits

A summary of the existing foundation construction details and depths encountered in the foundation inspection trial pits is provided in Table 19.

Table 19: Summary of Foundation Inspection Pits

Location	Target Structure	Base of Foundation (mbgl)	Foundation Details
FIP1001	Barnes Wallis	Not Encountered (Obstruction)	Concrete slab encountered at 0.21mbgl which was proven to extend to the south and west of the column. Removal of ventilation plate in wall to south of trial pit revealed a service tunnel; concrete corbel encountered likely to be the top of the service tunnel. Tunnel measured 1.4m wide and 3.6m deep. Column therefore expected to extend down through Barnes Wallis basement.
FIP1002	Barnes Wallis	Not Encountered (Obstruction)	Concrete slab encountered at 0.32mbgl which was proven to extend to the east and north of the column. Reinforcement bars exposed in suspected beam leading north from column to Barnes Wallis.
FIP1003	Wright Robinson	Not Encountered (>1.57)	Foundation not encountered at maximum excavation depth. Concrete pad of 230mm thickness encountered at 0.18mbgl which extended 330mm out from building wall. Concrete wall continued below concrete pad to trial pit termination depth.
FIP1004	Service Road Retaining Wall	Not Encountered (Obstruction)	Concrete slab encountered at 0.48mbgl which was proven to extend 1.10m west from retaining wall. Concrete corbel encountered at 0.02mbgl to 0.39mbgl above concrete slab. Soils beneath concrete corbel proved and retaining wall still present.
FIP1005	Barnes Wallis (Internal)	Not Encountered (>0.70)	Pilot hole investigation undertaken with pilot holes between 200mm and 2500mm from target column. Concrete thickness proven to be greater than 700mm at each probe location; column does not appear to be set on a pad with thinner floor slab between columns.
FIP1006	Moffat	Not Encountered (Obstruction)	Foundation not encountered due to present of concrete slab and brick wall of adjacent manhole.
FIP1007	Moffat	1.00	Underside of concrete foundation proven at 1.00mbgl within Made Ground.
FIP1010	Manchester Meeting Place	Not Encountered (Obstruction)	Foundation not encountered, suspected concrete obstruction encountered at 1.00mbgl.
FIP1011	Manchester Meeting Place	Not Encountered (>1.50)	Foundation not encountered at maximum excavation depth. Brick wall of building recorded to extend vertically down with no step out or corbel noted within excavation depth.
FIP1012	Manchester Meeting Place	Not Encountered (Obstruction)	Suspected concrete slab encountered at 1.60mbgl which extended 0.90m away from building face.
FIP1013	Manchester Meeting Place	Not Encountered (>1.75)	Foundation not encountered at maximum excavation depth. Column appears to be set on concrete beam which extends north and south from the column. Northern extent of beam unable to be determined due to proximity of buried utilities.
FIP1014	The Mill (Internal)	0.80	Underside of brick foundation encountered at 0.80mbgl. Brick founded on weathered Chester Formation.
FIP1015	The Mill (Internal)	1.60	Underside of brick foundation encountered at 1.60mbgl with brick corbels from 1.00mbgl. Brick founded on Made Ground.
FIP1016	The Mill (Internal)	0.86	Brick wall set onto suspected concrete pad foundation with the underside of the concrete recorded at 0.86mbgl. Concrete pad founded on weathered Chester Formation.
FIP1017	The Mill	Not Encountered (>1.50)	Foundation not encountered at maximum excavation depth. Brick wall of building continued downwards with no corbel recorded although change in brick colour from red

Location	Target Structure	Base of Foundation (mbgl)	Foundation Details
			to yellow noted at 0.62mbgl.
FIP1018	Morton Laboratory	Not Encountered (>1.60)	Foundation not encountered at maximum excavation depth. Concrete wall of building recorded to extend vertically down with no step out noted within excavation depth.
FIP1019	Morton Laboratory (Internal)	Not Encountered (>1.50)	Pilot hole investigation undertaken with pilot holes between 500mm and 2000mm from target wall. Concrete thickness proven to be greater than 1500mm at each probe location.
FIP1020	Morton Laboratory (Internal)	Not Encountered (>1.60)	Pilot hole investigation undertaken with pilot holes between 500mm and 2500mm away from wall. First layer of concrete proven to 0.60mbgl followed by soil between 0.60mbgl and 1.10mbgl. Second layer of concrete encountered between 1.10mbgl to maximum pilot hole depth of 1.60mbgl. Concrete core subsequently undertaken 1000mm away from wall to confirm soil material between 0.60mbgl and 1.10mbgl; material proven to comprise granular Made Ground. No step out or corbel of foundation encountered.
FIP1021	Morton Laboratory	0.65	Underside of concrete foundation encountered at 0.65mbgl with concrete step out between 0.55mbgl and 0.65mbgl. Concrete founded on Made Ground.
FIP1022	MSS Tower	Not Encountered (>0.50)	Pilot hole investigation undertaken with pilot holes between 400mm and 2000mm away from wall. Concrete proven to at least 0.50mbgl in each probe hole.
FIP1023	MSS Tower	0.90	Underside of foundation encountered at 0.90mbgl. Concrete step out of 400mm recorded at 0.20mbgl. Second concrete step out of 550mm recorded at 0.80mbgl. Soils underlying foundation probed 950mm with no obstruction / structure encountered.
FIP1024	MSS Tower (Internal)	Not Encountered (>1.50)	Concrete core hole investigation undertaken. Upper layer of concrete recorded between 0.00mbgl and 0.45mbgl followed by granular Made Ground to 0.60mbgl. Second layer of concrete proven between 0.60mbgl and 1.00mbgl. Made Ground encountered below second concrete layer to 1.50mbgl. Probing carried out beneath second concrete layer and soil proven to 200mm; however, further probing towards wall unable to be carried out due to constraints of core hole size.
FIP1029	Altrincham Street Retaining Wall	Not Encountered (>1.50)	Foundation not encountered at maximum excavation depth. Brickwork of retaining wall set onto concrete foundation which steps out 450mm from the wall. Concrete extends to at least 1.50mbgl.
FIP1033	Holloway Wall	Not Encountered (>1.50)	Foundation not encountered at maximum excavation depth. Wall structure observed to extend vertically downwards with no step out within excavation depth.
FIP1034	Holloway Wall	Not Encountered (>1.50)	Foundation not encountered at maximum excavation depth. Wall structure observed to extend vertically downwards with no step out within excavation depth. Cobbly sandy gravel encountered within core hole excavation which collapsed into hole when excavation below 0.90mbgl attempted. Hole probed to 1.50mbgl and step out or underside of wall not encountered.
FIP1035	Holloway Wall	Not Encountered (>1.50)	Foundation not encountered at maximum excavation depth. Wall structure observed to extend vertically downwards with no step out within excavation depth.
FIP1036	Holloway Wall	Not Encountered (>1.60)	Foundation not encountered at maximum excavation depth. Wall structure observed to step out by 400mm at 0.30mbgl and then extend vertically to maximum excavation depth.

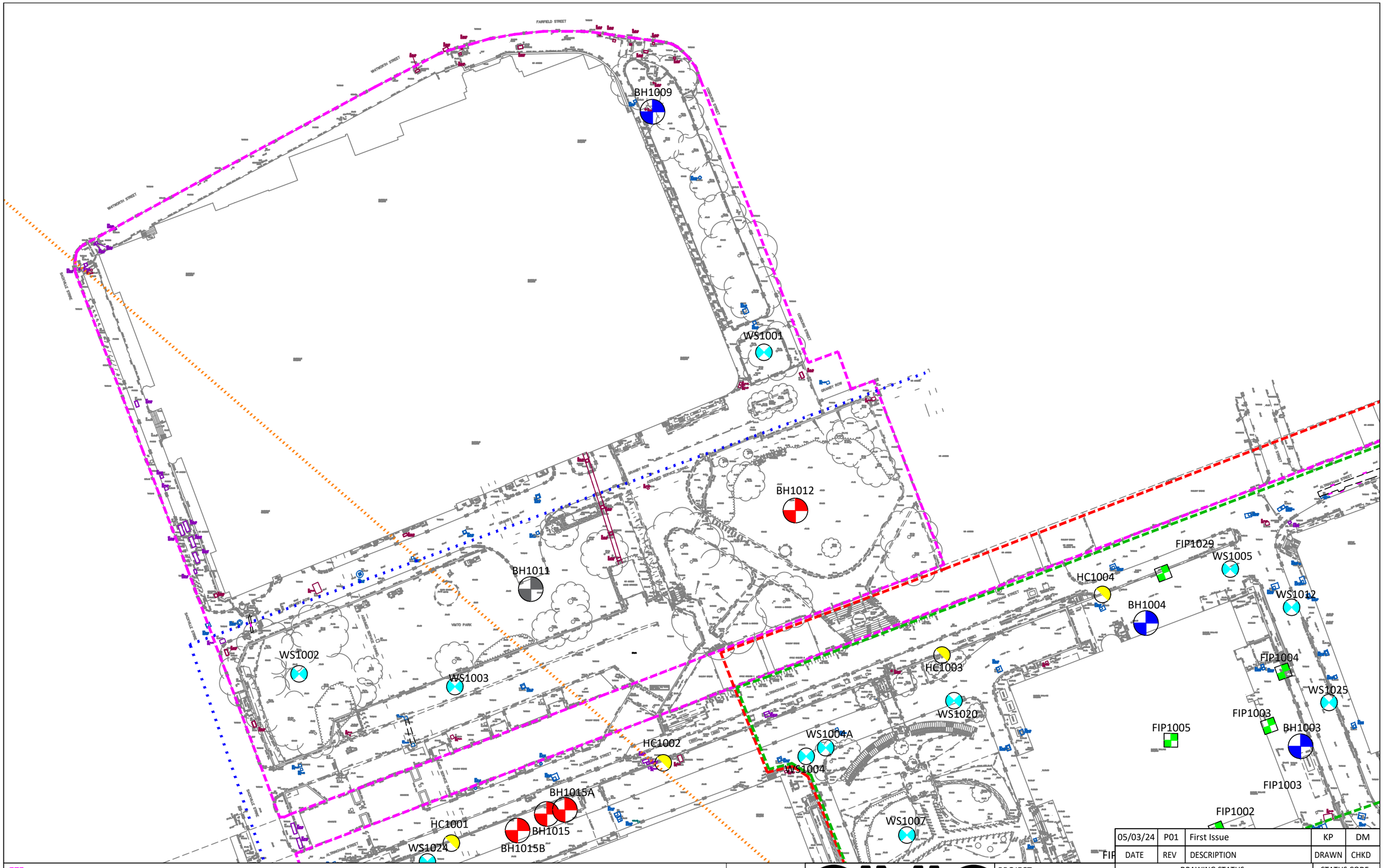
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Appendix A

Exploratory Hole Location Plans



- Indicative IDM Wider Masterplan Area
- Indicative Enabling Works Area
- Indicative Plot C Development Area
- Indicative Alignment of BT Tunnel
- Indicative Alignment of Charles Street Culverted Watercourse

- Cable Percussion/Rotary Borehole
- Cable Percussion Borehole
- Window Sample Borehole

- Horizontal Core
- Foundation Inspection Trial Pit
- Proposed Cable Percussion/Rotary Borehole

Notes

Proposed Exploratory hole positions are subject to locations of buried utilities and access restrictions and may be subject to change.

Positions of FIPs along Network Rail viaduct / assets not indicated on exploratory hole plan - locations TBC following site visit.

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DATE	REV	DESCRIPTION	DRAWN	CHKD
05/03/24	P01	First Issue	KP	DM

PROJECT
ID Manchester Masterplan Area

TITLE
Exploratory Hole Location Plan: Sheet 1

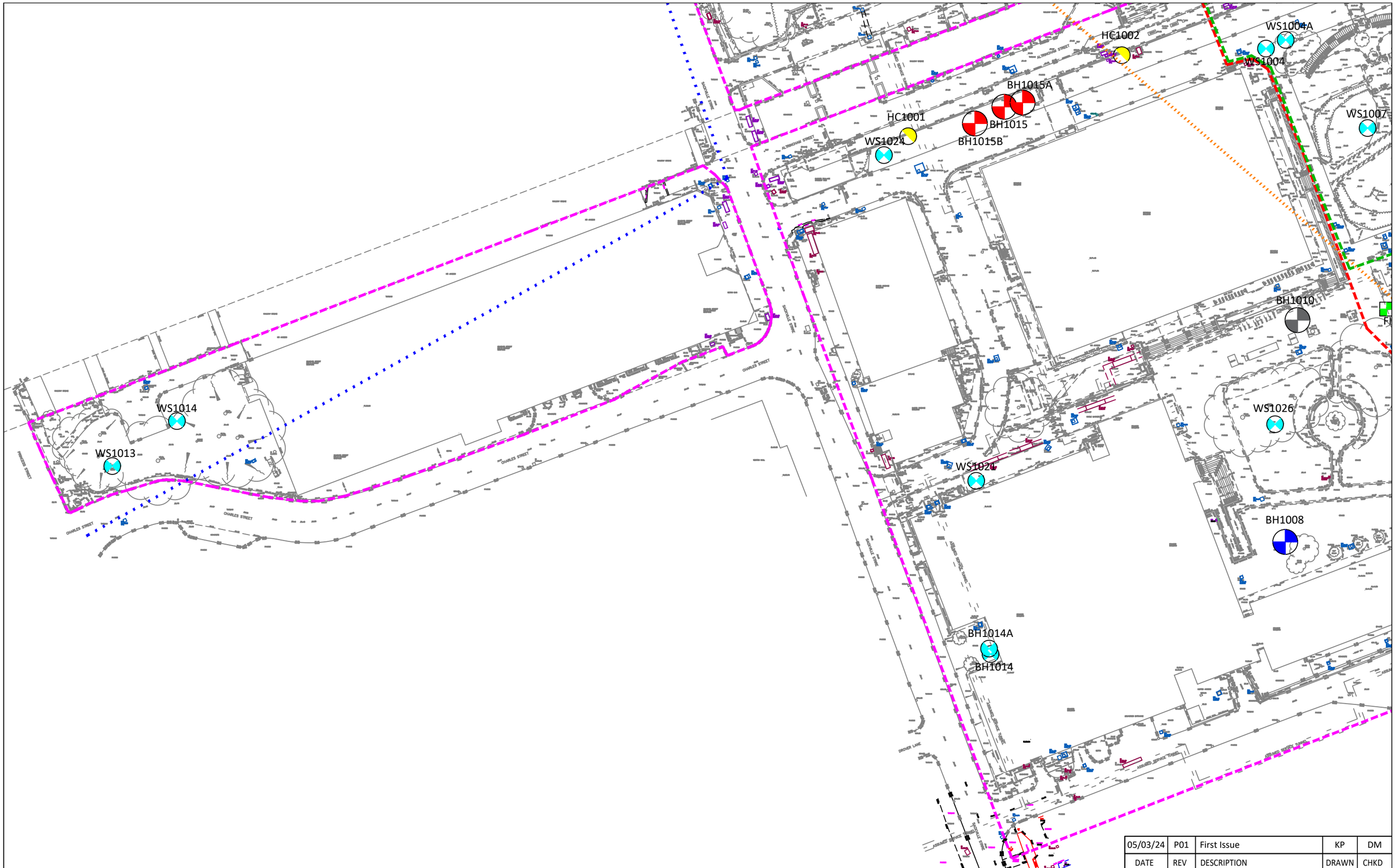
DRAWING STATUS
FOR INFORMATION

STATUS CODE
-

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019/02	NTS	05/06/24	KP	DM

DRAWING No.
51019-CE-02-XX-D-G-0001

REV
P01



Indicative IDM Wider Masterplan Area
Indicative Enabling Works Area
Indicative Plot C Development Area
Indicative Alignment of BT Tunnel
Indicative Alignment of Charles Street Culverted Watercourse

Cable Percussion/Rotary Borehole
Cable Percussion Borehole
Window Sample Borehole

Horizontal Core
Foundation Inspection Trial Pit
Proposed Cable Percussion/Rotary Borehole

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Notes

Proposed Exploratory hole positions are subject to locations of buried utilities and access restrictions and may be subject to change.

Positions of FIPs along Network Rail viaduct / assets not indicated on exploratory hole plan - locations TBC following site visit.

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PROJECT
ID Manchester Masterplan Area

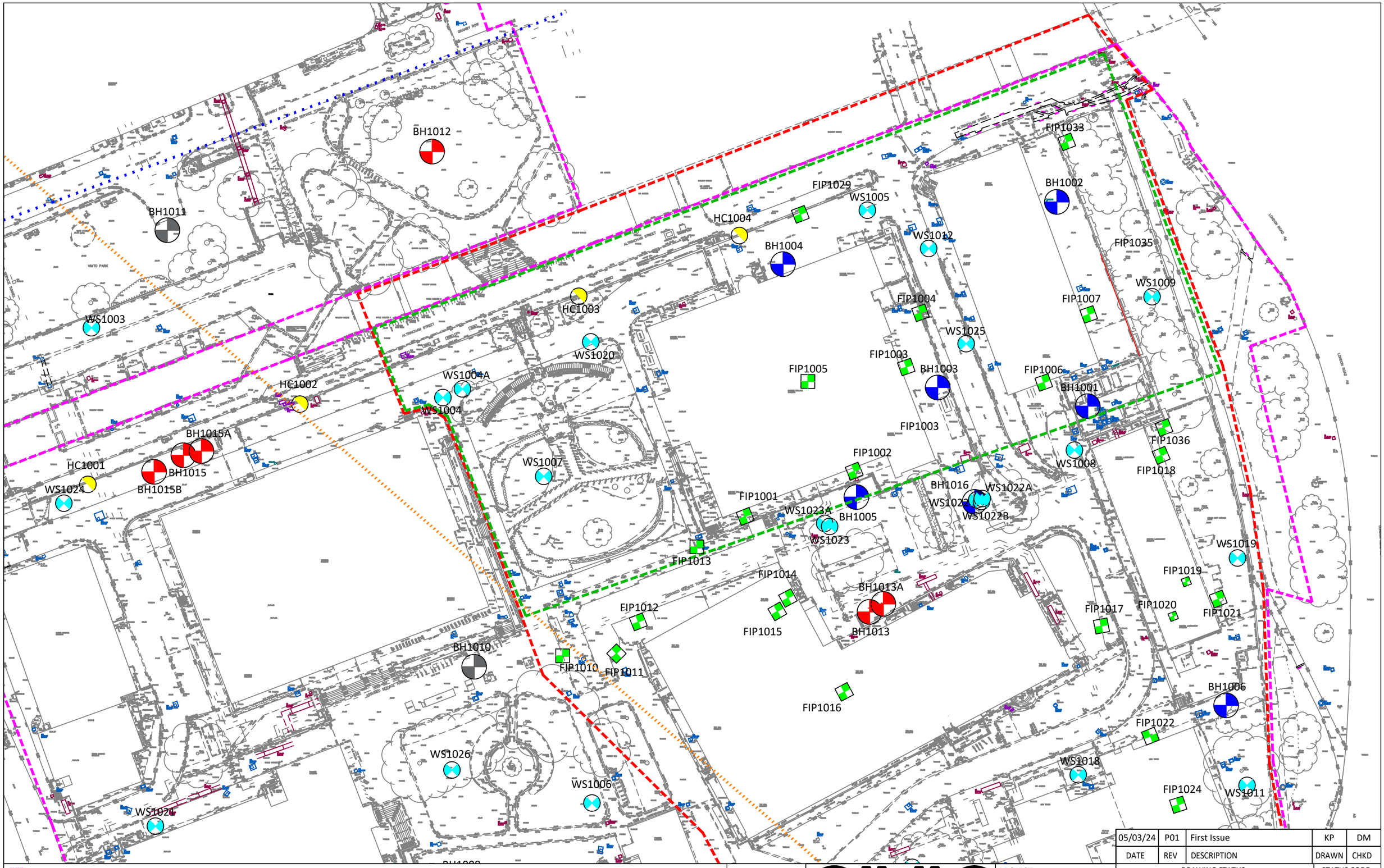
TITLE
Exploratory Hole Location Plan: Sheet 2

DATE	REV	DESCRIPTION	DRAWN	CHKD
05/03/24	P01	First Issue	KP	DM

DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019/02	NTS	05/06/24	KP	DM

DRAWING No.: 51019-CE-02-XX-D-G-0002
REV: P01



05/03/24	P01	First Issue	KP	DM
DATE	REV	DESCRIPTION	DRAWN	CHKD

Indicative IDM Wider Masterplan Area
Indicative Enabling Works Area
Indicative Plot C Development Area
Indicative Alignment of BT Tunnel
Indicative Alignment of Charles Street Culverted Watercourse

Cable Percussion/Rotary Borehole
Cable Percussion Borehole
Window Sample Borehole

Horizontal Core
Foundation Inspection Trial Pit
Proposed Cable Percussion/Rotary Borehole

Notes

Proposed Exploratory hole positions are subject to locations of buried utilities and access restrictions and may be subject to change.

Positions of FIPs along Network Rail viaduct / assets not indicated on exploratory hole plan - locations TBC following site visit.

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PROJECT
ID Manchester Masterplan Area

TITLE
Exploratory Hole Location Plan: Sheet 3

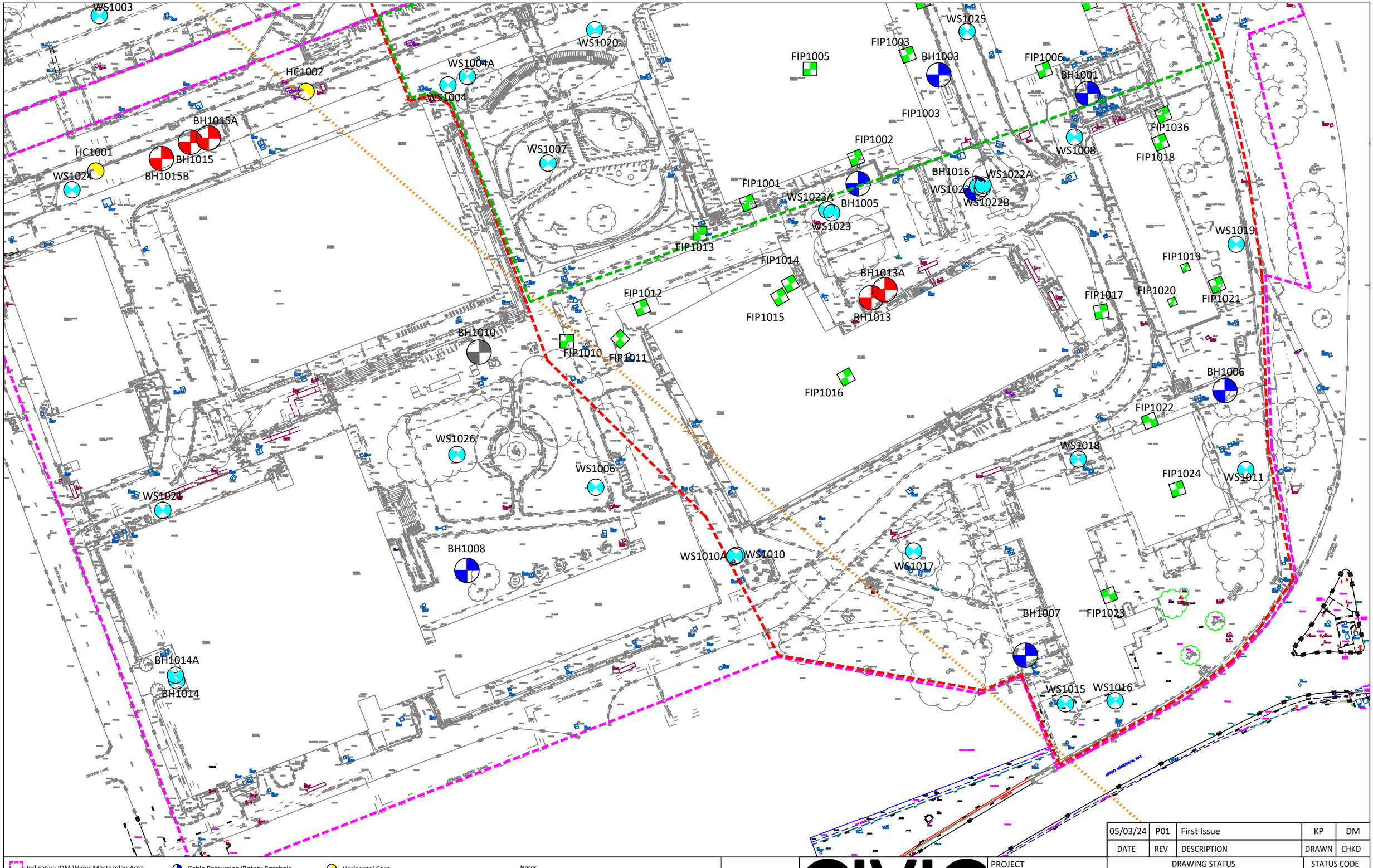
DRAWING STATUS
FOR INFORMATION

STATUS CODE
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CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019/02	NTS	05/06/24	KP	DM

DRAWING No.
51019-CE-02-XX-D-G-0003

REV
P01



- Indicative IDM Wider Masterplan Area
- Indicative Enabling Works Area
- Indicative Plot C Development Area
- Indicative Alignment of BT Tunnel
- Indicative Alignment of Charles Street Culverted Watercourse

- Cable Percussion/Rotary Borehole
- Cable Percussion Borehole
- Window Sample Borehole

- Horizontal Core
- Foundation Inspection Trial Pit
- Proposed Cable Percussion/Rotary Borehole

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Notes

Proposed Exploratory hole positions are subject to locations of buried utilities and access restrictions and may be subject to change.

Positions of FIPs along Network Rail viaduct / assets not indicated on exploratory hole plan - locations TBC following site visit.

DATE	REV	DESCRIPTION	DRAWN	CHKD
05/03/24	P01	First Issue	KP	DM

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PROJECT
ID Manchester Masterplan Area

TITLE
Exploratory Hole Location Plan: Sheet 4

DRAWING STATUS
FOR INFORMATION

STATUS CODE
-

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019/02	NTS	05/06/24	KP	DM

DRAWING No.
51019-CE-02-XX-D-G-0004

REV
P01

Appendix B

Exploratory Hole Records

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: AP+FM Checked By: KP	
Location ID:	**BH1001**	Location Type: Cable Percussion to Rotary Coring	
		Coords: 384758.23E/397629.85N	Level: 35.24mOD
Status:	FINAL	Scale: 1:50	Final Depth: 25.00
Sheet 1 of 3		Date Start: 17/04/2024	Date End: 18/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	1.20	-	-
1.20	6.00	CP	Dando 2000	10.50	20	10.50
6.00	25.00	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
						35.16	0.08		Bituminous material. [MADE GROUND]					
		0.40 0.40 - 0.60	ES 1 B 1			34.74	0.50		Dark grey mottled red and black sandy gravel. Gravel is subangular to angular fine to medium of macadam, brick, limestone and concrete. Rare angular cobbles of red brick noted. [MADE GROUND]					
	1.0	1.20 - 1.65	B 2	SPT(S) 1.20m N=9 (1,1/1,2,3,3)	▼				Loose to medium dense grey mottled red sandy gravel. Gravel is subangular to angular fine to course of brick and concrete. Rare angular cobbles of red brick noted. [MADE GROUND]					
	2.0	2.00 2.00 - 2.50	ES 2 B 3	SPT(S) 2.00m N=20 (2,4/4,5,5,6)										
	3.0	3.00 - 3.50 3.10	B 4 ES 3	SPT(S) 3.00m N=31 (3,5/7,7,8,9)		32.24	3.00		Soft greyish brown mottled red slightly sandy gravelly clay. Gravel is subangular to angular fine to coarse of concrete and red brick. Rare angular cobbles of brick noted. [MADE GROUND]					
	4.0	4.00 - 5.00	B 5	SPT(S) 4.00m N=35 (6,6/7,9,9,10)		31.24	4.00		Dense red brown SAND. Sand is fine to medium. [WEATHERED CHESTER FORMATION - SANDSTONE]					
	5.0	5.00 5.00 - 5.45 5.00 - 5.50	ES 4 D 1 B 6	SPT(S) 5.00m 50 (14,11/50 for 174mm)		30.24	5.00		Very dense red gravelly SAND. Sand is fine to medium. Gravel is fine subrounded of sandstone lithorelicts. [WEATHERED CHESTER FORMATION - SANDSTONE]					
	6.0	6.00 6.00 - 7.50	ES 5 B 7	SPT(S) 6.00m 50 (20,5/50 for 92mm)										
		6.50 6.50	B 8 D 2			28.74	6.50		Extremely weak thinly to medium bedded light reddish brown medium to coarse grained SANDSTONE, weakly cemented in places. Frequent subrounded siliceous clasts and fragments of mudstone. Discontinuities: 1) 10 - 15 degrees closely to medium spaced rough planar, mostly clean, some infilled with fine to medium sand. [CHESTER FORMATION - SANDSTONE]	6.00 7.50	100	0	0	
	7.0	7.50 - 9.00 7.50 - 9.00	C C 1	SPT(S) 7.50m 50 (25 for 0mm/50 for 0mm)										
	8.0									7.50 9.00	41	27	20	30 80 230
	9.0	9.00 - 10.50	B 9	SPT(S) 9.00m 50 (25 for 0mm/50 for 0mm)										
	10.0									9.00 10.50	100	0	0	

Stratum continues onto next page

Notes:

1. Groundwater seepage encountered at 1.20mbgl and groundwater strike at 10.50mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-5.00m plain 50mm pipe with bentonite seal; 5.00-25.00m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
4.50	25			71 76%	BBL02 RD3
4.50	146				

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	5.00	25.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: AP+FM Checked By: KP	
Location ID:	**BH1001**	Location Type: Cable Percussion to Rotary Coring	
		Coords: 384758.23E/397629.85N	Level: 35.24mOD
Status:	FINAL	Scale: 1:50	Final Depth: 25.00
Sheet 2 of 3		Date Start: 17/04/2024	Date End: 18/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	1.20	-	-
1.20	6.00	CP	Dando 2000	10.50	20	10.50
6.00	25.00	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
									Extremely weak thinly to medium bedded light reddish brown medium to coarse grained SANDSTONE, weakly cemented in places. Frequent subrounded siliceous clasts and fragments of mudstone. Discontinuities: 1) 10 - 15 degrees closely to medium spaced rough planar, mostly clean, some infilled with fine to medium sand. [CHESTER FORMATION - SANDSTONE]					
		10.50 - 12.00 10.50 - 12.00	C C 2	SPT(S) 10.50m 50 (25 for 0mm/50 for 0mm)	▼					10.50 12.00	47	35	0	NI 50 50
	11.0													
	12.0	12.00 - 13.50	B 10	SPT(S) 12.00m 50 (25 for 0mm/50 for 0mm)						12.00 13.50	100	0	0	
	13.0													
		13.50 - 15.00 13.50 - 15.00	C C 3	SPT(S) 13.50m 50 (25 for 0mm/50 for 0mm)						13.50 15.00	33	15	9	NI 50 140
	14.0													
	15.0	15.00 - 16.50	B 11	SPT(S) 15.00m 50 (25 for 0mm/50 for 0mm)						15.00 16.50	100	0	0	
	16.0													
		16.50 - 18.00	B 12	SPT(S) 16.50m 50 (25 for 0mm/50 for 0mm)						16.50 18.00	100	0	0	
	17.0													
	18.0	18.00 - 19.50	B 13	SPT(S) 18.00m 50 (25 for 0mm/50 for 0mm)						18.00 19.50	100	0	0	
	19.0													
		19.50 - 21.00	B 14	SPT(S) 19.50m 50 (25 for 0mm/50 for 0mm)										
	20.0													

Stratum continues onto next page

Notes:

1. Groundwater seepage encountered at 1.20mbgl and groundwater strike at 10.50mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-5.00m plain 50mm pipe with bentonite seal; 5.00-25.00m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
4.50	25			71 76%	BBL02 RD3
4.50	146			Install Response Zones	
				Ref / From (m) / To (m)	

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: AP+FM Checked By: KP	
Location ID:	**BH1001**	Location Type: Cable Percussion to Rotary Coring	
Coords: 384758.23E/397629.85N	Level: 35.24mOD		
Status:	FINAL	Scale: 1:50	Final Depth: 25.00
Sheet 3 of 3		Date Start: 17/04/2024	Date End: 18/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	1.20	-	-
1.20	6.00	CP	Dando 2000	10.50	20	10.50
6.00	25.00	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
	21.0	21.00 - 22.50	B 15	SPT(S) 21.00m 50 (25 for 0mm/50 for 0mm)					Extremely weak thinly to medium bedded light reddish brown medium to coarse grained SANDSTONE, weakly cemented in places. Frequent subrounded siliceous clasts and fragments of mudstone. Discontinuities: 1) 10 - 15 degrees closely to medium spaced rough planar, mostly clean, some infilled with fine to medium sand. [CHESTER FORMATION - SANDSTONE]	19.50 21.00	100	0	0	
	22.0									21.00 22.50	100	0	0	
		22.50 - 24.00	B 16	SPT(S) 22.50m 50 (25 for 0mm/50 for 0mm)										
	23.0									22.50 24.00	100	0	0	
	24.0	24.00 - 25.00	B 17	SPT(S) 24.00m 50 (25 for 0mm/50 for 0mm)										
										24.00 25.00	100	0	0	
	25.0			SPT(S) 25.00m 50 (25 for 0mm/50 for 0mm)		10.24	25.00		EOH at 25.00m - Achieved target depth					
	26.0													
	27.0													
	28.0													
	29.0													
	30.0													

Notes:

1. Groundwater seepage encountered at 1.20mbgl and groundwater strike at 10.50mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-5.00m plain 50mm pipe with bentonite seal; 5.00-25.00m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
4.50	25			71 76%	BBL02 RD3
4.50	146			Install Response Zones	
				Ref / From (m) / To (m)	

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM / Checked By: KP	
Location ID:	**BH1002**	Location Type:	Cable Percussion to Rotary Coring
Coords:	384751.39E/397675.12N	Level:	38.79mOD
Status:	FINAL	Scale:	1:50
Final Depth:	25.00		
Sheet 1 of 3		Date Start:	26/04/2024
Date End:	07/05/2024		

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	14.40	20	14.50
1.20	5.50	CP	Dando 2000			
5.50	25.00	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
						38.69	0.10		Bituminous macadam.					
		0.30 - 0.80	B 1			38.49	0.30		[MADE GROUND]					
		0.40	ES 1						Concrete. [MADE GROUND]					
	1.0								Firm blackish brown slightly sandy slightly gravelly cobbly clay. Cobbles are angular of concrete. Gravel is angular fine to coarse of concrete and brick. Sand is fine to coarse. High ash content noted. [MADE GROUND]					
		1.20 - 1.65	D 1	SPT(S) 1.20m N=50 (4,21/50 for 225mm)		37.59	1.20							
		1.20 - 1.70	B 2						Firm blackish brown slightly sandy slightly gravelly clay. Gravel is angular fine to coarse of concrete and brick. Sand is fine to coarse. [MADE GROUND]					
		1.30	ES 2											
	2.0	2.00	ES 3	SPT(S) 2.00m N=16 (2,3/3,4,4,5)										
		2.00 - 2.45	D 2											
		2.00 - 2.50	B 3			35.99	2.80							
	3.0	3.00 - 3.45	D 3	SPT(S) 3.00m N=31 (10,5/8,8,9,6)					Dense red brown sand. Sand is fine to coarse. [MADE GROUND]					
		3.00 - 3.50	B 4											
		3.10	ES 4			35.29	3.50							
	4.0	4.00	ES 5	SPT(S) 4.00m 50 (12,12/50 for 197mm)					Very dense red brown slightly sandy cobbly gravel. Gravel is angular of brick. Cobbles are angular of brick. Sand is fine to coarse. [MADE GROUND]					
		4.00 - 4.45	D 4											
		4.00 - 4.50	B 5			34.29	4.50							
									Firm blackish brown slightly sandy slightly gravelly clay. Gravel is angular fine to coarse of concrete and brick. Sand is fine to coarse. [MADE GROUND]					
						33.89	4.90							
	5.0	5.00	ES 6	SPT(S) 5.00m 50 (23 for 85mm/50 for 111mm)					Very dense red brown slightly gravelly SAND. Sand is fine to coarse. Gravel is angular fine to coarse of sandstone. [WEATHERED CHESTER FORMATION - SANDSTONE]					
		5.00 - 5.45	D 5											
		5.00 - 5.50	B 6			33.29	5.50							
		5.50 - 7.00	B 7						Very dense reddish brown SAND. Sand is fine to coarse with areas of weak cementation. [WEATHERED CHESTER FORMATION - SANDSTONE]					
	6.0													
	7.0	7.00 - 8.50	B 8	SPT(S) 7.00m 50 (25 for 15mm/50 for 30mm)										
	8.0													
		8.50 - 10.00	B 9	SPT(S) 8.50m 50 (25 for 20mm/50 for 35mm)										
	9.0													
	10.0	10.00 - 11.50	B 10	SPT(S) 10.00m 50 (25 for 45mm/50 for 15mm)										

Stratum continues onto next page

Notes:

1. Groundwater strike encountered at 4.40mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-5.50m plain 50mm pipe with bentonite seal; 5.50-25.00m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
5.50	150	5.50	150
25.00	146	25.00	146

Hammer Information	
Energy Ratio	Serial No.
71 76%	BBL02 RD3

Install Response Zones

Ref	From (m)	To (m)
Pipe1	5.50	25.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM Checked By: KP	
Location ID:	**BH1002**	Location Type:	Cable Percussion to Rotary Coring
Coords:	384751.39E/397675.12N	Level:	38.79mOD
Status:	FINAL	Scale:	1:50
Final Depth:	25.00		
Sheet 2 of 3		Date Start:	26/04/2024
Date End:	07/05/2024		

Method and Plant Used

From (m)	To (m)	Type	Plant Used
0.00	1.20	IP	Hand Tools
1.20	5.50	CP	Dando 2000
5.50	25.00	RC	Beretta GT15

Groundwater

Strike (m)	Time (min)	Rose To
14.40	20	14.50

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm): min avg max
	11.0								Very dense reddish brown SAND. Sand is fine to coarse with areas of weak cementation. [WEATHERED CHESTER FORMATION - SANDSTONE]					
		11.50 - 13.00	B 11	SPT(S) 11.50m 50 (25 for 10mm/50 for 15mm)										
	12.0													
	13.0	13.00 - 14.50	B 12	SPT(S) 13.00m 50 (25 for 10mm/50 for 20mm)										
	14.0													
		14.50 - 16.00	B 13	SPT(S) 14.50m 50 (25 for 60mm/50 for 40mm)	▽									
	15.0													
	16.0	16.00 - 17.50	B 14	SPT(S) 16.00m 50 (25 for 10mm/50 for 10mm)										
	17.0													
		17.50 - 19.00	B 15	SPT(S) 17.50m 50 (25 for 15mm/50 for 10mm)										
	18.0													
	19.0	19.00 - 20.50	B 16	SPT(S) 19.00m 50 (25 for 25mm/50 for 30mm)										
	20.0													

Stratum continues onto next page

Notes:

1. Groundwater strike encountered at 4.40mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-5.50m plain 50mm pipe with bentonite seal; 5.50-25.00m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
5.50	150	5.50	150
25.00	146	25.00	146

Hammer Information	
Energy Ratio	Serial No.
71 76%	BBL02 RD3

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM / Checked By: KP	
Location ID:	**BH1002**	Location Type:	Cable Percussion to Rotary Coring
Coords:	384751.39E/397675.12N	Level:	38.79mOD
Status:	FINAL	Scale:	1:50
Final Depth:	25.00		
Sheet 3 of 3		Date Start:	26/04/2024
Date End:	07/05/2024		

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	14.40	20	14.50
1.20	5.50	CP	Dando 2000			
5.50	25.00	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
		20.50 20.50 - 22.00	ES 7 B 17	SPT(S) 20.50m 50 (25 for 30mm/50 for 30mm)					Very dense reddish brown SAND. Sand is fine to coarse with areas of weak cementation. [WEATHERED CHESTER FORMATION - SANDSTONE]					
	21.0													
	22.0	22.00 - 23.50	B 18	SPT(S) 22.00m 50 (25 for 35mm/50 for 30mm)										
	23.0													
		23.50 - 25.00	B 19	SPT(S) 23.50m 50 (25 for 15mm/50 for 25mm)										
	24.0													
	25.0					13.79	25.00		EOH at 25.00m - Achieved target depth					
	26.0													
	27.0													
	28.0													
	29.0													
	30.0													

Notes:

1. Groundwater strike encountered at 4.40mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-5.50m plain 50mm pipe with bentonite seal; 5.50-25.00m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
5.50	150	5.50	150	71 76%	BBL02 RD3
25.00	146	25.00	146		

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: KP+FM Checked By: KP	
Location ID:	**BH1003**	Location Type: Cable Percussion to Rotary Coring	
Coords: 384724.98E/397634.00N	Level: 34.06mOD		
Status:	FINAL	Scale: 1:50	Final Depth: 25.00
Sheet 1 of 3		Date Start: 16/04/2024	Date End: 17/04/2024

Method and Plant Used

From (m)	To (m)	Type	Plant Used
0.00	1.20	IP	Hand Tools
1.20	6.00	CP	Dando 2000
6.00	25.00	RC	Beretta GT15

Groundwater

Strike (m)	Time (min)	Rose To
10.00	20	10.00

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
						33.96	0.10		Bituminous tarmacadam.					
		0.30 - 0.60	B 1						[MADE GROUND] Light yellow grey brown gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to medium of sandstone, brick and concrete. Occasional fine fragments of coal.					
						33.46	0.60		[MADE GROUND] Medium dense dark grey brown slightly gravelly clayey sand. Sand is fine to medium. Gravel is angular to subangular fine to coarse of brick, sandstone and concrete. Occasionally mottled dark grey.					
	1.0	1.00	ES 1						[MADE GROUND]					
		1.00 - 1.50	B 2											
		1.20 - 1.65	D 1	SPT(S) 1.20m N=22 (3,4/5,5,6,6)										
	2.0	2.00 - 2.45	D 2	SPT(S) 2.00m N=26 (4,5/6,6,7,7)										
		2.00 - 2.50	B 3											
		2.10	ES 2											
						31.56	2.50		Soft dark brown grey slightly gravelly to gravelly silty sandy clay. Sand is fine to coarse. Gravel is angular to subangular fine to medium of brick and sandstone. Occasional subangular cobble of brick noted.					
		2.70	ES 3						[MADE GROUND]					
	3.0	3.00	ES 4	SPT(S) 3.00m 36 (17,8/36 for 89mm)		31.06	3.00		Very dense light brown grey sandy GRAVEL. Gravel is subrounded fine to coarse of quartzite and sandstone.					
		3.00 - 3.45	D 3						[ALLUVIUM]					
		3.00 - 3.50	B 4											
		3.00 - 4.50	C 1											
						30.46	3.60		Very dense light orange red slightly gravelly SAND. Sand is fine to coarse. Gravel is rounded fine of sandstone.					
	4.0	4.00 - 4.45	D 4	SPT(S) 4.00m 50 (21,4/50 for 85mm)					[WEATHERED CHESTER FORMATION - SANDSTONE]					
		4.00 - 4.50	B 5											
		4.50 - 4.95	D 5	SPT(S) 4.50m 50 (25 for 75mm/50 for 92mm)		29.56	4.50		Extremely weak thinly to medium bedded light reddish brown medium to coarse grained SANDSTONE, weakly cemented in places. Frequent subrounded siliceous clasts and fragments of mudstone. Discontinuities: 1) 10 - 15 degrees closely to medium spaced rough planar, mostly clean, some infilled with fine to medium sand.					
		4.50 - 6.00	C 2						[CHESTER FORMATION - SANDSTONE]					
	5.0	5.00	B 6											
	6.0	6.00 - 7.50	B 7											
		6.00 - 7.50	C 3							6.00 7.50	100	0	0	
	7.0													
		7.50 - 9.00	B 8	SPT(S) 7.50m 50 (25 for 0mm/50 for 0mm)										
		7.50 - 9.00	C 4							7.50 9.00	100	0	0	
	8.0													
	9.0	9.00 - 10.50	B 9	SPT(S) 9.00m 50 (25 for 5mm/50 for 5mm)										
		9.00 - 10.50	C 5							9.00 10.50	100	0	0	
	10.0													

Stratum continues onto next page

Notes:

1. Groundwater strike encountered at 10.00mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-3.00m plain 50mm pipe with bentonite seal; 3.00-3.50m slotted 50mm pipe with gravel filter and geosock; 3.50-4.50m bentonite seal; 4.50-25.00 gravel backfill. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
25.00	107	25.00	107

Hammer Information	
Energy Ratio	Serial No.
71 76%	BBL02 RD3

Install Response Zones

Ref	From (m)	To (m)
Pipe1	4.50	25.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: KP+FM Checked By: KP	
Location ID:	**BH1003**	Location Type: Cable Percussion to Rotary Coring	
		Coords: 384724.98E/397634.00N	Level: 34.06mOD
Status:	FINAL	Scale: 1:50	Final Depth: 25.00
Sheet 2 of 3		Date Start: 16/04/2024	Date End: 17/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	10.00	20	10.00
1.20	6.00	CP	Dando 2000			
6.00	25.00	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
	10.50 - 12.00	B 10	SPT(S) 10.50m 50 (25 for 5mm/50 for 10mm)					Extremely weak thinly to medium bedded light reddish brown medium to coarse grained SANDSTONE, weakly cemented in places. Frequent subrounded siliceous clasts and fragments of mudstone. Discontinuities: 1) 10 - 15 degrees closely to medium spaced rough planar, mostly clean, some infilled with fine to medium sand. [CHESTER FORMATION - SANDSTONE]					
11.0										10.50 12.00	100	0	0	
12.0	12.00 - 13.50	B 11	SPT(S) 12.00m 50 (25 for 5mm/50 for 10mm)							12.00 13.50	100	0	0	
13.0														
	13.50 13.50 - 15.00	ES 5 B 12	SPT(S) 13.50m 50 (25 for 0mm/50 for 0mm)							13.50 15.00	100	0	0	
14.0														
15.0	15.00 - 16.50 15.00 - 16.50	C C 1	SPT(S) 15.00m 50 (25 for 0mm/50 for 0mm)							15.00 16.50	27	15	0	NI 20 50
16.0														
	16.50 - 18.00	B 13												
17.0										16.50 18.00	100	0	0	
18.0	18.00 - 19.50	B 14	SPT(S) 18.00m 50 (25 for 0mm/50 for 0mm)											
19.0										18.00 19.50	100	0	0	
	19.50 - 21.00	B 15	SPT(S) 19.50m 50 (25 for 5mm/50 for 5mm)											
20.0														

Stratum continues onto next page

Notes:

1. Groundwater strike encountered at 10.00mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-3.00m plain 50mm pipe with bentonite seal; 3.00-3.50m slotted 50mm pipe with gravel filter and geosock; 3.50-4.50m bentonite seal; 4.50-25.00 gravel backfill. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
25.00	107	25.00	107	71 76%	BBL02 RD3

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: KP+FM Checked By: KP	
Location ID:	**BH1003**	Location Type: Cable Percussion to Rotary Coring	
Coords: 384724.98E/397634.00N	Level: 34.06mOD		
Status:	FINAL	Scale: 1:50	Final Depth: 25.00
Sheet 3 of 3		Date Start: 16/04/2024	Date End: 17/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	10.00	20	10.00
1.20	6.00	CP	Dando 2000			
6.00	25.00	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
									Extremely weak thinly to medium bedded light reddish brown medium to coarse grained SANDSTONE, weakly cemented in places. Frequent subrounded siliceous clasts and fragments of mudstone. Discontinuities: 1) 10 - 15 degrees closely to medium spaced rough planar, mostly clean, some infilled with fine to medium sand. [CHESTER FORMATION - SANDSTONE]	19.50 21.00	100	0	0	
	21.0	21.00 - 22.50 21.00 - 22.50	C C 2	SPT(S) 21.00m 50 (25 for 5mm/50 for 10mm)						21.00 22.50	50	47	15	
	22.0	22.50 - 24.00 22.50 - 24.00	C C 3							22.50 24.00	43	27	9	NI 100 180
	23.0													
	24.0	24.00 - 25.00 24.00 - 25.00	C C 4							24.00 25.00	19	15	9	
	25.0					9.06	25.00		EOH at 25.00m - Achieved target depth					
	26.0													
	27.0													
	28.0													
	29.0													
	30.0													

Notes:

1. Groundwater strike encountered at 10.00mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-3.00m plain 50mm pipe with bentonite seal; 3.00-3.50m slotted 50mm pipe with gravel filter and geosock; 3.50-4.50m bentonite seal; 4.50-25.00 gravel backfill. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
25.00	107	25.00	107	71 76%	BBL02 RD3

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM Checked By: KP	
Location ID:	**BH1004**	Location Type: Rotary cored	
		Coords: 384690.68E/397661.33N	Level: 36.50mOD
Status:	FINAL	Scale: 1:50	Final Depth: 19.50
Sheet 1 of 2		Date Start: 19/04/2024	Date End: 22/04/2023

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	14.20	20	14.10
1.20	20.00	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
						36.40	0.10		Bituminous macadam					
		0.35	B 1						[MADE GROUND]					
						35.95	0.55		Yellow brown sandy gravel. Gravel is angular to subangular fine to coarse of dolomite. Sand is fine to coarse.					
		0.70	B 2	PID 0.70m 0.2 ppm					[MADE GROUND]					
		0.70	ES 1						Medium dense dark blackish brown very gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick and concrete. High ash content noted.					
	1.0													
		1.20 - 1.65	B 3	SPT(S) 1.20m N=9 (2,3/2,2,2,3)										
		1.20 - 1.65	D 1						[MADE GROUND]	1.20 2.00	100			
						34.55	1.95							
	2.0	2.00 - 2.45	B 4	SPT(S) 2.00m N=10 (1,2/2,2,3,3)					Firm to stiff brown slightly sandy gravelly clay. Gravel is angular to subangular fine to coarse of sandstone, brick and concrete. Sand is fine to coarse.					
		2.00 - 2.45	D 2	HSV 2.00m (p)= 132 kPa (r)= 98 kPa					[MADE GROUND]	2.00 3.00	100			
	3.0	3.00	ES 2	SPT(S) 3.00m N=11 (1,2/3,3,2,3)										
		3.00 - 3.45	B 5											
		3.00 - 3.45	D 3							3.00 4.00	100			
	4.0	4.00 - 4.45	B 6	SPT(S) 4.00m N=12 (2,2/2,4,3,3)										
		4.00 - 4.45	D 4	HSV 4.00m (p)= 151 kPa (r)= 120 kPa						4.00 5.00	100			
	5.0	5.00 - 5.45	B 7	SPT(S) 5.00m N=13 (2,1/2,3,4,4)										
		5.00 - 5.45	D 5							5.00 6.00	100			
						30.70	5.80							
	6.0	6.00	ES 3	SPT(S) 6.00m N=12 (2,2/2,2,3,5)					Medium dense light brown gravelly cobbly sand. Sand is fine to coarse. Cobbles are angular of brick. Gravel is angular of brick.					
		6.00 - 6.45	B 8	PID 6.00m 0.2 ppm					[MADE GROUND]					
		6.00 - 6.45	D 6							6.00 7.50	100			
						29.60	6.90							
	7.0								Very dense red brown SAND with areas of weak cementation. Sand is fine to coarse.					
		7.50	ES 4	PID 7.50m 0.1 ppm					[WEATHERED CHESTER FORMATION - SANDSTONE]					
		7.50 - 9.00	B 9							7.50 9.00	100			
	8.0													
	9.0	9.00	ES 5											
		9.00 - 10.50	B 10							9.00 10.50	100	0	0	
	10.0													

Stratum continues onto next page

Notes:

1. Groundwater strike encountered at 14.20mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-7.00m plain 50mm pipe with bentonite seal; 7.00-20.00m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
20.00	146	20.00	146	71%	BBL02

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	7.00	19.50

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM Checked By: KP	
Location ID:	**BH1004**	Location Type: Rotary cored	
		Coords: 384690.68E/397661.33N	Level: 36.50mOD
Status:	FINAL	Scale: 1:50	Final Depth: 19.50
Sheet 2 of 2		Date Start: 19/04/2024	Date End: 22/04/2023

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00 1.20	1.20 20.00	IP RC	Hand Tools Beretta GT15	14.20	20	14.10

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
									Very dense red brown SAND with areas of weak cementation. Sand is fine to coarse. [WEATHERED CHESTER FORMATION - SANDSTONE]					
		10.50 - 12.00	B 11	SPT(S) 10.50m 50 (25 for 5mm/50 for 10mm)						10.50 12.00	100	0	0	
	11.0													
	12.0	12.00 - 13.50	B 12							12.00 13.50	100	0	0	
	13.0													
		13.50 - 15.00	C			23.00	13.50							
		13.50 - 15.00	C 1						Weak thinly to medium bedded light reddish brown medium to coarse grained SANDSTONE, moderately cemented. Frequent subrounded siliceous clasts and fragments of mudstone. Discontinuities: 1) 10 - 15 degrees closely to medium spaced rough planar, mostly clean, some infilled with fine to medium sand. [CHESTER FORMATION - SANDSTONE]	13.50 15.00	47	33	23	
	14.0													
	15.0	15.00 - 16.50	C											
		15.00 - 16.50	C 2							15.00 16.50	57	43	7	
	16.0													
		16.50 - 18.00	C											
		16.50 - 18.00	C 3							16.50 18.00	77	72	45	
	17.0													
	18.0	18.00 - 19.50	C											
		18.00 - 19.50	C 4							18.00 19.50	63	63	54	
	19.0					17.00	19.50							
									EOH at 19.50m - Achieved target depth					
	20.0													

Notes:

1. Groundwater strike encountered at 14.20mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-7.00m plain 50mm pipe with bentonite seal; 7.00-20.00m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
20.00	146	20.00	146

Hammer Information	
Energy Ratio	Serial No.
71%	BBL02

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: KP+FM Checked By: KP	
Location ID:	**BH1005**	Location Type: Cable Percussion to Rotary Coring	
		Coords: 384706.96E/397609.71N	Level: 33.51mOD
Status:	FINAL	Scale: 1:50	Final Depth: 16.50
Sheet 1 of 2		Date Start: 15/04/2024	Date End: 15/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	3.60	20	3.50
1.20	6.50	CP	Dando 2000	15.60	20	15.60
6.50	16.50	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
						33.41	0.10		Bituminous tarmacadam. [MADE GROUND]					
		0.40 - 0.60	B 1			33.11	0.40		Light red orange speckled black slightly gravelly sand. Sand is fine to medium. Gravel is rounded to subangular fine to medium of sandstone and concrete. [MADE GROUND]					
		0.60	ES 1											
	1.0	1.00	ES 2						Medium dense dark grey brown gravelly sand. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of brick, sandstone and concrete. Occasional fragments of granite setts. [MADE GROUND]					
		1.00 - 1.50	B 2											
		1.20 - 1.65	D 1	SPT(S) 1.20m N=21 (4,6/6,5,5,5)										
						31.81	1.70							
						31.51	2.00		Soft dark grey brown slightly gravelly clay. Gravel is angular to subangular fine to medium of concrete and brick. Sand is fine to coarse. [MADE GROUND]					
	2.0	2.00	ES 3	SPT(S) 2.00m N=14 (2,3/3,3,4,4)										
		2.00 - 2.45	D 2											
		2.00 - 2.50	B 3											
									Medium dense light brown grey to grey clayey gravelly sand. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of brick, concrete and sandstone. Occasional cobbles of subangular concrete. [MADE GROUND]					
	3.0	3.00 - 3.45	D 3	SPT(S) 3.00m N=20 (3,3/4,5,5,6)										
		3.00 - 3.50	B 4											
					▼	29.91	3.60							
									Medium dense dark grey black silty sand. Sand is fine. Occasional subrounded fine gravel of sandstone. [MADE GROUND]					
	4.0	4.00 - 4.45	B 5	SPT(S) 4.00m N=29 (4,5/6,7,7,9)										
		4.00 - 4.45	D 4											
		4.10	ES 4											
						29.01	4.50							
									Dense dark red brown slightly gravelly SAND. Sand is fine to coarse. Gravel is angular to subangular fine to medium of sandstone. [WEATHERED CHESTER FORMATION - SANDSTONE]					
	5.0	5.00 - 5.45	D 5	SPT(S) 5.00m N=40 (5,6/7,9,12,12)										
		5.00 - 5.50	B 6											
		5.10	ES 5											
	6.0	6.00	ES 6											
		6.00 - 6.45	D 6											
		6.00 - 6.50	B 7											
		6.50 - 7.50	B 8	SPT(S) 6.50m 60 (17,8/60 for 167mm)		27.01	6.50		Extremely weak thinly to medium bedded light red brown medium to coarse grained SANDSTONE, weakly cemented in places. Frequent subrounded siliceous clasts and fragments of mudstone. Discontinuities: 1) 10 - 15 degrees closely to medium spaced rough planar, mostly clean, some infilled with fine to medium sand. [CHESTER FORMATION - SANDSTONE]	6.50 7.50	100	0	0	
	7.0	7.50 - 8.50	B 9	SPT(S) 7.50m 50 (25 for 5mm/50 for 10mm)						7.50 8.50	100	0	0	
	8.0													
		8.50 - 10.00	C	SPT(S) 8.50m 50 (25 for 5mm/50 for 10mm)										
		8.50 - 10.00	C 1											
	9.0									8.50 10.00	66	66	43	30 90 110
	10.0	10.00 - 11.50	B 10											

Stratum continues onto next page

Notes:

1. Groundwater strikes recorded at 3.60mbgl and 15.60mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-7.00m plain 50mm pipe with bentonite seal; 7.00-16.50m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.
5. Borehole terminated at 16.50mbgl due to presence of gross suspected hydrocarbon contamination in groundwater.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
16.50	107	16.50	107

Hammer Information	
Energy Ratio	Serial No.
76 71%	RD3 BBL02

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	7.00	16.50

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: KP+FM Checked By: KP	
Location ID:	**BH1005**	Location Type: Cable Percussion to Rotary Coring	
		Coords: 384706.96E/397609.71N	Level: 33.51mOD
Status:	FINAL	Scale: 1:50	Final Depth: 16.50
Sheet 2 of 2		Date Start: 15/04/2024	Date End: 15/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	3.60	20	3.50
1.20	6.50	CP	Dando 2000	15.60	20	15.60
6.50	16.50	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
	11.0								Extremely weak thinly to medium bedded light red brown medium to coarse grained SANDSTONE, weakly cemented in places. Frequent subrounded siliceous clasts and fragments of mudstone. Discontinuities: 1) 10 - 15 degrees closely to medium spaced rough planar, mostly clean, some infilled with fine to medium sand. [CHESTER FORMATION - SANDSTONE]	10.00 11.50	100	0	0	
		11.50 - 13.00	B 11	SPT(S) 11.50m 50 (25 for 5mm/50 for 10mm)										
	12.0									11.50 13.00	100	0	0	
	13.0	13.00 - 14.50	C	SPT(S) 13.00m 50 (25 for 5mm/50 for 10mm)										
		13.00 - 14.50	C 2							13.00 14.50	40	40	32	90 100 210
	14.0													
		14.50 - 15.50	B 12											
	15.0									14.50 15.50	100	0	0	
		15.50 - 16.50	B 13	SPT(S) 15.50m 50 (25 for 5mm/50 for 10mm)	▼									
	16.0									15.50 16.50	100	0	0	
		16.50	ES 7	SPT(S) 16.50m 50 (25 for 5mm/50 for 10mm) PID 16.50m 8.9 ppm		17.01	16.50		EOH at 16.50m - Terminated due to contamination					
	17.0													
	18.0													
	19.0													
	20.0													

Notes:

1. Groundwater strikes recorded at 3.60mbgl and 15.60mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-7.00m plain 50mm pipe with bentonite seal; 7.00-16.50m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.
5. Borehole terminated at 16.50mbgl due to presence of gross suspected hydrocarbon contamination in groundwater.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
16.50	107	16.50	107	76 71%	RD3 BBL02

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM+AP Checked By: KP	
Location ID:	**BH1006**	Location Type: Cable Percussion to Rotary Coring	
		Coords: 384788.91E/397563.53N	Level: 34.19mOD
Status:	FINAL	Scale: 1:50	Final Depth: 15.00
Sheet 1 of 2		Date Start: 24/04/2024	Date End: 25/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	3.70	20	3.70
1.20	6.50	CP	Dando 2000	9.50	20	9.50
9.50	15.00	RC	Beretta GT15			

Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Strata Description
					~~34.14~~	~~0.05~~	Paving slab.
					34.09	0.10	[MADE GROUND]
	0.50 - 0.70	B 1					Pale yellow sand. Sand is fine to medium.
							[MADE GROUND]
1.0	1.20 - 1.45	D 1	SPT(S) 1.20m N=28 (5,7/7,6,7,8)				Medium dense dark grey mottled red gravelly sand. Sand is fine to coarse. Gravel is angular to subrounded fine to medium of brick, concrete, mortar and tile.
	1.20 - 1.50	B 2					[MADE GROUND]
	1.30	ES 1					
					32.19	2.00	
2.0	2.00	ES 2	SPT(S) 2.00m N=31 (4,6/6,7,9,9)				Firm to stiff dark grey mottled gravelly very sandy clay. Sand is fine to coarse. Gravel is subrounded to subangular fine to medium of brick, concrete and coal.
	2.00 - 2.45	B 3					[MADE GROUND]
	2.00 - 2.45	D 2					
	2.20	ES 3					
					31.19	3.00	
3.0	3.00 - 3.45	D 3	SPT(S) 3.00m N=36 (7,9/10,9,9,8)				Medium dense to dense red brown gravelly SAND. Sand is fine to medium. Gravel is subrounded fine to medium of mixed lithologies including sandstone.
	3.00 - 3.50	B 4					[ALLUVIUM]
	3.40	ES 4		▼			
4.0			SPT(S) 4.00m N=26 (5,5/6,6,7,7)				
	4.50	B 5					
5.0	5.00 - 5.50	B 6	SPT(S) 5.00m N=22 (4,4/4,6,6,6)				
6.0	6.00	ES 5					
	6.00 - 6.45	D 4					
					27.69	6.50	
	6.50	B 7	SPT(S) 6.50m 50 (7,10/50 for 164mm)				Very dense red SAND. Sand is fine to coarse.
7.0							[WEATHERED CHESTER FORMATION - SANDSTONE]
					26.19	8.00	
8.0	8.00	B 8	SPT(S) 8.00m 50 (10,13/50 for 171mm)				Very dense slightly gravelly SAND. Sand is fine to coarse. Gravel is subrounded of lithorelicts including sandstone.
							[WEATHERED CHESTER FORMATION - SANDSTONE]
9.0							
					24.69	9.50	
	9.50 - 10.50	B 9	SPT(S) 9.50m 50 (25 for 10mm/50 for 90mm)	▼			Red brown SAND. Sand is fine to coarse with areas of weak cementation.
10.0							[WEATHERED CHESTER FORMATION - SANDSTONE]

Stratum continues onto next page

Rotary Coring				Fract (mm)
Core Run	TCR (%)	SCR (%)	RQD (%)	min avg max

Notes:

1. Groundwater strikes recorded at 3.70mbgl and 9.50mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-7.00m plain 50mm pipe with bentonite seal; 7.00-15.00m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
15.00	146	15.00	146

Hammer Information	
Energy Ratio	Serial No.
71 76%	BBL02 RD3

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	7.00	15.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM+AP Checked By: KP	
Location ID:	**BH1006**	Location Type: Cable Percussion to Rotary Coring	
Coords: 384788.91E/397563.53N	Level: 34.19mOD		
Status:	FINAL	Scale: 1:50	Final Depth: 15.00
Sheet 2 of 2		Date Start: 24/04/2024	Date End: 25/04/2024

Method and Plant Used

From (m)	To (m)	Type	Plant Used
0.00	1.20	IP	Hand Tools
1.20	6.50	CP	Dando 2000
9.50	15.00	RC	Beretta GT15

Groundwater

Strike (m)	Time (min)	Rose To
3.70	20	3.70
9.50	20	9.50

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
									Red brown SAND. Sand is fine to coarse with areas of weak cementation. [WEATHERED CHESTER FORMATION - SANDSTONE]	9.50 10.50	100	0	0	
	11.0	10.50 - 12.00	B 10	SPT(S) 10.50m 50 (25 for 0mm/50 for 0mm)						10.50 12.00	100	0	0	
	12.0	12.00 - 13.50	B 11	SPT(S) 12.00m 50 (25 for 5mm/50 for 5mm)						12.00 13.50	100	0	0	
	13.0	13.50 - 15.00	B 12	SPT(S) 13.50m 50 (25 for 0mm/50 for 0mm)						13.50 15.00	100	0	0	
	14.0													
	15.0					19.19	15.00		EOH at 15.00m - Achieved target depth					
	16.0													
	17.0													
	18.0													
	19.0													
	20.0													

Notes:

1. Groundwater strikes recorded at 3.70mbgl and 9.50mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-7.00m plain 50mm pipe with bentonite seal; 7.00-15.00m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
15.00	146	15.00	146

Hammer Information	
Energy Ratio	Serial No.
71 76%	BBL02 RD3

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM / Checked By: KP	
Location ID:	**BH1007**	Location Type:	Cable Percussion to Rotary Coring
Coords:	384744.31E/397504.37N	Level:	34.10mOD
Status:	FINAL	Scale:	1:50
Final Depth:	15.00		
Sheet 1 of 2		Date Start:	18/04/2024
Date End:	26/04/2024		

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	3.00	20	3.00
1.20	4.50	CP	Dando 2000	10.30	20	10.30
4.50	15.00	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
						34.00	0.10		Concrete.					
		0.30 - 0.50	B 1						[MADE GROUND] Medium dense blackish grey clayey gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of concrete. High ash content noted. [MADE GROUND]					
		0.70 - 0.90	B 2											
		0.80	ES 1	PID 0.80m 0.2 ppm										
	1.0													
		1.20 - 1.65	B 3	SPT(S) 1.20m N=10 (3,3/3,3,2,2)										
		1.20 - 1.65	D 1											
		1.50	ES 2	PID 1.50m 0.1 ppm										
	2.0													
		2.00 - 2.45	B 4	SPT(S) 2.00m N=11 (2,2/2,3,3,3)										
		2.00 - 2.45	D 2											
	3.0				▼									
		3.00 - 3.45	B 5	SPT(S) 3.00m N=31 (3,4/4,5,10,12)										
		3.00 - 3.45	D 3											
						30.90	3.20							
		3.30	ES 3	PID 3.30m 0 ppm					Dense light brown slightly sandy GRAVEL. Gravel is subangular to rounded fine to coarse of sandstone, mudstone, flint and limestone. Sand is fine to coarse. [ALLUVIUM]					
						30.60	3.50							
									Red brown slightly gravelly SAND. Sand is fine to coarse. Gravel is angular fine to coarse of sandstone.					
	4.0	4.00 - 4.45	D 4	SPT(S) 4.00m 50 (25,/50 for 99mm)		30.10	4.00							
		4.00 - 5.50	B 6						[WEATHERED CHESTER FORMATION - SANDSTONE] Very dense red brown SAND. Sand is fine to coarse with areas of weak cementation. [WEATHERED CHESTER FORMATION - SANDSTONE]					
		4.50 - 5.50	B 7							4.50 5.50	100	0	0	
	5.0													
		5.50 - 7.00	B 8	SPT(S) 5.50m 50 (25 for 5mm/50 for 10mm)						5.50 7.00	100	0	0	
	6.0													
	7.0	7.00 - 8.50	B 9	SPT(S) 7.00m 50 (25 for 5mm/50 for 10mm)						7.00 8.50	100	0	0	
	8.0													
		8.50 - 10.00	B 10	SPT(S) 8.50m 50 (25 for 5mm/50 for 10mm)						8.50 10.00	100	0	0	
	9.0													
	10.0	10.00 - 11.50	B 11	SPT(S) 10.00m 50 (25 for 5mm/50 for 10mm)										

Stratum continues onto next page

Notes:

1. Groundwater strikes recorded at 3.00mbgl and 10.30mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-4.00m plain 50mm pipe with bentonite seal; 4.00-15.00m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
4.00	150	4.00	150
15.00	146	15.00	146

Hammer Information	
Energy Ratio	Serial No.
76 71%	RD3 BBL02

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	4.00	15.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM / Checked By: KP	
Location ID:	**BH1007**	Location Type:	Cable Percussion to Rotary Coring
Coords:	384744.31E/397504.37N	Level:	34.10mOD
Status:	FINAL	Scale:	1:50
Final Depth:	15.00		
Sheet 2 of 2		Date Start:	18/04/2024
Date End:	26/04/2024		

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	3.00	20	3.00
1.20	4.50	CP	Dando 2000	10.30	20	10.30
4.50	15.00	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
	11.0								Very dense red brown SAND. Sand is fine to coarse with areas of weak cementation. [WEATHERED CHESTER FORMATION - SANDSTONE]	10.00 11.50	100	0	0	
		11.50 - 13.00	B 12	SPT(S) 11.50m 50 (25 for 5mm/50 for 10mm)										
	12.0									11.50 13.00	100	0	0	
	13.0	13.00 - 14.50	B 13	SPT(S) 13.00m 50 (25 for 0mm/50 for 5mm)										
	14.0									13.00 14.50	100	0	0	
		14.50 - 15.00	B 14	SPT(S) 14.50m 50 (25 for 0mm/50 for 0mm)										
	15.0			SPT(S) 15.00m 50 (25 for 5mm/50 for 10mm)		19.10	15.00		EOH at 15.00m - Achieved target depth	14.50 15.00	100	0	0	
	16.0													
	17.0													
	18.0													
	19.0													
	20.0													

Notes:

1. Groundwater strikes recorded at 3.00mbgl and 10.30mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-4.00m plain 50mm pipe with bentonite seal; 4.00-15.00m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
4.00	150	4.00	150	76 71%	RD3 BBL02
15.00	146	15.00	146	Install Response Zones	
				Ref / From (m) / To (m)	

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM / Checked By: KP	
Location ID:	**BH1008**	Location Type:	Cable Percussion to Rotary Coring
Coords:	384619.53E/397523.34N	Level:	33.60mOD
Status:	FINAL	Scale:	1:50
Final Depth:	10.50		
Sheet 1 of 2		Date Start:	22/04/2024
Date End:	30/04/2024		

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	9.80	20	9.80
1.20	3.00	CP	Dando 2000			
3.00	10.50	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
		0.10	ES 1	PID 0.10m 0 ppm		33.40	0.20		Firm dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine of concrete. Sand is fine to coarse. [MADE GROUND]					
		0.30 - 0.60	B 1											
		0.80	ES 2	PID 0.80m 0.3 ppm					Loose red brown sandy cobbly gravel. Gravel is angular to subangular fine to coarse of brick and concrete. Cobbles are angular of brick and concrete. Sand is fine to coarse. [MADE GROUND]					
	1.0	0.80 - 1.00	B 2											
		1.20 - 1.65	B 3	SPT(S) 1.20m N=4 (1,1/1,1,1,1)										
		1.20 - 1.65	D 1											
						31.90	1.70							
	2.0	2.00 - 2.45	D 2	SPT(S) 2.00m N=16 (2,2/3,3,4,6)					Medium dense yellow brown slightly gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of sandstone and concrete. [MADE GROUND]					
		2.00 - 2.50	B 4											
						31.00	2.60							
						30.60	3.00		Red brown slightly gravelly SAND. Sand is fine to coarse. Gravel is angular fine to coarse of sandstone. [WEATHERED CHESTER FORMATION - SANDSTONE]					
	3.0	3.00	ES 3	SPT(S) 3.00m N=50 (4,5/50 for 235mm)					Weak thinly to medium bedded light reddish brown medium to coarse grained SANDSTONE, moderately cemented. Rare subrounded siliceous clasts and fragments of mudstone. Discontinuities: 1) 10 - 15 degrees closely to medium spaced rough planar, mostly infilled with fine to medium sand, some clean. [CHESTER FORMATION - SANDSTONE]	3.00 4.50	32	32	6	
		3.00 - 3.45	D 3											
		3.00 - 3.50	B 5	PID 3.00m 0.2 ppm										
		3.00 - 4.50	C											
	4.0													
		4.50 - 6.00	C	SPT(S) 4.50m 50 (25 for 5mm/50 for 10mm)						4.50 6.00	93	76	44	
	5.0													
	6.0	6.00 - 7.50	C							6.00 7.50	100	64	53	NI 90 700
	7.0													
	8.0									7.50 9.00	95	92	55	
	9.0													
	10.0									9.00 10.50	96	90	64	

Stratum continues onto next page

Notes:

1. Groundwater strike recorded at 9.80mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-3.00m plain 50mm pipe with bentonite seal; 3.00-10.50m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
3.00	150	3.00	150
10.50	146	10.50	146

Hammer Information	
Energy Ratio	Serial No.
76 71%	RD3 BBL02

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	3.00	10.50

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM / Checked By: KP	
Location ID:	**BH1008**	Location Type:	Cable Percussion to Rotary Coring
Coords:	384619.53E/397523.34N	Level:	33.60mOD
Status:	FINAL	Scale:	1:50
Final Depth:	10.50	Sheet 2 of 2	
Date Start:	22/04/2024	Date End:	30/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	9.80	20	9.80
1.20	3.00	CP	Dando 2000			
3.00	10.50	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
						23.10	10.50		Weak thinly to medium bedded light reddish brown medium to coarse grained SANDSTONE, moderately cemented. Rare subrounded siliceous clasts and fragments of mudstone. Discontinuities: 1) 10 - 15 degrees closely to medium spaced rough planar, mostly infilled with fine to medium sand, some clean. [CHESTER FORMATION - SANDSTONE]					
									EOH at 10.50m - Achieved target depth					
	11.0													
	12.0													
	13.0													
	14.0													
	15.0													
	16.0													
	17.0													
	18.0													
	19.0													
	20.0													

Notes:

1. Groundwater strike recorded at 9.80mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-3.00m plain 50mm pipe with bentonite seal; 3.00-10.50m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
3.00	150	3.00	150	76 71%	RD3 BBL02
10.50	146	10.50	146		

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM Checked By: KP	
Location ID:	**BH1009**	Location Type: Cable Percussion to Rotary Coring	
Coords: 384581.20E/397774.73N	Level: 40.51mOD		
Status:	FINAL	Scale: 1:50	Final Depth: 15.00
Sheet 1 of 2		Date Start: 24/04/2024	Date End: 02/05/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	13.00	20	13.00
1.20	6.50	CP	Dando 2000			
6.50	15.00	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
		0.20	ES 1	PID 0.20m 0.1 ppm		40.21	0.30		Firm dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine of concrete and brick. Sand is fine to coarse.					
		0.30	ES 2											
		0.30 - 0.50	B 1			40.06	0.45							
						39.96	0.55		[MADE GROUND]					
		0.70 - 1.00	B 2						Blackish brown gravelly sand. Sand is fine to coarse. Gravel is angular to subangular of brick and concrete. High ash content noted.					
		0.80	ES 3	PID 0.80m 0 ppm					[MADE GROUND]					
	1.0								Orange brown sand. Sand is fine to coarse.					
		1.20 - 1.65	D 1	SPT(S) 1.20m N=12 (2,2/2,3,3,4)					[MADE GROUND]					
		1.20 - 1.70	B 3						Stiff brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of sandstone, mudstone and coal. Sand is fine to coarse.					
	2.0	2.00	ES 4	SPT(S) 2.00m N=14 (2,3/3,3,4,4)					[GLACIAL TILL]					
		2.00 - 2.45	D 2											
		2.00 - 2.50	B 4											
	3.0	3.00 - 3.45	U 1	SPT(S) 3.00m N=24 (4,5/5,6,6,7)										
		3.50	D 3			37.01	3.50		Medium dense slightly gravelly SAND. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of sandstone and mudstone.					
	4.0	4.00	ES 5						[GLACIAL TILL]					
		4.00 - 4.45	D 4											
		4.00 - 4.50	B 5											
						36.01	4.50		Stiff grey mottled brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse sandstone, mudstone and coal. Sand is fine to coarse.					
	5.0	5.00 - 5.45	U 2						[GLACIAL TILL]					
		5.50	D 5	PID 5.50m 0 ppm										
		5.50	ES 6											
						34.71	5.80		Very dense red brown slightly gravelly SAND. Sand is fine to coarse. Gravel is angular fine to coarse of sandstone.					
	6.0	6.00	ES 7	PID 6.00m 0 ppm					[WEATHERED CHESTER FORMATION - SANDSTONE]					
		6.00	ES 8											
		6.00 - 6.45	D 6											
		6.00 - 7.00	B 6											
				SPT(S) 6.50m 50 (6,10/50 for 187mm)		34.01	6.50		Very dense reddish brown SAND. Sand is fine to coarse with areas of weak cementation.					
	7.0	7.00	ES 9						[WEATHERED CHESTER FORMATION - SANDSTONE]					
		7.00 - 8.50	B 7											
	8.0													
		8.50 - 10.00	B 8	SPT(S) 8.50m 50 (25 for 0mm/50 for 0mm)										
	9.0													
	10.0	10.00 - 11.50	B 9	SPT(S) 10.00m 50 (25 for 5mm/50 for 10mm)										

Stratum continues onto next page

Notes:

1. Groundwater strike recorded at 13.00mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-1.00m plain 50mm pipe with bentonite seal; 1.00-5.00m slotted 50mm pipe with gravel filter and geosock; 5.00-6.00m bentonite seal; 6.00-15.00 gravel backfill. Bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
6.50	150	4.50	150
15.00	146	15.00	146

Hammer Information	
Energy Ratio	Serial No.
71 76%	BBL02 RD3

Install Response Zones

Ref	From (m)	To (m)
Pipe1	6.00	15.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM / Checked By: KP	
Location ID:	**BH1009**	Location Type:	Cable Percussion to Rotary Coring
Coords:	384581.20E/397774.73N	Level:	40.51mOD
Status:	FINAL	Scale:	1:50
Final Depth:	15.00		
Sheet 2 of 2		Date Start:	24/04/2024
Date End:	02/05/2024		

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	13.00	20	13.00
1.20	6.50	CP	Dando 2000			
6.50	15.00	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
	11.0								Very dense reddish brown SAND. Sand is fine to coarse with areas of weak cementation. [WEATHERED CHESTER FORMATION - SANDSTONE]					
		11.50 - 13.00	B 10	SPT(S) 11.50m 50 (25 for 5mm/50 for 10mm)										
	12.0													
	13.0	13.00 - 14.50	B 11	SPT(S) 13.00m 50 (25 for 5mm/50 for 10mm)	▼									
	14.0													
		14.50 - 15.00	B 12	SPT(S) 14.50m 50 (25 for 0mm/50 for 0mm)										
	15.0					25.51	15.00		EOH at 15.00m - Achieved target depth					
	16.0													
	17.0													
	18.0													
	19.0													
	20.0													

Notes:

1. Groundwater strike recorded at 13.00mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-1.00m plain 50mm pipe with bentonite seal; 1.00-5.00m slotted 50mm pipe with gravel filter and geosock; 5.00-6.00m bentonite seal; 6.00-15.00 gravel backfill. Bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
6.50	150	4.50	150	71 76%	BBL02 RD3
15.00	146	15.00	146		

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM / Checked By: KP	
Location ID:	**BH1012**	Location Type:	Cable percussion (shell and auger)
Coords:	384612.91E/397686.28N	Level:	40.60mOD
Status:	FINAL	Scale:	1:30
Final Depth:	6.50 m	Sheet	1 of 2
Date Start:	23/04/2024	Date End:	23/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	6.50	CP	Dando 2000			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description
		0.20	ES 1	PID 0.20m 0.2 ppm		40.30	0.30		Firm dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine of concrete. Sand is fine to coarse. [MADE GROUND]
		0.40 - 0.70	B 1						Loose to dense red brown sandy gravel. Gravel is angular of brick. Sand is fine to coarse. High ash content noted. [MADE GROUND]
		0.90 - 1.10	B 2						
	1.0	1.00	ES 2	PID 1.00m 0.2 ppm					
		1.20	ES 3	SPT(S) 1.20m N=5 (1,1/1,2,1,1)					
		1.20 - 1.65	D 1						
		1.20 - 1.70	B 3						
	2.0	2.00 - 2.45	D 2	SPT(S) 2.00m N=50 (6,9/10,12,12,16)					
		2.00 - 2.50	B 4						
	3.0	3.00 - 3.45	D 3	SPT(S) 3.00m N=24 (3,4/5,6,6,7)		37.60	3.00		
		3.00 - 3.50	B 5						Firm to stiff dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of coal, sandstone, concrete and brick. Sand is fine to coarse. [MADE GROUND]
	4.0	4.00	ES 4	SPT(S) 4.00m N=36 (4,5/7,9,10,10)		36.90	3.70		Stiff dark brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of sandstone and mudstone. Sand is fine to coarse. [GLACIAL TILL]
		4.00 - 4.45	D 4	HSV 4.00m (p)= 134 kPa (r)= 105 kPa					
		4.00 - 4.50	B 6	PID 4.00m 0 ppm					
	5.0	5.00	ES 5	SPT(S) 5.00m N=44 (7,8/9,11,11,13)					
		5.00 - 5.45	D 5	HSV 5.00m (p)= 140 kPa (r)= 99 kPa					
		5.00 - 5.50	B 7						
						34.90	5.70		Very dense red brown SAND. Sand is fine to coarse. [WEATHERED CHESTER FORMATION - SANDSTONE]
	6.0	6.00	ES 6	SPT(S) 6.00m 50 (12,13/50 for 44mm)					
		6.00 - 6.45	D 6						

Stratum continues onto next page

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-4.00m plain 50mm pipe with bentonite seal; 4.00-5.50m slotted 50mm pipe with gravel filter and geosock; 5.50-6.50m backfilled with arisings. Gas tap, bung and flush cover installed.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
6.50	150	3.00	150	76%	RD3

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	4.00	5.50

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM Checked By: KP	
Location ID:	**BH1012**	Location Type: Cable percussion (shell and auger)	
Coords: 384612.91E/397686.28N	Level: 40.60mOD		
Status:	FINAL	Scale: 1:30	Final Depth: 6.50 m
Sheet 2 of 2		Date Start: 23/04/2024	Date End: 23/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	6.50	CP	Dando 2000			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description
		6.00 - 6.50	B 8	PID 6.00m 0 ppm		34.10	6.50		Very dense red brown SAND. Sand is fine to coarse. [WEATHERED CHESTER FORMATION - SANDSTONE]
									EOH at 6.50m - Achieved target depth
	7.0								
	8.0								
	9.0								
	10.0								
	11.0								
	12.0								

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-4.00m plain 50mm pipe with bentonite seal; 4.00-5.50m slotted 50mm pipe with gravel filter and geosock; 5.50-6.50m backfilled with arisings. Gas tap, bung and flush cover installed.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
6.50	150	3.00	150	76%	RD3

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM Checked By: KP	
Location ID:	**BH1013**	Location Type: Cable percussion (shell and auger)	
Coords: 384709.87E/397584.26N	Level: 33.40mOD		
Status:	FINAL	Scale: 1:30	Final Depth: 0.40 m
Sheet 1 of 1		Date Start: 16/04/2024	Date End: 16/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	0.40	IP	Hand Tools			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description
						33.20	0.20		Concrete. [MADE GROUND]
						33.00	0.40		Yellow brown slightly sandy gravel. Gravel is angular to subangular fine to coarse of dolomite. Sand is fine to coarse. [MADE GROUND]
						32.98	0.42		Concrete. [MADE GROUND]
									EOH at 0.40m - Terminated due to obstruction
	1.0								
	2.0								
	3.0								
	4.0								
	5.0								
	6.0								

Notes:

1. No groundwater encountered.
2. Borehole backfilled with arisings and reinstated with cold-lay tarmac at surface.
3. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.
4. Borehole terminated at 0.40mbgl due to obstruction. Borehole re-attempted as BH1013A.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio %	Serial No.
				Install Response Zones	
				Ref / From (m) / To (m)	

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM / Checked By: KP	
Location ID:	**BH1013A**	Location Type:	Cable Percussion to Rotary Coring
Coords:	384712.92E/397586.02N	Level:	33.60mOD
Status:	FINAL	Scale:	1:50
Final Depth:	20.00		
Sheet 1 of 2		Date Start:	16/04/2024
Date End:	02/05/2024		

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	9.90	10	-
1.20	2.80	CP	Dando 2000			
2.80	20.00	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
		0.20	ES 1	PID 0.20m 0.2 ppm		33.40	0.20		Concrete. [MADE GROUND]					
		0.20 - 0.40	B 1						Yellow brown slightly sandy gravel. Gravel is angular to subangular fine to coarse of dolomite. Sand is fine to coarse. [MADE GROUND]					
		0.50	ES 2	PID 0.50m 0 ppm										
		0.60	ES 3											
		0.60 - 0.80	B 2											
		0.80	ES 4	PID 0.80m 0.1 ppm		32.70	0.90							
	1.0	1.00	ES 5	PID 1.00m 0 ppm					Medium dense to very dense dark brown gravelly clayey sand. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of brick, sandstone, mudstone, concrete and coal. [MADE GROUND]					
		1.20 - 1.65	D 1	SPT(S) 1.20m N=29 (12 for 0mm/29 for 0mm)										
	2.0	2.00	ES 6	SPT(S) 2.00m 50 (25 for 31mm/50 for 91mm)										
		2.00 - 2.45	D 2	PID 2.00m 0 ppm										
		2.70 - 2.80	B 3			31.00	2.60							
		2.80	D 3						Possible brick wall. [MADE GROUND]					
		2.80 - 4.50	C 1											
	3.0			SPT(S) 3.00m 50 (25 for 25mm/50 for 25mm)										
		3.50	ES 7	PID 3.50m 0 ppm		30.20	3.40							
	4.0								Weak thinly to medium bedded light reddish brown medium to coarse grained SANDSTONE, moderately cemented. Rare subrounded siliceous clasts and fragments of mudstone. Discontinuities: 1) 10 - 15 degrees closely to medium spaced rough planar, mostly infilled with fine to medium sand, some clean. [CHESTER FORMATION - SANDSTONE]	3.40 4.50	47	47	9	
		4.50 - 6.00	C 2	SPT(S) 4.50m 50 (25 for 15mm/50 for 30mm)						4.50 6.00	38	26	15	
	5.0													
	6.0	6.00 - 7.50	C 3							6.00 7.50	26	16	16	
	7.0													
		7.50 - 9.00	C 4							7.50 9.00	53	42	7	
	8.0													
	9.0	9.00 - 10.50	B 4							9.00 10.50	100	0	0	
	10.0													

Stratum continues onto next page

Notes:

1. Groundwater strike recorded at 9.90mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-5.00m plain 50mm pipe with bentonite seal; 5.00-19.50m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
2.80	150	2.80	150
19.50	146	19.50	146

Hammer Information	
Energy Ratio	Serial No.
76 71%	RD3 BBL02

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	5.00	20.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM / Checked By: KP	
Location ID:	**BH1013A**	Location Type:	Cable Percussion to Rotary Coring
Coords:	384712.92E/397586.02N	Level:	33.60mOD
Status:	FINAL	Scale:	1:50
Final Depth:	20.00		
Sheet 2 of 2	Date Start: 16/04/2024	Date End:	02/05/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	9.90	10	-
1.20	2.80	CP	Dando 2000			
2.80	20.00	RC	Beretta GT15			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm) min avg max
		10.50 - 12.00	C 5	SPT(S) 10.50m 50 (25 for 10mm/50 for 15mm)					Weak thinly to medium bedded light reddish brown medium to coarse grained SANDSTONE, moderately cemented. Rare subrounded siliceous clasts and fragments of mudstone. Discontinuities: 1) 10 - 15 degrees closely to medium spaced rough planar, mostly infilled with fine to medium sand, some clean. [CHESTER FORMATION - SANDSTONE]					
	11.0									10.50 12.00	67	55	22	
	12.0	12.00 - 13.50	C											
		12.00 - 13.50	C 6							12.00 13.50	81	71	39	
	13.0													
		13.50 - 15.00	C 7											
	14.0									13.50 15.00	88	88	68	
	15.0	15.00 - 16.50	C											
		15.00 - 16.50	C 8							15.00 16.50	89	75	42	
	16.0													
		16.50	ES 8											
		16.50 - 18.00	B 5							16.50 18.00	100	0	0	
	17.0													
	18.0	18.00 - 19.50	B 6											
										18.00 19.50	100	0	0	
	19.0													
	20.0					13.60	20.00							

EOH at 20.00m - Achieved target depth

Notes:

1. Groundwater strike recorded at 9.90mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample.
3. Installation Details: 0.00-5.00m plain 50mm pipe with bentonite seal; 5.00-19.50m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.80	150	2.80	150	76 71%	RD3 BBL02
19.50	146	19.50	146		

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM Checked By: KP	
Location ID:	**BH1014**	Location Type: Window Sampler	
Coords: 384554.73E/397498.68N	Level: 32.62mOD		
Status:	FINAL	Scale: 1:30	Final Depth: 2.20 m
Sheet 1 of 1		Date Start: 18/04/2024	Date End: 18/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	2.20	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						32.37	0.25		Firm dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse of concrete and brick. Sand is fine to coarse. [MADE GROUND]			
	1.0			SPT(S) 1.20m N=13 (1,1/3,3,4,3)		31.32	1.30		Medium dense dark brown and cream slightly sandy gravel. Gravel is angular fine to coarse of limestone. Sand is fine to coarse. [MADE GROUND]			
	2.0			SPT(S) 2.00m 50 (3,3/50 for 5mm)		30.42	2.20		Medium dense to dense red brown sandy cobbly gravel. Cobbles are angular of brick and concrete. Gravel is angular to subangular fine to coarse of brick and concrete. Sand is fine to coarse. [MADE GROUND]	1.20 2.00	101	75
									EOH at 2.20m - Terminated due to obstruction			
	3.0											
	4.0											
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. Borehole backfilled with arisings on completion.
3. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.
4. Densities above 1.2m based on Engineer's observations.
5. Borehole terminated at 2.20mbgl due to obstruction. Borehole re-attempted as BH1014A.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM / Checked By: KP	
Location ID:	**BH1014A**	Location Type: Window Sampler	
Coords: 384554.40E/397499.91N	Level: 32.62mOD		
Status:	FINAL	Scale: 1:30	Final Depth: 4.50 m
Sheet 1 of 1		Date Start: 18/04/2024	Date End: 18/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	4.50	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
		0.20	ES 1	PID 0.20m 0 ppm		32.37	0.25		Firm dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse of concrete and brick. Sand is fine to coarse. [MADE GROUND]			
		0.50	ES 2	PID 0.50m 0.1 ppm					Medium dense dark brown and cream slightly sandy gravel. Gravel is angular fine to coarse of limestone. Sand is fine to coarse. [MADE GROUND]			
		0.80	ES 3	PID 0.80m 0 ppm								
	1.0	1.00	ES 4	PID 1.00m 0 ppm								
				SPT(S) 1.20m N=12 (1,2/3,2,3,4)		31.32	1.30					
									Loose red brown sandy cobbly gravel. Gravel is angular to subangular fine to coarse of brick and concrete. Cobbles are angular of brick and concrete. Sand is fine to coarse. [MADE GROUND]	1.20 2.00	101	90
	2.0	2.00	ES 5	SPT(S) 2.00m N=5 (1,1/1,2,1,1) PID 2.00m 0 ppm						2.00 3.00	97	80
	3.0			SPT(S) 3.00m N=6 (1,2/2,1,2,1)						3.00 4.00	76	85
	4.0			SPT(S) 4.00m N=7 (2,2/2,1,2,2)		28.12	4.50		EOH at 4.50m - Terminated due to refusal			
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Installation Details: 0.00-1.00m plain 50mm pipe with bentonite seal; 1.00-4.00m slotted 50mm pipe with gravel filter and geosock; 4.00-4.50m bentonite seal. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121
3.00	97				
4.00	76				

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	1.00	4.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM Checked By: KP	
Location ID:	**BH1015**	Location Type: Cable percussion (shell and auger)	
		Coords: 384557.77E/397618.98N	Level: 33.26mOD
Status:	FINAL	Scale: 1:30	Final Depth: 0.90 m
Sheet 1 of 1		Date Start: 11/04/2024	Date End: 11/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	0.90	IP	Hand Tools			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description
						33.16	0.10		Tarmacadam.
						33.06	0.20		[MADE GROUND]
									Yellow brown slightly sandy gravel. Gravel is angular fine to medium of limestone. Sand is fine to medium.
									[MADE GROUND]
									Red brown clayey sandy gravel. Gravel is angular to subrounded fine to coarse of sandstone and brick.
									[MADE GROUND]
						32.36	0.90		
	1.0								EOH at 0.90m - Terminated due to obstruction
	2.0								
	3.0								
	4.0								
	5.0								
	6.0								

Notes:

1. No groundwater encountered.
2. Borehole backfilled with arisings and reinstated with cold-lay tarmac at surface.
3. Borehole terminated at 0.90mbgl due to obstruction. Borehole re-attempted as BH1015A.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio %	Serial No.

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM Checked By: KP	
Location ID:	**BH1015A**	Location Type: Cable percussion (shell and auger)	
		Coords: 384561.77E/397619.90N	Level: 33.00mOD
Status:	FINAL	Scale: 1:30	Final Depth: 1.00 m
Sheet 1 of 1		Date Start: 11/04/2024	Date End: 11/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.00	IP	Hand Tools			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description
						32.90	0.10		Tarmacadam. [MADE GROUND]
						32.80	0.20		Pale grey very weak concrete. [MADE GROUND]
									Grey brown mottled red and black cobbly clayey very sandy gravel. Gravel is fine to coarse of brick, concrete and macadam. Sand is fine to coarse. Cobbles are angular of red brick. [MADE GROUND]
	1.0					32.00	1.00		EOH at 1.00m - Terminated due to obstruction
	2.0								
	3.0								
	4.0								
	5.0								
	6.0								

Notes:

1. No groundwater encountered.
2. Borehole backfilled with arisings and reinstated with cold-lay tarmac at surface.
3. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.
4. Borehole terminated at 1.00mbgl due to obstruction. Borehole re-attempted as BH1015B.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio %	Serial No.

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM / Checked By: KP	
Location ID:	**BH1015B**	Location Type:	Cable percussion (shell and auger)
Coords:	384551.29E/397615.31N	Level:	33.83mOD
Status:	FINAL	Scale:	1:30
Final Depth:	6.00 m		
Sheet 1 of 1	Date Start: 11/04/2024	Date End:	15/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	5.10	20	5.10
1.20	6.00	CP	Dando 2000			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description
						33.68	0.15		Bituminous macadam. [MADE GROUND]
		0.20	ES 1	PID 0.20m 0.2 ppm		33.58	0.25		Yellow brown slightly sandy gravel. Gravel is angular to subangular fine to coarse of dolomite. Sand is fine to coarse. [MADE GROUND]
		0.30 - 0.50	B 1						
		0.50	ES 2	PID 0.50m 0.2 ppm					Loose dark brown slightly clayey sandy gravel. Gravel is angular to subangular fine to coarse of sandstone, mudstone, limestone, brick and concrete. Sand is fine to coarse. [MADE GROUND]
		0.70 - 0.80	B 2						
		0.80	ES 3	PID 0.80m 0.2 ppm					
	1.0	1.00	ES 4	PID 1.00m 0.2 ppm					
		1.20	ES 5	SPT(S) 1.20m N=5 (1,1/1,1,1,2)					
		1.20 - 1.65	B 3						
		1.20 - 1.65	D 1	HSV 1.40m (p)= 86 kPa (r)= 62 kPa		32.43	1.40		Firm dark greyish brown slightly sandy silty CLAY. Sand is fine to coarse. Rare gravel of angular to subrounded fine to coarse sandstone, mudstone and coal noted. [ALLUVIUM]
	2.0	2.00	ES 6	PID 2.00m 0.2 ppm					
		2.00 - 2.45	U 2						
	3.0	3.00 - 3.45	D 3	SPT(S) 3.00m N=50 (6,10/50 for 245mm)					
		3.00 - 3.50	B 4	HSV 3.00m (p)= 92 kPa (r)= 71 kPa		30.23	3.60		Very dense light brown slightly sandy GRAVEL. Gravel is subangular to rounded fine to coarse of sandstone, mudstone, flint and limestone. Sand is fine to coarse. [ALLUVIUM]
	4.0	4.00 - 4.45	B 5	SPT(S) 4.00m 50 (8,12/50 for 181mm)					
		4.00 - 4.45	D 4			29.33	4.50		Very dense reddish brown slightly gravelly SAND. Sand is fine to coarse. Gravel is angular fine to coarse of sandstone. [WEATHERED CHESTER FORMATION - SANDSTONE]
	5.0	5.00 - 5.45	B 6	SPT(S) 5.00m 50 (13,12/50 for 162mm)	▼				
		5.00 - 5.45	D 5						
	6.0	6.00	B 7	SPT(S) 6.00m 50 (17,8/50 for 84mm)		27.83	6.00		EOH at 6.00m - Achieved target depth
		6.00	D 6						

Notes:

1. Groundwater strike recorded at 5.10mbgl.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample; C = Core Sample; U = U100 Sample.
3. Installation Details: 0.00-4.50m plain 50mm pipe with bentonite seal; 4.50-6.00m slotted 50mm pipe with gravel filter and geosock. Gas tap, bung and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
6.00	150	5.80	150

Hammer Information	
Energy Ratio	Serial No.
76%	RD3

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	4.50	6.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM / Checked By: KP	
Location ID:	**BH1016**	Location Type: Rotary cored	
Coords: 384733.63E/397609.09N	Level: 34.03mOD		
Status:	FINAL	Scale: 1:50	Final Depth: 1.10
Sheet 1 of 1		Date Start: 01/05/2024	Date End: 01/05/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.10	IP	Hand Tools			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Rotary Coring: Core Run	TCR (%)	SCR (%)	RQD (%)	Fract (mm): min avg max
						33.83	0.20		Bituminous macadam. [MADE GROUND]					
						33.33	0.70		Medium dense light grey cobbly sandy gravel. Gravel is angular to subangular fine to coarse of brick and concrete. Sand is fine to coarse. Cobbles are angular of brick and concrete. [MADE GROUND]					
	1.0					32.93	1.10		Firm dark brown slightly cobbly gravelly clay. Gravel is angular of brick and concrete. Cobbles are angular of brick. [MADE GROUND]					
									EOH at 1.10m - Terminated due to obstruction					
	2.0													
	3.0													
	4.0													
	5.0													
	6.0													
	7.0													
	8.0													
	9.0													
	10.0													

Notes:

1. No groundwater encountered.
2. Borehole backfilled with arisings and reinstated with cold-lay tarmac at surface.
3. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
1.10	146	1.10	146	%	

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1001**	Location Type: Window Sampler	
		Coords: 384605.94E/397721.38N	Level: 41.50mOD
Status:	FINAL	Scale: 1:30	Final Depth: 5.45 m
	Sheet 1 of 1	Date Start: 24/04/2024	Date End: 24/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	5.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	WS Run	Dia (mm)	Recovery (%)
		0.10	ES 1	PID 0.10m 0 ppm		41.30	0.20		Vegetation overlying dark brown slightly sandy silt. Sand is fine. Roots up to 5mm diameter noted. [MADE GROUND]			
		0.50	ES 2	PID 0.50m 0 ppm					Loose black and dark brown ashy gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick, coal, siltstone and clinker. Becoming clayey with depth. [MADE GROUND]			
	1.0	1.20	D 1	SPT(S) 1.20m N=4 (1,1/1,1,1,1)		39.70	1.80			1.20 2.00	101	100
	2.0	2.00	D 2	SPT(S) 2.00m N=10 (1,1/2,2,3,3)		39.50	2.00		Red brown slightly gravelly clayey sand. Sand is fine to coarse. Gravel is angular to subangular fine to medium of coal and siltstone. Pockets of sandy clay noted. [MADE GROUND]			
				HSV 2.50m (p)= 89 kPa					Soft to firm light brown mottled black and grey slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to medium of brick, coal and sandstone. Sand is fine to coarse. [MADE GROUND]	2.00 3.00	97	90
	3.0	3.00	D 3	SPT(S) 3.00m N=8 (1,1/1,1,3,3)								
				HSV 3.50m (p)= 74 kPa						3.00 4.00	76	90
	4.0	4.00	D 4	SPT(S) 4.00m N=21 (5,4/3,5,5,8)					*4.00mbgl - Occasional angular brick cobbles noted.*			
				HSV 4.50m (p)= 214 kPa					*4.30mbgl - Becoming very stiff.*	4.00 5.00	68	100
	5.0	5.00 5.00	D 5 ES 3	SPT(S) 5.00m N=122 (5,5/7,7,8,100)		36.05	5.45					
	6.0								EOH at 5.45m - Achieved target depth			

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Installation: 0.00-1.00m plain 50mm standpipe with concrete and bentonite; 1.00-5.00m slotted standpipe with gravel filter; 5.00-5.45m bentonite seal. Gas tap and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
2.00	101		
3.00	97		
4.00	76		
5.00	68		

Hammer Information	
Energy Ratio	Serial No.
73%	110-121

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	1.00	5.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1002**	Location Type: Window Sampler	
		Coords: 384502.81E/397650.05N	Level: 38.40mOD
Status:	FINAL	Scale: 1:30	Final Depth: 4.45 m
	Sheet 1 of 1	Date Start: 24/04/2024	Date End: 24/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	4.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
		0.10	ES 1	PID 0.10m 0 ppm		38.20	0.20		Vegetation overlying dark brown slightly sandy silt. Sand is fine. Roots up to 5mm diameter noted. [MADE GROUND]			
		0.50	ES 2	PID 0.50m 0.1 ppm		37.50	0.90		Dark brown slightly sandy clayey gravelly silt. Gravel is angular to subrounded fine to coarse of brick concrete, slate and glass. Sand is fine to coarse. [MADE GROUND]			
	1.0	1.00	ES 3	PID 1.00m 0 ppm					Firm light brown mottled grey slightly sandy slightly gravelly clay. Gravel is angular and subrounded fine to medium of brick and coal. Pockets of clayey gravelly fine to medium sand. [MADE GROUND]			
		1.20	D 1	SPT(S) 1.20m N=4 (1,1/1,1,1,1)		36.60	1.80			1.20 2.00	101	100
	2.0	2.00	D 2	SPT(S) 2.00m N=5 (1,1/1,1,2,1)					Firm to stiff light brown mottled grey slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to medium of coal, brick and sandstone. [MADE GROUND]			
				HSV 2.50m (p)= 74 kPa						2.00 3.00	97	100
	3.0	3.00	D 3	SPT(S) 3.00m N=50 (5,7/9,9,15,17)		35.40	3.00		Very dense dark brown and black organic clayey sand. Sand is fine to coarse. Gravel is angular fine to medium of coal. [MADE GROUND]			
		3.20	ES 4	PID 3.20m 0 ppm		34.80	3.60			3.00 4.00	76	100
		3.80	D 4	HSV 3.80m (p)= 222 kPa		34.40	4.00		Very stiff brown grey slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of coal and siltstone. [GLACIAL TILL]			
	4.0	4.00	D 5	SPT(S) 4.00m 50 (9,11/50 for 155mm)		33.95	4.45		Very dense red brown SAND. Sand is fine to medium. [WEATHERED CHESTER FORMATION - SANDSTONE]			
									EOH at 4.45m - Terminated due to refusal on bedrock			
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Installation: 0.00-3.60m plain 50mm standpipe with concrete and bentonite; 3.60-4.00m slotted standpipe with gravel filter; 4.00-4.45m bentonite seal. Gas tap and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
2.00	101		
3.00	97		
4.00	76		

Hammer Information	
Energy Ratio	Serial No.
73%	110-121

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	3.60	4.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1003**	Location Type: Window Sampler	
Coords: 384537.38E/397647.24N	Level: 37.62mOD		
Status:	FINAL	Scale: 1:30	Final Depth: 4.45 m
Sheet 1 of 1		Date Start: 24/04/2024	Date End: 24/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	4.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						37.52	0.10		Bituminous macadam. [MADE GROUND]			
		0.35	ES 1	PID 0.35m 0.1 ppm		37.27	0.35		Grey sandy gravel. Gravel is angular coarse of limestone (Type 1). Sand is fine to coarse.			
						37.22	0.40		[MADE GROUND]			
		0.60	ES 2	PID 0.60m 0.1 ppm					Black ashy gravelly sand. Sand is fine to coarse. Gravel is angular and subangular fine to coarse of brick, wood, coal and clinker. [MADE GROUND]			
	1.0			SPT(S) 1.20m N=26 (6,6/6,7,6,7)					Stiff dark brown slightly sandy slightly gravelly clay. Sand is fine. Gravel is angular to subrounded fine to medium of brick, coal and siltstone. [MADE GROUND]			
				PID 1.30m 0 ppm		36.42	1.20					
		1.50	ES 3						Stiff to very stiff dark brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to rounded fine to coarse of coal, sandstone and siltstone. [GLACIAL TILL]	1.20 2.00	101	70
	2.0			SPT(S) 2.00m N=31 (5,5/5,8,8,10) HSV 2.00m (p)= 192 kPa								
		2.50	D 1							2.00 3.00	97	100
	3.0			SPT(S) 3.00m N=34 (3,5/8,9,9,8)								
						34.12	3.50			3.00 4.00	76	90
						33.82	3.80		Orange brown SAND. Sand is fine to medium. [WEATHERED CHESTER FORMATION - SANDSTONE]			
	4.0			SPT(S) 4.00m N=46 (7,10/9,11,12,14)					Very dense red brown SAND. Sand is fine to medium. [WEATHERED CHESTER FORMATION - SANDSTONE]			
						33.17	4.45		EOH at 4.45m - Terminated due to refusal on bedrock			
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Borehole backfilled with arisings on completion and reinstated with cold-lay tarmac.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121
3.00	97			Install Response Zones	
4.00	76			Ref / From (m) / To (m)	

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1004**	Location Type: Window Sampler	
		Coords: 384615.30E/397631.77N	Level: 32.88mOD
Status:	FINAL	Scale: 1:30	Final Depth: 0.70 m
Sheet 1 of 1		Date Start: 19/04/2024	Date End: 19/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	0.70	IP	Hand Tools			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						32.78	0.10		Bituminous macadam. [MADE GROUND]			
									Grey sandy gravel. Gravel is angular coarse of limestone (Type 1). Sand is fine to coarse. [MADE GROUND]			
						32.38	0.50		Red brick fill. [MADE GROUND]			
						32.18	0.70		EOH at 0.70m - Terminated due to concrete obstruction			
	1.0											
	2.0											
	3.0											
	4.0											
	5.0											
	6.0											

Notes:

1. Terminated at 0.70mbgl due to concrete obstruction. Borehole re-attempted at WS1004A.
2. No groundwater encountered.
3. Borehole backfilled with arisings on completion and reinstated with cold-lay tarmac.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio %	Serial No.

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1004A**	Location Type: Window Sampler	
		Coords: 384619.63E/397633.68N	Level: 32.96mOD
Status:	FINAL	Scale: 1:30	Final Depth: 0.60 m
Sheet 1 of 1		Date Start: 22/04/2024	Date End: 22/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	0.60	IP	Hand Tools			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						32.86	0.10		Bituminous macadam. [MADE GROUND]			
									Grey sandy gravel. Gravel is angular coarse of limestone (Type 1). Sand is fine to coarse. [MADE GROUND]			
						32.51	0.45		Red masonry structure. [MADE GROUND]			
						32.36	0.60		EOH at 0.60m - Terminated due to masonry obstruction			
	1.0											
	2.0											
	3.0											
	4.0											
	5.0											
	6.0											

Notes:

1. Terminated at 0.60mbgl due to masonry obstruction.
2. No groundwater encountered.
3. Borehole backfilled with arisings and reinstated with cold-lay tarmac.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio %	Serial No.

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1005**	Location Type: Window Sampler	
Coords:	384709.37E/397673.30N	Level:	38.62mOD
Status:	FINAL	Scale:	1:30
Final Depth:	4.45 m		
Sheet 1 of 1		Date Start: 23/04/2024	Date End: 23/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	4.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						38.52	0.10		Bituminous macadam. [MADE GROUND]			
						38.12	0.50		Grey sandy gravel. Gravel is angular coarse of limestone (Type 1). Sand is fine to coarse. [MADE GROUND]			
		0.70	ES 1	PID 0.70m 0 ppm		37.82	0.80		Dark brown and black gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of concrete and clinker. Frequent ash noted. [MADE GROUND]			
	1.0	1.00	ES 2	PID 1.00m 0 ppm					Loose to medium dense red brown sandy cobbly gravel. Gravel is angular fine to coarse of brick, clinker and concrete. Cobbles are angular of brick and concrete. Sand is fine to coarse. [MADE GROUND]			
		1.20	D 1	SPT(S) 1.20m N=8 (2,2/2,2,2,2)						1.20 2.00	101	100
	2.0	2.00	D 2	SPT(S) 2.00m N=11 (3,3/3,3,2,3)						2.00 3.00	97	50
	3.0	3.00	D 3	SPT(S) 3.00m N=15 (4,4/3,3,4,5)						3.00 4.00	76	80
	4.0	4.00	D 4	SPT(S) 4.00m N=15 (4,4/4,3,4,4)		34.17	4.45		EOH at 4.45m - Terminated due to sides collapsing			
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Borehole backfilled with arisings on completion and reinstated with cold-lay tarmac.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121
3.00	97				
4.00	76				

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1006**	Location Type: Window Sampler	
		Coords: 384648.33E/397541.90N	Level: 33.62mOD
Status:	FINAL	Scale: 1:30	Final Depth: 2.50 m
	Sheet 1 of 1	Date Start: 19/04/2024	Date End: 19/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	2.50	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	WS Run	Dia (mm)	Recovery (%)
		0.20	ES 1	PID 0.20m 0 ppm		33.32	0.30		Vegetation overlying dark brown clayey slightly sandy silt. Sand is fine to medium. [MADE GROUND]			
						32.92	0.70		Brown red gravelly sand. Sand is fine to coarse. Gravel is angular fine to coarse of mudstone and siltstone. [MADE GROUND]			
		0.90	ES 2	PID 0.90m 0 ppm					Medium dense dark brown slightly gravelly clayey sand. Sand is fine to coarse. Gravel is subangular and subrounded fine to medium of siltstone, brick and sandstone. [MADE GROUND]			
	1.0	1.20	D 1	SPT(S) 1.20m N=13 (3,3/3,4,3,3)		32.12	1.50					
						31.62	2.00		Light brown SAND. Sand is fine to medium. [ALLUVIUM]	1.20 2.00	101	100
	2.0			SPT(S) 2.00m N=27 (5,5/6,7,7,7)		31.12	2.50		Medium dense light brown gravelly SAND. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of siltstone. [ALLUVIUM]	2.00 2.50	97	100
		2.50 2.50	D 2 ES 3						EOH at 2.50m - Terminated due to refusal on granular deposits			
	3.0											
	4.0											
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Installation: 0.00-1.00m plain 50mm standpipe with concrete and bentonite; 1.00-1.50m slotted standpipe with gravel filter; 1.50-2.50m backfilled with bentonite. Gas tap and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121
2.50	97				

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	1.00	1.50

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM Checked By: KP	
Location ID:	**WS1007**	Location Type: Window Sampler	
		Coords: 384637.64E/397614.30N	Level: 33.20mOD
Status:	FINAL	Scale: 1:30	Final Depth: 3.45 m
Sheet 1 of 1		Date Start: 18/04/2024	Date End: 18/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	3.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
		0.20	ES 1	PID 0.20m 0.1 ppm		32.80	0.40		Firm dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine of concrete. Sand is fine to coarse. [MADE GROUND]			
		0.50	ES 2	PID 0.50m 0.1 ppm					Medium dense to very dense dark brown sandy cobbly gravel. Gravel is angular fine to coarse of sandstone, mudstone, brick and concrete. Cobbles are angular of brick. Sand is fine to coarse. [MADE GROUND]			
		0.80	ES 3	PID 0.80m 0.2 ppm								
	1.0	1.00	ES 4	PID 1.00m 0 ppm								
				SPT(S) 1.20m N=43 (25 for 90mm/10,11,11,11)						1.20 2.00	101	100
	2.0	2.00	ES 5	SPT(S) 2.00m N=8 (2,2/2,2,2,2) PID 2.00m 0 ppm						2.00 3.00	97	100
	3.0			SPT(S) 3.00m 50 (25 for 5mm/50 for 10mm)		29.75	3.45					
									EOH at 3.45m - Terminated due to refusal			
	4.0											
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample.
3. Borehole backfilled with arisings on completion.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121
3.00	97			Install Response Zones	
				Ref / From (m) / To (m)	

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1008**	Location Type: Window Sampler	
		Coords: 384755.28E/397620.11N	Level: 35.00mOD
Status:	FINAL	Scale: 1:30	Final Depth: 2.45 m
Sheet 1 of 1		Date Start: 23/04/2024	Date End: 23/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	2.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	WS Run	Dia (mm)	Recovery (%)
						34.90	0.10		Bituminous macadam.			
									[MADE GROUND]			
						34.70	0.30		Grey sandy gravel. Gravel is angular coarse of limestone (Type 1). Sand is fine to coarse.			
									[MADE GROUND]			
		0.50	ES 1	PID 0.50m 0 ppm					Loose to very dense red brown slightly cobbly clayey gravelly sand. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of brick, metal wire, concrete and plastic. Cobbles are angular of brick.			
	1.0								[MADE GROUND]			
		1.20	D 1	SPT(S) 1.20m N=6 (2,2/2,2,1,1)					*from 1.20 to 2.00mbgl - Occasional angular medium to coarse black clinker, orange sandstone and oyster shell noted. Occasional cobbles of angular concrete and brick noted.*	1.20 2.00	101	90
		1.50	ES 2	PID 1.50m 0 ppm								
	2.0			SPT(S) 2.00m N=50 (5,5/50 for 235mm)								
						32.55	2.45		EOH at 2.45m - Terminated due to refusal on brick masonry	2.00 3.00	97	90
	3.0											
	4.0											
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Installation: 0.00-0.50m plain 50mm standpipe with concrete and bentonite; 0.50-2.00m slotted standpipe with gravel filter; 2.00-2.45m bentonite seal. Gas tap and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121
3.00	97				

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	0.50	2.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1009**	Location Type: Window Sampler	
		Coords: 384772.49E/397654.11N	Level: 38.70mOD
Status:	FINAL	Scale: 1:30	Final Depth: 3.40 m
	Sheet 1 of 1	Date Start: 26/04/2024	Date End: 26/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	3.40	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	WS Run	Dia (mm)	Recovery (%)
		0.10	ES 1	PID 0.10m 0 ppm		38.50	0.20		Vegetation overlying gravelly silt. Gravel is angular to subrounded fine to medium of sandstone, siltstone and brick. [MADE GROUND]			
		0.50	ES 2	PID 0.50m 0 ppm					Medium dense dark brown and black slightly cobbly gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick, sandstone and coal. Frequent ash noted. [MADE GROUND]			
	1.0	1.00	ES 3	PID 1.00m 0 ppm								
		1.20	D 1	SPT(S) 1.20m N=18 (4,4/4,5,5,4)						1.20 2.00	101	100
						36.90	1.80					
	2.0	2.00	D 2	SPT(S) 2.00m N=12 (2,2/2,3,3,4)					Very stiff light brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to rounded fine to coarse of siltstone and sandstone. Sand is fine to medium. [GLACIAL TILL]			
		2.00	ES 4	HSV 2.00m (p)= 163 kPa PID 2.00m 0 ppm						2.00 3.00	97	90
						35.80	2.90					
	3.0	3.00	D 3	SPT(S) 3.00m N=50 (7,7/50 for 245mm)					Very dense red brown clayey SAND. Sand is fine to medium. [WEATHERED CHESTER FORMATION - SANDSTONE]			
						35.30	3.40		EOH at 3.40m - Terminated due to refusal			
	4.0											
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Installation: 0.00-1.90m plain 50mm standpipe with concrete and bentonite; 1.90-2.60m slotted standpipe with gravel filter; 2.60-3.40m bentonite seal. Gas tap and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121
3.00	97				

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	1.90	2.60

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1010**	Location Type: Window Sampler	
		Coords: 384679.82E/397526.73N	Level: 33.76mOD
Status:	FINAL	Scale: 1:30	Final Depth: 0.10 m
Sheet 1 of 1		Date Start: 17/04/2024	Date End: 17/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00		IP	Hand Tools			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						33.66	0.10		Bituminous macadam. [MADE GROUND]			
									EOH at 0.10m - Terminated due to refusal on concrete.			

1.0 — 2.0 — 3.0 — 4.0 — 5.0 — 6.0

Notes:

1. No groundwater encountered.
2. Borehole backfilled with arisings on completion and reinstated with cold-lay tarmac.
3. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.
4. Borehole terminated at 0.10mbgl due to concrete obstruction. Borehole re-attempted as WS1010A.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio %	Serial No.

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1010A**	Location Type: Window Sampler	
		Coords: 384679.39E/397526.46N	Level: 33.76mOD
Status:	FINAL	Scale: 1:30	Final Depth: 3.45 m
	Sheet 1 of 1	Date Start: 17/04/2024	Date End: 17/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	3.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						33.66	0.10		Bituminous macadam. [MADE GROUND]			
						33.46	0.30		Grey sandy gravel. Gravel is angular coarse of limestone (Type 1). Sand is fine to coarse. [MADE GROUND]			
		0.50	ES 1	PID 0.50m 0.1 ppm					Dark brown clayey gravelly sand. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of limestone, coal and brick. [MADE GROUND]			
						32.86	0.90		Very loose to medium dense light brown slightly gravelly silty sand. Sand is fine to medium. Gravel is subrounded fine to medium of siltstone. [MADE GROUND]			
	1.0	1.20	D 1	SPT(S) 1.20m N=4 (1,1/1,1,1,1)								
		1.50	ES 2	PID 1.50m 0 ppm						1.20 2.00	101	100
	2.0	2.00	D 2	SPT(S) 2.00m N=11 (2,2/2,3,3,3)					*from 2.00 to 2.20mbgl - Becoming gravelly. Gravel is subangular to subrounded fine to medium of siltstone, sandstone and limestone.*			
						31.46	2.30		Orange brown SAND. Sand is fine to medium. [WEATHERED CHESTER FORMATION - SANDSTONE]			
		2.50	ES 3	PID 2.50m 0 ppm						2.00 3.00	97	90
	3.0	3.00	D 3	SPT(S) 3.00m 50 (25 for 15mm/50 for 20mm)		30.76	3.00					
						30.31	3.45		Very dense red brown SAND. Sand is fine to medium. [WEATHERED CHESTER FORMATION - SANDSTONE]			
									EOH at 3.45m - Terminated due to refusal on bedrock			
	4.0											
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample; B = Bulk Sample.
3. Borehole backfilled with arisings on completion and reinstated with cold-lay tarmac.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121
3.00	97				

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1011**	Location Type:	Window Sampler
Coords:	384793.55E/397545.80N	Level:	34.53mOD
Status:	FINAL	Scale:	1:30
Final Depth:	5.45 m		
Sheet 1 of 1		Date Start:	15/04/2024
Date End:	15/04/2024		

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	4.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
		0.20	ES 1	PID 0.20m 0 ppm		34.23	0.30		Vegetation overlying soft dark brown slightly sandy SILT. Sand is fine to medium. [TOPSOIL]			
		0.50	D 1	PID 0.50m 0 ppm					Medium dense dark brown and black slightly cobbly silty gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick, concrete, metal, polystyrene and sandstone. Cobbles are subangular of concrete. [MADE GROUND]			
		0.50	ES 2									
	1.0	1.00	ES 3	PID 1.00m 0 ppm								
				SPT(S) 1.20m N=12 (1,2/3,3,3,3)								
		1.50	ES 4	PID 1.50m 0 ppm		33.03	1.50			1.20 2.00	101	30
		1.50 - 5.00	B 1						Loose to medium dense orange brown slightly gravelly clayey sand. Gravel is angular fine of coal. Sand is fine to medium. [MADE GROUND]			
									from 1.80 to 2.30mbgl - Becoming red brown and gravelly. Gravel is angular to subangular fine to coarse of coal. Rare subrounded coarse grey siltstone noted.			
	2.0			SPT(S) 2.00m N=6 (5,3/2,2,1,1)						2.00 3.00	97	50
	3.0			SPT(S) 3.00m N=7 (2,2/1,1,2,3)						3.00 4.00	76	60
	4.0			SPT(S) 4.00m N=14 (2,2/3,3,4,4)						4.00 5.00	68	60
	5.0					29.08	5.45					
									EOH at 5.45m - Achieved target depth			
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Borehole backfilled with arisings on completion and reinstated with cold-lay tarmac.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121
3.00	97			Install Response Zones	
4.00	76			Ref / From (m) / To (m)	
5.00	68				

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1012**	Location Type: Window Sampler	
		Coords: 384722.98E/397664.81N	Level: 37.91mOD
Status:	FINAL	Scale: 1:30	Final Depth: 5.45 m
Sheet 1 of 1		Date Start: 22/04/2024	Date End: 22/04/2024

Method and Plant Used

From (m)	To (m)	Type	Plant Used
0.00	1.20	IP	Hand Tools
1.20	5.45	WS	Terrier Rig

Groundwater

Strike (m)	Time (min)	Rose To

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	WS Run	Dia (mm)	Recovery (%)
						37.81	0.10		Bituminous macadam. [MADE GROUND]			
									Grey sandy gravel. Gravel is angular coarse of limestone (Type 1). Sand is fine to coarse. [MADE GROUND]			
						37.41	0.50					
		0.60	ES 1	PID 0.60m 0 ppm					Black gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick, wood, coal and clinker. Frequent ash noted. [MADE GROUND]			
						37.11	0.80					
	1.0			HSV 1.00m (p)= 59 kPa					Soft to firm dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of brick, coal and sandstone. [MADE GROUND]			
		1.20	D 1	SPT(S) 1.20m N=4 (1,1/1,1,1,1)						1.20 2.00	101	100
	2.0	2.00	D 2	SPT(S) 2.00m N=8 (1,1/2,2,2,2) HSV 2.00m (p)= 59 kPa						2.00 3.00	97	90
	3.0	3.00 3.00	D 3 ES 2	SPT(S) 3.00m N=10 (2,2/2,2,3,3) HSV 3.00m (p)= 44 kPa PID 3.00m 0 ppm						3.00 4.00	76	100
	4.0	4.00	D 4	SPT(S) 4.00m N=8 (2,2/2,2,2,2) HSV 4.00m (p)= 74 kPa						4.00 5.00	68	100
	5.0	5.00	D 5	SPT(S) 5.00m N=12 (2,2/3,3,3,3) HSV 5.00m (p)= 89 kPa								
						32.46	5.45		EOH at 5.45m - Achieved target depth			
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Installation: 0.00-1.00m plain 50mm standpipe with concrete and bentonite; 1.00-4.00m slotted standpipe with gravel filter; 4.00-5.45m bentonite seal. Gas tap and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter

Depth (m)	Dia (mm)
2.00	101
3.00	97
4.00	76
5.00	68

Casing

Depth (m)	Dia (mm)

Hammer Information

Energy Ratio	Serial No.
73%	110-121

Install Response Zones

Ref	From (m)	To (m)
Pipe1	1.00	4.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1013**	Location Type: Window Sampler	
		Coords: 384361.58E/397540.02N	Level: 33.60mOD
Status:	FINAL	Scale: 1:30	Final Depth: 5.45 m
Sheet 1 of 1		Date Start: 25/04/2024	Date End: 25/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	5.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						33.50	0.10		Vegetation overlying soft dark brown slightly sandy silt. Sand is fine to medium. [TOPSOIL]			
		0.50	ES 1	PID 0.50m 0.1 ppm					Very loose dark brown slightly cobbly silty gravelly sand. Sand is fine to coarse. Gravel is angular fine to coarse of brick, coal, concrete and slate. Cobbles are angular of brick and limestone. [MADE GROUND]			
	1.0			SPT(S) 1.20m N=4 (1,1/1,1,1,1)		32.40	1.20		No recovery. [MADE GROUND]	1.20 2.00	101	0
	2.0			SPT(S) 2.00m N=4 (1,1/1,1,1,1)						2.00 3.00	97	0
	3.0	3.00 3.00	D 1 ES 2	SPT(S) 3.00m N=4 (1,1/1,1,1,1) PID 3.00m 0 ppm		30.60	3.00		Very loose to loose black and dark brown clayey gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse brick and sandstone. [MADE GROUND]	3.00 4.00	76	70
	4.0	4.00	D 2	SPT(S) 4.00m N=6 (2,2/2,2,1,1)						4.00 5.00	68	100
	5.0	5.00	D 3	SPT(S) 5.00m N=4 (2,2/1,1,1,1)		28.15	5.45		EOH at 5.45m - Achieved target depth			
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Borehole collapsed to 3.5mbgl twice following re-drilling.
4. Borehole backfilled with arisings on completion.
5. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121
3.00	97				
4.00	76			Install Response Zones	
5.00	68			Ref / From (m) / To (m)	

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1014**	Location Type: Window Sampler	
		Coords: 384375.79E/397549.91N	Level: 34.30mOD
Status:	FINAL	Scale: 1:30	Final Depth: 5.45 m
	Sheet 1 of 1	Date Start: 25/04/2024	Date End: 25/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	5.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	WS Run	Dia (mm)	Recovery (%)
						34.10	0.20		Vegetation overlying soft dark brown slightly sandy silt. Sand is fine to medium. [TOPSOIL]			
		0.50	ES 1	PID 0.50m 0.8 ppm					Dark brown and black clayey gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick, sandstone, oyster shell, clay pipe and slate. Frequent ash noted. [MADE GROUND] *from 0.50 to 3.00mbgl - Hydrocarbon odour noted.*			
						33.50	0.80					
						33.30	1.00		Soft light brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse of brick and sandstone. Sand is fine to coarse. [MADE GROUND]			
	1.0	1.20	D 1	SPT(S) 1.20m N=4 (1,1/1,1,1,1)					Very loose to very dense dark brown gravelly cobbly sand. Gravel is angular to subangular fine to coarse of brick and coal. Cobbles are angular to subangular of brick. Sand is fine to coarse. [MADE GROUND]	1.20 2.00	101	60
	2.0	2.00 2.00	D 2 ES 2	SPT(S) 2.00m N=14 (2,2/3,3,4,4) PID 2.00m 0.8 ppm						2.00 3.00	97	60
	3.0	3.00 3.00	D 3 ES 3	SPT(S) 3.00m N=14 (2,2/2,4,5,3) PID 3.00m 0.4 ppm						3.00 4.00	76	70
	4.0	4.00	D 4	SPT(S) 4.00m N=11 (5,5/4,2,2,3)						4.00 5.00	68	80
	5.0			SPT(S) 5.00m 50 (25 for 15mm/50 for 25mm)								
						28.85	5.45		EOH at 5.45m - Achieved target depth			
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Installation: 0.00-1.00m plain 50mm standpipe with concrete and bentonite; 1.00-2.00m slotted standpipe with gravel filter; 2.00-5.45m collapsed. Gas tap and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
2.00	101		
3.00	97		
4.00	76		
5.00	68		

Hammer Information	
Energy Ratio	Serial No.
73%	110-121

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	1.00	2.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1015**	Location Type: Window Sampler	
Coords: 384753.27E/397493.54N	Level: 34.08mOD		
Status:	FINAL	Scale: 1:30	Final Depth: 3.45 m
Sheet 1 of 1		Date Start: 16/04/2024	Date End: 16/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	3.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
		0.20	ES 1	PID 0.20m 0 ppm		33.78	0.30		Vegetation overlying dark brown slightly sandy slightly gravelly silt. Gravel is subangular to subrounded fine to medium of brick and sandstone. Sand is fine. [MADE GROUND]			
		0.50	ES 2	PID 0.50m 0 ppm					Medium dense to very dense dark brown slightly cobbly gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick, concrete and sandstone. [MADE GROUND]			
	1.0											
		1.20	D 1	SPT(S) 1.20m N=10 (2,2/4,2,2,2)						1.20 2.00	101	0
	2.0	2.00	D 2	SPT(S) 2.00m N=11 (1,2/2,4,4,1)						2.00 3.00	97	30
	3.0	3.00	ES 3	SPT(S) 3.00m 50 (25 for 15mm/50 for 25mm) PID 3.00m 0 ppm		30.63	3.45		EOH at 3.45m - Terminated under instruction from UXO engineer			
	4.0											
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. No recovery 1.20mbgl to 2.00mbgl.
4. Borehole terminated under instruction of UXO Engineer due to ferrous material detected during down-hole magnetometer testing.
5. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121
3.00	97			Install Response Zones	
				Ref / From (m) / To (m)	

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1016**	Location Type: Window Sampler	
		Coords: 384764.39E/397494.23N	Level: 34.17mOD
Status:	FINAL	Scale: 1:30	Final Depth: 5.45 m
	Sheet 1 of 1	Date Start: 16/04/2024	Date End: 16/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	5.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	WS Run	Dia (mm)	Recovery (%)
		0.20	ES 1	PID 0.20m 0 ppm		33.87	0.30		Vegetation overlying slightly gravelly clayey sand. Sand is fine to medium. Gravel is angular to subrounded fine to medium of brick and sandstone. [MADE GROUND]			
		0.40	ES 2	PID 0.40m 0 ppm		33.67	0.50		Red brown slightly cobbly gravelly sand. Sand is fine to medium. Gravel is angular fine to coarse of concrete and brick. Cobbles are angular of concrete. [MADE GROUND]			
		0.60	ES 3	PID 0.60m 0 ppm								
	1.0					33.17	1.00		Grey slightly gravelly sandy silt. Sand is fine. Gravel is angular to subrounded fine to medium of brick, concrete and sandstone. [MADE GROUND]			
		1.20 1.20	D 1 ES 4	SPT(S) 1.20m N=25 (2,3/10,11,2,2) PID 1.20m 0 ppm					Medium dense brown and black gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick, sandstone and concrete. [MADE GROUND]	1.20 2.00	101	100
	2.0	2.00	D 2	SPT(S) 2.00m N=13 (4,4/3,3,4,3)		31.87	2.30					
		2.50	ES 5	PID 2.50m 0 ppm					Black slightly gravelly clayey sand. Sand is fine to coarse. Gravel is angular fine to coarse of grey siltstone. [MADE GROUND] *from 2.70 to 2.90mbgl - Occasional cobbles noted.*	2.00 3.00	97	90
	3.0	3.00	D 3	SPT(S) 3.00m N=13 (1,2/2,3,4,4)		31.17	3.00					
		3.20	ES 6	PID 3.20m 0 ppm		30.77	3.40		Medium dense light brown slightly gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to medium of brick and sandstone. [MADE GROUND]			
		3.50	ES 7	HSV 3.50m (p)= 52 kPa PID 3.50m 0 ppm		30.37	3.80		Soft brown mottled black and red brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to medium of brick, coal and sandstone. Sand is fine to medium. [MADE GROUND]	3.00 4.00	76	90
	4.0	4.00 4.00	D 4 ES 8	SPT(S) 4.00m N=10 (3,4/3,2,2,3) PID 4.00m 0 ppm					Medium dense light brown with occasional black staining slightly gravelly clayey sand. Sand is fine to coarse. Gravel is angular to subangular fine to medium of brick and sandstone. [MADE GROUND]	4.00 5.00	68	60
	5.0	5.00	D 5	SPT(S) 5.00m N=24 (2,2/2,5,6,11)		28.72	5.45		EOH at 5.45m - Achieved target depth			
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Installation: 0.00-1.00m plain 50mm standpipe with concrete and bentonite; 1.00-5.00m slotted standpipe with gravel filter; 5.00-5.45m bentonsite seal. Gas tap and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
2.00	101		
3.00	97		
4.00	76		
5.00	68		

Hammer Information	
Energy Ratio	Serial No.
73%	110-121

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	1.00	5.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1017**	Location Type: Window Sampler	
		Coords: 384719.33E/397527.66N	Level: 34.00mOD
Status:	FINAL	Scale: 1:30	Final Depth: 3.70 m
	Sheet 1 of 1	Date Start: 17/04/2024	Date End: 17/04/2024

Method and Plant Used

From (m)	To (m)	Type	Plant Used
0.00	1.20	IP	Hand Tools
1.20	4.45	WS	Terrier Rig

Groundwater

Strike (m)	Time (min)	Rose To

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
		0.20	ES 1	PID 0.20m 0 ppm		33.75	0.25		Vegetation overlying dark brown slightly sandy silt. Sand is fine. Roots up to 10mm diameter noted. [TOPSOIL]			
		0.50	ES 2	PID 0.50m 0 ppm					Loose to medium dense dark brown slightly cobbly gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick, clinker and sandstone. Cobbles are angular of brick and sandstone. [MADE GROUND]			
	1.0	1.00	ES 3	PID 1.00m 0 ppm								
		1.20	D 1	SPT(S) 1.20m N=4 (1,1/1,1,1,1)						1.20 2.00	101	50
	2.0	2.00	D 2	SPT(S) 2.00m N=8 (4,2/2,2,2,2)					*from 1.90 to 2.00mbgl - Becoming clayey.*			
		2.00	ES 4	PID 2.00m 0 ppm		31.70	2.30		Orange brown slightly gravelly clayey sand. Sand is fine to medium. Gravel is subangular fine to medium of brick. Locally becoming sandy clay. [MADE GROUND]	2.00 3.00	97	90
		2.60	ES 5	PID 2.60m 0 ppm		31.20	2.80		Orange brown clayey SAND. Sand is fine to medium. Occasional pockets of soft red brown clay noted. [WEATHERED CHESTER FORMATION - SANDSTONE]			
	3.0	3.00	D 3	SPT(S) 3.00m N=25 (4,4/4,6,7,8)		31.00	3.00		Very dense red brown SAND. Sand is fine to medium. [WEATHERED CHESTER FORMATION - SANDSTONE]	3.00 3.60	76	100
		3.00	ES 6	PID 3.00m 0 ppm								
		3.70	D 4			30.30	3.70		EOH at 3.70m - Terminated due to refusal on bedrock			
	4.0			SPT(S) 4.00m N=38 (11,9/7,7,5,19)								
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Borehole backfilled with arisings on completion.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter

Depth (m)	Dia (mm)
2.00	101
3.00	97
3.60	76

Casing

Depth (m)	Dia (mm)

Hammer Information

Energy Ratio	Serial No.
73%	110-121

Install Response Zones

Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1018**	Location Type: Window Sampler	
Coords:	384756.12E/397548.17N	Level:	34.30mOD
Status:	FINAL	Scale:	1:30
Final Depth:	4.45 m		
Sheet 1 of 1		Date Start:	19/04/2024
Date End:	19/04/2024		

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	4.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						34.25	0.05		Bituminous macadam. [MADE GROUND]			
						34.05	0.25		Concrete. [MADE GROUND]			
						33.90	0.40		Grey sandy gravel. Gravel is angular coarse of limestone (Type 1). Sand is fine to coarse. [MADE GROUND]			
		0.50	ES 1	PID 0.50m 0 ppm					Medium dense dark brown slightly cobbly clayey gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of limestone, sandstone, concrete and brick. Cobbles are angular of brick and concrete. [MADE GROUND]			
	1.0	1.00	ES 2	PID 1.00m 0 ppm								
		1.20	D 1	SPT(S) 1.20m N=17 (4,4/3,4,5,5)						1.20 2.00	101	20
	2.0	2.00	D 2	SPT(S) 2.00m N=19 (3,3/4,4,5,6)								
		2.00	ES 3	PID 2.00m 0 ppm								
						31.80	2.50		Medium dense to very dense red brown SAND. Sand is fine to medium. [WEATHERED CHESTER FORMATION - SANDSTONE]	2.00 3.00	97	30
	3.0	3.00	D 3	SPT(S) 3.00m N=8 (1,1/1,2,2,3)								
		3.00	ES 4	PID 3.00m 0 ppm						3.00 4.00	76	70
	4.0	4.00	D 4	SPT(S) 4.00m 50 (3,9/50 for 160mm)								
						29.85	4.45		EOH at 4.45m - Terminated due to refusal on bedrock			
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Borehole backfilled with arisings on completion and reinstated with cold-lay tarmac.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121
3.00	97			Install Response Zones	
4.00	76			Ref / From (m) / To (m)	

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1019**	Location Type: Window Sampler	
		Coords: 384791.42E/397596.20N	Level: 33.30mOD
Status:	FINAL	Scale: 1:30	Final Depth: 5.45 m
Sheet 1 of 1		Date Start: 26/04/2024	Date End: 26/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools	3.00	20	3.00
1.20	5.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
		0.50	ES 1	PID 0.50m 0 ppm					Decorative angular gravel overlying loose black and dark brown cobbly clayey gravelly sand. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of brick, coal and clinker. Cobbles are angular of brick. Local pockets of clay noted. [MADE GROUND]			
	1.0	1.20	D 1	SPT(S) 1.20m N=7 (2,2/2,2,1,2)		31.80	1.50			1.20 2.00	101	70
		1.70	ES 2	PID 1.70m 0 ppm					Medium dense light red orange brown slightly gravelly silty sand. Sand is fine to medium. Gravel is subangular to rounded fine to coarse of sandstone, coal and brick. Locally becoming sandy silt. [MADE GROUND]			
	2.0	2.00	D 2	SPT(S) 2.00m N=11 (4,4/4,3,2,2)		30.50	2.80			2.00 3.00	97	50
	3.0	3.00	D 3	SPT(S) 3.00m N=4 (1,1/1,1,1,1)	▼				Soft slightly sandy slightly gravelly clayey silt. Gravel is subrounded fine to medium of sandstone and brick. Sand is fine. Becoming sandy to very sandy with depth. Locally very soft deposits noted. [MADE GROUND]	3.00 4.00	76	100
	4.0	4.00	D 4	SPT(S) 4.00m N=4 (1,1/1,1,1,1)						4.00 5.00	68	100
	5.0	5.00	D 5	SPT(S) 5.00m 50 (25 for 10mm/50 for 20mm)		27.85	5.45					
	6.0								EOH at 5.45m - Achieved target depth			

Notes:

1. Groundwater seepage recorded at 2.50mbgl.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Borehole backfilled with arisings on completion.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
2.00	101		
3.00	97		
4.00	76		
5.00	68		

Hammer Information	
Energy Ratio	Serial No.
73%	110-121

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1020**	Location Type: Window Sampler	
		Coords: 384648.08E/397644.10N	Level: 32.88mOD
Status:	FINAL	Scale: 1:30	Final Depth: 5.45 m
Sheet 1 of 1		Date Start: 19/04/2024	Date End: 19/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	5.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						32.78	0.10		Bituminous macadam. [MADE GROUND]			
						32.58	0.30		Grey sandy gravel. Gravel is angular coarse of limestone (Type 1). Sand is fine to coarse. [MADE GROUND]			
		0.50	ES 1	PID 0.50m 0 ppm					Medium dense black and red brown slightly cobbly clayey gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick and sandstone. Cobbles are angular of brick and sandstone. [MADE GROUND]			
	1.0											
		1.20	D 1	SPT(S) 1.20m N=14 (2,2/3,3,4,4)						1.20 2.00	101	100
	2.0	2.00	D 2	SPT(S) 2.00m N=19 (4,4/4,5,5,5)						2.00 3.00	97	100
	3.0	3.00	D 3	SPT(S) 3.00m N=26 (5,5/6,6,7,7)								
						29.38	3.50		Medium dense brown to black gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to medium of brick. [MADE GROUND]	3.00 4.00	76	90
		3.80	ES 2	PID 3.80m 0 ppm								
	4.0	4.00 4.00	D 4 ES 3	SPT(S) 4.00m N=28 (5,5/8,7,6,7) PID 4.00m 0.2 ppm					*4.00mbgl - Hydrocarbon odour noted.*	4.00 5.00	68	50
	5.0	5.00	D 5	SPT(S) 5.00m N=22 (4,4/5,5,6,6)								
						27.43	5.45		EOH at 5.45m - Achieved target depth			
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Installation: 0.00-1.00m plain 50mm standpipe with concrete and bentonite; 1.00-4.00m slotted standpipe with gravel filter; 4.00-5.45m collapsed with arisings. Gas tap and flush cover installed.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
2.00	101		
3.00	97		
4.00	76		
5.00	68		

Hammer Information	
Energy Ratio	Serial No.
73%	110-121

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	1.00	4.00

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM Checked By: KP	
Location ID:	**WS1021**	Location Type: Window Sampler	
		Coords: 384551.57E/397536.77N	Level: 34.30mOD
Status:	FINAL	Scale: 1:30	Final Depth: 3.45 m
Sheet 1 of 1		Date Start: 18/04/2024	Date End: 18/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	3.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
		0.20	ES 1	PID 0.20m 0 ppm		34.05	0.25		Firm dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine of concrete. Sand is fine to coarse. [MADE GROUND]			
		0.50	ES 2	PID 0.50m 0.2 ppm					Loose to very dense dark brown and cream slightly sandy cobbly gravel. Gravel is angular fine to coarse of limestone and sandstone. Cobbles are angular of limestone and concrete. Sand is fine to coarse. [MADE GROUND]			
		0.80	ES 3	PID 0.80m 0 ppm								
	1.0	1.00	ES 4	PID 1.00m 0 ppm								
				SPT(S) 1.20m N=9 (2,2/2,2,2,3)						1.20 2.00	101	70
	2.0	2.00	ES 5	SPT(S) 2.00m N=23 (4,4/5,5,6,7) PID 2.00m 0.2 ppm						2.00 3.00	97	80
	3.0			SPT(S) 3.00m 50 (25 for 5mm/50 for 10mm)								
						30.85	3.45		EOH at 3.45m - Terminated due to refusal			
	4.0											
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. Borehole backfilled with arisings on completion.
3. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121
3.00	97				

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD Checked By: KP	
Location ID:	**WS1022**	Location Type: Window Sampler	
		Coords: 384733.63E/397609.09N	Level: 34.03mOD
Status:	FINAL	Scale: 1:30	Final Depth: 0.70 m
Sheet 1 of 1		Date Start: 23/04/2024	Date End: 23/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	0.70	IP	Hand Tools			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						33.98	0.05		Bituminous macadam. [MADE GROUND]			
						33.78	0.25		Grey sandy gravel. Gravel is angular coarse of limestone (Type 1). Sand is fine to coarse. [MADE GROUND]			
						33.33	0.70		Black gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick, concrete, coal and clinker. Frequent ash noted. [MADE GROUND]			
									EOH at 0.70m - Terminated due to brick obstruction			
	1.0											
	2.0											
	3.0											
	4.0											
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. Borehole backfilled with arisings on completion and reinstated with cold-lay tarmac.
3. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.
4. Borehole terminated at 0.70mbgl due to brick obstruction. Borehole re-attempted as WS1022A.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio %	Serial No.
				Install Response Zones	
				Ref / From (m) / To (m)	

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD Checked By: KP	
Location ID:	**WS1022A**	Location Type: Window Sampler	
		Coords: 384734.84E/397609.39N	Level: 34.03mOD
Status:	FINAL	Scale: 1:30	Final Depth: 0.90 m
Sheet 1 of 1		Date Start: 25/04/2024	Date End: 25/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	0.90	IP	Hand Tools			
0.00	1.20	IP	Hand Tools			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						33.83	0.20		Bituminous macadam. [MADE GROUND]			
						33.53	0.50		Grey sandy gravel. Gravel is angular coarse of limestone (Type 1). Sand is fine to coarse. [MADE GROUND]			
						33.13	0.90		Dark brown and black gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of concrete, brick, slag and clinker. Frequent ash noted. [MADE GROUND]			
	1.0								EOH at 0.90m - Terminated due to concrete obstruction			
	2.0											
	3.0											
	4.0											
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. Borehole backfilled with arisings on completion and reinstated with cold-lay tarmac.
3. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.
4. Borehole terminated at 0.70mbgl due to concrete obstruction. Borehole re-attempted as WS1022B.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio %	Serial No.
				Install Response Zones	
				Ref / From (m) / To (m)	

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number: **51019/02**	Logged By: Checked By: KP		
Location ID: **WS1022B**	Location Type: Window Sampler		
	Coords: 384734.68E/397608.72N	Level: 34.03mOD	
Status: FINAL	Scale: 1:30	Final Depth: 1.20 m	
Sheet 1 of 1	Date Start: 25/04/2024	Date End: 25/04/2024	

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						33.83	0.20		Bituminous macadam. [MADE GROUND]			
						33.53	0.50		Grey sandy gravel. Gravel is angular coarse of limestone (Type 1). Sand is fine to coarse. [MADE GROUND]			
		0.60	ES 1	PID 0.60m 0.1 ppm		33.13	0.90		Dark brown and black gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of concrete, brick, slag and clinker. Frequent ash noted. [MADE GROUND]			
	1.0	1.00	ES 2	PID 1.00m 0 ppm		32.83	1.20		Black dark brown clayey gravelly sand. Sand is fine to coarse. Gravel is angular to rounded fine to coarse of brick, concrete, sandstone, coal and wood. [MADE GROUND]			
				SPT(S) 1.20m 50 (25 for 0mm/50 for 0mm)					EOH at 1.20m - Terminated due to concrete obstruction			
	2.0											
	3.0											
	4.0											
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample.
3. Borehole backfilled with arisings on completion and reinstated with cold-lay tarmac.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
				73%	110-121

Install Response Zones		
Ref	From (m)	To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD Checked By: KP	
Location ID:	**WS1023**	Location Type: Window Sampler	
		Coords: 384701.03E/397603.20N	Level: 33.00mOD
Status:	FINAL	Scale: 1:30	Final Depth: 0.20 m
	Sheet 1 of 1	Date Start: 23/04/2024	Date End: 23/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						32.90	0.10		Bituminous macadam. [MADE GROUND]			
						32.70	0.30		Dark grey gravelly sand. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of limestone and concrete. [MADE GROUND]			
									EOH at 0.20m - Terminated due to concrete obstruction			
	1.0											
	2.0											
	3.0											
	4.0											
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. Borehole backfilled with arisings on completion and reinstated with cold-lay tarmac.
3. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.
4. Borehole terminated at 0.20mbgl due to concrete obstruction. Borehole re-attempted as WS1023A.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio %	Serial No.
				Install Response Zones	
				Ref	From (m) / To (m)

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1023A**	Location Type: Window Sampler	
		Coords: 384699.93E/397603.88N	Level: 33.00mOD
Status:	FINAL	Scale: 1:30	Final Depth: 3.45 m
Sheet 1 of 1		Date Start: 23/04/2024	Date End: 23/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	3.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	WS Run	Dia (mm)	Recovery (%)
						32.90	0.10		Bituminous macadam.			
									[MADE GROUND]			
						32.70	0.30		Dark grey gravelly sand. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of limestone and concrete.			
									[MADE GROUND]			
		0.50	ES 1	PID 0.50m 0 ppm					Cobbly sandy gravel. Gravel is angular of brick, mortar, sandstone and concrete. Sand is fine to coarse. Cobbles are angular of brick and sandstone. Locally becoming gravelly sand.			
						32.30	0.70		[MADE GROUND]			
		0.80	ES 2	PID 0.80m 0 ppm					Very loose to medium dense light red brown slightly gravelly sand. Sand is fine to coarse. Gravel is subangular to subrounded fine of quartz and limestone.			
	1.0								[MADE GROUND]			
		1.20	D 1	SPT(S) 1.20m N=5 (1,1/1,1,1,2)						1.20 2.00	101	100
	2.0	2.00	D 2	SPT(S) 2.00m N=17 (2,2/3,4,4,6)						2.00 3.00	97	90
	3.0	3.00	D 3	SPT(S) 3.00m N=4 (4,1/1,1,1,1)								
						29.55	3.45		EOH at 3.45m - Terminated due to instabliity of excavation			
	4.0											
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Installation: 0.00-1.00m plain 50mm standpipe with concrete and bentonite; 1.00-1.45m slotted standpipe with gravel filter; 1.45-3.45m collapsed with arisings. Gas tap and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
2.00	101		
3.00	97		

Hammer Information	
Energy Ratio	Serial No.
73%	110-121

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	1.00	1.45

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1024**	Location Type: Window Sampler	
Coords: 384531.28E/397608.36N	Level: 35.00mOD		
Status:	FINAL	Scale: 1:30	Final Depth: 5.45 m
Sheet 1 of 1		Date Start: 24/04/2024	Date End: 24/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	5.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						34.90	0.10		Bituminous macadam.			
									[MADE GROUND]			
						34.70	0.30		Grey sandy gravel. Gravel is angular coarse of limestone (Type 1). Sand is fine to coarse.			
		0.40	ES 1	PID 0.40m 0 ppm					[MADE GROUND]			
									Dark brown and black gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of concrete, porcelain and clinker. Frequent ash noted.			
									[MADE GROUND]			
						34.10	0.90					
	1.0			SPT(S) 1.20m N=3 (1,0/0,1,1,1)					Soft to firm light brown mottled orange brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse of brick, coal and concrete. Sand is fine to coarse.			
									[MADE GROUND]	1.20 2.00	101	100
	2.0			SPT(S) 2.00m N=7 (1,2/2,2,2,1)								
		2.50	ES 2	PID 2.50m 0 ppm						2.00 3.00	97	100
	3.0			SPT(S) 3.00m N=13 (2,2/3,2,4,4)								
						31.30	3.70			3.00 4.00	76	100
		3.80	ES 3	PID 3.80m 0 ppm					Medium dense light red brown clayey SAND. Sand is fine to medium. Gravel is subangular to subrounded of sandstone. Becoming gravelly at base of horizon.			
	4.0			SPT(S) 4.00m N=17 (3,2/3,4,5,5)					[WEATHERED CHESTER FORMATION - SANDSTONE]			
										4.00 5.00	68	100
	5.0			SPT(S) 5.00m N=19 (2,2/3,4,6,6)								
						29.55	5.45					
									EOH at 5.45m - Achieved target depth			
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Installation: 0.00-1.00m plain 50mm standpipe with concrete and bentonite; 1.00-3.70m slotted standpipe with gravel filter; 3.70-5.45m bentonite seal. Gas tap and flush cover installed.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
2.00	101		
3.00	97		
4.00	76		
5.00	68		

Hammer Information	
Energy Ratio	Serial No.
73%	110-121

Install Response Zones		
Ref	From (m)	To (m)
Pipe1	1.00	3.70

CIVIC EARTH

Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: CD / Checked By: KP	
Location ID:	**WS1025**	Location Type: Window Sampler	
		Coords: 384731.28E/397643.70N	Level: 35.41mOD
Status:	FINAL	Scale: 1:30	Final Depth: 5.45 m
Sheet 1 of 1		Date Start: 22/04/2024	Date End: 22/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	5.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
						35.31	0.10		Bituminous macadam.			
									[MADE GROUND]			
									Grey sandy gravel. Gravel is angular coarse of limestone (Type 1). Sand is fine to coarse.			
						35.01	0.40		[MADE GROUND]			
		0.50	ES 1	PID 0.50m 0 ppm					Black slightly gravelly sand. Sand is fine to coarse. Gravel is subangular to subrounded fine to medium of limestone. Frequent ash noted.			
						34.71	0.70		[MADE GROUND]			
	1.0	1.00	ES 2	HSV 1.00m (p)= 59 kPa PID 1.00m 0 ppm					Soft brown mottled grey slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of coal, sandstone and brick. [MADE GROUND]			
		1.20	D 1	SPT(S) 1.20m N=4 (1,1/1,1,1,1)						1.20 2.00	101	100
	2.0	2.00	D 2	SPT(S) 2.00m N=5 (1,1/1,1,1,2) HSV 2.00m (p)= 52 kPa						2.00 3.00	97	100
	3.0	3.00	D 3	SPT(S) 3.00m N=8 (2,2/2,2,2,2) HSV 3.00m (p)= 74 kPa						3.00 4.00	76	100
						31.71	3.70		Medium dense to very dense light orangish brown clayey silty sand. Sand is fine to medium. Rare flecks of coal noted. [MADE GROUND]			
	4.0	4.00 4.00	D 4 ES 3	SPT(S) 4.00m N=10 (2,2/3,2,2,3) PID 4.00m 0 ppm						4.00 5.00	68	100
	5.0	5.00	D 5	SPT(S) 5.00m 50 (25 for 10mm/50 for 20mm)								
						29.96	5.45		EOH at 5.45m - Achieved target depth			
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Borehole backfilled with arisings on completion and reinstated with cold-lay tarmac.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121
3.00	97			Install Response Zones	
4.00	76			Ref / From (m) / To (m)	
5.00	68				

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Project Title:	**ID Manchester**	Client:	**ID Manchester Limited**
Project Number:	**51019/02**	Logged By: FM / Checked By: KP	
Location ID:	**WS1026**	Location Type: Window Sampler	
		Coords: 384617.30E/397549.21N	Level: 33.14mOD
Status:	FINAL	Scale: 1:30	Final Depth: 3.45 m
	Sheet 1 of 1	Date Start: 18/04/2024	Date End: 18/04/2024

Method and Plant Used				Groundwater		
From (m)	To (m)	Type	Plant Used	Strike (m)	Time (min)	Rose To
0.00	1.20	IP	Hand Tools			
1.20	3.45	WS	Terrier Rig			

Inst/ Backfill	Depth (m)	Samples & Tests: Sample Depth (m)	Type/Ref	Tests/Results	Water Level (m)	Level (mOD)	Strata Depth (m)	Legend / Cover	Strata Description	Window Sampling: WS Run	Dia (mm)	Recovery (%)
		0.20	ES 1	PID 0.20m 0 ppm		32.74	0.40		Dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine of concrete. Sand is fine to coarse. [MADE GROUND]			
		0.50	ES 2	PID 0.50m 0 ppm					Red brown sandy gravel. Gravel is angular to subangular fine to coarse of brick. Sand is fine to coarse. [MADE GROUND]			
		0.80	ES 3	PID 0.80m 0.2 ppm		32.24	0.90					
	1.0	1.00	ES 4	PID 1.00m 0 ppm					Very loose light red brown very clayey sand. Sand is fine to coarse. [MADE GROUND]			
				SPT(S) 1.20m N=4 (1,1/1,1,1,1)						1.20 2.00	101	100
						31.34	1.80					
						31.14	2.00		Light brown slightly sandy clay. Rare angular fine gravel of coal, brick and concrete noted. [MADE GROUND]			
	2.0	2.00	ES 5	SPT(S) 2.00m N=27 (2,2/3,8,8,8) PID 2.00m 0 ppm					Medium dense to very dense light grey slightly gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick and concrete. [MADE GROUND]	2.00 3.00	97	80
	3.0	3.00	ES 6	SPT(S) 3.00m 50 (25 for 10mm/50 for 20mm) PID 3.00m 0 ppm								
						29.69	3.45					
									EOH at 3.45m - Terminated due to refusal			
	4.0											
	5.0											
	6.0											

Notes:

1. No groundwater encountered.
2. ES = Environmental Sample; D = Disturbed Sample.
3. Borehole backfilled with arisings on completion.
4. Borehole coordinates and ground level estimated from topographical survey. Borehole position measured from on-site features.

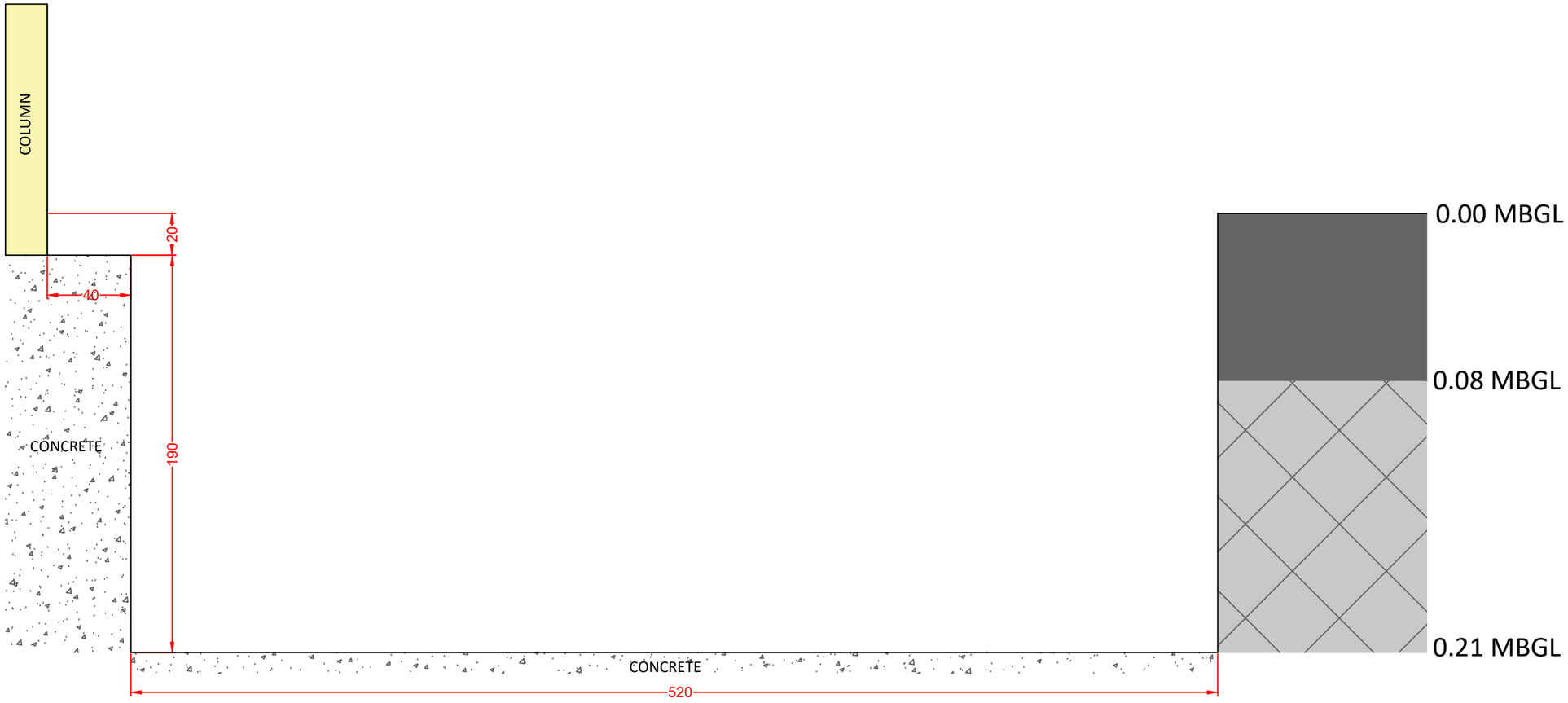
Hole Diameter		Casing		Hammer Information	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Energy Ratio	Serial No.
2.00	101			73%	110-121
3.00	97				

Install Response Zones		
Ref	From (m)	To (m)

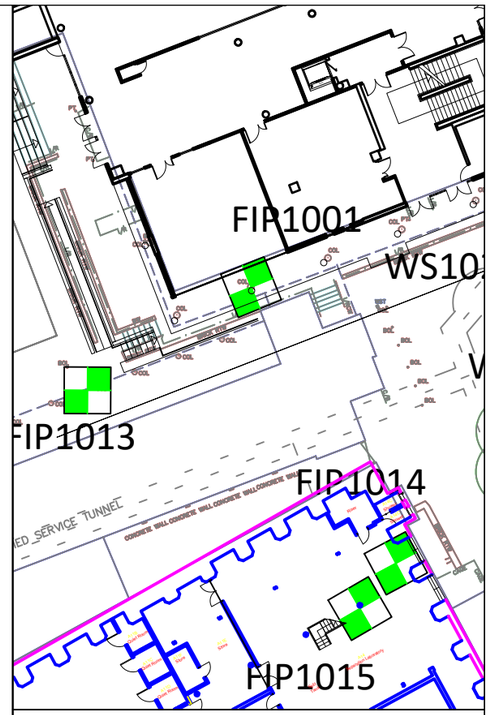
Appendix C

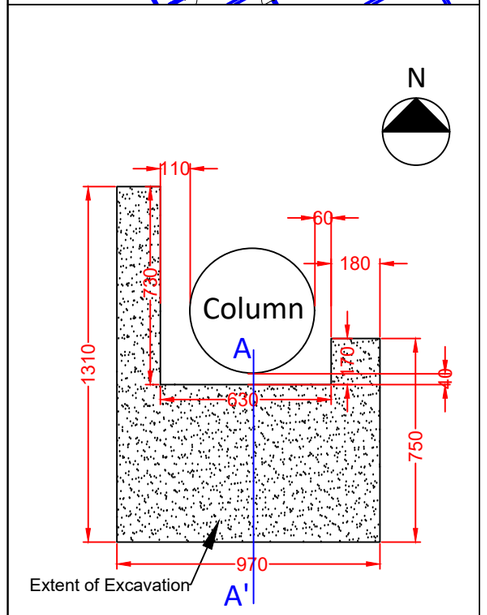
Foundation Inspection Pit Drawings

A



A'





0.00 - 0.08 MBGL: Tarmac.

0.08 - 0.21 MBGL: MADE GROUND - Loose dark grey brown gravelly sand. Sand is fine. Gravel is angular to subangular fine to coarse of brick, concrete and sandstone.

DATE	REV	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

1. MBGL = metres below ground level
2. Trial pit terminated at 0.21mbgl
3. Perched water encountered at 0.20mbgl
4. Trial pit backfilled with arisings and reinstated with tarmac
5. Dimensions of structures / foundations provided in mm unless otherwise stated
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6. Removal of ventilation grill at lower level on south edge of trial pit revealed a service tunnel below the trial pit position. Tunnel recorded to be 3.6m deep and 1.4m wide, indicating column foundation is located inside basement structure.
7. Densities based on Engineer's observations

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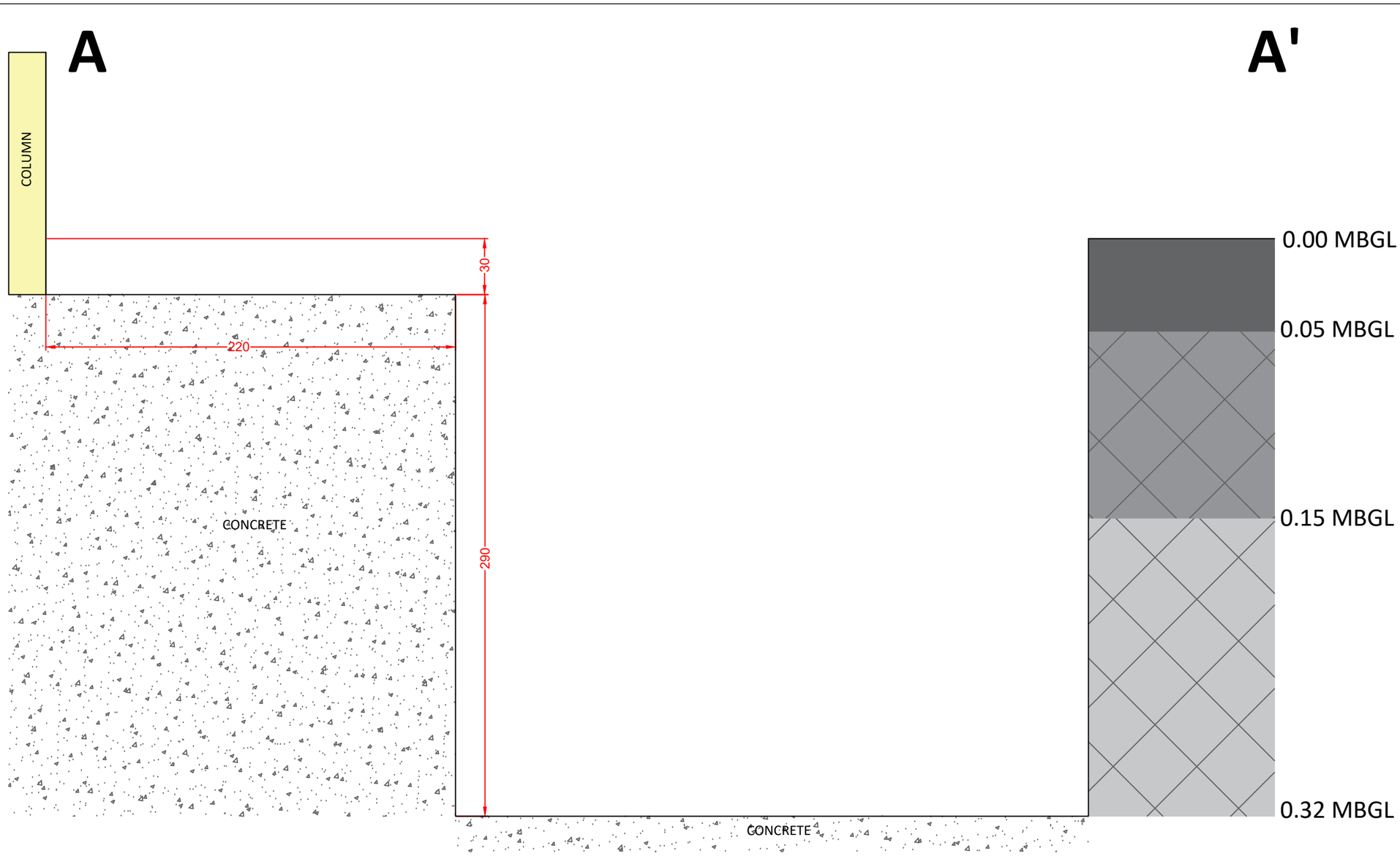
PROJECT
ID Manchester Masterplan Area

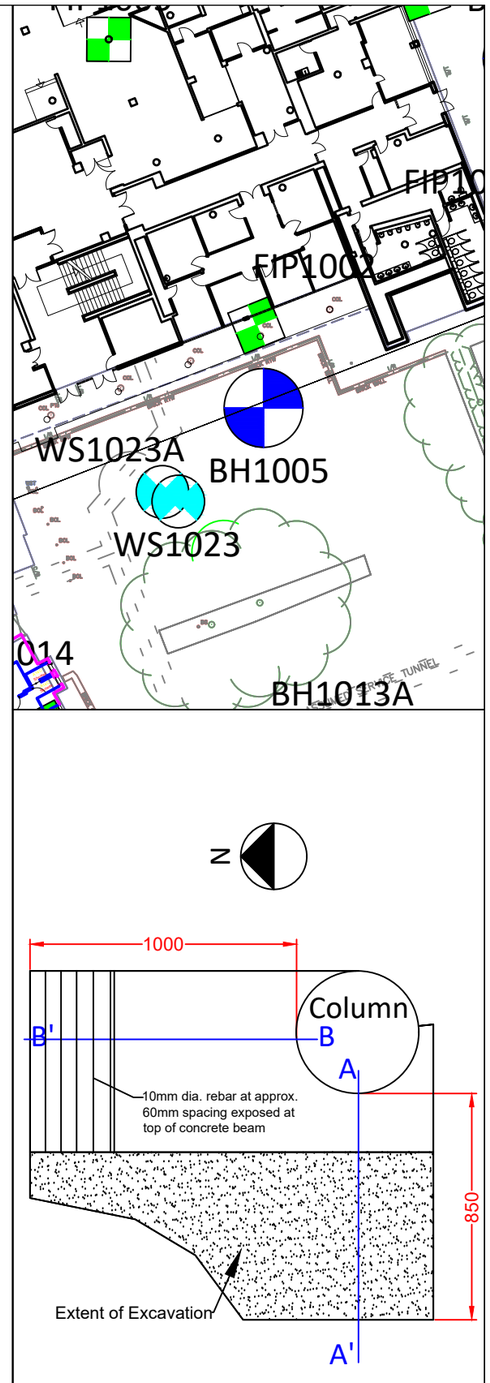
TITLE
Foundation Inspection Pit FIP1001

DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	22/04/24	KP	HG

DRAWING No.: 51019-CE-02-XX-D-G-2001
REV: P01





0.00 - 0.05 MBGL: Tarmac.

0.05 - 0.15 MBGL: MADE GROUND - Loose dark grey black sandy gravel. Gravel is subangular fine to medium of asphalt.

0.15 - 0.32 MBGL: **MADE GROUND** - Medium dense dark grey to yellow brown gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to medium of sandstone, asphalt, concrete and brick.

-	-	-	-	-
DATE	REV	DESCRIPTION	DRAWN	CHKD

1. MBGL = metres below ground level
2. Trial pit terminated at 0.32mbgl
3. Perched water encountered at 0.32mbgl
4. Trial pit backfilled with arisings and reinstated with tarmac
5. Dimensions of structures / foundations provided in mm unless otherwise stated
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6. Densities based on Engineer's observations

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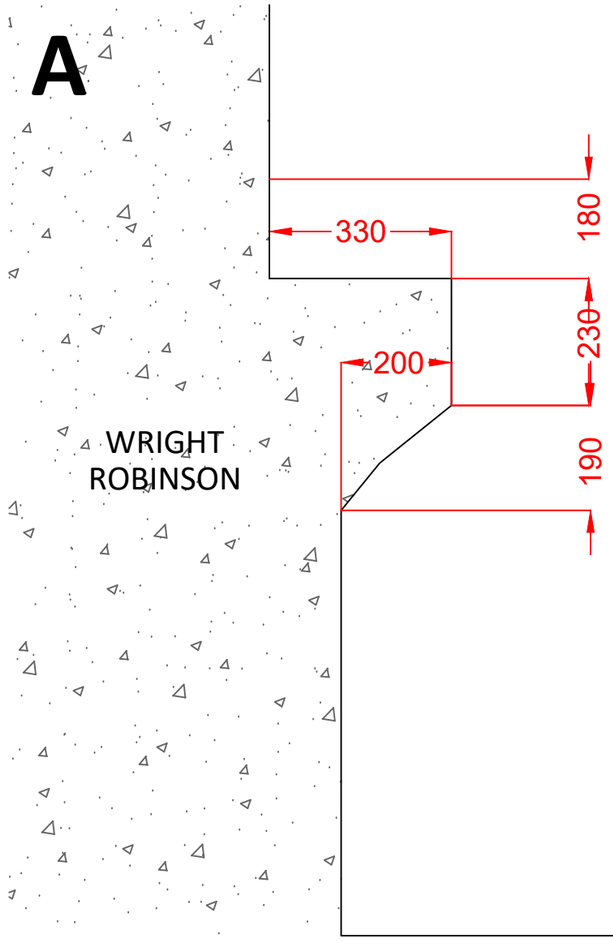
PROJECT
ID Manchester Masterplan Area

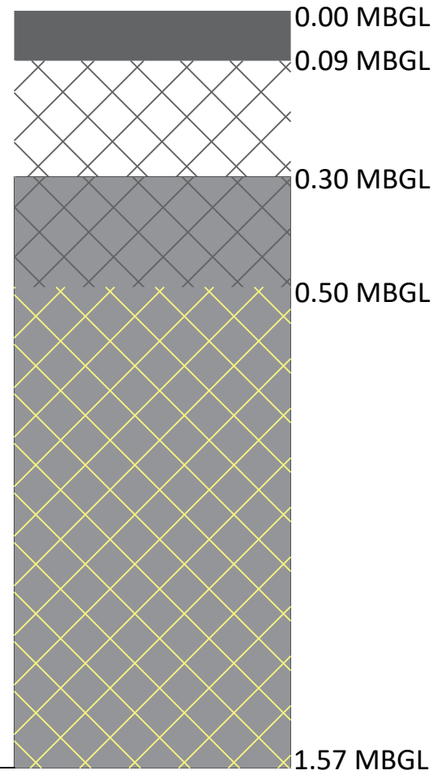
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Foundation Inspection Pit FIP1002

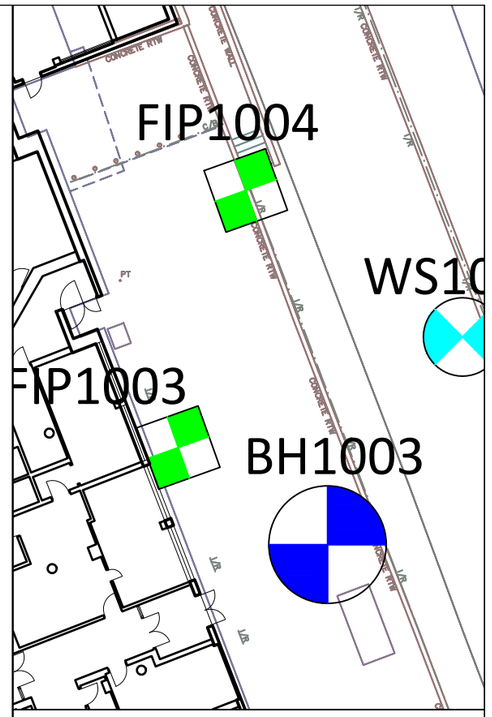
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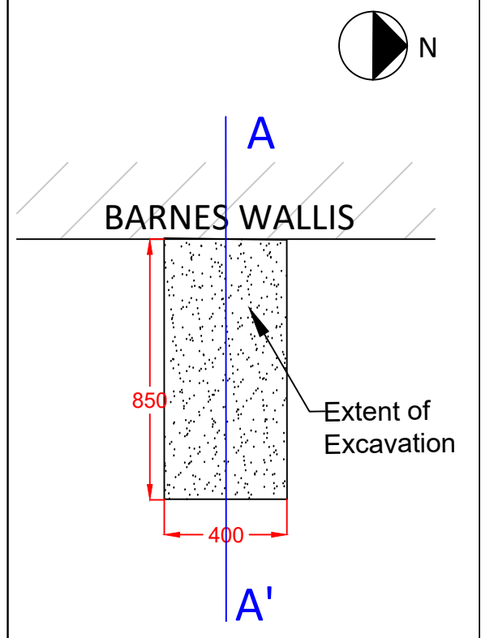
CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	24/04/24	KP	HG

DRAWING No.: 51019-CE-02-XX-D-G-2002
REV: P01









0.00 - 0.09 MBGL: MADE GROUND - Tarmac.

0.09 - 0.30 MBGL: MADE GROUND - Medium dense light grey slightly sandy gravel. Gravel is angular to subangular fine to coarse of concrete, dolomite and sandstone.

0.30 - 0.50 MBGL: MADE GROUND - Loose dark grey black slightly gravelly sand. Sand is fine to coarse. Gravel is angular of concrete and brick.

0.50 - 1.57 MBGL: MADE GROUND - Medium dense yellow brown to grey gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of concrete, dolomite, brick, quartzite and coal. Occasional fragments of metal and wire noted. Frequent $\frac{1}{2}$ bricks and subangular cobbles of concrete noted.

-	-	-	-	-
DATE	REV	DESCRIPTION	DRAWN	CHKD

1. MBGL = metres below ground level
2. Trial pit terminated at 1.57mbgl
3. Trial pit backfilled with arisings and reinstated with tarmac
4. Dimensions of structures / foundations provided in mm unless otherwise stated
5. Densities based on Engineer's observations

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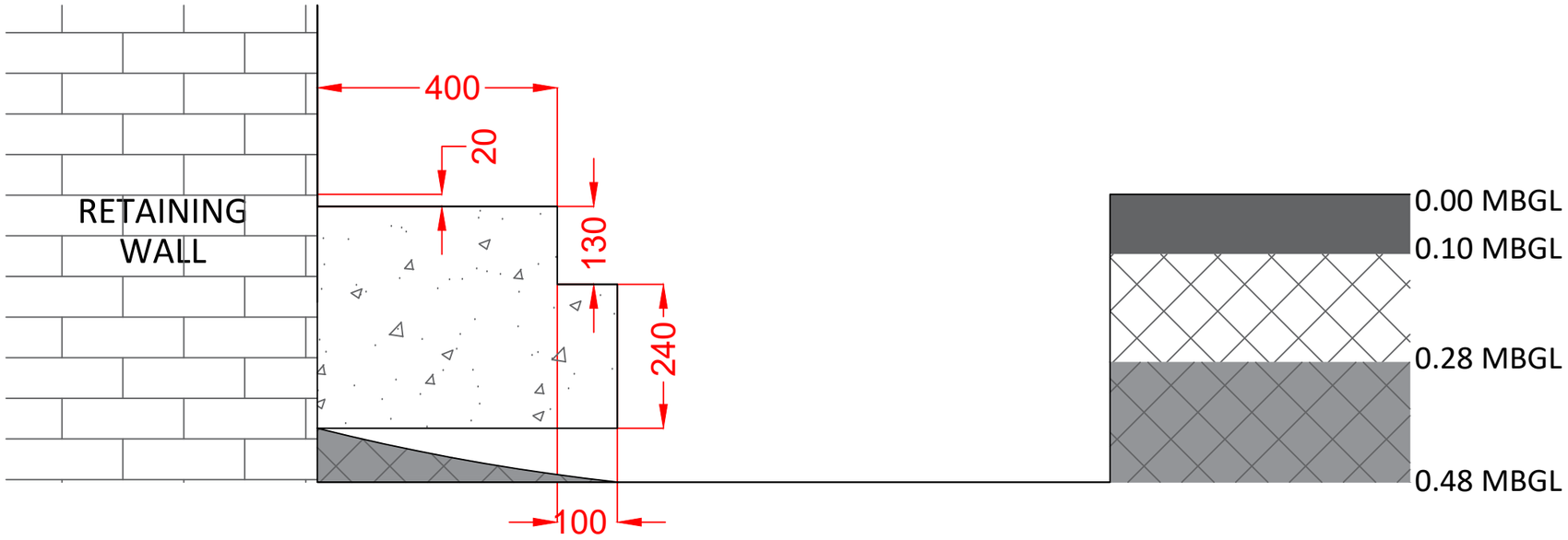
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ID Manchester Masterplan Area

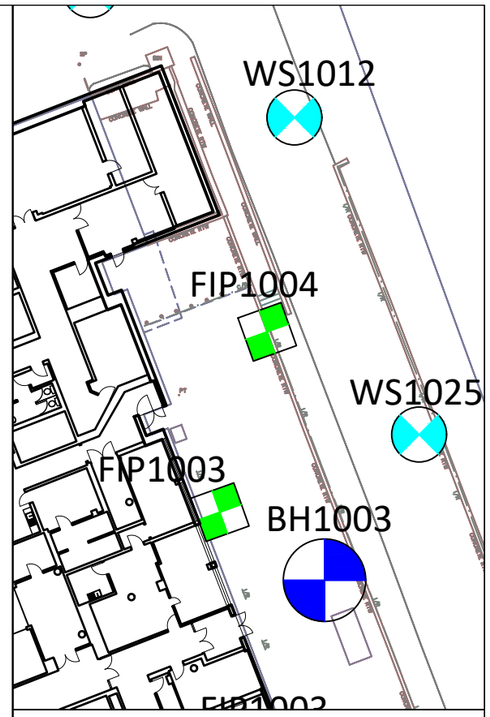
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Foundation Inspection Pit FIP1003

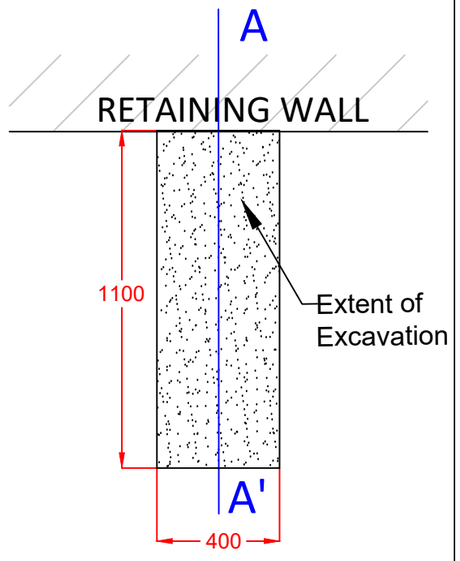
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STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	24/04/24	KP	HG

DRAWING No.: 51019-CE-02-XX-D-G-2003
REV: P01







0.00 - 0.10 MBGL: MADE GROUND - Tarmac.

0.10 - 0.28 MBGL: MADE GROUND - Medium dense light grey slightly sandy gravel. Gravel is angular to subangular fine to coarse of concrete, dolomite and sandstone.

0.28 - 0.48 MBGL: MADE GROUND - Loose dark grey black slightly gravelly sand. Sand is fine to coarse. Gravel is angular of concrete and brick.

DATE	REV	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

1. MBGL = metres below ground level
2. Trial pit terminated at 0.48mbgl on concrete obstruction.
3. No groundwater encountered
4. Trial pit backfilled with arisings and reinstated with tarmac
5. Dimensions of structures / foundations provided in mm unless otherwise stated
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6. Densities based on Engineer's observations

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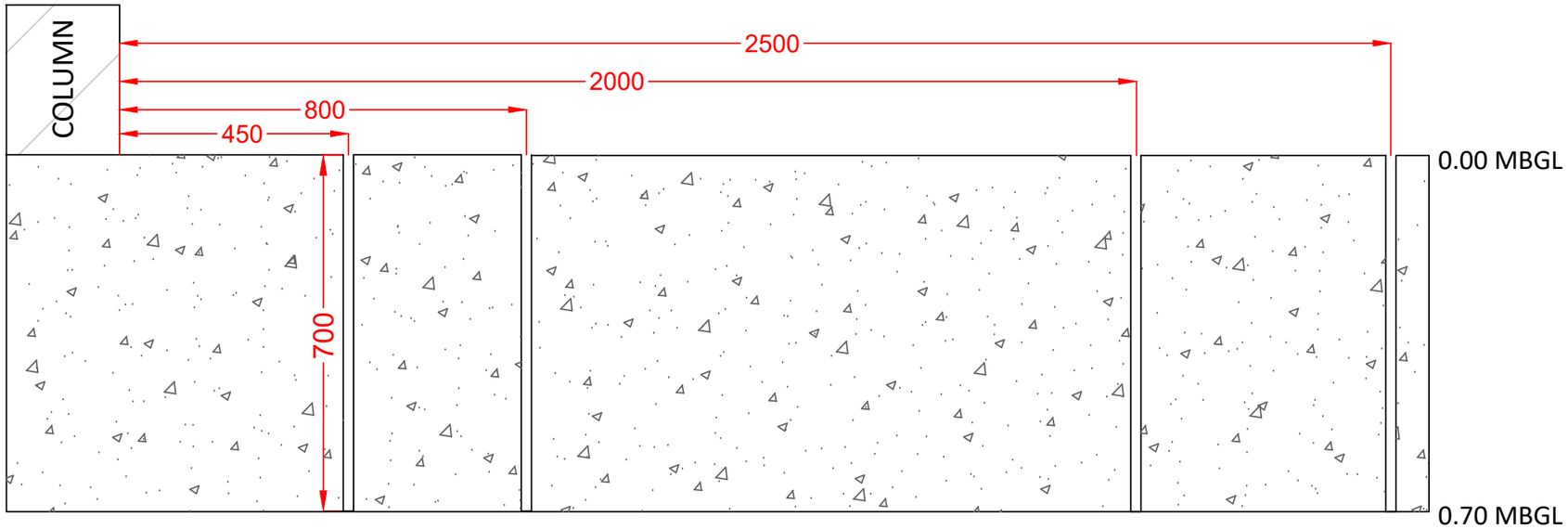
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ID Manchester Masterplan Area

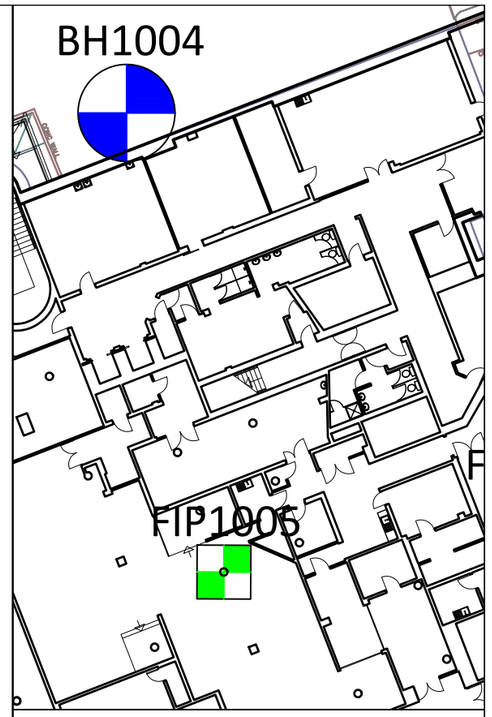
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Foundation Inspection Pit FIP1004

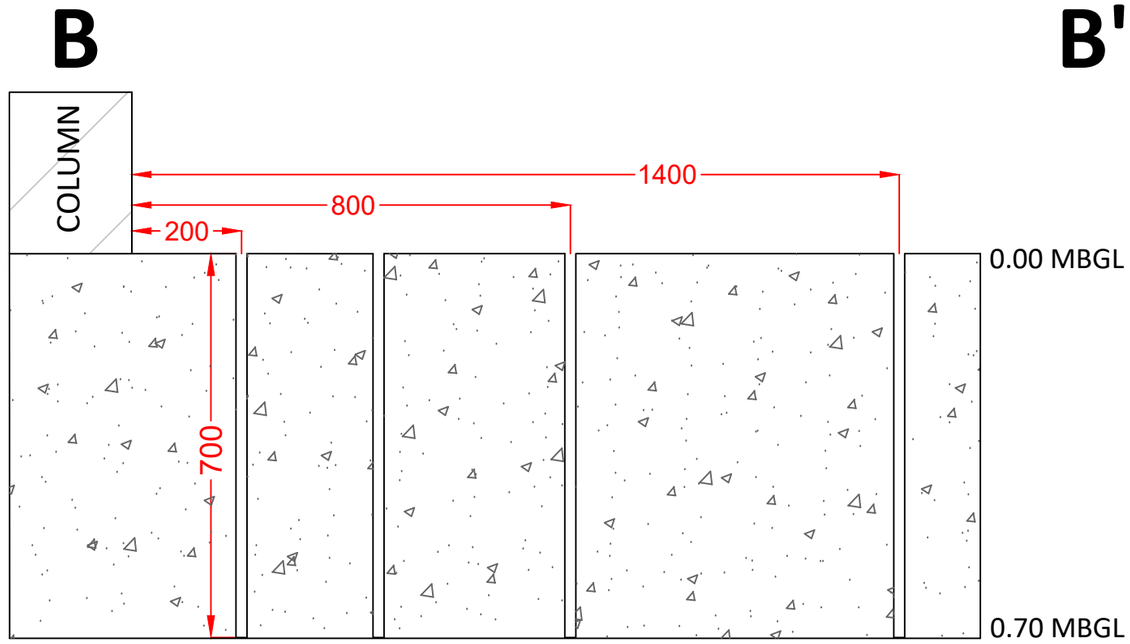
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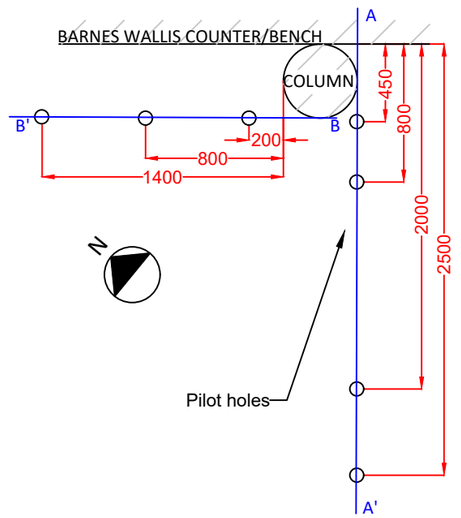
CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	24/04/24	KP	HG

DRAWING No.: 51019-CE-02-XX-D-G-2004
REV: P01









0.00 - 0.7 MBGL: MADE GROUND - Concrete.

-	-	-	-	-
DATE	REV	DESCRIPTION	DRAWN	CHKD

1. MBGL = metres below ground level
2. Trial pit terminated at 0.70mbgl at the maximum pilot hole depth
3. Pilot holes reinstated with concrete
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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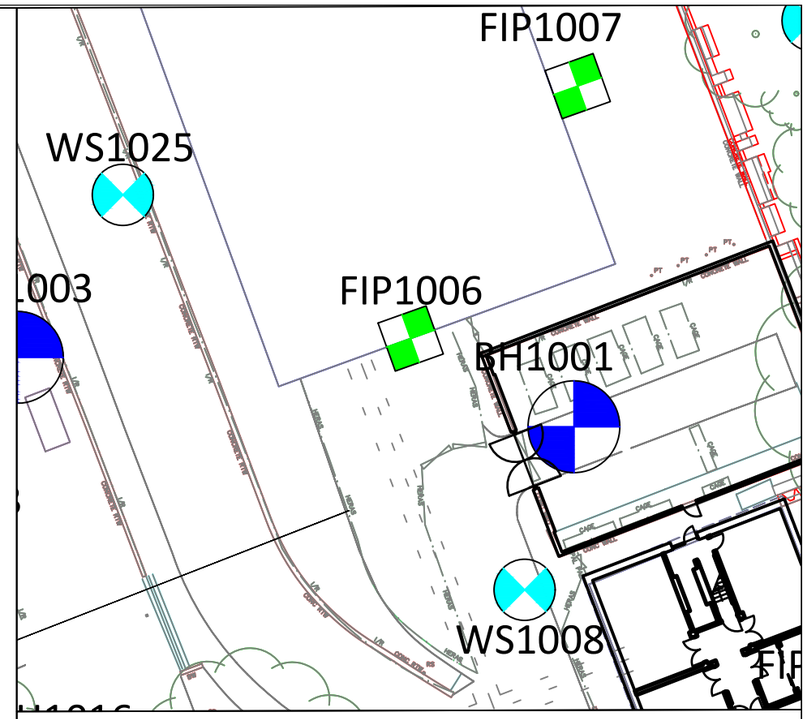
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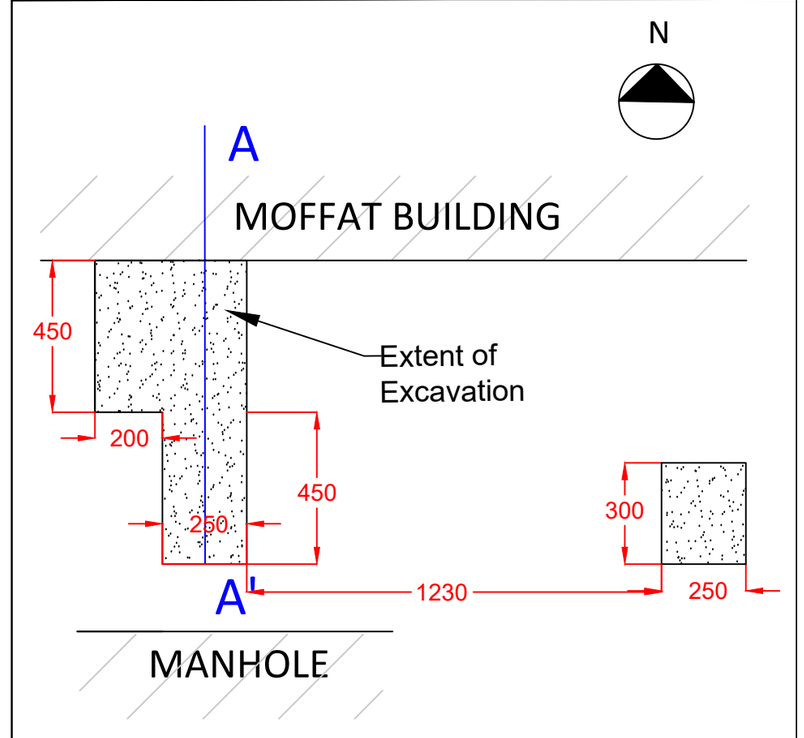
DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	08/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2005
REV: P01







0.00 - 0.06 MBGL: MADE GROUND - Tarmac.

0.06 - 0.20 MBGL: MADE GROUND - Medium dense light grey brown gravelly sand. Sand is fine to coarse. Gravel is angular to aubangular fine to coarse of concrete, brick, coal, limestone and sandstone. Occasional half bricks and subangular cobbles of concrete noted.

0.20 - 0.37 MBGL: MADE GROUND - Medium dense dark grey brown slightly clayey gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of concrete, brick, coal, limestone and sandstone. Occasional cobbles of subangular to angular of brick and concrete. Rare pieces of wire noted.

1. MBGL = metres below ground level
2. Trial pit terminated at 0.37mbgl on brick obstruction, assumed to be associated with nearby manhole chamber. Smaller excavation 1.23m to east proved continuation of brick wall / obstruction.
3. Trial pit backfilled with arisings and reinstated with tarmac

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4. Dimensions of structures / foundations provided in mm unless otherwise stated
5. Densities based on Engineer's observations

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DATE	REV	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

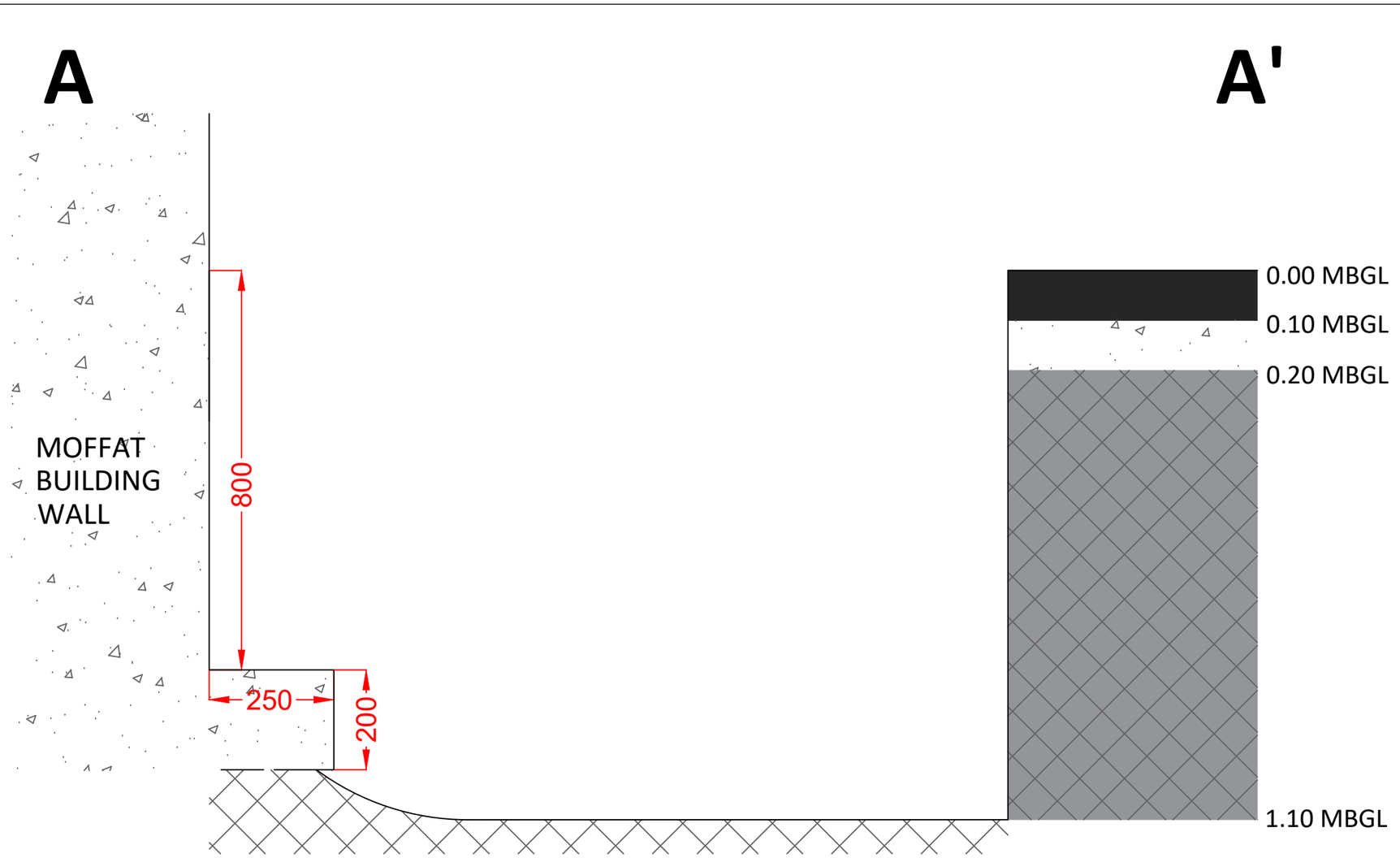
PROJECT
ID Manchester Masterplan Area

TITLE
Foundation Inspection Pit FIP1006

DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	15/07/24	KP	HG

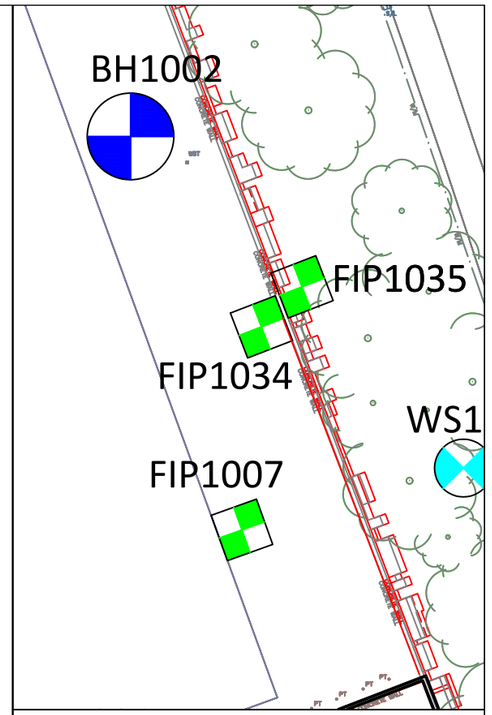
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REV: P01

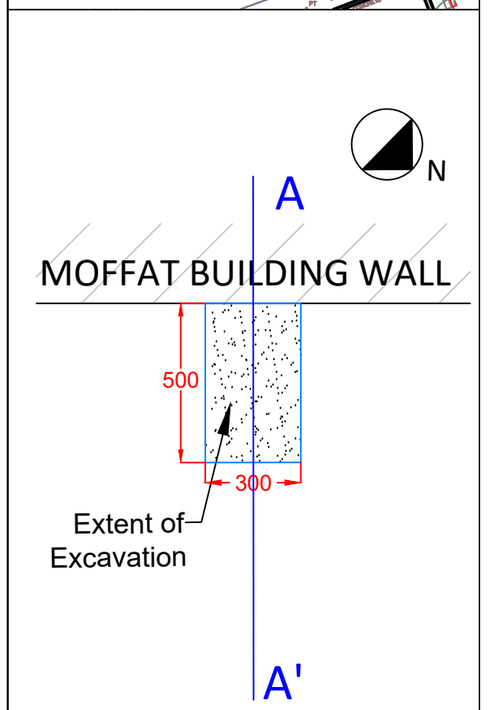


0.00 - 0.10 MBGL: MADE GROUND - Black macadam (80% fine to medium angular gravel, 15% bitumen, 5% voids).

0.10 - 0.20 MBGL: MADE GROUND - Pale very weak concrete (75% fine to medium angular gravel, 24% cement, 1% voids).

0.20 - 1.10 MBGL: MADE GROUND - Grey brown mottled red and black slightly cobbly clayey very sandy gravel. Gravel is angular fine to coarse of brick, concrete and bituminous material. Cobbles are angular of red brick.





-	-	-	-	-
DATE	REV	DESCRIPTION	DRAWN	CHKD

1. MBGL = metres below ground level
2. Trial pit terminated at 1.10mbgl at base of foundation
3. Trial pit backfilled with arisings and reinstated with tarmac
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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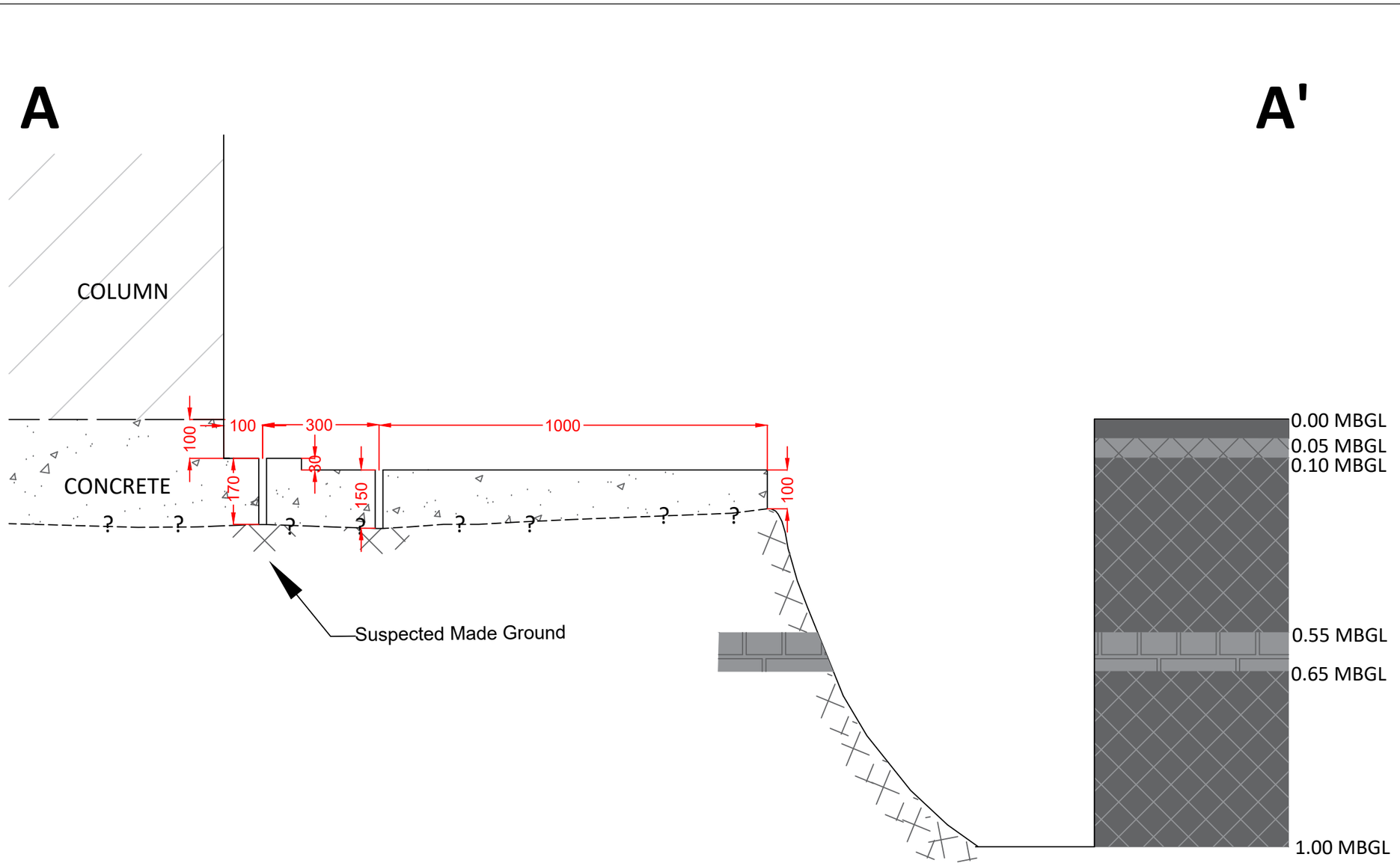
PROJECT
ID Manchester Masterplan Area

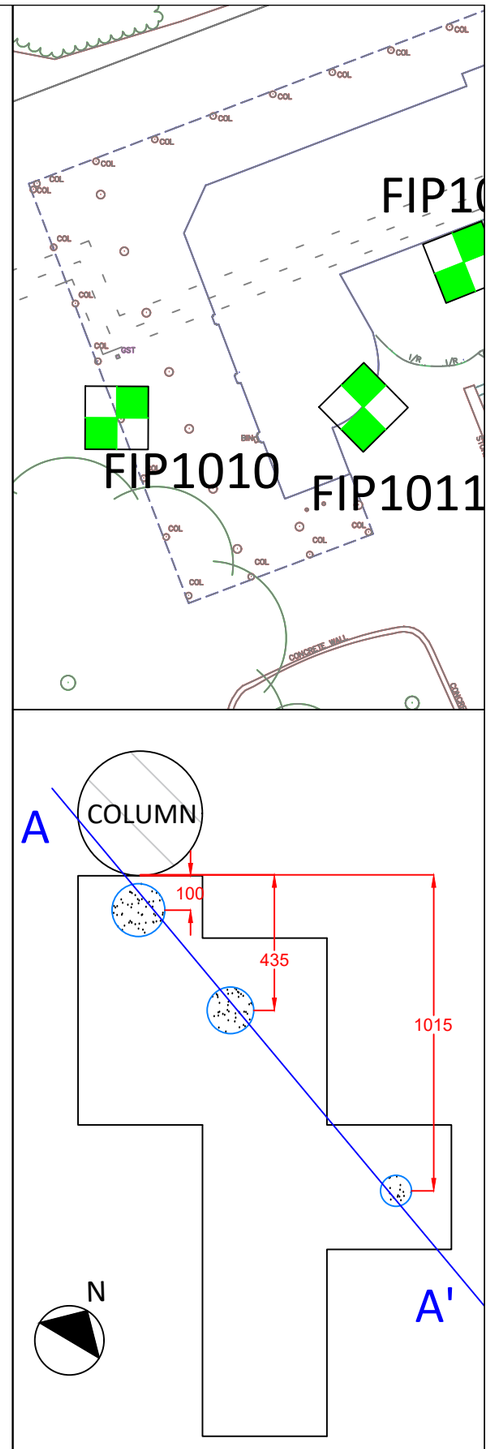
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Foundation Inspection Pit FIP1007

DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	08/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2007
REV: P01





0.00 - 0.05 MBGL: MADE GROUND - Paving slab.

0.05 - 0.10 MBGL: MADE GROUND - Yellow brown sandy gravel. Gravel is angular to subangular fine to coarse of dolomite. Sand is fine to coarse.

0.10 - 1.00 MBGL: MADE GROUND - Light brown slightly gravelly clayey sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of sandstone, concrete and brick. Cobblestone fragments noted between 0.55mbgl and 0.65mbgl.

DATE	REV	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

1. MBGL = metres below ground level
2. Trial pit terminated at 1.00mbgl due to obstruction
3. Trial pit backfilled with arisings and reinstated with tarmac
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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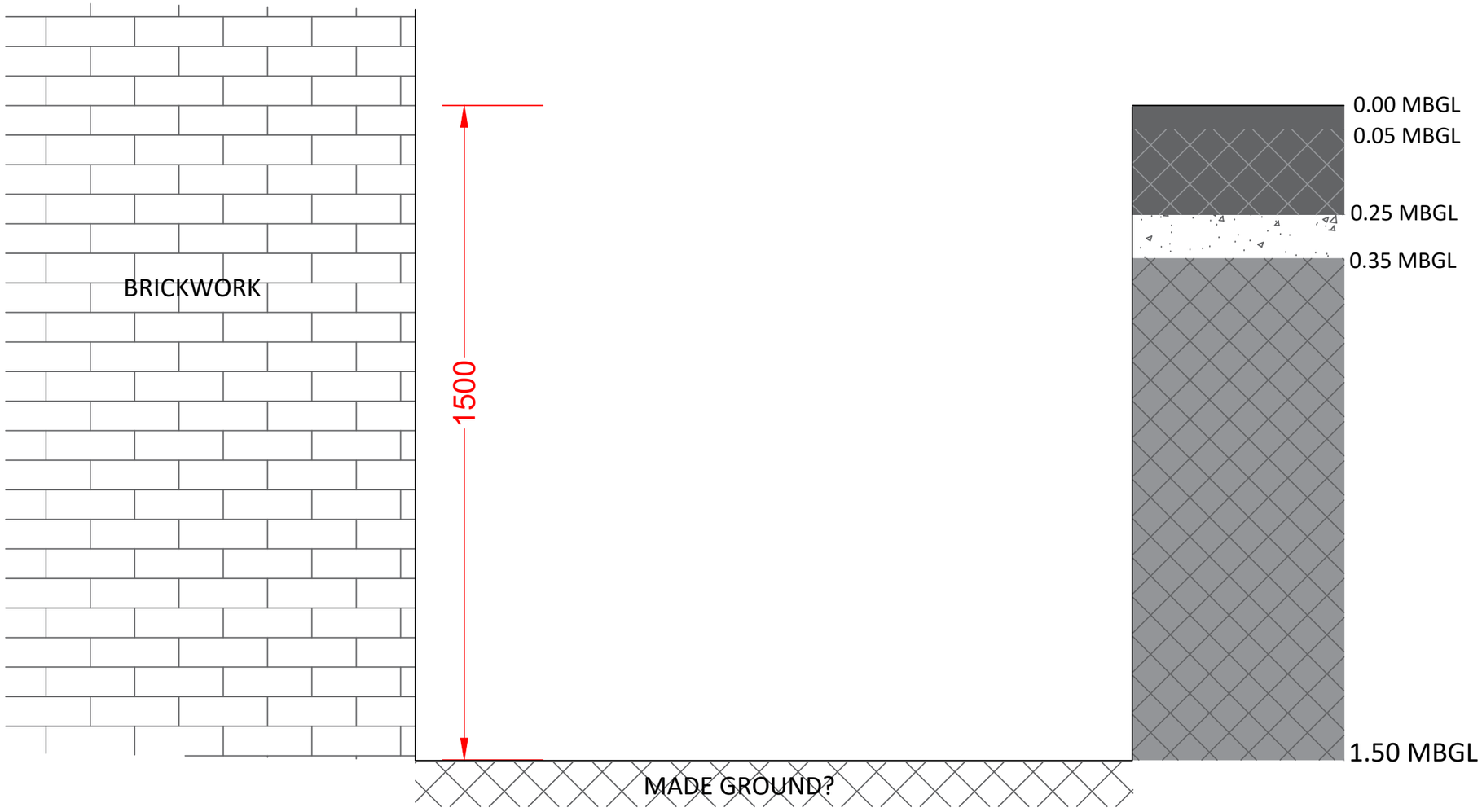
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ID Manchester Masterplan Area

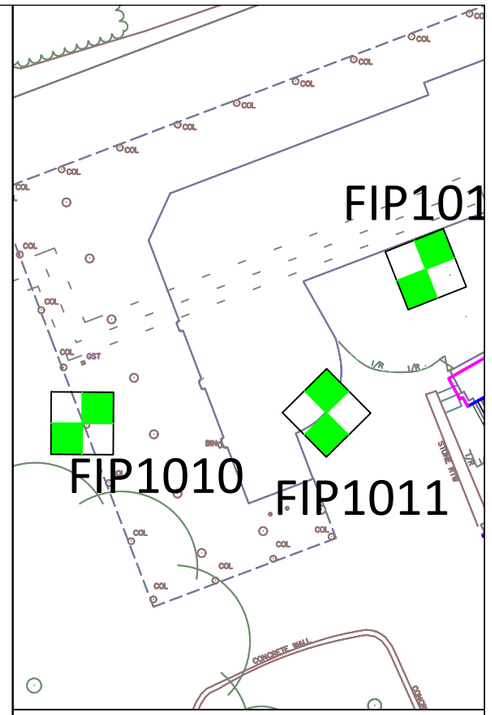
TITLE
Foundation Inspection Pit FIP1010

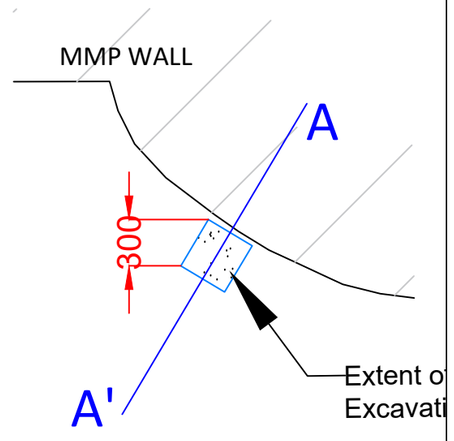
DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	11/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2008
REV: P01







0.00 - 0.05 MBGL: MADE GROUND - Paving slab.

0.05 - 0.25 MBGL: MADE GROUND - Reddish brown sand. Sand is fine to coarse.

0.25 - 0.35 MBGL: MADE GROUND - Concrete.

0.35 - 1.5 MBGL: **MADE GROUND -** Dark brown slightly sandy gravelly clay. Gravel is angular to subangular fine to coarse of brick and concrete. Sand is fine to coarse.

DATE	REV	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

1. MBGL = metres below ground level
2. Trial pit terminated at 1.50mbgl at maximum excavation depth
3. Trial pit backfilled with arisings and reinstated with tarmac
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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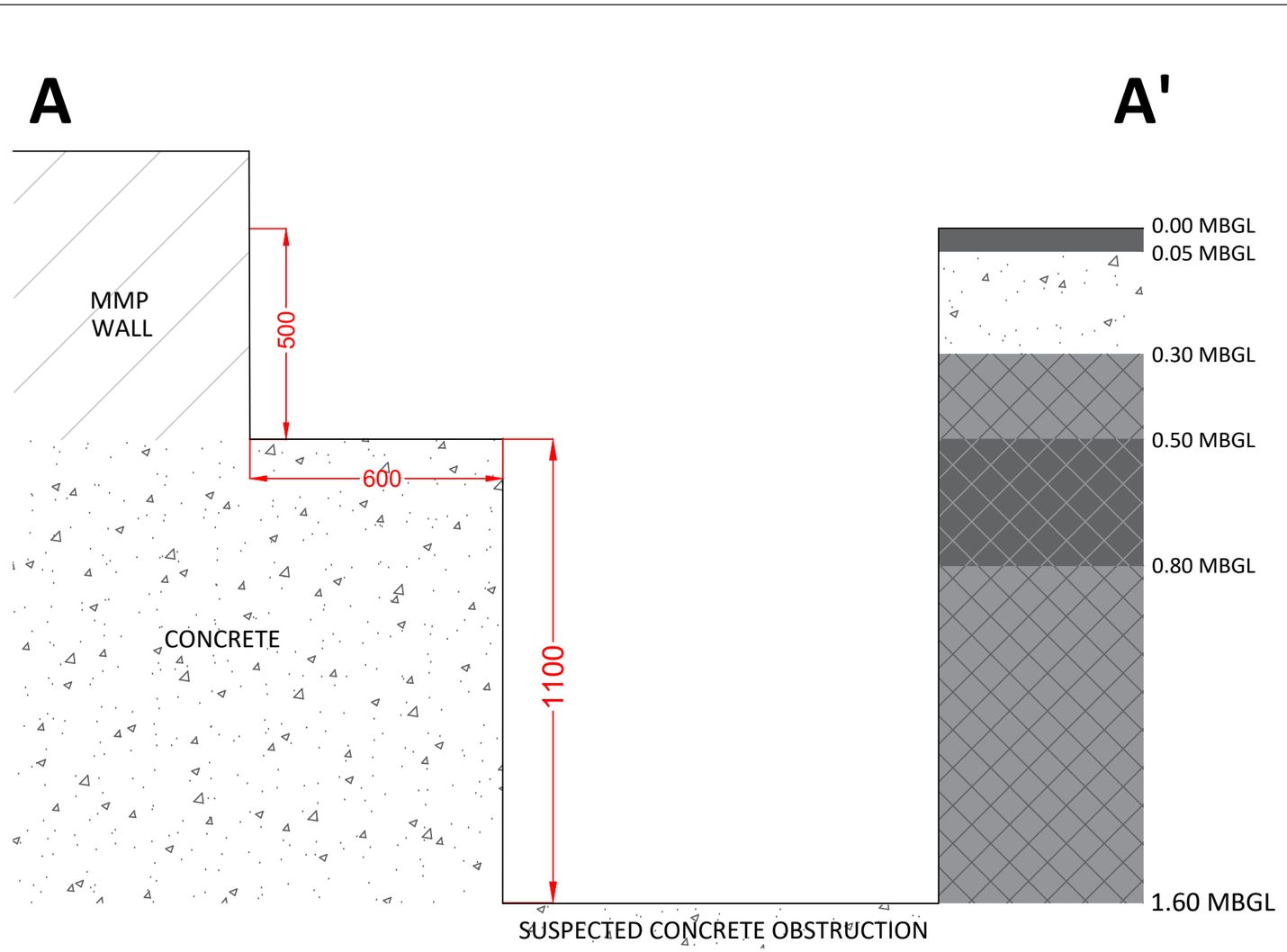
PROJECT
ID Manchester Masterplan Area

TITLE
Foundation Inspection Pit FIP1011

DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	05/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2009
REV: P01



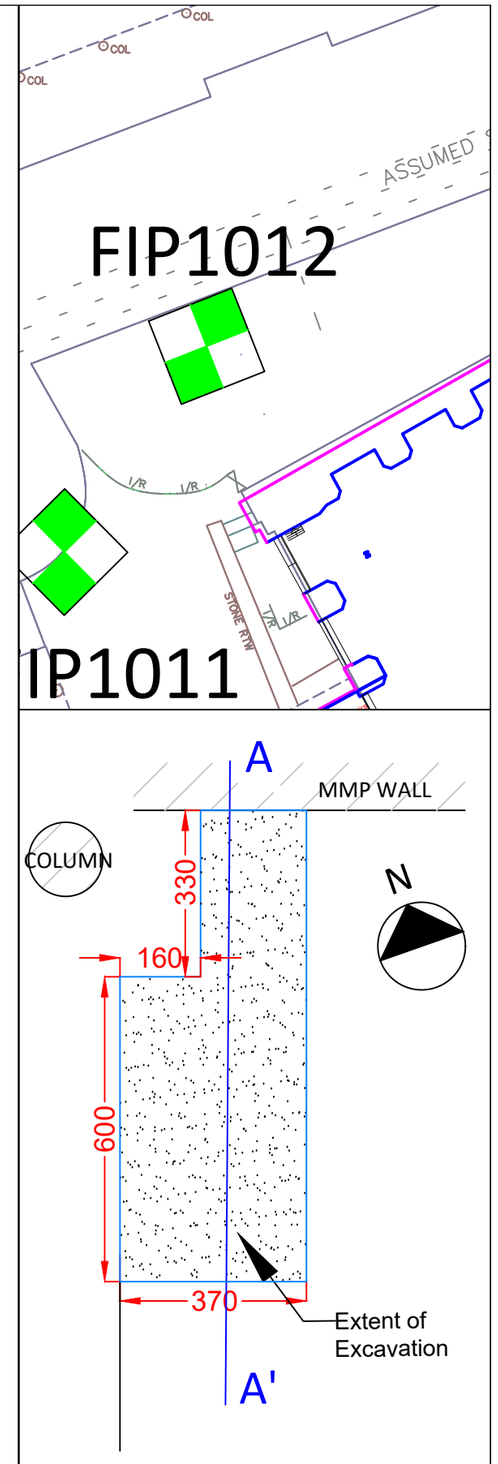
0.00 - 0.05 MBGL: MADE GROUND - Paving slab.

0.05 - 0.30 MBGL: MADE GROUND - Concrete.

0.30 - 0.50 MBGL: MADE GROUND - Reddish brown slightly sandy cobbly gravel. Gravel is angular of brick. Cobbles are angular of brick. Sand is fine to coarse.

0.50 - 0.80 MBGL: **MADE GROUND -** Reddish brown slightly sandy gravelly clay. Gravel is angular to subangular fine to coarse of brick. Sand is fine to coarse.

0.80 - 1.60 MBGL: **MADE GROUND -** Reddish brown sand. Sand is fine to coarse.



-	-	-	-	-
DATE	REV	DESCRIPTION	DRAWN	CHKD

1. MBGL = metres below ground level
2. Trial pit terminated at 1.60mbgl at maximum excavation depth
3. Trial pit backfilled with arisings and reinstated with tarmac
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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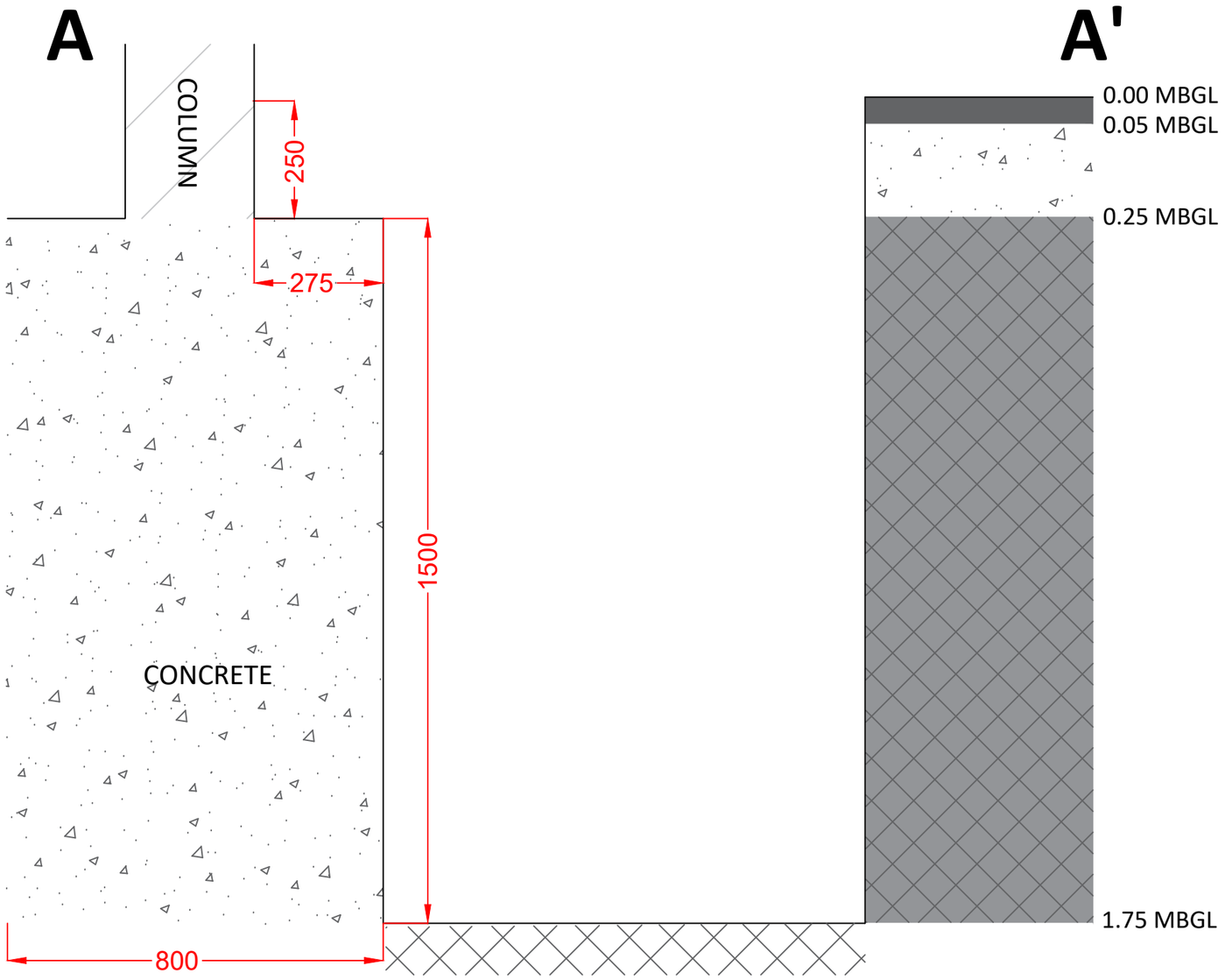
PROJECT
ID Manchester Masterplan Area

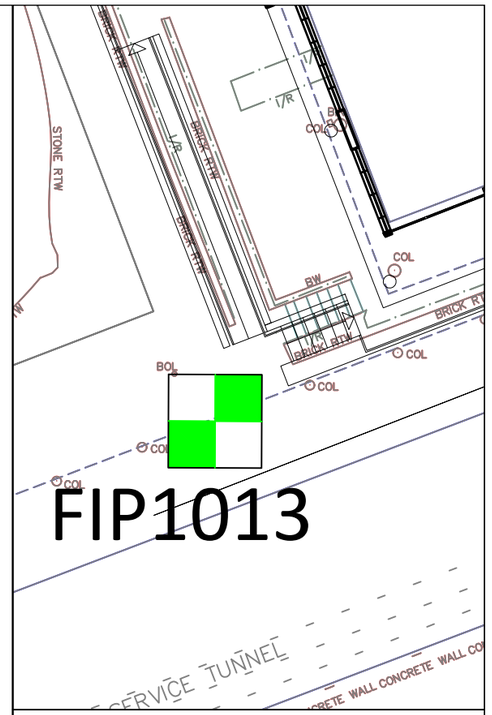
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Foundation Inspection Pit FIP1012

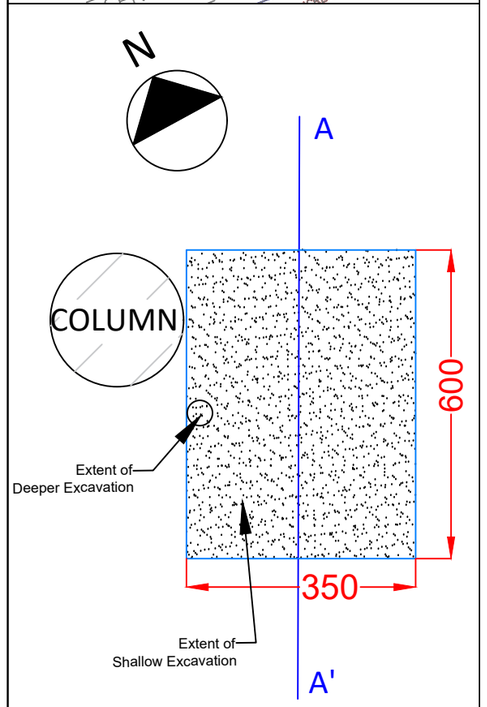
DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	04/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2010
REV: P01







0.00 - 0.05 MBGL: MADE GROUND - Paving slab/Tarmac.

0.05 - 0.25 MBGL: MADE GROUND - Concrete.

0.25 - 1.75 MBGL: MADE GROUND - Dark brown slightly sandy gravelly clay. Gravel is angular to subangular fine to coarse of brick and concrete. Sand is fine to coarse.

-	-	-	-	-
DATE	REV	DESCRIPTION	DRAWN	CHKD

1. MBGL = metres below ground level
2. Trial pit terminated at 1.75mbgl at maximum excavation depth
3. Trial pit backfilled with arisings and reinstated with tarmac
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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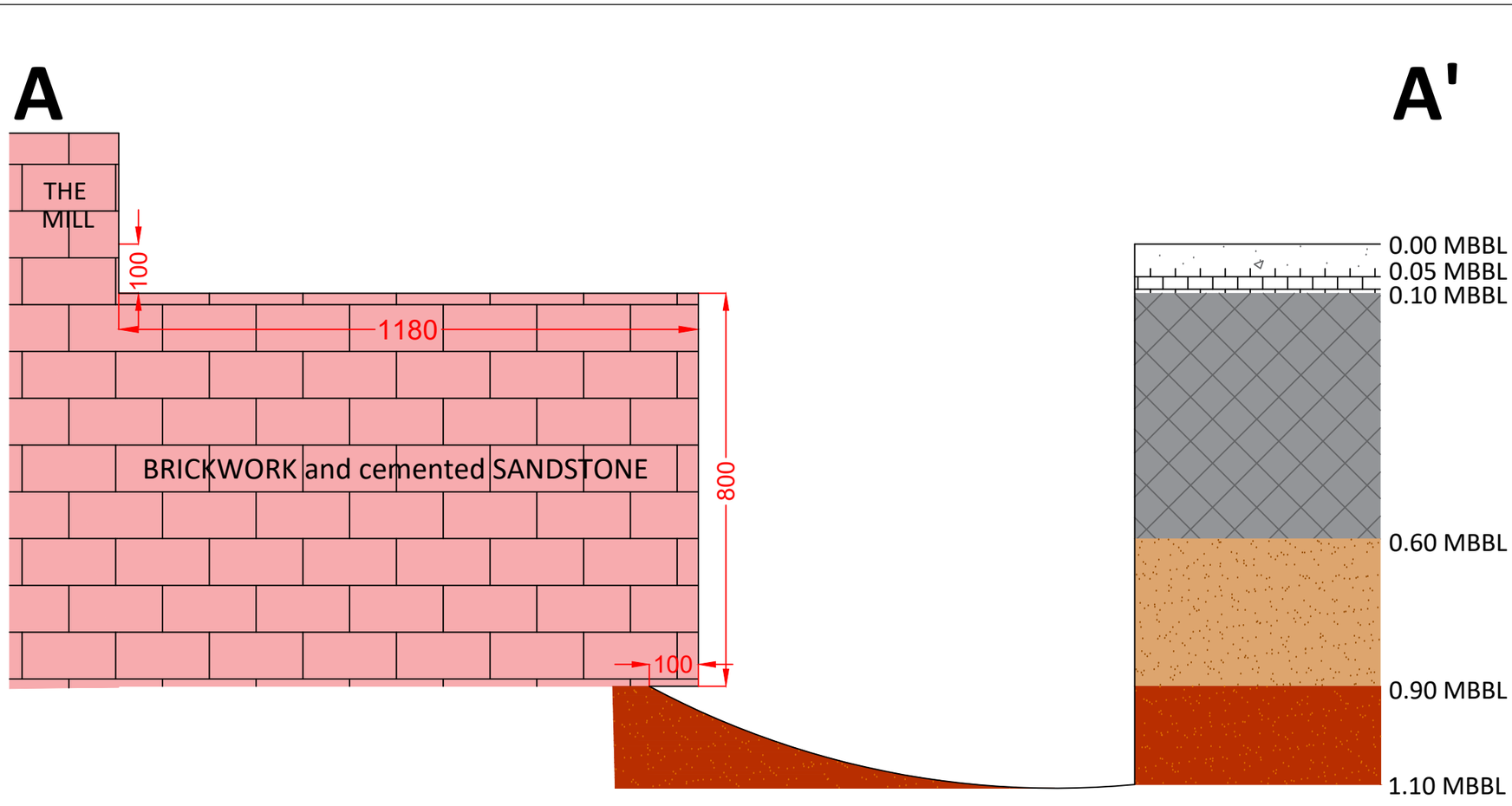
PROJECT
ID Manchester Masterplan Area

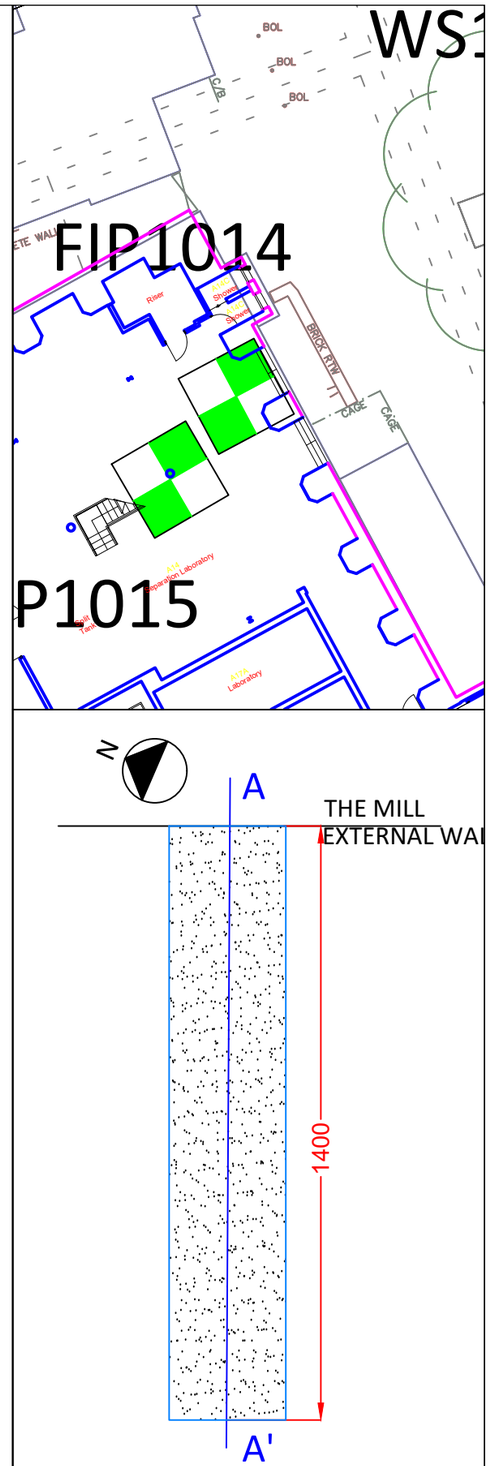
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Foundation Inspection Pit FIP1013

DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	04/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2011
REV: P01





0.00 - 0.05 MBGL: MADE GROUND - Concrete.

0.05- 0.10 MBGL: MADE GROUND - Brickwork.

0.10 - 0.60 MBGL: MADE GROUND - Dark brown gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of concrete, brick and stone.

0.60 - 0.90 MBGL: ALLUVIUM - Light brown gravelly SAND. Sand is fine to coarse. Gravel is coarse of sandstone and siltstone.

0.90 - 1.10 MBGL: **WEATHERED CHESTER FORMATION -** Reddish brown gravelly SAND. Sand is fine to coarse. Gravel is angular fine to coarse of sandstone.

DATE	REV	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

1. MBBL = metres below basement level
2. Trial pit terminated at 1.1mbgl following exposure of base of foundation
3. Trial pit backfilled with arisings and reinstated with tarmac
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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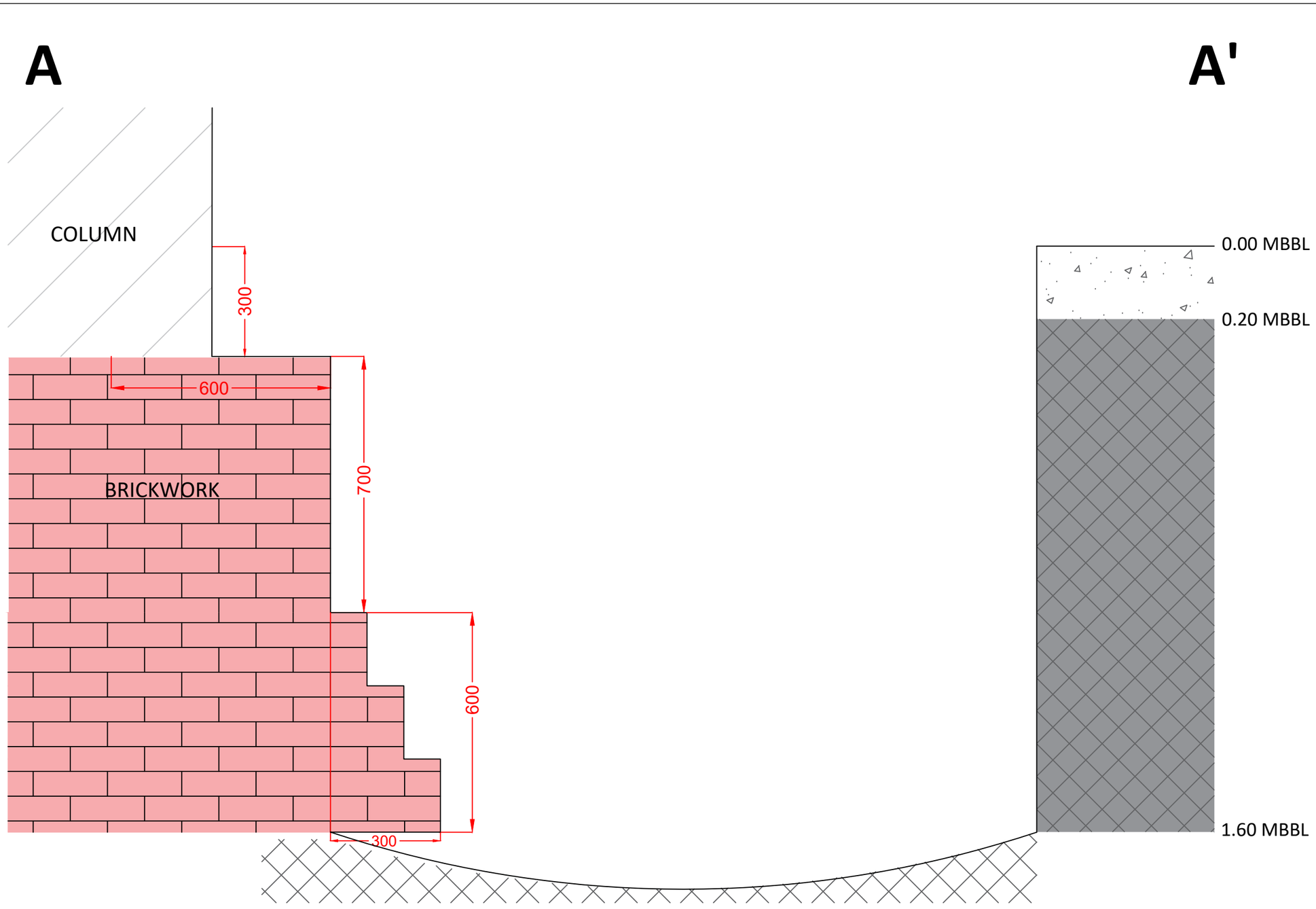
PROJECT
ID Manchester Masterplan Area

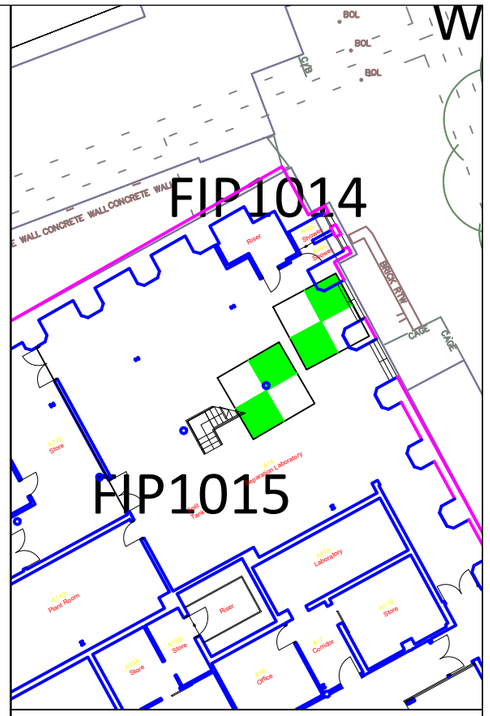
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Foundation Inspection Pit FIP1014

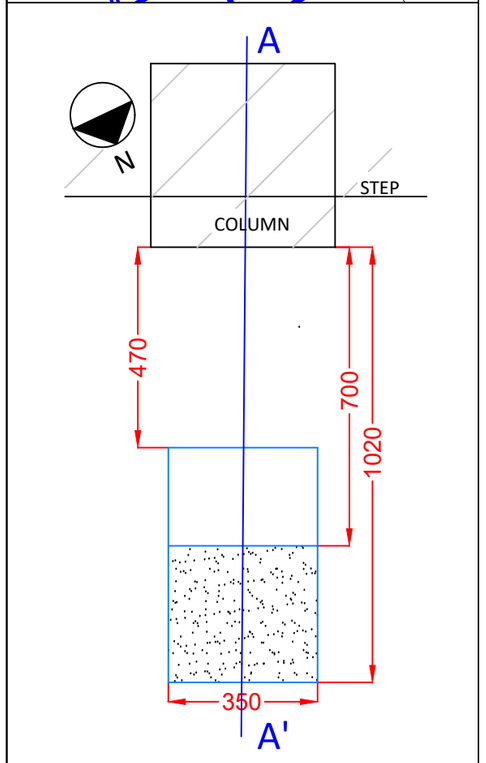
DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	08/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2012
REV: P01







0.00 - 0.20 MBBL: MADE GROUND - Concrete.

0.20 - 1.60 MBBL: MADE GROUND - Dark brown gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of concrete, brick and sandstone.

1. MBBL = metres below basement level
2. Trial pit terminated at 1.60mbgl at maximum excavation depth
3. Trial pit backfilled with arisings
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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DATE	REV	DESCRIPTION	DRAWN	CHKD
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PROJECT
ID Manchester Masterplan Area

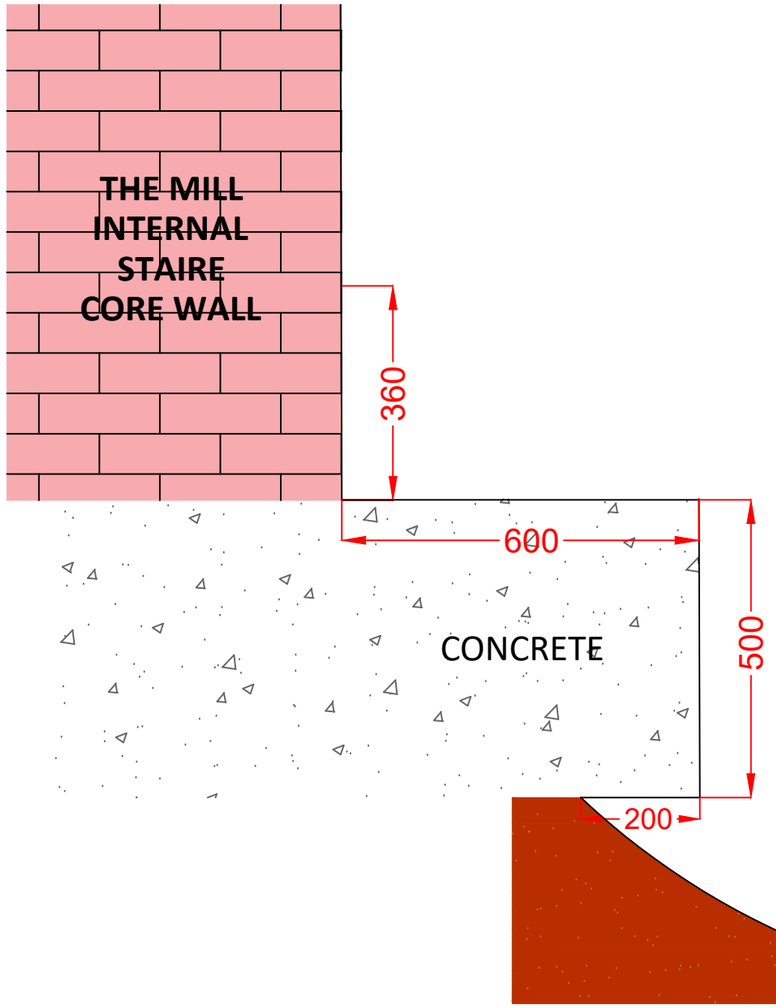
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Foundation Inspection Pit FIP1015

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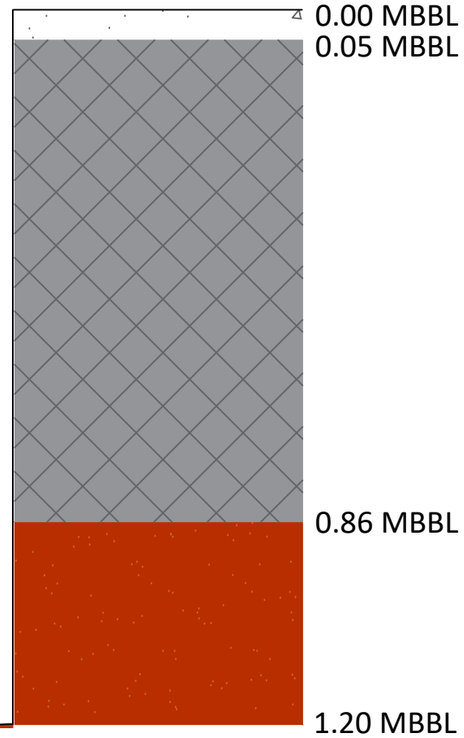
CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
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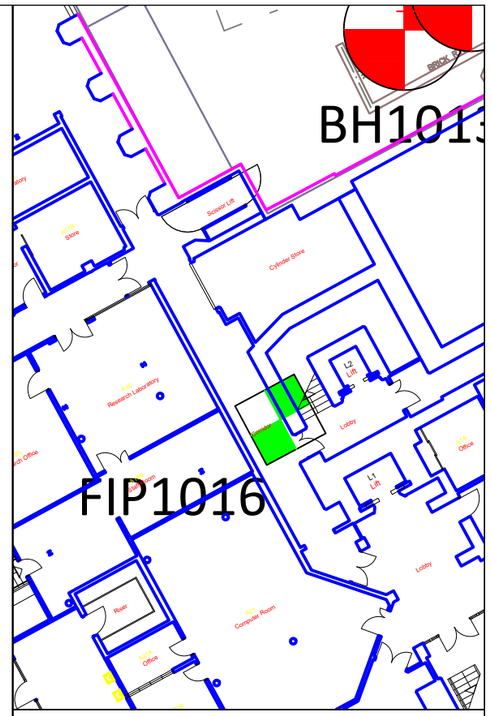
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REV: P01

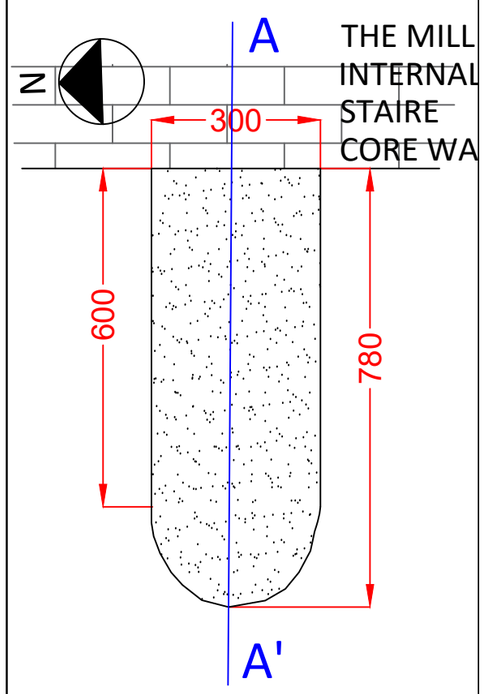
A



A'







0.00 - 0.05 MBBL: MADE GROUND - Concrete.

0.05 - 0.86 MBBL: MADE GROUND - Reddish brown cobbly sandy gravel. Gravel is angular fine to coarse of brick and concrete. Sand is fine to coarse. Cobbles are angular of brick and concrete.

0.86 - 1.20 MBBL: WEATHERED CHESTER FORMATION - Reddish brown slightly gravelly SAND. Sand is fine to coarse. Gravel is angular fine to coarse of sandstone.

DATE	REV	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

1. MBBL = metres below basement level
2. Trial pit terminated at 1.20mbgl following exposure of base of foundation
3. Trial pit backfilled with arisings
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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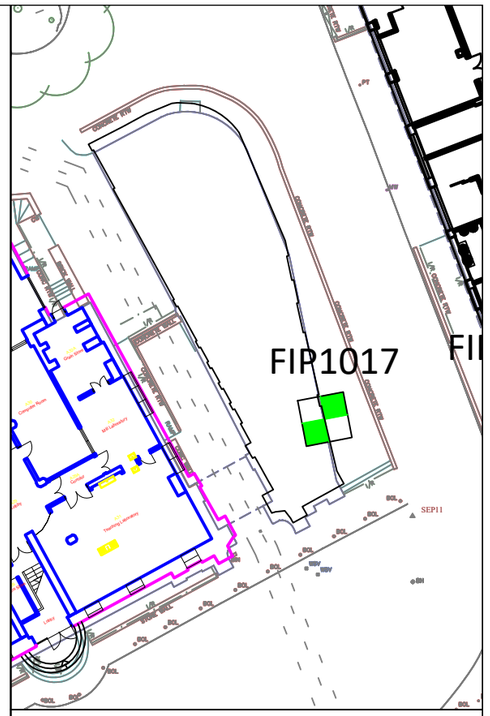
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Foundation Inspection Pit FIP1016

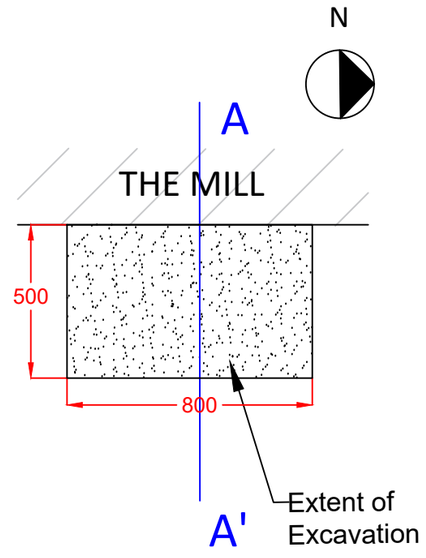
DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	03/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2014
REV: P01







0.00 - 0.06 MBGL: MADE GROUND - Tarmac.

0.06 - 1.50 MBGL: MADE GROUND - Medium dense dark grey black gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of brick, limestone, concrete and asphalt. Rare fragments of degraded plastic noted. Occasional subangular cobbles of brick and limestone. Becoming very cobbly on south face of pit from 0.70mbgl. 20mm diameter pipe noted at 0.65mbgl.

DATE	REV	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

1. MBGL = metres below ground level
2. Trial pit terminated at 1.50mbgl at maximum excavation depth
3. No groundwater encountered
4. Trial pit backfilled with arisings and reinstated with tarmac
5. Dimensions of structures / foundations provided in mm unless otherwise stated
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6. Densities based on Engineer's observations

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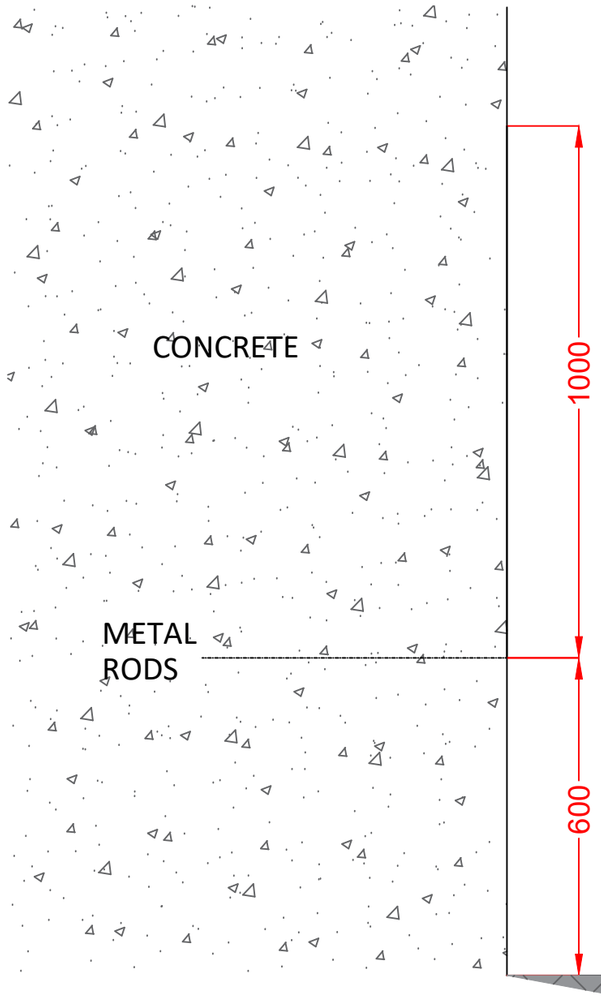
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Foundation Inspection Pit FIP1017

DRAWING STATUS: FOR INFORMATION
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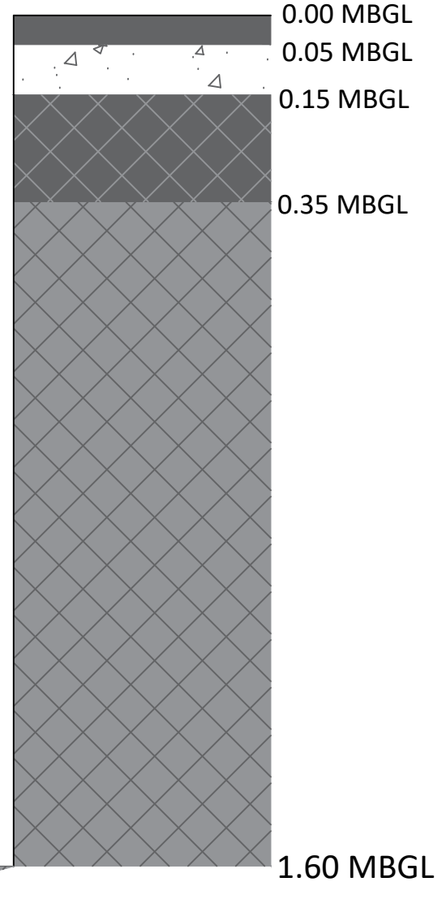
CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	24/04/24	KP	HG

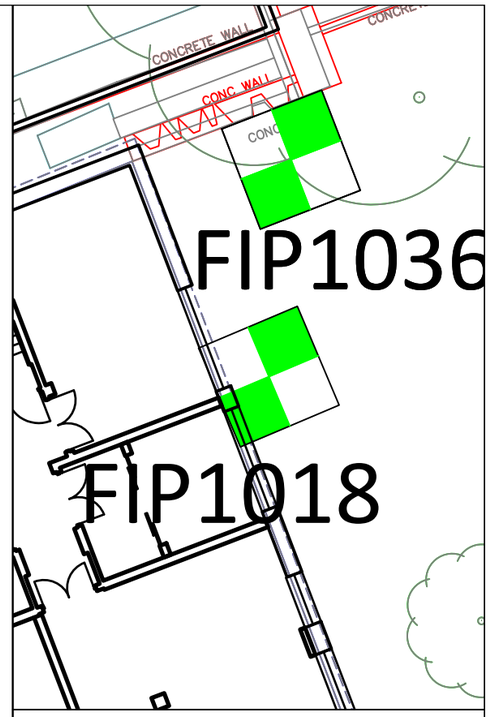
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REV: P01

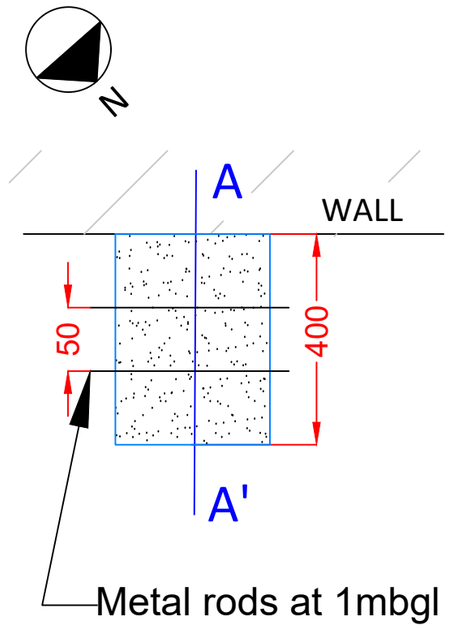
A



A'







0.00 - 0.05 MBGL: MADE GROUND - Concrete paving slab.

0.05 - 0.15 MBGL: MADE GROUND - Pale very weak cement. 75% fine to medium sand.

0.15 - 0.35 MBGL: MADE GROUND - Brownish yellow sandy gravel. Gravel is subangular to angular medium of limestone.

0.35 - 1.60 MBGL: **MADE GROUND -** Brown slightly cobbly sandy gravelly clay. Gravel is fine to coarse subangular to angular of concrete and brick. Sand is fine to coarse. Cobbles are angular of red brick.

DATE	REV	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

1. MBGL = metres below ground level
2. Trial pit terminated at 1.60mbgl at maximum excavation depth
3. Trial pit backfilled with arisings
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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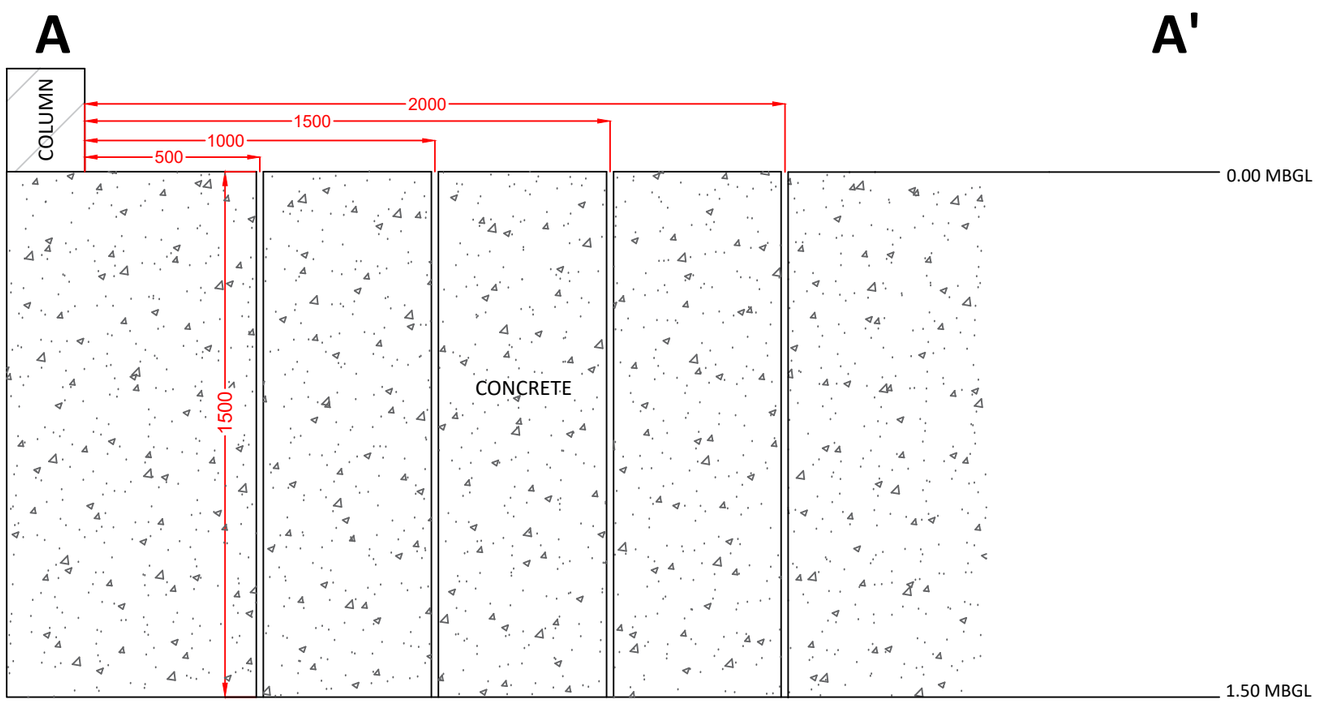
PROJECT
ID Manchester Masterplan Area

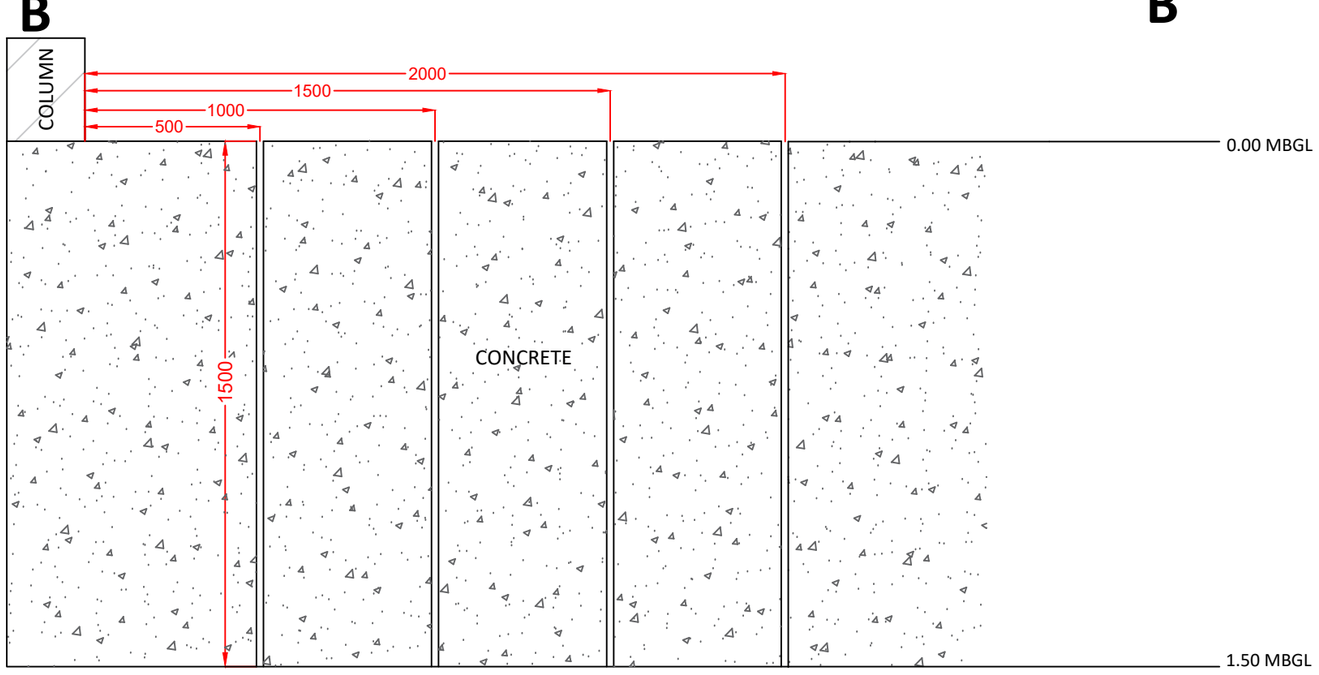
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Foundation Inspection Pit FIP1018

DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

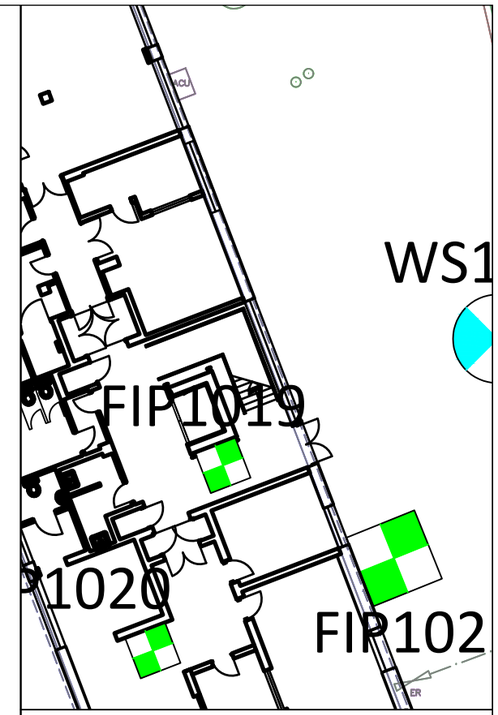
CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	15/07/24	KIA	KP

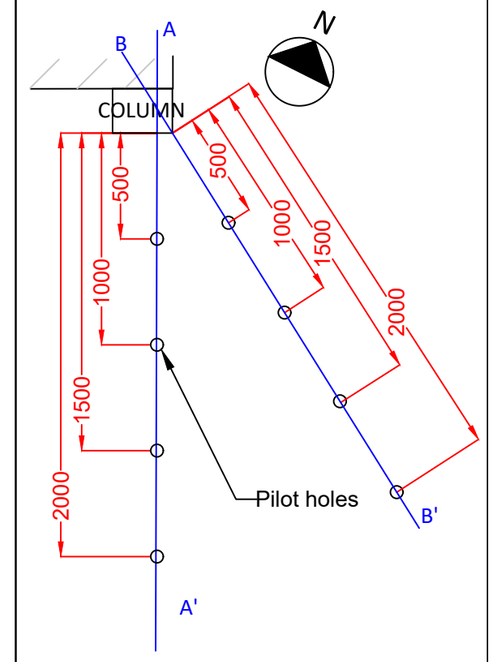
DRAWING No.: 51019-CE-02-XX-D-G-2016
REV: P01





0.00 - 1.50 MBGL: MADE GROUND - Concrete.





1. MBGL = metres below ground level
2. Trial pit terminated at 1.50mbgl at the maximum pilot hole depth
3. Pilot holes reinstated with concrete
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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DATE	REV	DESCRIPTION	DRAWN	CHKD
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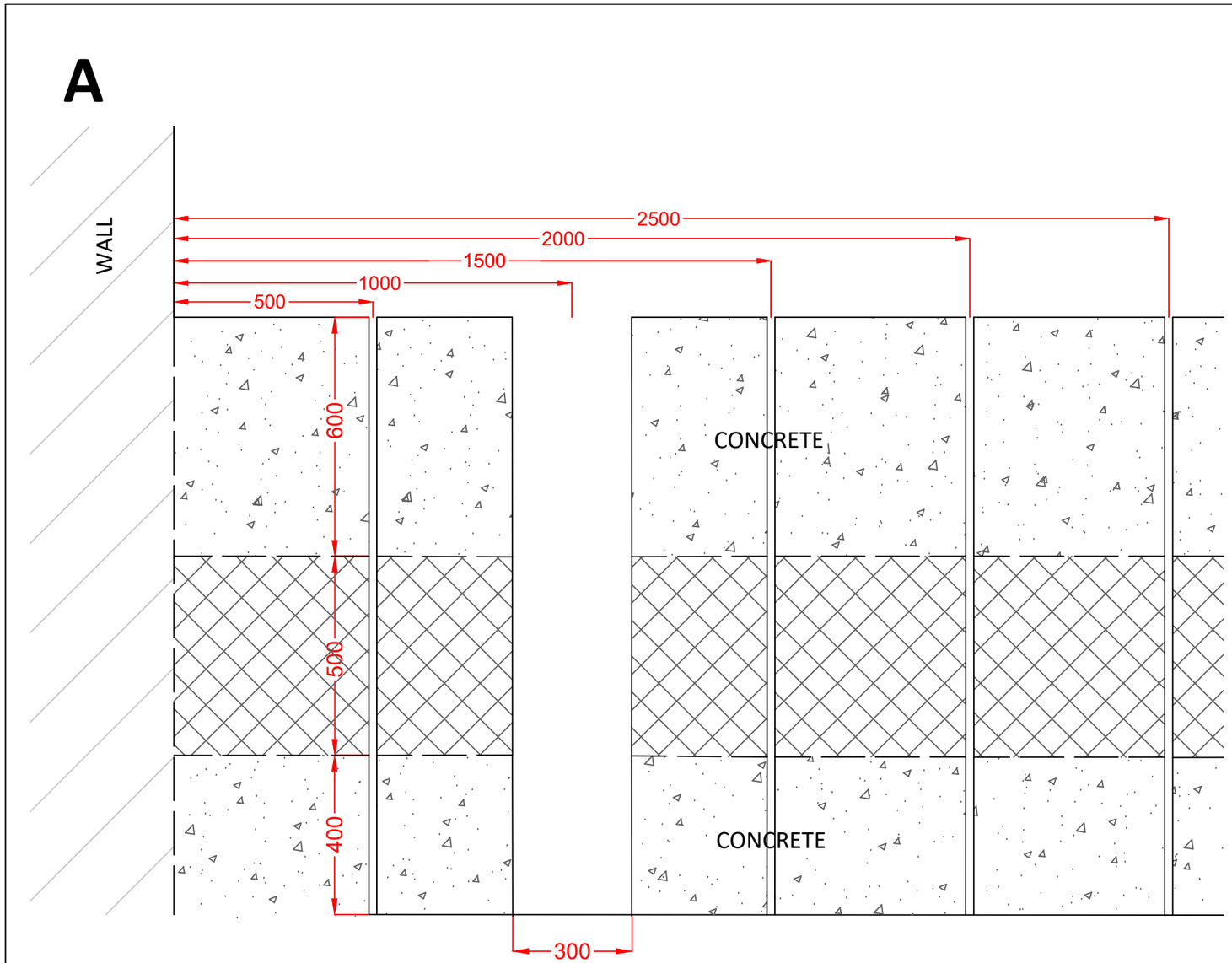
PROJECT
ID Manchester Masterplan Area

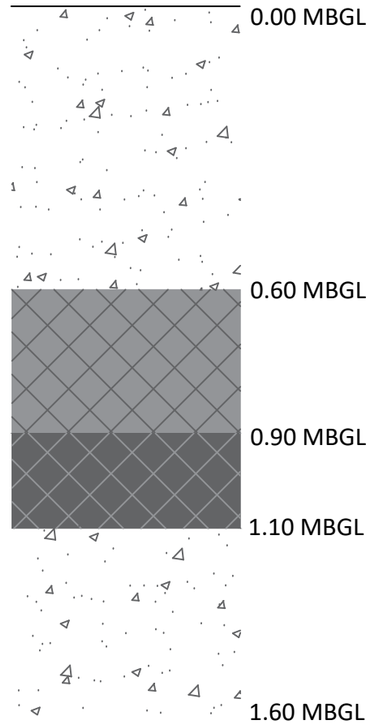
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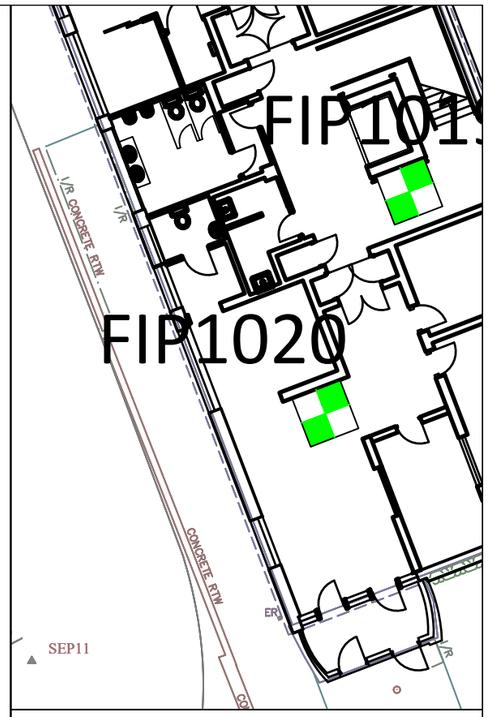
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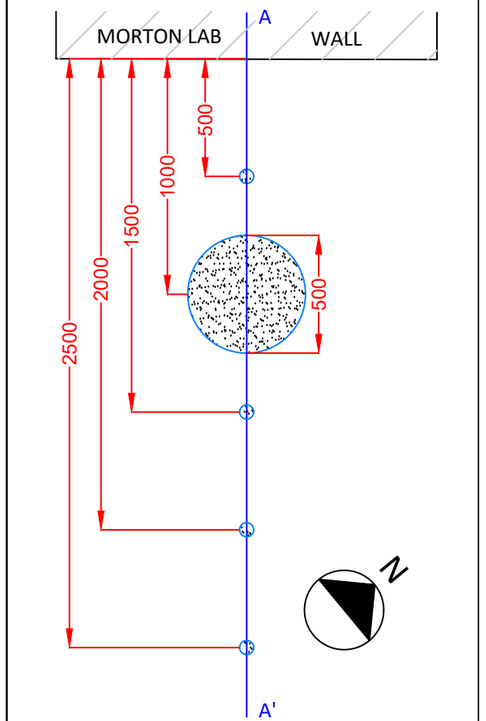
CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	15/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2017
REV: P01









0.00 - 0.60 MBGL: MADE GROUND - Concrete.

0.60 - 0.90 MBGL: MADE GROUND - Dark brown slightly sandy gravelly clay. Gravel is angular to subangular fine to coarse of brick and concrete. Sand is fine to coarse.

0.90- 1.10 MBGL: MADE GROUND - Dark brown gravelly sand. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of concrete, brick, and sandstone.

1.10- 1.60 MBGL: MADE GROUND - Concrete

DATE	REV	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

1. MBGL = metres below ground level
2. Trial pit terminated at 1.60mbgl at maximum excavation depth
3. Trial pit backfilled with arisings
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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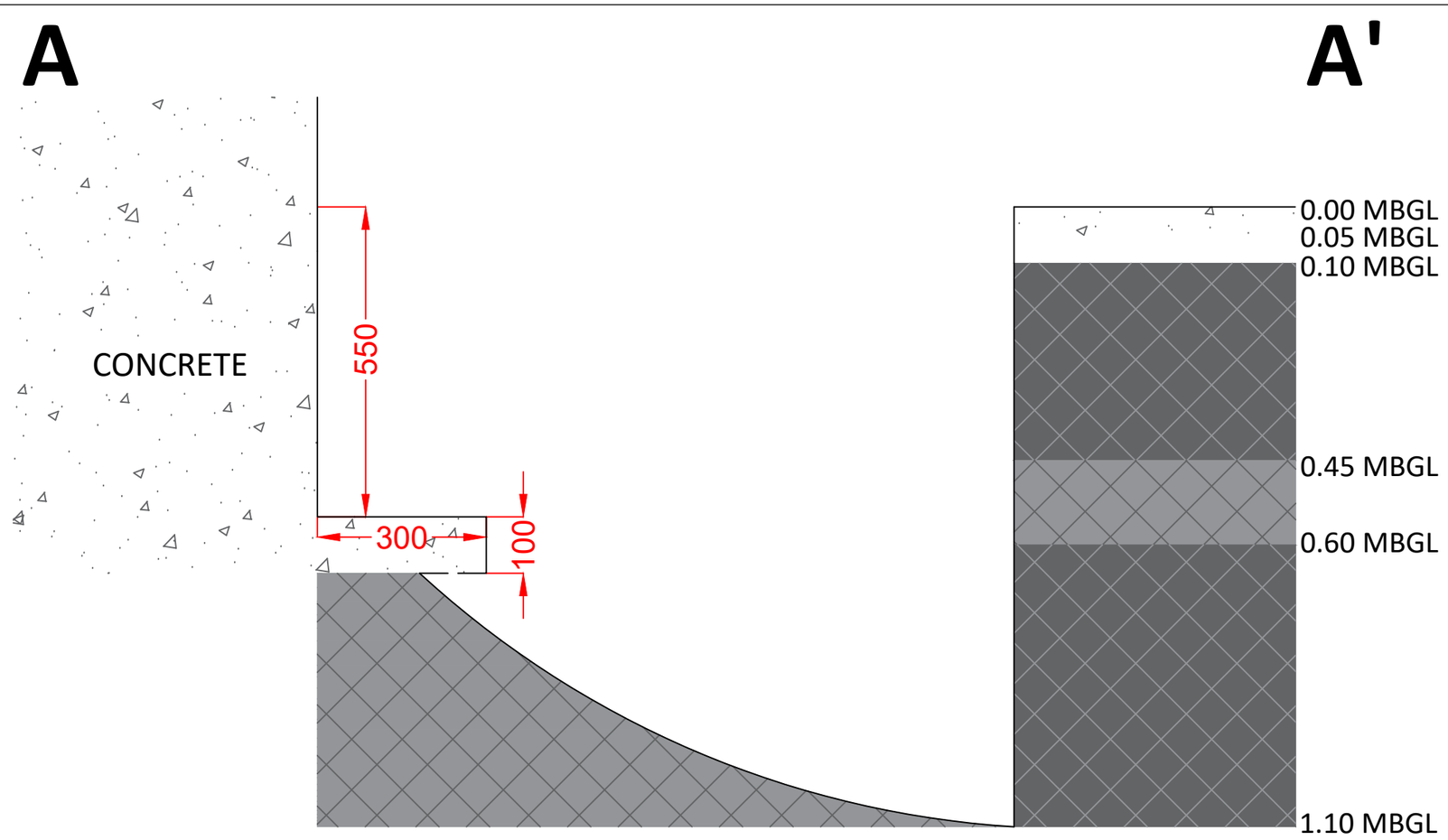
PROJECT
ID Manchester Masterplan Area

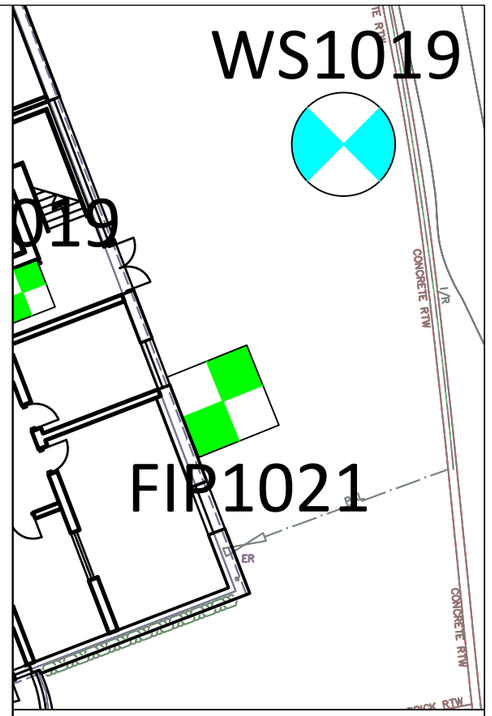
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Foundation Inspection Pit FIP1020

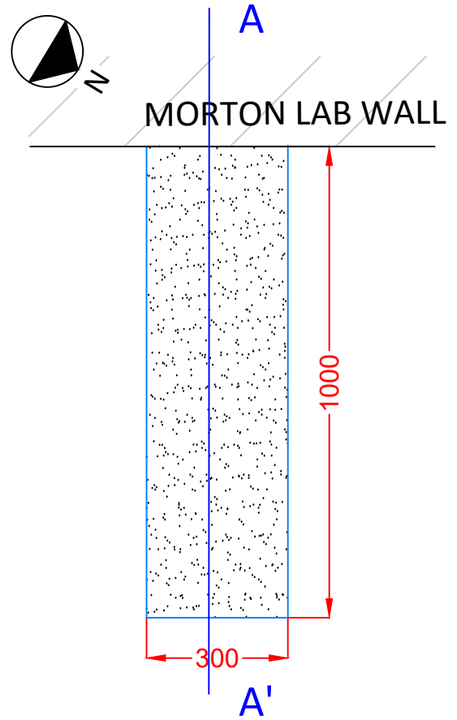
DRAWING STATUS	STATUS CODE
FOR INFORMATION	-

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	03/07/24	KIA	KP

DRAWING No.	REV
51019-CE-02-XX-D-G-2018	P01







0.00 - 0.05 MBGL: MADE GROUND - Concrete paving slab.

0.05 - 0.10 MBGL: MADE GROUND - Pale very weak cement (75% fine to medium sand).

0.10 - 0.45 MBGL: MADE GROUND - Brown yellow slightly sandy gravel. Gravel is angular medium to coarse of limestone.

0.45 - 0.60 MBGL: MADE GROUND - Dark grey mottled red clayey gravelly sand. Sand is fine to coarse. Gravel is fine to coarse angular of concrete and brick.

0.60 - 1.10 MBGL: MADE GROUND - Brown very sandy clay with occasional red house bricks. Sand is fine to coarse.

DATE	REV	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

1. MBGL = metres below ground level
2. Trial pit terminated at 1.10mbgl following exposure of base of foundation
3. Trial pit backfilled with arisings and reinstated with tarmac
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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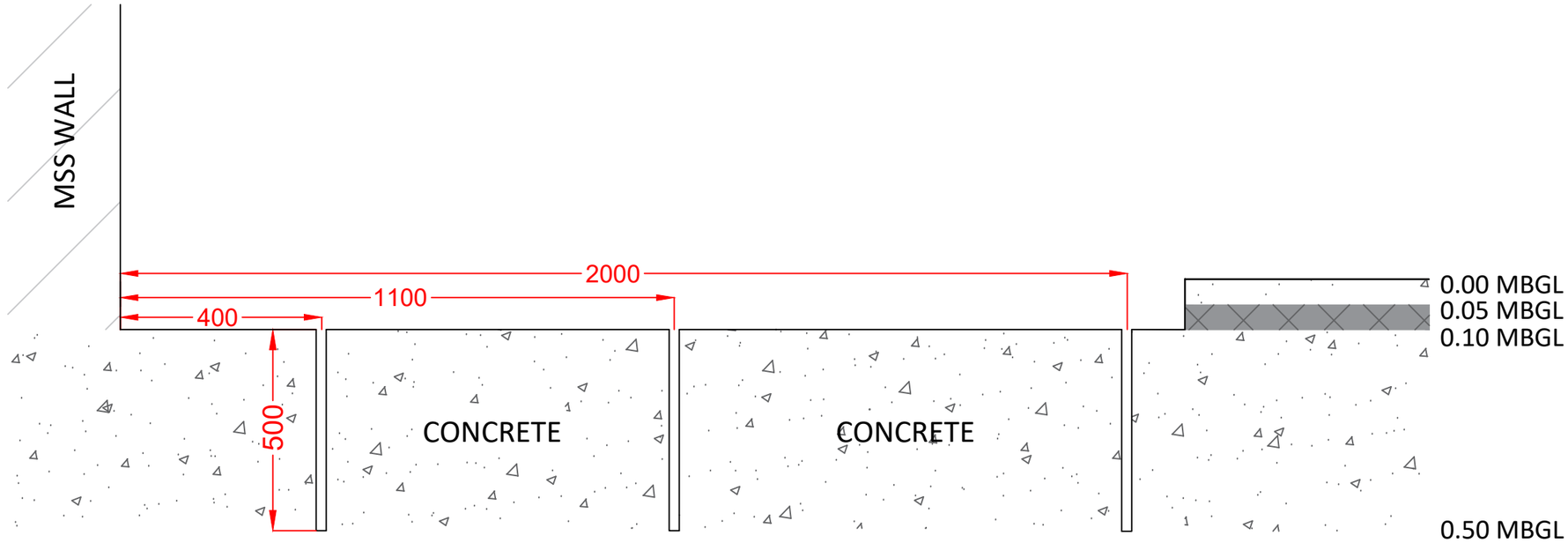
PROJECT
ID Manchester Masterplan Area

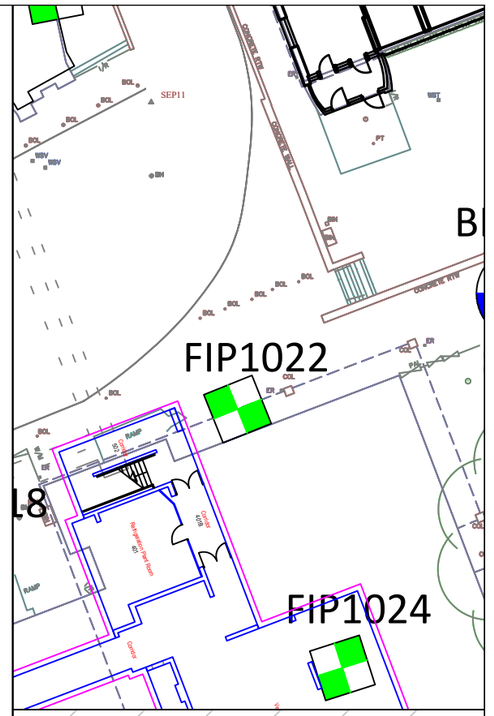
TITLE
Foundation Inspection Pit FIP1021

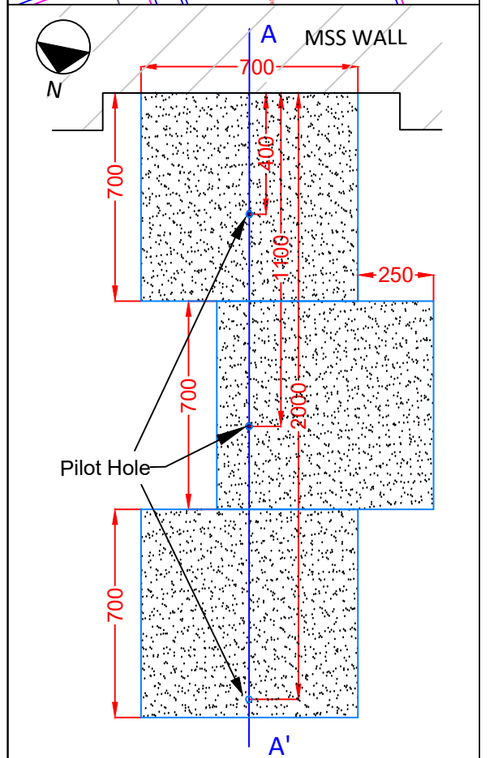
DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	05/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2019
REV: P01







0.00 - 0.05 MBGL: MADE GROUND - Paving slab.

0.05 - 0.10 MBGL: MADE GROUND - Reddish brown sand. Sand is fine to coarse.

0.10- 0.50 MBGL: MADE GROUND - Concrete.

DATE	REV	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

1. MBGL = metres below ground level
2. Trial pit terminated at 0.5mbgl. Unable to progress to deeper depth due to strength of concrete and dust generation within pilot hole
3. Pilot holes reinstated with concrete
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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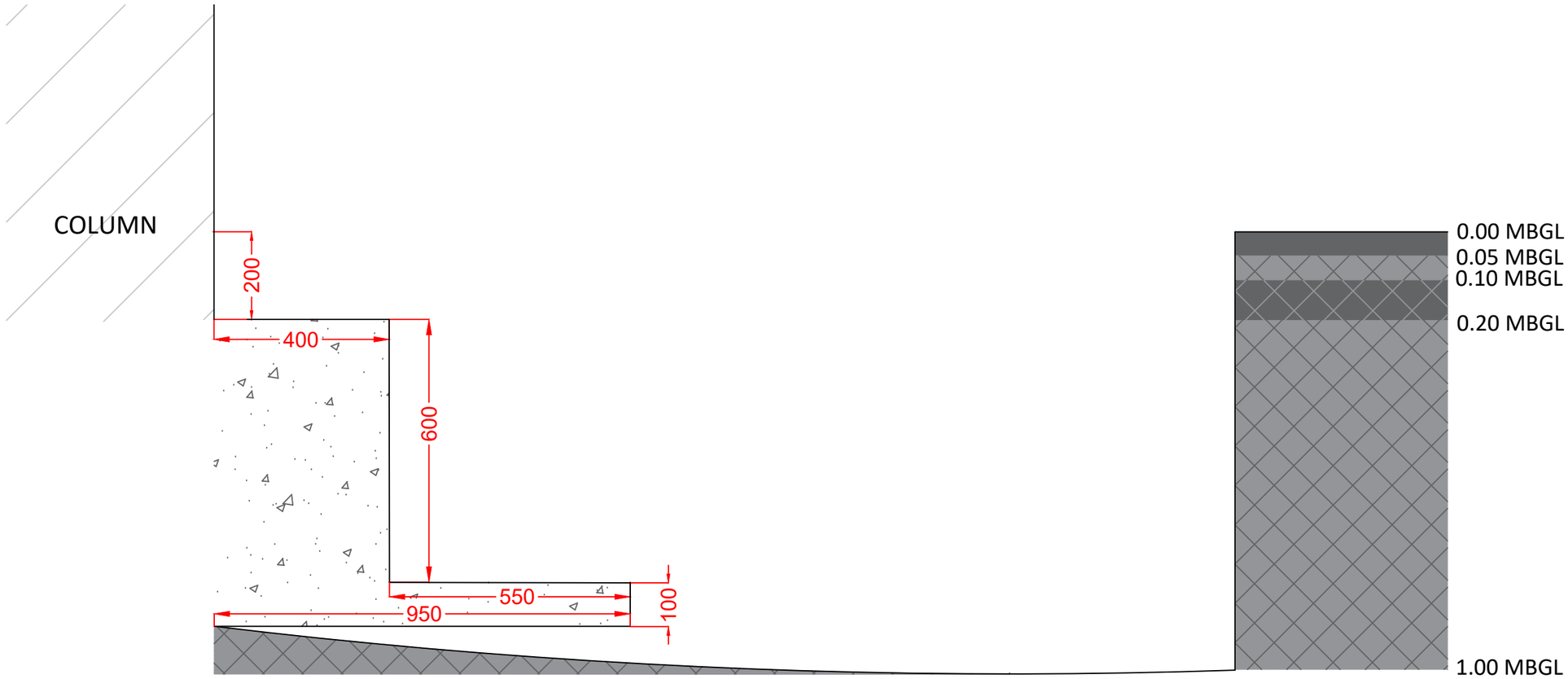
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Foundation Inspection Pit FIP1022

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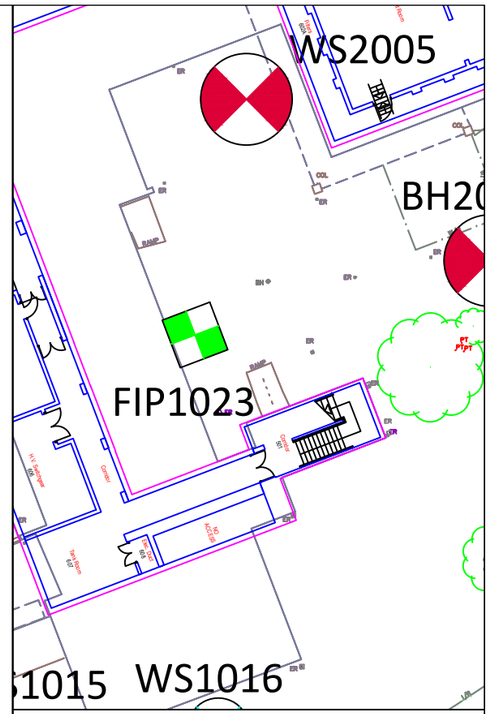
CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	03/07/24	KIA	KP

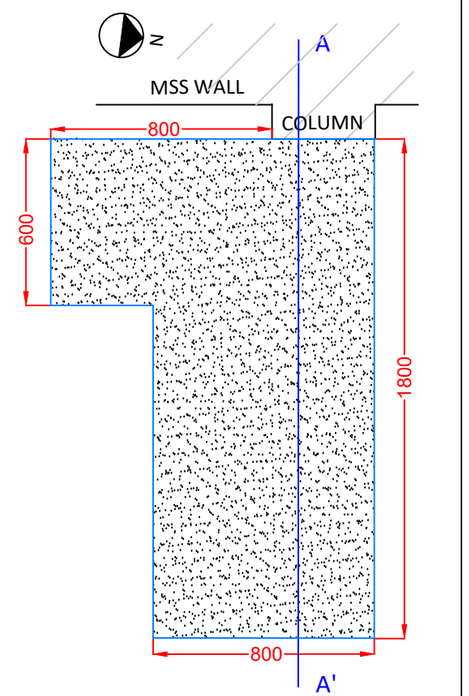
DRAWING No.: 51019-CE-02-XX-D-G-2020
REV: P01

A



A'





0.00 - 0.05 MBGL: MADE GROUND - Paving slab.

0.05 - 0.10 MBGL: MADE GROUND - Blackish brown slightly gravelly sandy clay. Sand is fine to coarse. Gravel is angular of concrete.

0.10 - 0.20 MBGL: MADE GROUND - Yellowish brown sandy gravel. Sand is fine to coarse. Gravel angular to subangular fine to coarse of brick and concrete.

0.20 - 1.00 MBGL: MADE GROUND - Reddish brown sand. Sand is fine to coarse. Occasional angular fine to coarse of brick and concrete gravel noted.

DATE	REV	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

1. MBGL = metres below ground level
2. Trial pit terminated at 1.0mbgl due to base of foundation being located`
3. Trial pit backfilled with arisings and reinstated with tarmac
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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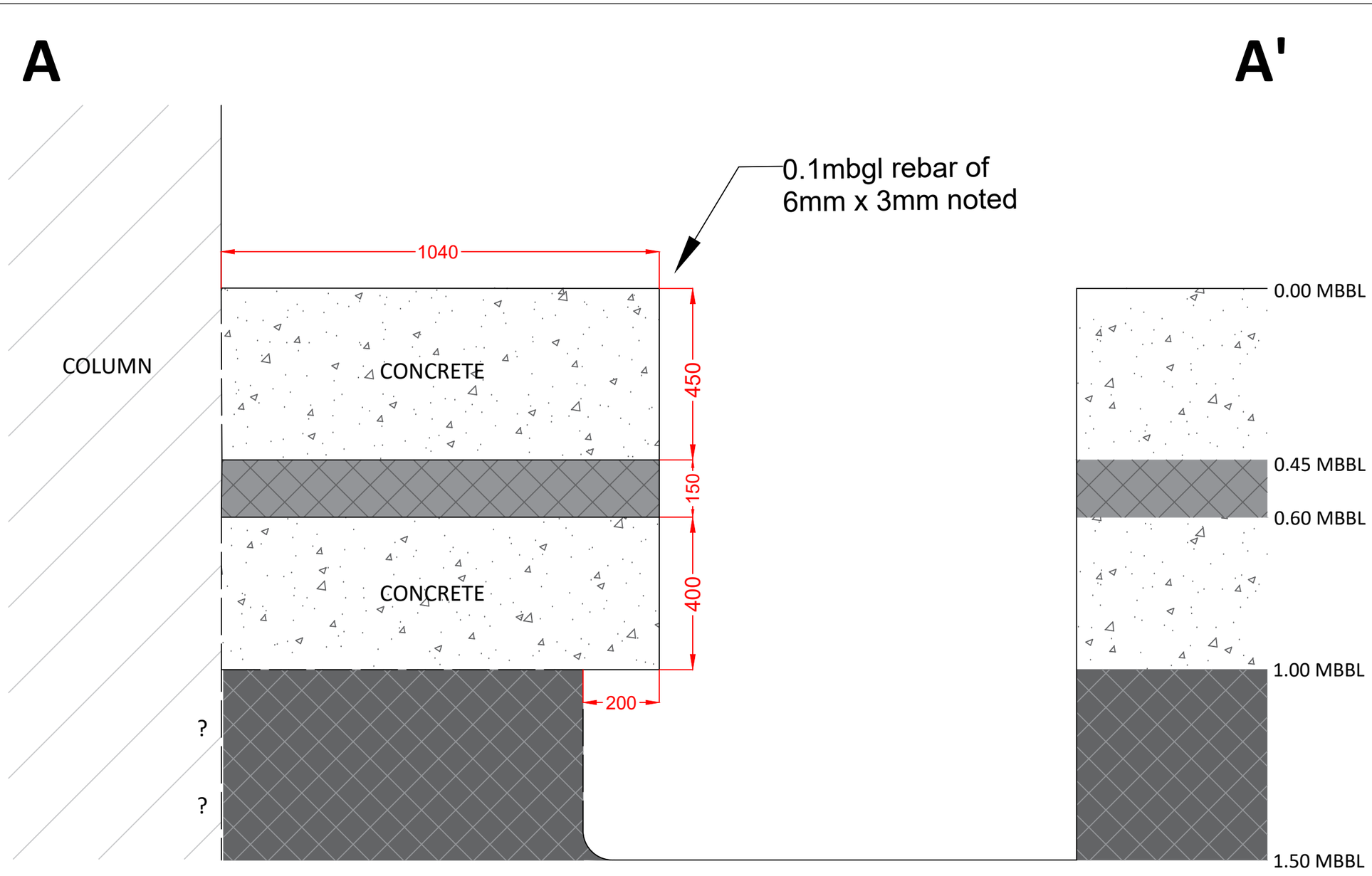
PROJECT
ID Manchester Masterplan Area

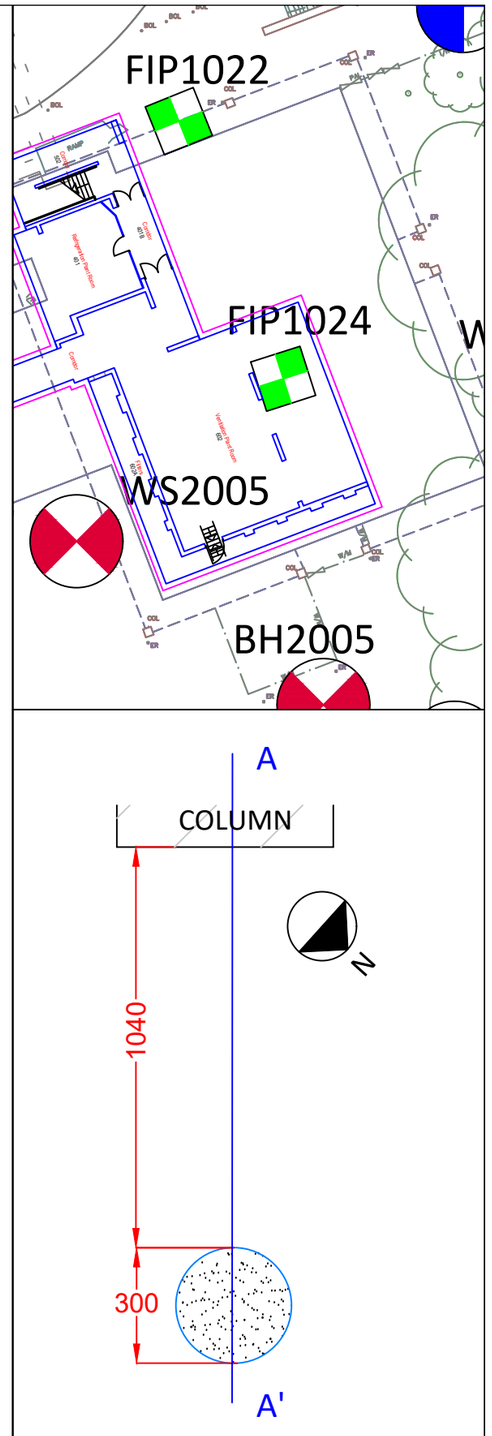
TITLE
Foundation Inspection Pit FIP1023

DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	03/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2021
REV: P01





0.00 - 0.45 MBBL: MADE GROUND - Concrete.

0.45 - 0.60 MBBL: MADE GROUND - Light brown cobbly gravelly sand. Sand is fine to coarse. Gravel is angular of limestone, brick and concrete. Cobbles are angular of concrete.

0.60 - 1.00MBBL: MADE GROUND - Concrete.

1.00 - 1.50 MBBL: MADE GROUND - Light brown slightly gravelly sand. Sand is fine to coarse. Gravel is angular of concrete, brick and sandstone.

DATE	REV	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

1. MBBL = metres below basement level
2. Trial pit terminated at 1.5mbgl at maximum excavation depth
3. Trial pit backfilled with arisings and reinstated with concrete
4. Pilot holes drilled between wall and concrete core hole which recorded same ground conditions as core hole.
5. Dimensions of structures / foundations provided in mm unless otherwise stated

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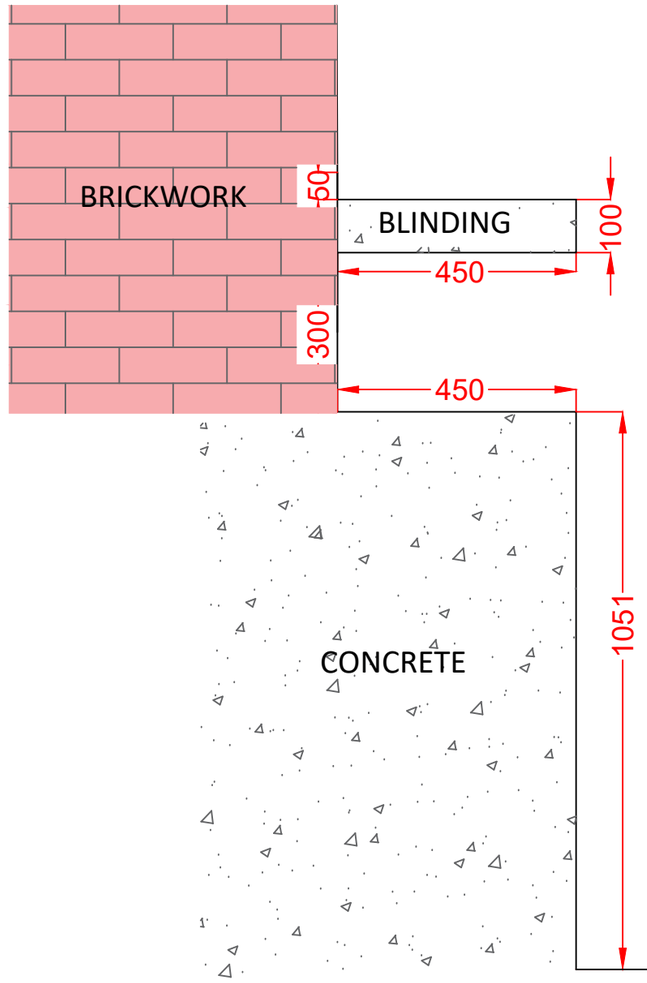
PROJECT
ID Manchester Masterplan Area

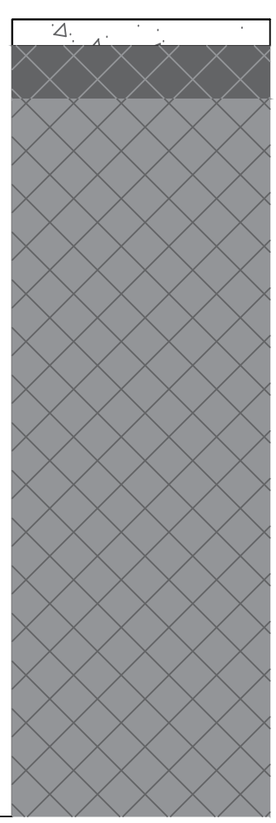
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Foundation Inspection Pit FIP1024

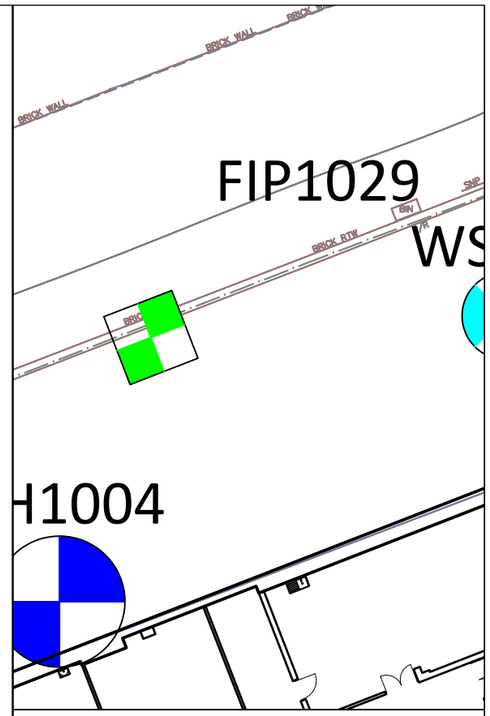
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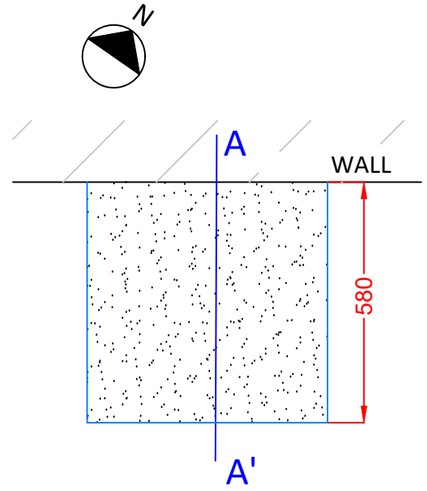
CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	05/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2022
REV: P01









0.00 - 0.05 MBGL: MADE GROUND - Bituminous macadam.

0.05 - 0.15 MBGL: MADE GROUND - Yellowish brown slightly sandy gravel. Gravel is angular fine to coarse of dolomite (SUB-BASE).

0.15 - 1.50 MBGL: MADE GROUND - Dark reddish brown cobbly sandy gravel. Gravel is angular fine to coarse of brick, concrete, sandstone. Sand is fine. Rare cobbles of brick noted.

-	-	-	-	-
DATE	REV	DESCRIPTION	DRAWN	CHKD

1. MBBL = metres below ground level
2. Trial pit terminated at 1.5mbgl at maximum excavation depth
3. Trial pit backfilled with arisings and reinstated with concrete
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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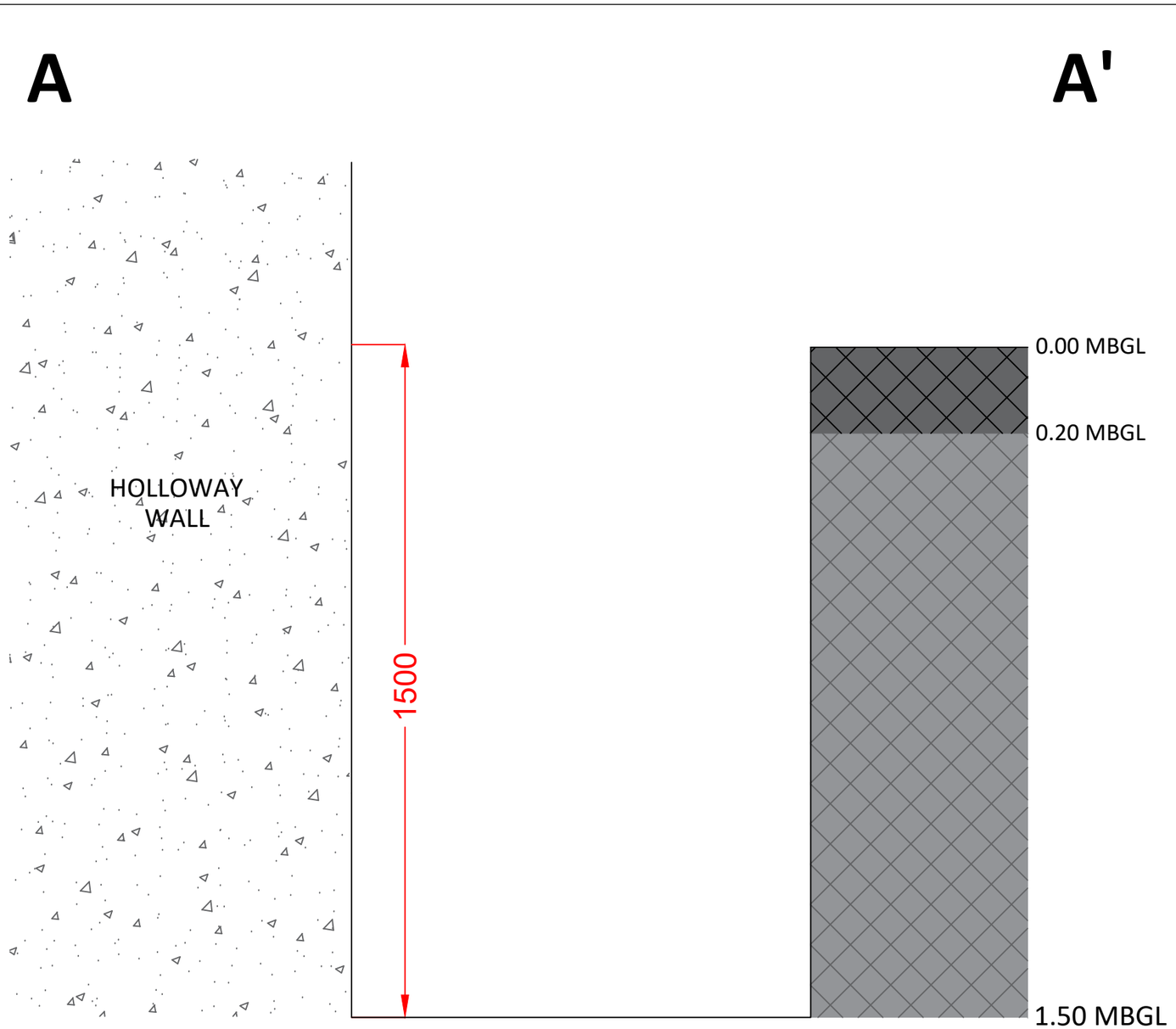
PROJECT
ID Manchester Masterplan Area

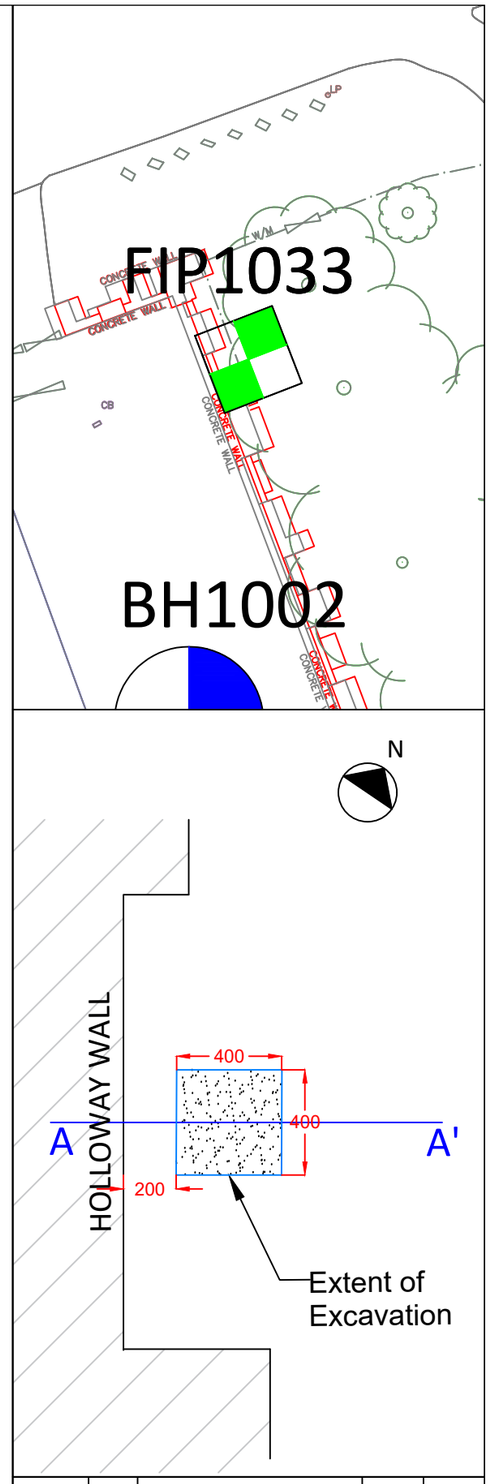
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Foundation Inspection Pit FIP1029

DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	26/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2023
REV: P01





0.00 - 0.20 MBGL: MADE GROUND - Dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine of concrete. Sand is fine to coarse.

0.20 - 1.50 MBGL: MADE GROUND - Dark brown cobbly gravelly sand. Sand is fine to coarse. Gravel is angular fine to coarse of limestone, concrete and brick. Cobbles are angular of concrete and brick. Rare fragments of metal and glass noted.

-	-	-	-	-
DATE	REV	DESCRIPTION	DRAWN	CHKD

1. MBGL = metres below ground level
2. Trial pit terminated at 1.50mbgl at maximum excavation depth.
3. Trial pit backfilled with arisings
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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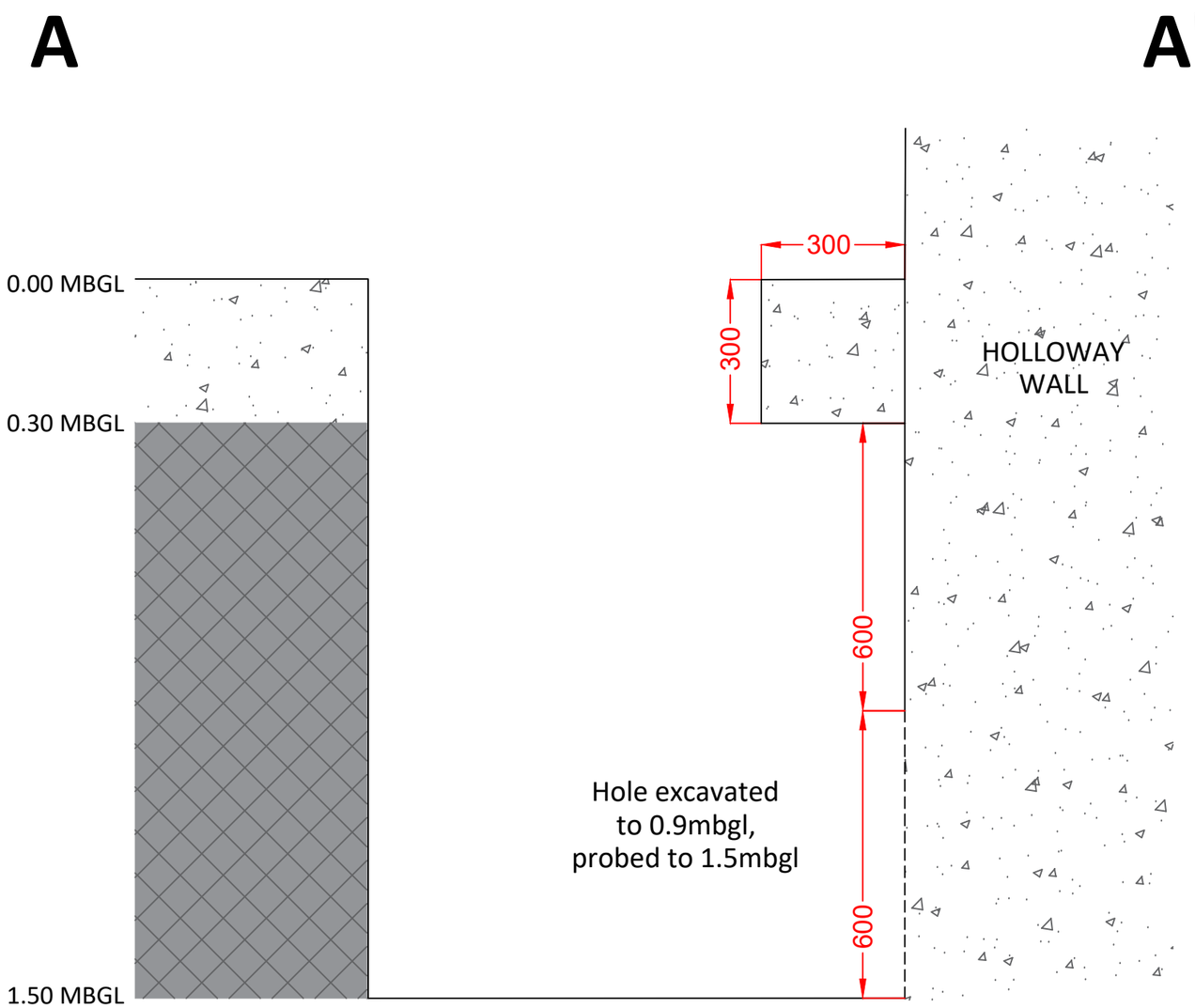
PROJECT
ID Manchester Masterplan Area

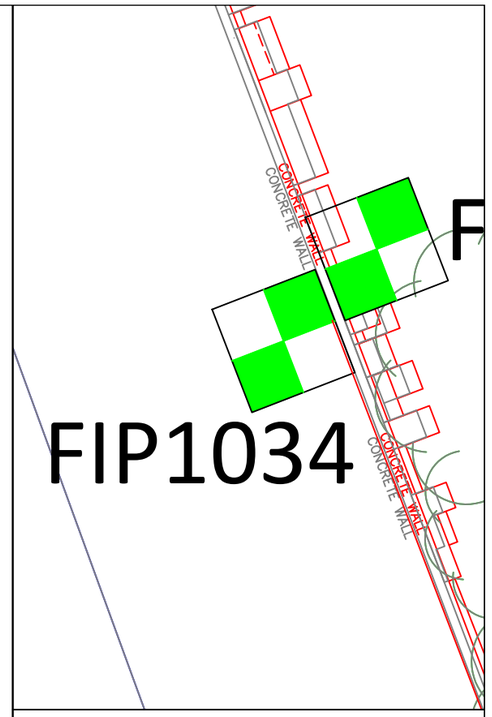
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Foundation Inspection Pit FIP1033

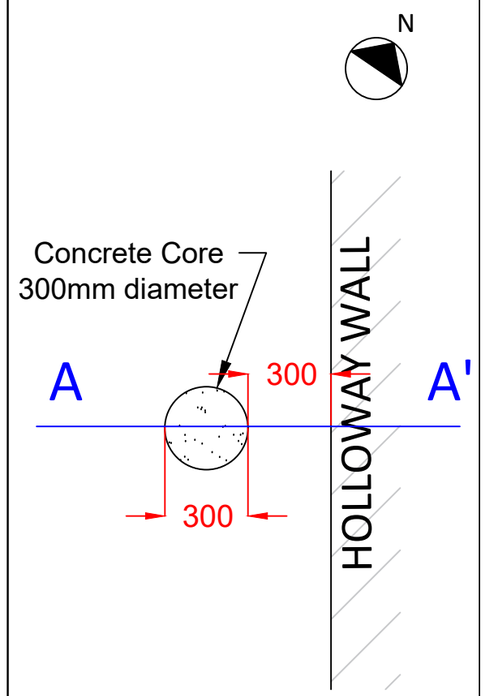
DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	04/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2024
REV: P01







0.00 - 0.30 MBGL: MADE GROUND - Concrete.

0.30 - 1.50 MBGL: MADE GROUND - Light brown cobbly sandy gravel. Gravel is angular fine to coarse of dolomite. Sand is fine to coarse. Cobbles are angular of concrete and brick.

DATE	REV	DESCRIPTION	DRAWN	CHKD
-	-	-	-	-

1. MBGL = metres below ground level
2. Trial pit terminated at 1.50mbgl at maximum excavation depth
3. Trial pit backfilled with arisings and reinstated with concrete
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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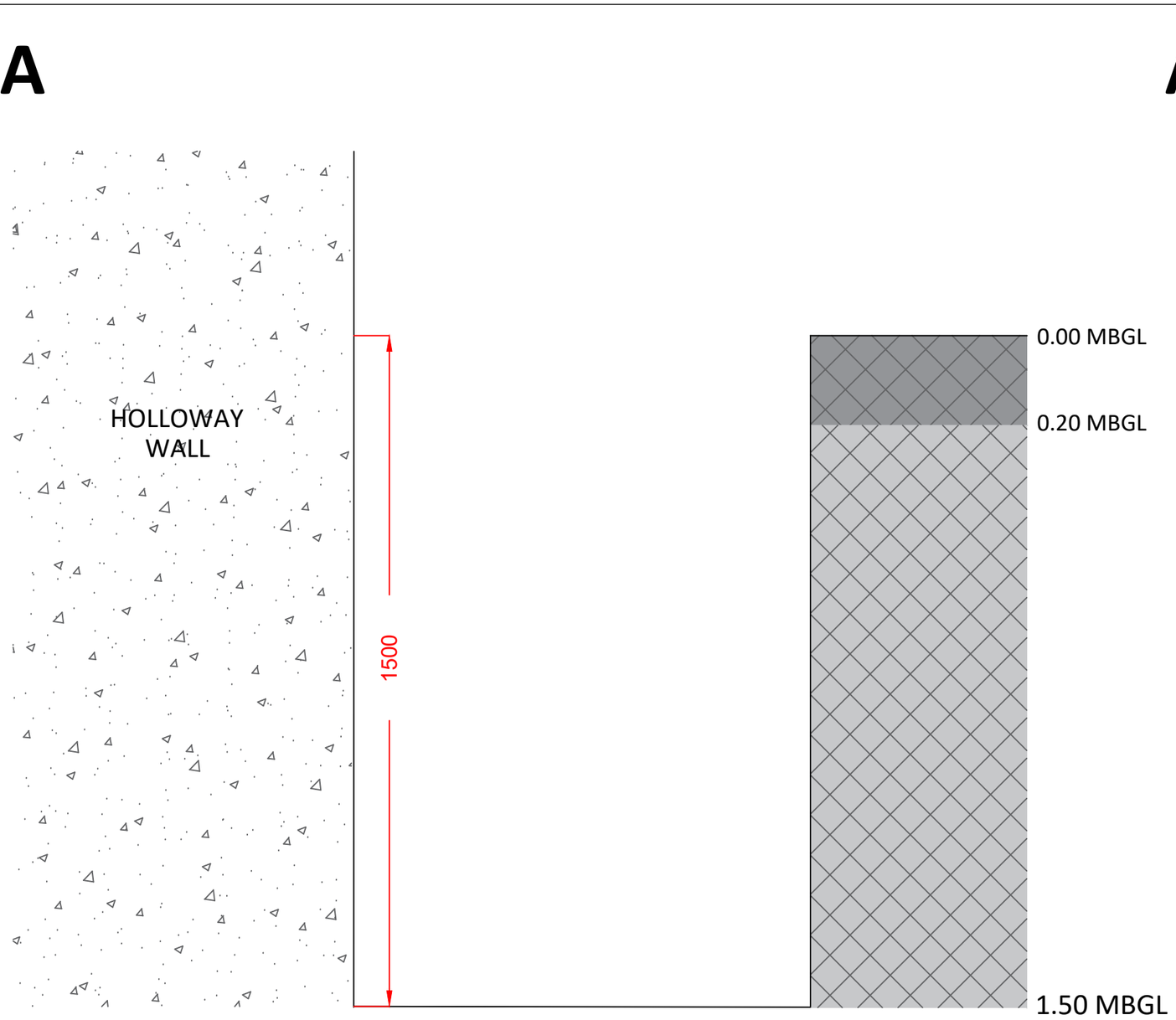
PROJECT
ID Manchester Masterplan Area

TITLE
Foundation Inspection Pit FIP1034

DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

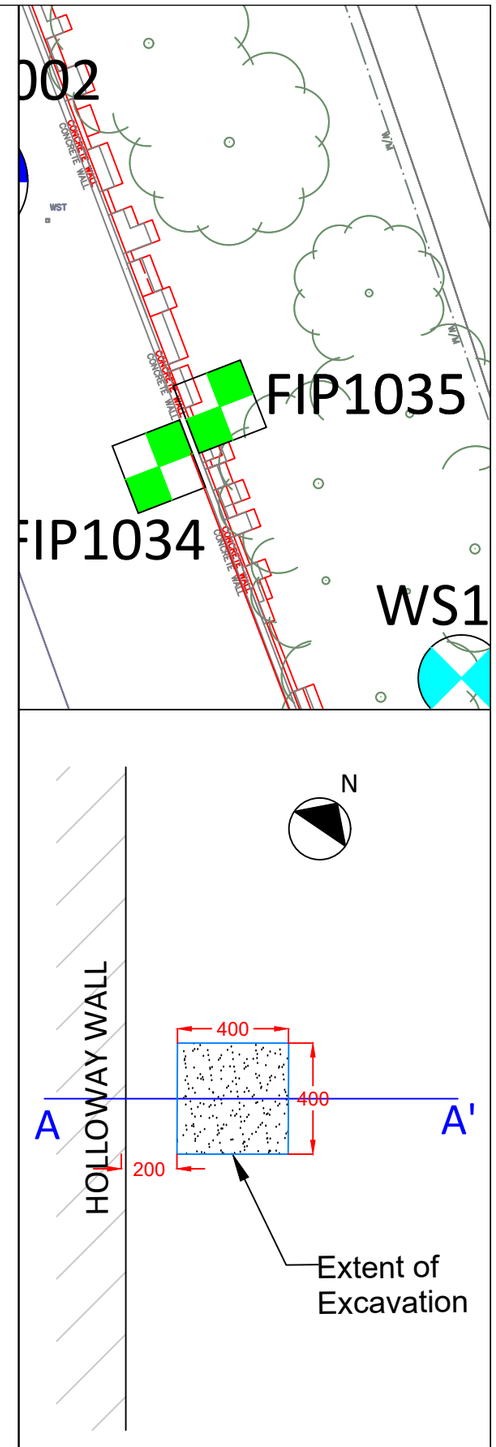
CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	04/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2025
REV: P01



0.00 - 0.20 MBGL: MADE GROUND - Dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine of concrete. Sand is fine to coarse.

0.20 - 1.50 MBGL: MADE GROUND - Orangish brown slightly cobbly slightly gravelly sand. Sand is fine to coarse. Gravel is angular of concrete and brick. Cobbles are angular of sandstone, brick and concrete. Rare fragments of wire, glass and metal noted.



-	-	-	-	-
DATE	REV	DESCRIPTION	DRAWN	CHKD

1. MBGL = metres below ground level
2. Trial pit terminated at 1.50mbgl at maximum excavation depth
3. Trial pit backfilled with arisings
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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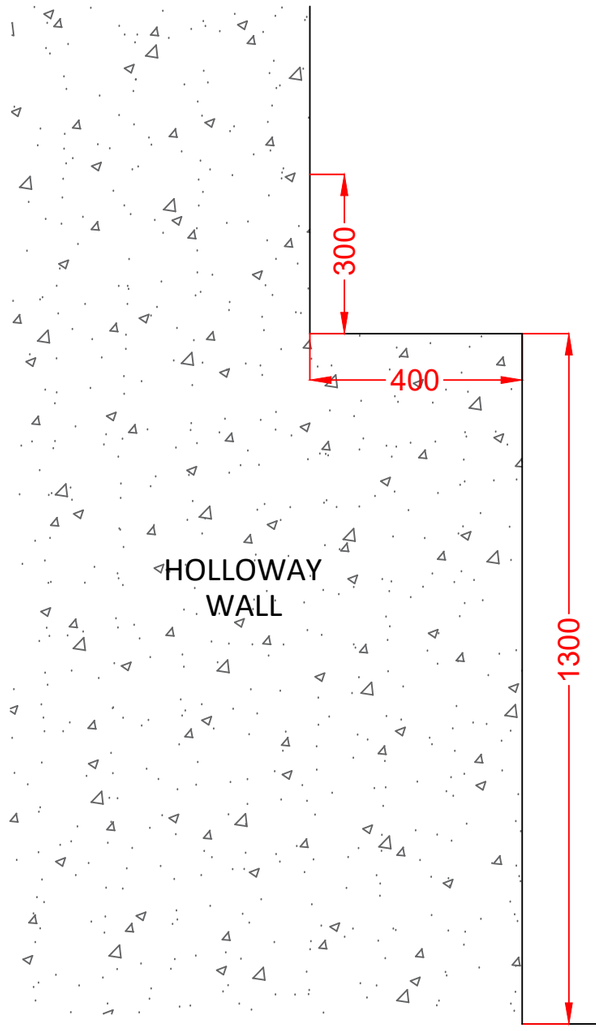
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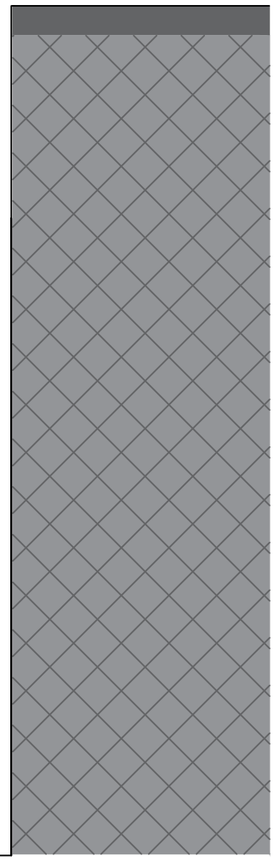
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51019-02	NTS	03/07/24	KIA	KP

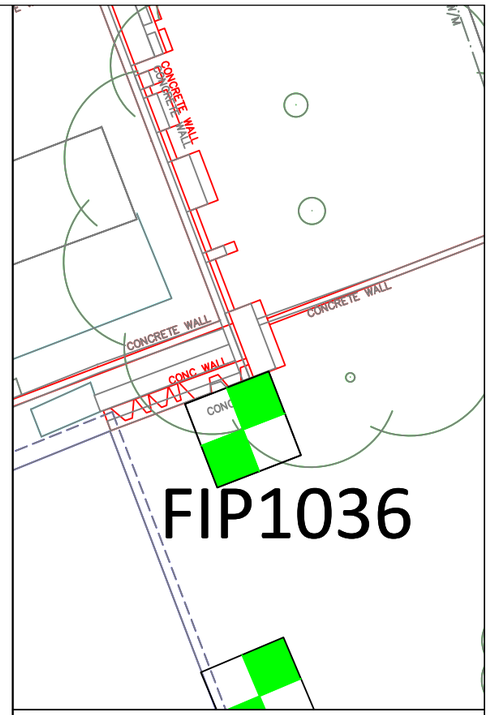
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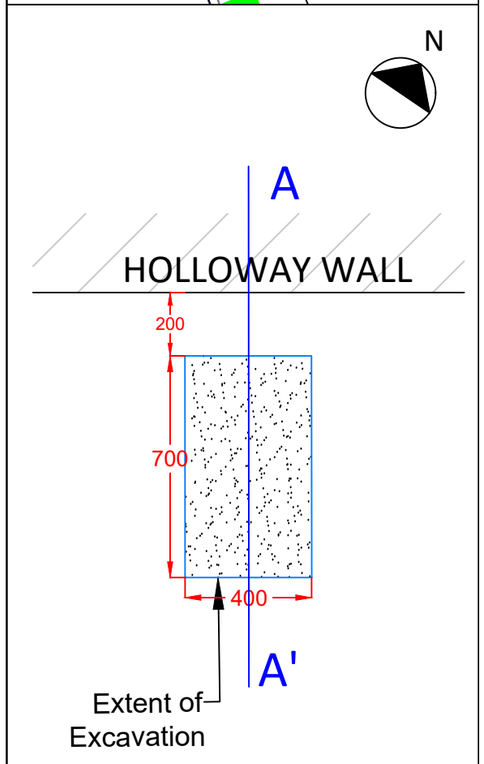
A



A'







0.00 - 0.05 MBGL: MADE GROUND - Paving slab.

0.05 - 1.60 MBGL: MADE GROUND - Dark brown cobbly gravelly sand. Gravel is angular fine to coarse of limestone, concrete and brick. Sand is fine to coarse. Cobbles are angular of concrete and brick. Rare fragments of metal and glass noted.

-	-	-	-	-
DATE	REV	DESCRIPTION	DRAWN	CHKD

1. MBGL = metres below ground level
2. Trial pit terminated at 1.60mbgl due to maximum excavation depth
3. Trial pit backfilled with arisings
4. Dimensions of structures / foundations provided in mm unless otherwise stated

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PROJECT
ID Manchester Masterplan Area

TITLE
Foundation Inspection Pit FIP1036

DRAWING STATUS: FOR INFORMATION
STATUS CODE: -

CE PROJECT No.	SCALE @ A3	DATE CREATED	DRAWN	CHECKED
51019-02	NTS	03/07/24	KIA	KP

DRAWING No.: 51019-CE-02-XX-D-G-2027
REV: P01

Appendix D

Foundation Inspection Pit and Horizontal Core Photographs

Site Photos	
	
1. FIP1001 – Looking West	2. FIP1001 – Looking Northeast
	
3. FIP1001 – East Face of Pit	4. FIP1001 – Arisings from West of Pit
	
5. FIP1002 – Facing East	6. FIP1002 – Rebar in Beam to Barnes Wallis

Site Photos



7. FIP1002 – Pad of Column



8. FIP1002 – Spoil from Excavation



9. FIP1003 – Facing West



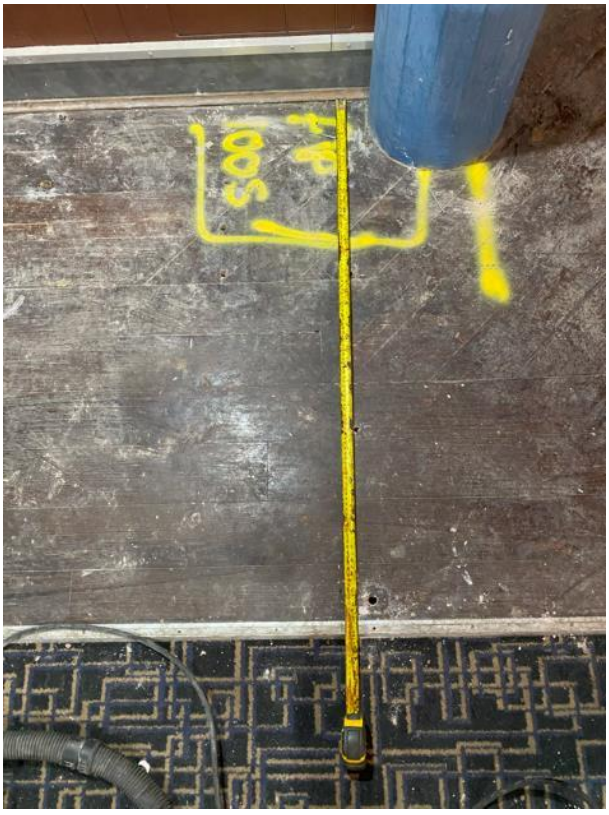
10. FIP1003 – Facing West



11. FIP1003 – Top of Photo Facing = South



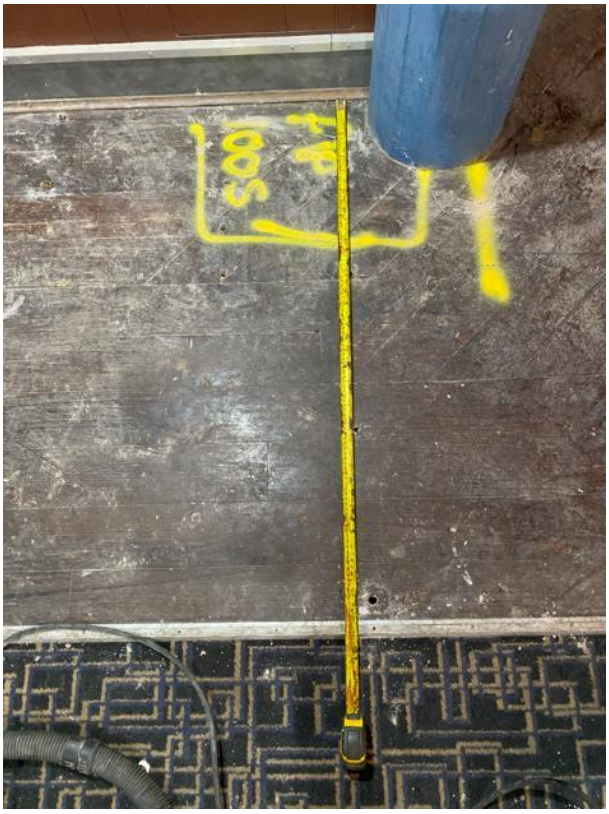
12. FIP1003 – Top of Photo = West

Site Photos	
	
13. FIP1004 – Facing East	14. FIP1004 – Facing East
	
15. FIP1005 – Pilot Hole Investigation	16. FIP1005 – Pilot Hole Investigation

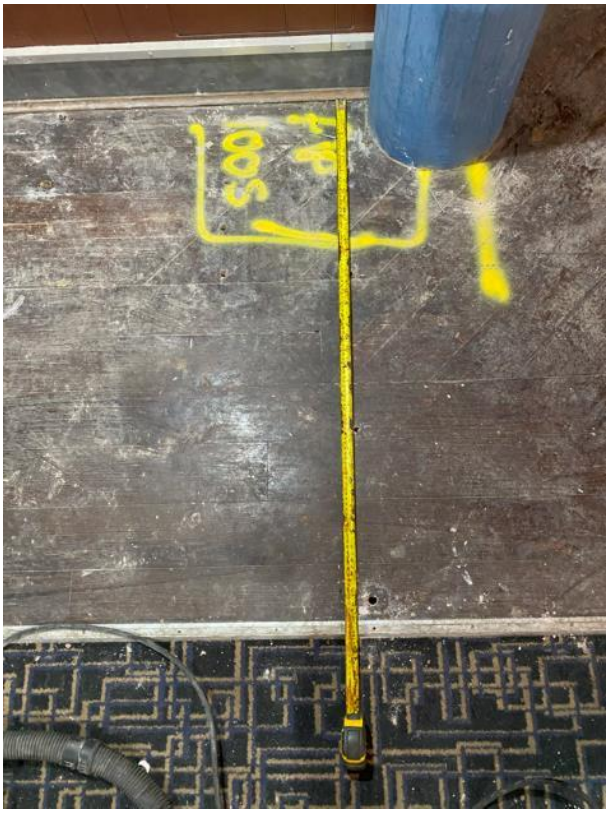
Site Photos



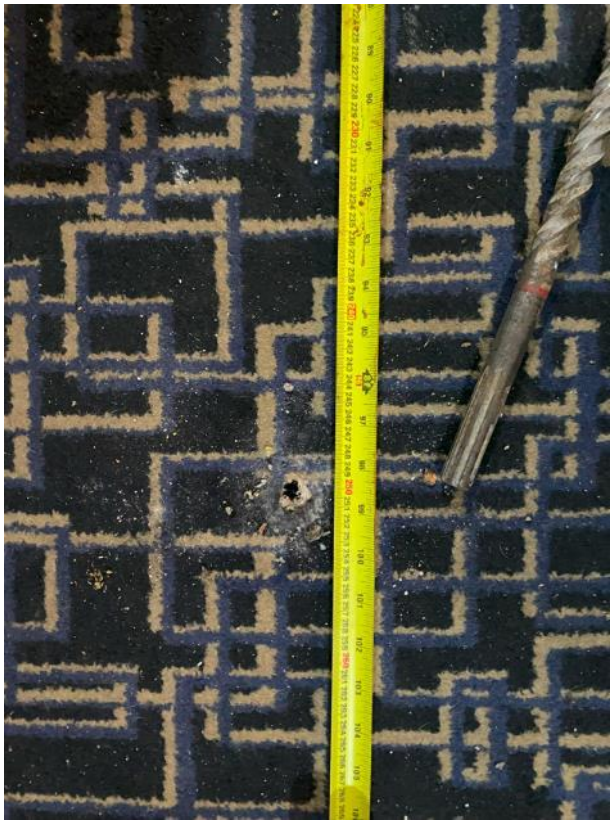
17. FIP1005 – Pilot Hole Investigation



18. FIP1004 – Facing East



19. FIP1005 – Pilot Hole Investigation



20. FIP1005 – Pilot Hole Investigation

Site Photos



21. FIP1006 – Facing North



22. FIP1006 – North Face of Pit



23. FIP1006 – South Face of Pit



24. FIP1006 – Facing North



25. FIP1006 – Facing North



26. FIP1006 – Extended Excavation to East of Pit

Site Photos



27. FIP1007 – Facing West



28. FIP1007 – Facing West

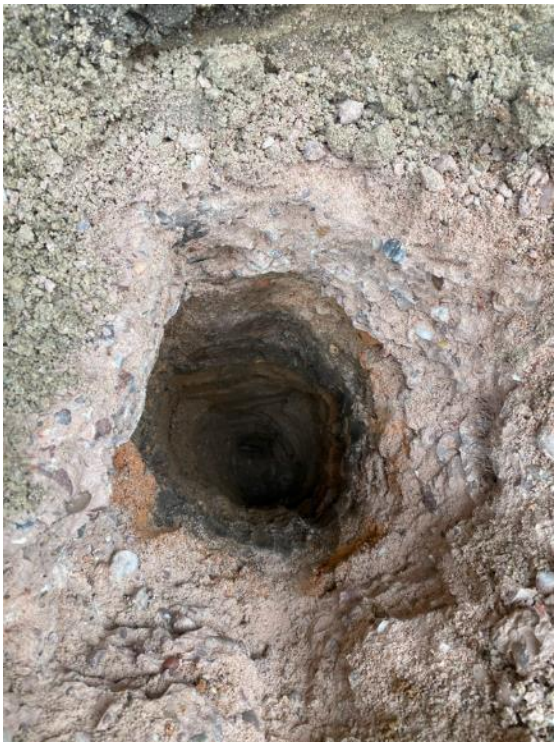


29. FIP1010 – Facing Southeast



30. FIP1010 – Facing Southeast

Site Photos



31. FIP1010 – Trial Pit



32. FIP1012 – Facing North



33. FIP1013 – Facing East



34. FIP1013 – Facing East

Site Photos



35. FIP1014 – Facing East



36. FIP1014 – Facing East



37. FIP1015 – Facing South



38. FIP1015 – Facing South

Site Photos	
	
39. FIP1015 – Facing South	40. FIP1016 – Facing East
	
41. FIP1016 – Arisings	42. FIP1017 – Facing West

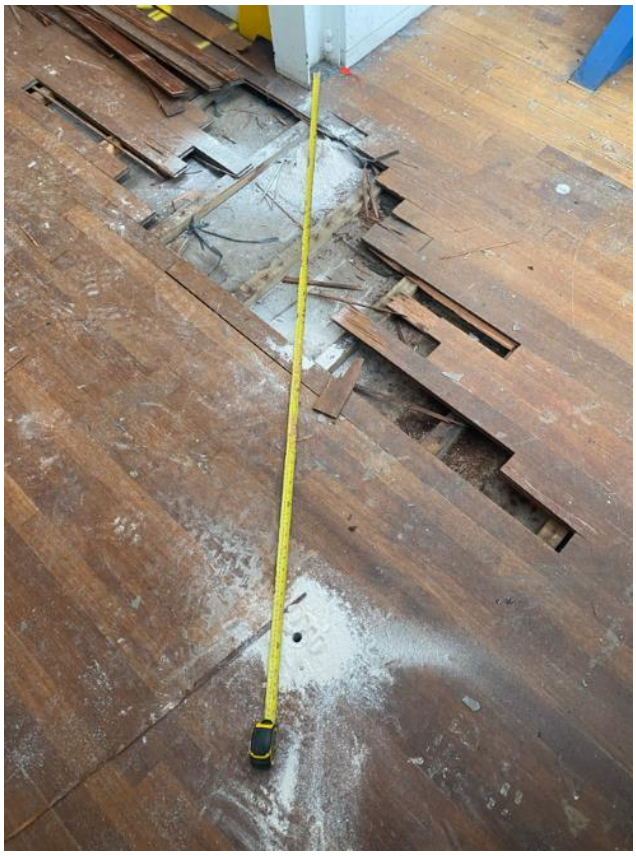
Site Photos



43. FIP1017 – Arisings



44. FIP1018



45. FIP1019 – Pilot Hole Investigation



46. FIP1019 – Pilot Hole Investigation

Site Photos



47. FIP1020 – Pilot Hole Investigation



48. FIP1020 – Core Hole



49. FIP1020 – Extracted Core



50. FIP1021 – Facing West

Site Photos



51. FIP1021 – Facing West



52. FIP1021 – Facing West



53. FIP1022 – Facing South



54. FIP1022 – Facing South

Site Photos



55. FIP1023 – Facing West



56. FIP1023 – Facing North



57. FIP1024 – Core Hole



58. FIP1024 – Core Hole

Site Photos



59. FIP1029 – Facing North



60. FIP1029 – Facing North



61. FIP1033 – Facing West



62. FIP1033 – Trial Pit Excavation

Site Photos



63. FIP1033 – Trial Pit Excavation



64. FIP1033 – Face of Wall Below Ground



65. FIP1034 – Facing East



66. FIP1034 – Core Hole

Site Photos



67. FIP1034 – Face of Wall in Core Hole



68. FIP1034 – Arisings



69. FIP1035 – Facing West



70. FIP1035 – Excavation, Face of Wall Exposed

Site Photos



71. FIP1035 – Face of Wall in Excavation



72. FIP1035 – Face of Wall in Excavation



73. FIP1036 – Facing North



74. FIP1036 – Stepped Foundation and Excavation

Site Photos



75. HC1001 – 0.00m to 0.80m



76. HC1001 – 0.60m to 1.40m



77. HC1001 – 1.30m to 2.00m

Site Photos



78. HC1001 – Full Core Run



79. HC1002 – 0.00m to 0.75m

Site Photos



80. HC1002 – 0.70m to 1.40m



81. HC1002 – 1.30m to 2.10m



82. HC1002 – Full Core Run

Site Photos



83. HC1003 – 0.00m to 0.70m



84. HC1003 – 0.30m to 1.20m



85. HC1003 – 0.90m to 1.80m

Site Photos



86. HC1003 – 1.60m to 2.30m



87. HC1004 – 0.00m to 0.80m



88. HC1004 – 0.60m to 1.50m

Site Photos



89. HC1004 – 1.00m to 2.00m

Appendix E

Ground Gas and Groundwater Monitoring Records

CIVIC EARTH

Ground Gas Monitoring Record

Project Name:	ID Manchester	**Client:**	ID Manchester Limited
Project Reference:	51019/02	**Engineer:**	KIA
Date of Visit:	29 May 2024	**Time of Visit:**	8:30 to 5:00

Atm. Pressure:	999 to 1000 mbar	**Local Pressure System*:**	Steady
Air Temperature:	13 to 15 °c	**Gas Monitor Model:**	GFM 436 and MiniRAE Lite

State of Ground:	Dry		Damp		Wet	X	Saturated	
Wind Strength:	Calm		Light		Moderate	X	Strong	
Cloud Cover:	Clear		Slight		Cloudy		Overcast	X
Precipitation Level:	None		Slight	X	Moderate		Heavy	

Borehole Reference	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
BH1003	999	0	0.0	0.0	0.0	0.0	0.0	0.0	DRY	3.42
		15	0.0	0.0	18.1	0.5	0.0	0.3		
		30	0.0	0.0	18.5	0.5	0.0	0.0		
		45	0.0	0.0	19.2	0.4	0.0	0.0		
		60	0.0	0.0	19.6	0.4	0.0	0.0		
		90	0.0	0.0	19.9	0.3	0.0	0.0		
		120	0.0	0.0	20.1	0.2	0.0	0.0		
		150	0.0	0.0	20.3	0.2	0.0	0.0		
		180	0.0	0.0	20.4	0.2	0.0	0.0		
		240	0.0	0.0	20.5	0.2	0.0	0.0		
		300	0.0	0.0	20.6	0.1	0.0	0.0		
BH1014A	999	0	0.0	0.0	0.0	0.0	0.0	0.0	DRY	3.81
		15	0.0	0.0	21.0	0.2	0.0	0.1		
		30	0.0	0.0	20.9	0.2	0.0	0.0		
		45	0.0	0.0	20.8	0.2	0.0	0.0		
		60	0.0	0.0	20.8	0.1	0.0	0.0		
		90	0.0	0.0	20.8	0.1	0.0	0.0		
		120	0.0	0.0	20.8	0.1	0.0	0.0		
		150	0.0	0.0	20.8	0.1	0.0	0.0		
		180	0.0	0.0	20.8	0.1	0.0	0.0		
		240	0.0	0.0	20.8	0.1	0.0	0.0		
		300	0.0	0.0	20.8	0.1	0.0	0.0		
WS1006	999	0	0.9	0.0	0.0	0.0	0.0	0.0	DRY	2.57
		15	0.0	0.0	12.2	5.5	0.0	0.2		
		30	0.0	0.0	10.5	7.4	0.0	0.0		
		45	0.0	0.0	10.2	7.5	0.0	0.0		
		60	0.0	0.0	10.2	7.6	0.0	0.0		
		90	0.0	0.0	9.9	7.6	0.0	0.0		
		120	0.0	0.0	9.9	7.6	0.0	0.0		
		150	0.0	0.0	9.8	7.6	0.0	0.0		
		180	0.0	0.0	9.8	7.6	0.0	0.0		
		240	0.0	0.0	9.7	7.6	0.0	0.0		
		300	0.0	0.0	9.6	7.6	0.0	0.0		
WS1008	999	0	0.0	0.0	0.0	0.0	0.0	0.0	DRY	1.93
		15	0.0	0.0	21.0	0.0	0.0	0.3		
		30	0.0	0.0	20.9	0.0	0.0	0.0		
		45	0.0	0.0	20.8	0.0	0.0	0.0		
		60	0.0	0.0	20.8	0.0	0.0	0.0		
		90	0.0	0.0	20.9	0.0	0.0	0.0		
		120	0.0	0.0	20.9	0.1	0.0	0.0		
		150	0.0	0.0	20.9	0.0	0.0	0.0		
		180	0.0	0.0	20.9	0.1	0.0	0.0		
		240	0.0	0.0	20.9	0.1	0.0	0.0		
		300	0.0	0.0	20.9	0.1	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
*WS1001 and WS1024 unable to be accessed.

CIVIC EARTH

Ground Gas Monitoring Record

Project Name:	ID Manchester	**Client:**	ID Manchester Limited
Project Reference:	51019/02	**Engineer:**	KIA
Date of Visit:	29 May 2024	**Time of Visit:**	8:30 to 5:00

Atm. Pressure:	999 to 1000 mbar	**Local Pressure System*:**	Steady
Air Temperature:	13 to 15 °c	**Gas Monitor Model:**	GFM 436 and MiniRAE Lite

State of Ground:	Dry		Damp		Wet	X	Saturated	
Wind Strength:	Calm		Light		Moderate	X	Strong	
Cloud Cover:	Clear		Slight		Cloudy		Overcast	X
Precipitation Level:	None		Slight	X	Moderate		Heavy	

Borehole Reference	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS1012	999	0	0.2	0.0	0.0	0.0	0.0	0.0	3.04	4.92
		15	0.0	0.0	20.2	0.7	0.0	0.2		
		30	0.0	0.0	20.0	0.7	0.0	0.0		
		45	0.0	0.0	19.9	0,7	0.0	0.0		
		60	0.0	0.0	19.8	0,7	0.0	0.0		
		90	0.0	0.0	19.8	0.8	0.0	0.0		
		120	0.0	0.0	19.8	0.8	0.0	0.0		
		150	0.0	0.0	19.8	0.8	0.0	0.0		
		180	0.0	0.0	19.8	0.7	0.0	0.0		
		240	0.0	0.0	19.8	0.8	0.0	0.0		
		300	0.0	0.0	19.2	0.8	0.0	0.0		
WS1014	999	0	0.0	0.0	0.0	0.0	0.0	0.0	DRY	2.94
		15	0.0	0.0	21.4	0.1	0.0	0.1		
		30	0.0	0.0	21.3	0.0	0.0	0.0		
		45	0.0	0.0	21.3	0.0	0.0	0.0		
		60	0.0	0.0	21.3	0.0	0.0	0.0		
		90	0.0	0.0	21.2	0.0	0.0	0.0		
		120	0.0	0.0	21.2	0.0	0.0	0.0		
		150	0.0	0.0	21.2	0.0	0.0	0.0		
		180	0.0	0.0	21.2	0.0	0.0	0.0		
		240	0.0	0.0	21.2	0.0	0.0	0.0		
		300	0.0	0.0	21.2	0.0	0.0	0.0		
WS1016	999	0	0.0	0.0	0.0	0.0	0.0	0.0	5.20	5.26
		15	0.0	0.0	18.7	0.9	0.0	0.1		
		30	0.0	0.0	19.3	0.8	0.0	0.0		
		45	0.0	0.0	19.3	0.8	0.0	0.0		
		60	0.0	0.0	19.4	0.8	0.0	0.0		
		90	0.0	0.0	19.4	0.8	0.0	0.0		
		120	0.0	0.0	19.4	0.8	0.0	0.0		
		150	0.0	0.0	19.4	0.8	0.0	0.0		
		180	0.0	0.0	19.5	0.8	0.0	0.0		
		240	0.0	0.0	19.5	0.8	0.0	0.0		
		300	0.0	0.0	19.5	0.8	0.0	0.0		
WS1020	999	0	0.0	0.0	0.0	0.0	0.0	0.0	DRY	4.44
		15	0.0	0.0	1.0	2.2	0.0	1.1		
		30	0.0	0.0	1.0	2.2	0.0	0.0		
		45	0.0	0.0	0.7	2.2	0.0	0.0		
		60	0.0	0.0	0.6	2.2	0.0	0.0		
		90	0.0	0.0	0.5	2.2	0.0	0.0		
		120	0.0	0.0	0.4	2.3	0.0	0.0		
		150	0.0	0.0	0.3	2.3	0.0	0.0		
		180	0.0	0.0	0.3	2.3	0.0	0.0		
		240	0.0	0.0	0.2	2.3	0.0	0.0		
		300	0.0	0.0	0.2	2.3	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric

CIVIC EARTH

Ground Gas Monitoring Record

Project Name:	ID Manchester	**Client:**	ID Manchester Limited
Project Reference:	51019/02	**Engineer:**	KIA
Date of Visit:	29 May 2024	**Time of Visit:**	8:30 to 5:00

Atm. Pressure:	999 to 1000 mbar	**Local Pressure System*:**	Steady
Air Temperature:	13 to 15 °c	**Gas Monitor Model:**	GFM 436 and MiniRAE Lite

State of Ground:	Dry		Damp		Wet	X	Saturated	
Wind Strength:	Calm		Light		Moderate	X	Strong	
Cloud Cover:	Clear		Slight		Cloudy		Overcast	X
Precipitation Level:	None		Slight	X	Moderate		Heavy	

Borehole Reference	Atm. Pressure	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS1023A	1000	0	0.0	0.0	0.0	0.0	0.0	0.0	DRY	1.43
		15	0.0	0.0	0.0	21.1	0.0	1.1		
		30	0.0	0.0	0.0	21.1	0.0	0.0		
		45	0.0	0.0	0.0	21.1	0.0	0.0		
		60	0.0	0.0	0.0	21.1	0.0	0.0		
		90	0.0	0.0	0.0	21.1	0.0	0.0		
		120	0.0	0.0	0.0	21.1	0.0	0.0		
		150	0.0	0.0	0.0	21.1	0.0	0.0		
		180	0.0	0.0	0.1	21.1	0.0	0.0		
		240	0.0	0.0	0.1	20.9	0.0	0.0		
		300	0.0	0.0	0.2	20.8	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric

CIVIC EARTH

Ground Gas Monitoring Record

Project Name:	ID Manchester	**Client:**	ID Manchester Limited
Project Reference:	51019/02	**Engineer:**	KIA & AP
Date of Visit:	10 June 2024	**Time of Visit:**	8:30 - 18:00

Atm. Pressure:	1006 to 1008 mbar	**Local Pressure System*:**	Rising
Air Temperature:	11˚C	**Gas Monitor Model:**	GFM 436 and MiniRAE Lite

State of Ground:	Dry	X	Damp		Wet		Saturated	
Wind Strength:	Calm		Light	X	Moderate		Strong	
Cloud Cover:	Clear		Slight		Cloudy	X	Overcast	
Precipitation Level:	None	X	Slight		Moderate		Heavy	

Borehole Reference (Time Monitored)	Atm. Pressure (mbar)	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
BH1003 (14:17)	1008	0	0.0	0.0	0.0	0.0	0.0	0.0	DRY	3.46
		15	0.0	0.0	20.7	2.2	0.0	0.1		
		30	0.0	0.0	20.7	1.5	0.0	0.0		
		45	0.0	0.0	20.6	1.1	0.0	0.0		
		60	0.0	0.0	20.6	0.9	0.0	0.0		
		90	0.0	0.0	20.6	0.8	0.0	0.0		
		120	0.0	0.0	20.6	0.7	0.0	0.0		
		150	0.0	0.0	20.6	0.6	0.0	0.0		
		180	0.0	0.0	20.6	0.6	0.0	0.0		
		240	0.0	0.0	20.6	0.6	0.0	0.0		
		300	0.0	0.0	20.6	0.6	0.0	0.0		
WS1008 (12:40)	1007	0	0.0	0.0	0.0	0.7	0.0	0.0	DRY	1.98
		15	0.0	0.0	20.8	0.1	0.0	0.0		
		30	0.0	0.0	20.5	0.0	0.0	0.0		
		45	0.0	0.0	20.5	0.0	0.0	0.0		
		60	0.0	0.0	20.5	0.0	0.0	0.0		
		90	0.0	0.0	20.5	0.0	0.0	0.0		
		120	0.0	0.0	20.5	0.0	0.0	0.0		
		150	0.0	0.0	20.5	0.0	0.0	0.0		
		180	0.0	0.0	20.5	0.0	0.0	0.0		
		240	0.0	0.0	20.5	0.0	0.0	0.0		
		300	0.0	0.0	20.5	0.0	0.0	0.0		
WS1012 (12:15)	1006	0	0.0	0.0	0.0	3.2	0.0	0.0	2.87	4.92
		15	0.0	0.0	16.8	0.9	0.0	0.1		
		30	0.0	0.0	18.7	0.8	0.0	0.0		
		45	0.0	0.0	18.8	0.8	0.0	0.0		
		60	0.0	0.0	19.1	0.8	0.0	0.0		
		90	0.0	0.0	19.2	0.8	0.0	0.0		
		120	0.0	0.0	19.2	0.8	0.0	0.0		
		150	0.0	0.0	19.2	0.8	0.0	0.0		
		180	0.0	0.0	19.1	0.8	0.0	0.0		
		240	0.0	0.0	19.1	0.8	0.0	0.0		
		300	0.0	0.0	19.1	0.8	0.0	0.0		
WS1014 (10:05)	1007	0	0.7	0.0	0.0	0.0	0.0	0.0	DRY	1.96
		15	0.0	0.0	20.4	0.1	0.0	0.0		
		30	0.0	0.0	20.3	0.4	0.0	0.0		
		45	0.0	0.0	20.2	0.4	0.0	0.0		
		60	0.0	0.0	20.2	0.4	0.0	0.0		
		90	0.0	0.0	20.2	0.4	0.0	0.0		
		120	0.0	0.0	20.2	0.5	0.0	0.0		
		150	0.0	0.0	20.2	0.5	0.0	0.0		
		180	0.0	0.0	20.2	0.5	0.0	0.0		
		240	0.0	0.0	20.2	0.5	0.0	0.0		
		300	0.0	0.0	20.2	0.5	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
*WS1001 gas tap open - closed for future monitoring visits.

CIVIC EARTH

Ground Gas Monitoring Record

Project Name:	ID Manchester	**Client:**	ID Manchester Limited
Project Reference:	51019/02	**Engineer:**	KIA & AP
Date of Visit:	10 June 2024	**Time of Visit:**	8:30 - 18:00

Atm. Pressure:	1006 to 1008 mbar	**Local Pressure System*:**	Rising
Air Temperature:	11˚C	**Gas Monitor Model:**	GFM 436 and MiniRAE Lite

State of Ground:	Dry	X	Damp		Wet		Saturated	
Wind Strength:	Calm		Light	X	Moderate		Strong	
Cloud Cover:	Clear		Slight		Cloudy	X	Overcast	
Precipitation Level:	None	X	Slight		Moderate		Heavy	

Borehole Reference (Time Monitored)	Atm. Pressure (mbar)	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS1020 (11:40)	1006	0	0.0	0.0	0.0	0.0	0.0	0.1	DRY	4.45
		15	0.0	0.0	1.3	3.0	0.0	0.7		
		30	0.0	0.0	0.8	3.4	0.0	0.8		
		45	0.0	0.0	0.6	3.4	0.0	0.6		
		60	0.0	0.0	0.4	3.4	0.0	0.6		
		90	0.0	0.0	0.4	3.4	0.0	0.4		
		120	0.0	0.0	0.4	3.4	0.0	0.3		
		150	0.0	0.0	0.3	3.4	0.0	0.4		
		180	0.0	0.0	0.3	3.4	0.0	0.3		
		240	0.0	0.0	0.2	3.4	0.0	0.2		
		300	0.0	0.0	0.2	3.4	0.0	0.3		
WS1023A (15:00)	1007	0	0.0	0.0	0.0	0.0	0.0	0.0	DRY	1.43
		15	0.0	0.0	20.7	0.2	0.0	0.0		
		30	0.0	0.0	20.7	0.2	0.0	0.0		
		45	0.0	0.0	20.6	0.2	0.0	0.0		
		60	0.0	0.0	20.6	0.2	0.0	0.0		
		90	0.0	0.0	20.6	0.2	0.0	0.0		
		120	0.0	0.0	20.6	0.2	0.0	0.0		
		150	0.0	0.0	20.6	0.2	0.0	0.0		
		180	0.0	0.0	20.6	0.3	0.0	0.0		
		240	0.0	0.0	20.6	0.3	0.0	0.0		
		300	0.0	0.0	20.6	0.3	0.0	0.0		
WS1024 (11:10)	1006	0	1.2	0.0	0.0	0.0	0.0	0.0	DRY	3.54
		15	0.0	0.0	20.9	0.1	0.0	0.0		
		30	0.0	0.0	20.8	0.1	0.0	0.0		
		45	0.0	0.0	20.7	0.1	0.0	0.0		
		60	0.0	0.0	20.7	0.0	0.0	0.0		
		90	0.0	0.0	20.7	0.0	0.0	0.0		
		120	0.0	0.0	20.7	0.0	0.0	0.0		
		150	0.0	0.0	20.6	0.1	0.0	0.0		
		180	0.0	0.0	20.6	0.1	0.0	0.0		
		240	0.0	0.0	20.6	0.1	0.0	0.0		
		300	0.0	0.0	20.6	0.1	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric

CIVIC EARTH

Ground Gas Monitoring Record

Project Name:	ID Manchester	**Client:**	ID Manchester Limited
Project Reference:	51019/02	**Engineer:**	KIA
Date of Visit:	11 June 2024	**Time of Visit:**	8:30 - 18:00

Atm. Pressure:	1011 to 1013 mbar	**Local Pressure System*:**	Rising
Air Temperature:	12˚C	**Gas Monitor Model:**	GFM 436 and MiniRAE Lite

State of Ground:	Dry		Damp	X	Wet		Saturated	
Wind Strength:	Calm		Light	X	Moderate		Strong	
Cloud Cover:	Clear		Slight	x	Cloudy	X	Overcast	
Precipitation Level:	None	X	Slight		Moderate		Heavy	

Borehole Reference (Time Monitored)	Atm. Pressure (mbar)	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
BH1014A (13:00)	1011	0	0.0	0.0	0.0	0.0	0.0	0.0	DRY	3.82
		15	0.0	0.0	21.0	0.1	0.0	0.0		
		30	0.0	0.0	20.9	0.1	0.0	0.0		
		45	0.0	0.0	20.9	0.1	0.0	0.0		
		60	0.0	0.0	20.8	0.1	0.0	0.0		
		90	0.0	0.0	20.8	0.1	0.0	0.0		
		120	0.0	0.0	20.8	0.1	0.0	0.0		
		150	0.0	0.0	20.8	0.1	0.0	0.0		
		180	0.0	0.0	20.8	0.1	0.0	0.0		
		240	0.0	0.0	20.8	0.0	0.0	0.0		
		300	0.0	0.0	20.8	0.1	0.0	0.0		
WS1006 (10:27)	1011	0	0.0	0.0	0.0	0.0	0.0	0.0	DRY	2.57
		15	0.0	0.0	11.7	0.2	0.0	0.2		
		30	0.0	0.0	10.6	0.2	0.0	0.1		
		45	0.0	0.0	10.3	0.2	0.0	0.0		
		60	0.0	0.0	10.3	0.2	0.0	0.2		
		90	0.0	0.0	10.2	0.2	0.0	0.1		
		120	0.0	0.0	10.2	0.2	0.0	0.2		
		150	0.0	0.0	10.1	0.2	0.0	0.0		
		180	0.0	0.0	10.1	0.3	0.0	0.1		
		240	0.0	0.0	10.0	0.3	0.0	0.0		
		300	0.0	0.0	9.9	0.3	0.0	0.1		
WS1016 (18:30)	1013	0	0.0	0.0	0.0	0.0	0.0	0.0	DRY	5.20
		15	0.0	0.0	19.3	0.8	0.0	0.0		
		30	0.0	0.0	19.4	0.8	0.0	0.0		
		45	0.0	0.0	19.4	0.8	0.0	0.0		
		60	0.0	0.0	19.4	0.8	0.0	0.0		
		90	0.0	0.0	19.4	0.8	0.0	0.0		
		120	0.0	0.0	19.4	0.8	0.0	0.0		
		150	0.0	0.0	19.4	0.8	0.0	0.0		
		180	0.0	0.0	19.4	0.8	0.0	0.0		
		240	0.0	0.0	19.3	0.8	0.0	0.0		
		300	0.0	0.0	19.3	0.8	0.0	0.0		
		0								
		15								
		30								
		45								
		60								
		90								
		120								
		150								
		180								
		240								
		300								

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric

CIVIC EARTH

Ground Gas Monitoring Record

Project Name:	ID Manchester	**Client:**	ID Manchester Limited
Project Reference:	51019/02	**Engineer:**	KIA
Date of Visit:	25 June 2024	**Time of Visit:**	9:00 - 19:00

Atm. Pressure:	1007 to 1010	**Local Pressure System*:**	Falling
Air Temperature:	22˚C	**Gas Monitor Model:**	GFM 436 and MiniRAE Lite

State of Ground:	Dry	X	Damp		Wet		Saturated	
Wind Strength:	Calm		Light	X	Moderate		Strong	
Cloud Cover:	Clear	x	Slight	x	Cloudy		Overcast	
Precipitation Level:	None	X	Slight		Moderate		Heavy	

Borehole Reference (Time Monitored)	Atm. Pressure (mbar)	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
BH1003 (10:56)	1009	0	0.0	0.0	17.0	0.7	0.0	0.1	DRY	3.46
		15	0.0	0.0	18.8	0.3	0.0	0.1		
		30	0.0	0.0	19.9	0.2	0.0	0.0		
		45	0.0	0.0	20.3	0.1	0.0	0.0		
		60	0.0	0.0	20.4	0.1	0.0	0.0		
		90	0.0	0.0	20.5	0.1	0.0	0.0		
		120	0.0	0.0	20.6	0.1	0.0	0.0		
		150	0.0	0.0	20.6	0.1	0.0	0.0		
		180	0.0	0.0	20.6	0.0	0.0	0.0		
		240	0.0	0.0	20.6	0.0	0.0	0.0		
		300	0.0	0.0	20.6	0.0	0.0	0.0		
BH1014A (17:04)	1007	0	0.0	0.0	20.3	0.2	0.0	0.0	DRY	3.82
		15	0.0	0.0	20.7	0.0	0.0	0.0		
		30	0.0	0.0	20.9	0.0	0.0	0.0		
		45	0.0	0.0	20.9	0.0	0.0	0.0		
		60	0.0	0.0	20.9	0.0	0.0	0.0		
		90	0.0	0.0	20.9	0.0	0.0	0.0		
		120	0.0	0.0	20.9	0.0	0.0	0.0		
		150	0.0	0.0	20.9	0.0	0.0	0.0		
		180	0.0	0.0	20.9	0.0	0.0	0.0		
		240	0.0	0.0	20.9	0.0	0.0	0.0		
		300	0.0	0.0	20.9	0.0	0.0	0.0		
WS1001 (14:36)	1007	0	0.0	0.0	20.1	0.1	0.0	0.0	4.30	4.91
		15	0.0	0.0	20.2	1.2	0.0	0.0		
		30	0.0	0.0	20.0	1.3	0.0	0.0		
		45	0.0	0.0	19.9	1.3	0.0	0.0		
		60	0.0	0.0	19.9	1.3	0.0	0.0		
		90	0.0	0.0	19.8	1.3	0.0	0.0		
		120	0.0	0.0	19.8	1.3	0.0	0.0		
		150	0.0	0.0	19.8	1.4	0.0	0.0		
		180	0.0	0.0	19.8	1.4	0.0	0.0		
		240	0.0	0.0	19.7	1.5	0.0	0.0		
		300	0.0	0.0	19.7	1.5	0.0	0.0		
WS1006 (15:45)	1008	0	-0.6	-0.1	17.8	4.4	0.0	0.1	DRY	2.56
		15	0.0	0.0	16.2	7.3	0.0	0.3		
		30	0.0	0.0	15.8	9.4	0.0	0.1		
		45	0.0	0.0	15.5	9.5	0.0	0.2		
		60	0.0	0.0	15.3	9.6	0.0	0.0		
		90	0.0	0.0	15.2	9.6	0.0	0.0		
		120	0.0	0.0	15.2	9.5	0.0	0.0		
		150	0.0	0.0	15.2	9.6	0.0	0.1		
		180	0.0	0.0	15.2	9.5	0.0	0.3		
		240	0.0	0.0	15.1	9.5	0.0	0.5		
		300	0.0	0.0	15.2	9.5	0.0	0.1		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric

CIVIC EARTH

Ground Gas Monitoring Record

Project Name:	ID Manchester	**Client:**	ID Manchester Limited
Project Reference:	51019/02	**Engineer:**	KIA
Date of Visit:	25 June 2024	**Time of Visit:**	9:00 - 19:00

Atm. Pressure:	1007 to 1010	**Local Pressure System*:**	Falling
Air Temperature:	22˚C	**Gas Monitor Model:**	GFM 436 and MiniRAE Lite

State of Ground:	Dry	X	Damp		Wet		Saturated	
Wind Strength:	Calm		Light	X	Moderate		Strong	
Cloud Cover:	Clear	x	Slight	x	Cloudy		Overcast	
Precipitation Level:	None	X	Slight		Moderate		Heavy	

Borehole Reference (Time Monitored)	Atm. Pressure (mbar)	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS1008 (11:25)	1009	0	0.0	0.0	19.8	0.3	0.0	0.0	DRY	1.98
		15	0.0	0.0	20.5	0.0	0.0	0.0		
		30	0.0	0.0	20.6	0.0	0.0	0.0		
		45	0.0	0.0	20.7	0.0	0.0	0.0		
		60	0.0	0.0	20.7	0.0	0.0	0.0		
		90	0.0	0.0	20.8	0.0	0.0	0.0		
		120	0.0	0.0	20.7	0.0	0.0	0.0		
		150	0.0	0.0	20.7	0.0	0.0	0.0		
		180	0.0	0.0	20.7	0.0	0.0	0.0		
		240	0.0	0.0	20.7	0.0	0.0	0.0		
		300	0.0	0.0	20.7	0.0	0.0	0.0		
WS1012 (9:44)	1010	0	0.0	0.0	9.8	3.2	0.0	0.1	4.11	4.91
		15	0.0	0.0	14.2	0.5	0.0	0.3		
		30	0.0	0.0	18.0	0.5	0.0	0.2		
		45	0.0	0.0	19.3	0.5	0.0	0.0		
		60	0.0	0.0	19.7	0.5	0.0	0.0		
		90	0.0	0.0	19.9	0.5	0.0	0.0		
		120	0.0	0.0	20.0	0.6	0.0	0.0		
		150	0.0	0.0	20.0	0.6	0.0	0.0		
		180	0.0	0.0	20.1	0.6	0.0	0.0		
		240	0.0	0.0	20.0	0.7	0.0	0.0		
		300	0.0	0.0	19.9	0.7	0.0	0.0		
WS1014 (15:10	1008	0	0.0	0.0	20.1	0.4	0.0	0.0	DRY	1.96
		15	0.0	0.0	20.5	0.4	0.0	0.0		
		30	0.0	0.0	20.5	0.4	0.0	0.0		
		45	0.0	0.0	20.5	0.4	0.0	0.0		
		60	0.0	0.0	20.5	0.4	0.0	0.0		
		90	0.0	0.0	20.5	0.4	0.0	0.0		
		120	0.0	0.0	20.5	0.4	0.0	0.0		
		150	0.0	0.0	20.5	0.4	0.0	0.0		
		180	0.0	0.0	20.5	0.4	0.0	0.0		
		240	0.0	0.0	20.5	0.4	0.0	0.0		
		300	0.0	0.0	20.5	0.4	0.0	0.0		
WS1016 (12:06)	1009	0	0.0	0.0	20.3	0.0	0.0	0.0	DRY	5.28
		15	0.0	0.0	19.8	0.9	0.0	0.0		
		30	0.0	0.0	19.5	0.9	0.0	0.0		
		45	0.0	0.0	19.4	0.9	0.0	0.0		
		60	0.0	0.0	19.3	0.9	0.0	0.0		
		90	0.0	0.0	19.3	0.9	0.0	0.0		
		120	0.0	0.0	19.3	0.9	0.0	0.0		
		150	0.0	0.0	19.3	0.9	0.0	0.0		
		180	0.0	0.0	19.3	0.9	0.0	0.0		
		240	0.0	0.0	19.3	0.9	0.0	0.0		
		300	0.0	0.0	19.3	0.9	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
WS1016 - Bottom of the well was very sludgey.

CIVIC EARTH

Ground Gas Monitoring Record

Project Name:	ID Manchester	**Client:**	ID Manchester Limited
Project Reference:	51019/02	**Engineer:**	KIA
Date of Visit:	25 June 2024	**Time of Visit:**	9:00 - 19:00

Atm. Pressure:	1007 to 1010	**Local Pressure System*:**	Falling
Air Temperature:	22˚C	**Gas Monitor Model:**	GFM 436 and MiniRAE Lite

State of Ground:	Dry	X	Damp		Wet		Saturated	
Wind Strength:	Calm		Light	X	Moderate		Strong	
Cloud Cover:	Clear	x	Slight	x	Cloudy		Overcast	
Precipitation Level:	None	X	Slight		Moderate		Heavy	

Borehole Reference (Time Monitored)	Atm. Pressure (mbar)	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS1020 (9:06)	1010	0	0.0	0.0	0.0	0.0	0.0	0.5	DRY	4.45
		15	0.0	0.0	2.7	11.6	0.0	0.3		
		30	0.0	0.0	3.4	3.4	0.0	0.2		
		45	0.0	0.0	1.2	3.5	0.0	0.3		
		60	0.0	0.0	0.8	3.6	0.0	0.4		
		90	0.0	0.0	0.5	3.5	0.0	0.4		
		120	0.0	0.0	0.4	3.5	0.0	0.3		
		150	0.0	0.0	0.4	3.5	0.0	0.3		
		180	0.0	0.0	0.4	3.5	0.0	0.1		
		240	0.0	0.0	0.3	3.5	0.0	0.1		
		300	0.0	0.0	0.2	3.5	0.0	0.2		
WS1023A (10:56)	1010	0	0.0	0.0	19.2	0.1	0.0	0.0	DRY	1.42
		15	0.0	0.0	20.0	0.3	0.0	0.0		
		30	0.0	0.0	20.3	0.3	0.0	0.0		
		45	0.0	0.0	20.4	0.3	0.0	0.0		
		60	0.0	0.0	20.4	0.3	0.0	0.0		
		90	0.0	0.0	20.4	0.3	0.0	0.0		
		120	0.0	0.0	20.4	0.3	0.0	0.0		
		150	0.0	0.0	20.4	0.3	0.0	0.0		
		180	0.0	0.0	20.4	0.3	0.0	0.0		
		240	0.0	0.0	20.4	0.3	0.0	0.0		
		300	0.0	0.0	20.4	0.3	0.0	0.0		
		0								
		15								
		30								
		45								
		60								
		90								
		120								
		150								
		180								
		240								
		300								

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric

CIVIC EARTH

Ground Gas Monitoring Record

Project Name:	ID Manchester	**Client:**	ID Manchester Limited
Project Reference:	51019/02	**Engineer:**	KIA
Date of Visit:	09 July 2024	**Time of Visit:**	9:00 - 14:00

Atm. Pressure:	1008 mbar	**Local Pressure System*:**	Falling
Air Temperature:	14˚C - 20˚C	**Gas Monitor Model:**	GFM 436

State of Ground:	Dry		Damp		Wet	X	Saturated	
Wind Strength:	Calm		Light	X	Moderate		Strong	
Cloud Cover:	Clear		Slight		Cloudy		Overcast	X
Precipitation Level:	None		Slight		Moderate	X	Heavy	

Borehole Reference (Time Monitored)	Atm. Pressure (mbar)	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
BH1003 (10:15)	1000	0	0.0	0.0	19.9	0.0	0.0	-	DRY	3.44
		15	0.0	0.0	20.6	0.2	0.0	-		
		30	0.0	0.0	20.6	0.2	0.0	-		
		45	0.0	0.0	20.6	0.2	0.0	-		
		60	0.0	0.0	20.6	0.2	0.0	-		
		90	0.0	0.0	20.6	0.2	0.0	-		
		120	0.0	0.0	20.5	0.2	0.0	-		
		150	0.0	0.0	20.6	0.1	0.0	-		
		180	0.0	0.0	20.6	0.1	0.0	-		
		240	0.0	0.0	20.6	0.1	0.0	-		
		300	0.0	0.0	20.6	0.1	0.0	-		
BH1014A (12:00)	1000	0	0.0	0.0	20.2	0.1	0.0	-	DRY	3.81
		15	0.0	0.0	20.8	0.1	0.0	-		
		30	0.0	0.0	20.6	0.0	0.0	-		
		45	0.0	0.0	20.6	0.0	0.0	-		
		60	0.0	0.0	20.6	0.0	0.0	-		
		90	0.0	0.0	20.6	0.0	0.0	-		
		120	0.0	0.0	20.6	0.0	0.0	-		
		150	0.0	0.0	20.6	0.0	0.0	-		
		180	0.0	0.0	20.6	0.0	0.0	-		
		240	0.0	0.0	20.6	0.0	0.0	-		
		300	0.0	0.0	20.6	0.0	0.0	-		
WS1001 (13:15)	1001	0	0.0	0.0	20.0	0.2	0.0	-	4.27	4.90
		15	0.0	0.0	20.1	1.1	0.0	-		
		30	0.0	0.0	19.8	1.1	0.0	-		
		45	0.0	0.0	19.7	1.1	0.0	-		
		60	0.0	0.0	19.7	1.2	0.0	-		
		90	0.0	0.0	19.6	1.2	0.0	-		
		120	0.0	0.0	19.6	1.2	0.0	-		
		150	0.0	0.0	19.6	1.2	0.0	-		
		180	0.0	0.0	19.6	1.2	0.0	-		
		240	0.0	0.0	19.6	1.2	0.0	-		
		300	0.0	0.0	19.6	1.2	0.0	-		
WS1006 (11:47)	1001	0	0.0	0.0	19.6	0.8	0.0	-	DRY	2.57
		15	0.0	0.0	17.8	4.5	0.0	-		
		30	0.0	0.0	17.0	4.7	0.0	-		
		45	0.0	0.0	16.9	4.7	0.0	-		
		60	0.0	0.0	16.9	4.7	0.0	-		
		90	0.0	0.0	16.9	4.7	0.0	-		
		120	0.0	0.0	16.9	4.7	0.0	-		
		150	0.0	0.0	16.8	4.7	0.0	-		
		180	0.0	0.0	16.8	4.7	0.0	-		
		240	0.0	0.0	16.8	4.7	0.0	-		
		300	0.0	0.0	16.8	4.7	0.0	-		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
Mini RaeLite not functioning correctly.

CIVIC EARTH

Ground Gas Monitoring Record

Project Name:	ID Manchester	**Client:**	ID Manchester Limited
Project Reference:	51019/02	**Engineer:**	KIA
Date of Visit:	09 July 2024	**Time of Visit:**	9:00 - 14:00

Atm. Pressure:	1008 mbar	**Local Pressure System*:**	Falling
Air Temperature:	14˚C - 20˚C	**Gas Monitor Model:**	GFM 436

State of Ground:	Dry		Damp		Wet	X	Saturated	
Wind Strength:	Calm		Light	X	Moderate		Strong	
Cloud Cover:	Clear		Slight		Cloudy		Overcast	X
Precipitation Level:	None		Slight		Moderate	X	Heavy	

Borehole Reference (Time Monitored)	Atm. Pressure (mbar)	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS1008 (10:00)	1000	0	0.0	0.0	17.2	1.1	0.0	-	DRY	1.98
		15	0.0	0.0	21.2	0.0	0.0	-		
		30	0.0	0.0	20.4	0.0	0.0	-		
		45	0.0	0.0	20.5	0.0	0.0	-		
		60	0.0	0.0	20.5	0.0	0.0	-		
		90	0.0	0.0	20.5	0.0	0.0	-		
		120	0.0	0.0	20.5	0.0	0.0	-		
		150	0.0	0.0	20.5	0.0	0.0	-		
		180	0.0	0.0	20.5	0.0	0.0	-		
		240	0.0	0.0	20.5	0.0	0.0	-		
		300	0.0	0.0	20.5	0.0	0.0	-		
WS1012 (9:44)	1000	0	0.0	0.0	7.5	2.5	0.0	-	3.21	4.91
		15	0.0	0.0	17.8	1.3	0.0	-		
		30	0.0	0.0	18.5	1.2	0.0	-		
		45	0.0	0.0	18.9	1.2	0.0	-		
		60	0.0	0.0	19.0	1.2	0.0	-		
		90	0.0	0.0	19.1	1.2	0.0	-		
		120	0.0	0.0	19.1	1.2	0.0	-		
		150	0.0	0.0	19.1	1.2	0.0	-		
		180	0.0	0.0	19.1	1.2	0.0	-		
		240	0.0	0.0	19.1	1.2	0.0	-		
		300	0.0	0.0	19.1	1.1	0.0	-		
WS1014 (13:47)	1001	0	0.0	0.0	20.0	0.0	0.0	-	DRY	1.96
		15	0.0	0.0	20.5	0.4	0.0	-		
		30	0.0	0.0	20.3	0.4	0.0	-		
		45	0.0	0.0	20.3	0.4	0.0	-		
		60	0.0	0.0	20.3	0.4	0.0	-		
		90	0.0	0.0	20.2	0.4	0.0	-		
		120	0.0	0.0	20.2	0.4	0.0	-		
		150	0.0	0.0	20.2	0.4	0.0	-		
		180	0.0	0.0	20.2	0.4	0.0	-		
		240	0.0	0.0	20.2	0.5	0.0	-		
		300	0.0	0.0	20.2	0.5	0.0	-		
WS1016 (11:04)	1000	0	1.0	0.0	17.5	3.2	0.0	-	DRY	5.26
		15	0.6	0.0	18.9	0.8	0.0	-		
		30	0.0	0.0	19.0	0.8	0.0	-		
		45	0.0	0.0	19.0	0.7	0.0	-		
		60	0.0	0.0	19.0	0.7	0.0	-		
		90	0.0	0.0	19.0	0.7	0.0	-		
		120	0.0	0.0	19.0	0.8	0.0	-		
		150	0.0	0.0	18.9	0.8	0.0	-		
		180	0.0	0.0	18.9	0.8	0.0	-		
		240	0.0	0.0	18.9	0.8	0.0	-		
		300	0.0	0.0	18.9	0.8	0.0	-		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
Mini RaeLite not functioning correctly.

CIVIC EARTH

Ground Gas Monitoring Record

Project Name:	ID Manchester	**Client:**	ID Manchester Limited
Project Reference:	51019/02	**Engineer:**	KIA
Date of Visit:	09 July 2024	**Time of Visit:**	9:00 - 14:00

Atm. Pressure:	1008 mbar	**Local Pressure System*:**	Falling
Air Temperature:	14˚C - 20˚C	**Gas Monitor Model:**	GFM 436

State of Ground:	Dry		Damp		Wet	X	Saturated	
Wind Strength:	Calm		Light	X	Moderate		Strong	
Cloud Cover:	Clear		Slight		Cloudy		Overcast	X
Precipitation Level:	None		Slight		Moderate	X	Heavy	

Borehole Reference (Time Monitored)	Atm. Pressure (mbar)	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS1020 (9:22)	1001	0	0.0	0.0	16.2	0.1	0.0	-	DRY	4.44
		15	0.0	0.0	4.1	2.5	0.0	-		
		30	0.0	0.0	0.9	2.9	0.0	-		
		45	0.0	0.0	0.4	2.9	0.0	-		
		60	0.0	0.0	0.3	2.9	0.0	-		
		90	0.0	0.0	0.1	2.9	0.0	-		
		120	0.0	0.0	0.1	2.9	0.0	-		
		150	0.0	0.0	0.0	2.9	0.0	-		
		180	0.0	0.0	0.0	2.8	0.0	-		
		240	0.0	0.0	0.0	2.8	0.0	-		
		300	0.0	0.0	0.0	2.7	0.0	-		
WS1023A (10:26)	1000	0	0.0	0.0	19.2	0.1	0.0	-	DRY	1.43
		15	0.0	0.0	20.6	0.2	0.0	-		
		30	0.0	0.0	20.4	0.2	0.0	-		
		45	0.0	0.0	20.3	0.2	0.0	-		
		60	0.0	0.0	20.3	0.2	0.0	-		
		90	0.0	0.0	20.3	0.2	0.0	-		
		120	0.0	0.0	20.3	0.3	0.0	-		
		150	0.0	0.0	20.2	0.3	0.0	-		
		180	0.0	0.0	20.2	0.3	0.0	-		
		240	0.0	0.0	20.1	0.3	0.0	-		
		300	0.0	0.0	20.1	0.4	0.0	-		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
Mini RaeLite not functioning correctly.

CIVIC EARTH

Ground Gas Monitoring Record

Project Name:	ID Manchester	**Client:**	ID Manchester Limited
Project Reference:	51019/02	**Engineer:**	KIA
Date of Visit:	23 July 2024	**Time of Visit:**	8:45 - 16:45

Atm. Pressure:	1009 - 1014 mbar	**Local Pressure System*:**	Rising
Air Temperature:	19˚C - 23˚C	**Gas Monitor Model:**	GFM 436 and MiniRAE Lite

State of Ground:	Dry	X	Damp		Wet		Saturated	
Wind Strength:	Calm	X	Light		Moderate		Strong	
Cloud Cover:	Clear		Slight	X	Cloudy		Overcast	
Precipitation Level:	None	X	Slight		Moderate		Heavy	

Borehole Reference (Time Monitored)	Atm. Pressure (mbar)	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
BH1003 (09:44)	1009	0	0.0	0.0	17.5	0.9	0.0	0.0	DRY	3.46
		15	0.0	0.0	20.0	0.2	0.0	0.0		
		30	0.0	0.0	20.7	0.1	0.0	0.0		
		45	0.0	0.0	20.8	0.1	0.0	0.0		
		60	0.0	0.0	20.8	0.1	0.0	0.0		
		90	0.0	0.0	20.8	0.1	0.0	0.0		
		120	0.0	0.0	20.8	0.1	0.0	0.0		
		150	0.0	0.0	20.8	0.1	0.0	0.0		
		180	0.0	0.0	20.8	0.1	0.0	0.0		
		240	0.0	0.0	20.8	0.1	0.0	0.0		
		300	0.0	0.0	20.8	0.1	0.0	0.0		
BH1014A (15:15)	1014	0	0.0	0.0	20.2	0.2	0.0	0.0	DRY	3.83
		15	0.0	0.0	21.2	0.2	0.0	0.0		
		30	0.0	0.0	21.2	0.2	0.0	0.0		
		45	0.0	0.0	21.1	0.3	0.0	0.0		
		60	0.0	0.0	21.0	0.3	0.0	0.0		
		90	0.0	0.0	21.0	0.3	0.0	0.0		
		120	0.0	0.0	21.0	0.3	0.0	0.0		
		150	0.0	0.0	21.0	0.3	0.0	0.0		
		180	0.0	0.0	21.0	0.3	0.0	0.0		
		240	0.0	0.0	21.1	0.3	0.0	0.0		
		300	0.0	0.0	21.0	0.3	0.0	0.0		
WS1001 (12:59)	1013	0	0.0	0.0	19.5	0.9	0.0	0.0	4.00	4.91
		15	0.0	0.0	20.0	1.7	0.0	0.0		
		30	0.0	0.0	19.8	1.7	0.0	0.0		
		45	0.0	0.0	19.8	1.8	0.0	0.0		
		60	0.0	0.0	19.8	1.8	0.0	0.0		
		90	0.0	0.0	19.7	1.8	0.0	0.0		
		120	0.0	0.0	19.7	1.8	0.0	0.0		
		150	0.0	0.0	19.7	1.8	0.0	0.0		
		180	0.0	0.0	19.7	1.8	0.0	0.0		
		240	0.0	0.0	19.7	1.8	0.0	0.0		
		300	0.0	0.0	19.8	1.8	0.0	0.0		
WS1006 (14:01)	1013	0	0.0	0.0	20.3	0.1	0.0	0.1	DRY	2.56
		15	0.0	0.0	13.7	5.1	0.0	0.0		
		30	0.0	0.0	11.2	8.2	0.0	0.1		
		45	0.0	0.0	10.8	8.4	0.0	0.0		
		60	0.0	0.0	10.6	8.5	0.0	0.1		
		90	0.0	0.0	10.5	8.5	0.0	0.1		
		120	0.0	0.0	10.5	8.5	0.0	0.1		
		150	0.0	0.0	10.5	8.5	0.0	0.0		
		180	0.0	0.0	10.5	8.5	0.0	0.0		
		240	0.0	0.0	10.5	8.5	0.0	0.0		
		300	0.0	0.0	10.6	8.5	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
BH1003 & WS1006 - Sludgey at base.

CIVIC EARTH

Ground Gas Monitoring Record

Project Name:	ID Manchester	**Client:**	ID Manchester Limited
Project Reference:	51019/02	**Engineer:**	KIA
Date of Visit:	23 July 2024	**Time of Visit:**	8:45 - 16:45

Atm. Pressure:	1009 - 1014 mbar	**Local Pressure System*:**	Rising
Air Temperature:	19˚C - 23˚C	**Gas Monitor Model:**	GFM 436 and MiniRAE Lite

State of Ground:	Dry	X	Damp		Wet		Saturated	
Wind Strength:	Calm	X	Light		Moderate		Strong	
Cloud Cover:	Clear		Slight	X	Cloudy		Overcast	
Precipitation Level:	None	X	Slight		Moderate		Heavy	

Borehole Reference (Time Monitored)	Atm. Pressure (mbar)	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS1008 (10:15)	1010	0	0.0	0.0	19.9	0.4	0.0	0.0	DRY	1.97
		15	0.0	0.0	20.8	0.1	0.0	0.0		
		30	0.0	0.0	20.9	0.1	0.0	0.0		
		45	0.0	0.0	20.8	0.1	0.0	0.0		
		60	0.0	0.0	20.8	0.1	0.0	0.0		
		90	0.0	0.0	20.8	0.1	0.0	0.0		
		120	0.0	0.0	20.8	0.1	0.0	0.0		
		150	0.0	0.0	20.8	0.1	0.0	0.0		
		180	0.0	0.0	20.8	0.1	0.0	0.0		
		240	0.0	0.0	20.8	0.1	0.0	0.0		
		300	0.0	0.0	20.8	0.2	0.0	0.0		
WS1012 (9:22)	1010	0	0.0	0.0	10.1	2.5	0.0	0.0	3.46	4.92
		15	0.0	0.0	15.9	1.0	0.0	0.0		
		30	0.0	0.0	19.0	0.9	0.0	0.0		
		45	0.0	0.0	19.6	0.9	0.0	0.0		
		60	0.0	0.0	19.8	0.9	0.0	0.0		
		90	0.0	0.0	19.9	0.9	0.0	0.0		
		120	0.0	0.0	20.0	0.9	0.0	0.0		
		150	0.0	0.0	20.0	0.9	0.0	0.0		
		180	0.0	0.0	20.0	0.9	0.0	0.0		
		240	0.0	0.0	20.0	0.9	0.0	0.0		
		300	0.0	0.0	20.0	0.9	0.0	0.0		
WS1014 (16:10)	1014	0	0.0	0.0	20.4	0.5	0.0	0.0	DRY	1.98
		15	0.0	0.0	21.1	0.5	0.0	0.0		
		30	0.0	0.0	20.9	0.5	0.0	0.0		
		45	0.0	0.0	20.9	0.5	0.0	0.0		
		60	0.0	0.0	20.9	0.5	0.0	0.0		
		90	0.0	0.0	20.9	0.5	0.0	0.0		
		120	0.0	0.0	20.9	0.5	0.0	0.0		
		150	0.0	0.0	20.9	0.5	0.0	0.0		
		180	0.0	0.0	20.9	0.5	0.0	0.0		
		240	0.0	0.0	20.9	0.5	0.0	0.0		
		300	0.0	0.0	20.9	0.5	0.0	0.0		
WS1016 (10:56)	1012	0	0.0	0.0	20.1	0.2	0.0	0.0	DRY	5.24
		15	0.0	0.0	19.8	1.2	0.0	0.0		
		30	0.0	0.0	19.3	1.3	0.0	0.0		
		45	0.0	0.0	19.2	1.3	0.0	0.0		
		60	0.0	0.0	19.2	1.3	0.0	0.0		
		90	0.0	0.0	19.2	1.3	0.0	0.0		
		120	0.0	0.0	19.1	1.3	0.0	0.0		
		150	0.0	0.0	19.1	1.3	0.0	0.0		
		180	0.0	0.0	19.1	1.3	0.0	0.0		
		240	0.0	0.0	19.1	1.2	0.0	0.0		
		300	0.0	0.0	19.1	1.2	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric
WS1016 - Sludgey at base.

CIVIC EARTH

Ground Gas Monitoring Record

Project Name:	ID Manchester	**Client:**	ID Manchester Limited
Project Reference:	51019/02	**Engineer:**	KIA
Date of Visit:	23 July 2024	**Time of Visit:**	8:45 - 16:45

Atm. Pressure:	1009 - 1014 mbar	**Local Pressure System*:**	Rising
Air Temperature:	19˚C - 23˚C	**Gas Monitor Model:**	GFM 436 and MiniRAE Lite

State of Ground:	Dry	X	Damp		Wet		Saturated	
Wind Strength:	Calm	X	Light		Moderate		Strong	
Cloud Cover:	Clear		Slight	X	Cloudy		Overcast	
Precipitation Level:	None	X	Slight		Moderate		Heavy	

Borehole Reference (Time Monitored)	Atm. Pressure (mbar)	Time (secs)	Flow (l/hr)	Diff. Pressure (mb)	O_2 (%v/v)	CO_2 (%v/v)	CH_4 (%v/v)	PID (ppm)	Depth to Water (mbgl)	Depth to Base (mbgl)
WS1020 (8:57)	1011	0	0.0	0.0	20.1	0.2	0.0	0.1	DRY	4.46
		15	0.0	0.0	3.7	2.5	0.0	0.4		
		30	0.0	0.0	2.0	2.8	0.0	0.5		
		45	0.0	0.0	1.2	2.8	0.0	0.3		
		60	0.0	0.0	1.0	2.8	0.0	0.3		
		90	0.0	0.0	0.8	2.8	0.0	0.1		
		120	0.0	0.0	0.8	2.8	0.0	0.1		
		150	0.0	0.0	0.7	2.8	0.0	0.2		
		180	0.0	0.0	0.7	2.8	0.0	0.1		
		240	0.0	0.0	0.7	2.8	0.0	0.0		
		300	0.0	0.0	0.7	2.8	0.0	0.0		
WS1023A (10:00)	1010	0	0.0	0.0	19.4	0.1	0.0	0.0	DRY	1.43
		15	0.0	0.0	20.6	0.2	0.0	0.0		
		30	0.0	0.0	20.7	0.2	0.0	0.0		
		45	0.0	0.0	20.7	0.2	0.0	0.0		
		60	0.0	0.0	20.7	0.2	0.0	0.0		
		90	0.0	0.0	20.7	0.2	0.0	0.0		
		120	0.0	0.0	20.6	0.2	0.0	0.0		
		150	0.0	0.0	20.5	0.3	0.0	0.0		
		180	0.0	0.0	20.6	0.3	0.0	0.0		
		240	0.0	0.0	20.5	0.3	0.0	0.0		
		300	0.0	0.0	20.4	0.4	0.0	0.0		

Notes:

*With reference to the Weather Underground rolling weather archive station.
*Atm. = Atmospheric

CIVIC EARTH

Groundwater Monitoring Record

Project Name:	**ID Manchester**	**Client:**	**ID Manchester Limited**
Project Reference:	**51019/02**	**Engineer:**	**KP**
Date of Visit:	**14 May 2024**	**Time of Visit:**	**12:30 to 20:00**

State of Ground:	**Dry**		**Damp**	X	**Wet**	X	**Saturated**	
Wind Strength:	**Calm**		**Light**	X	**Moderate**	X	**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**	X	**Overcast**	
Precipitation Level:	**None**	X	**Slight**	X	**Moderate**		**Heavy**	

Borehole Reference	**BH1002**	**BH1003**	**BH1006**	**BH1007**	**BH1008**	**BH1009**	**BH1012**	**BH1013A**
Target Stratum	Sandstone	Alluvium	Sandstone	Sandstone	Sandstone	Glacial Till	Glacial Till	Sandstone
Ground Level (mOD)	38.79	34.06	34.19	34.10	33.60	40.51	40.60	33.60
Groundwater Depth (mbgl)	10.63	Damp	6.00	5.65	5.57	Damp	Damp	5.33
Groundwater Level (mOD)	28.16	Damp	28.19	28.45	28.03	Damp	Damp	28.27
Base of Well (mbgl)	20.31	3.49	15.10	9.63	10.66	5.30	5.40	16.44
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Condition of Well	Good	Good	Good	Good	Good	Good	Good	Good
Top of Response Zone (mbgl)	5.50	4.50	7.00	4.00	3.00	6.00	4.00	5.00
Base of Response Zone (mbgl)	25.00	25.00	15.00	15.00	10.50	15.00	5.50	20.00
Top of Response Zone (mOD)	33.29	29.56	27.19	30.10	30.60	34.51	36.60	28.60
Base of Response Zone (mOD)	13.79	9.06	19.19	19.10	23.10	25.51	35.10	13.60
Hydrocarbon Sheen Observed?	No	No	No	No	No	No	No	No
Thickness of Free Product (m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Groundwater Sampling Details	**BH1002**	**BH1003**	**BH1006**	**BH1007**	**BH1008**	**BH1009**	**BH1012**	**BH1013A**
Purge Method	Bail	-	Bail	Bail	Bail	-	-	Bail
Purged Volume	52	-	52	24	30.00	-	-	64
Recharge (Good / Poor)	Good	-	Good	Good	Good	-	-	Good
Sampling Method	Bailer	-	Bailer	Bailer	Bailer	-	-	Bailer
Volume of Water Sampled (ltrs)	1B + 1V	-	1B + 1V	1B + 1V	1B + 1V	-	-	1B + 1V
Volume of Free Product Sampled (ltrs)	0.00	-	0.00	0.00	0.00	-	-	0.00
Colour / Odours Noted	Light brown, silty, no odour	-	Light brown, silty, no odour	Light orange, silty, no odour	Light orange, silty, no odour	-	-	Clear, no odour
In-situ pH	7.30	-	6.86	6.69	6.91	-	-	6.94
In-situ Temperature (°C)	13.5	-	13.3	13.5	14.7	-	-	15.9
In-situ Dissolved Oxygen (%)	15.3	-	7.7	8.4	8.2	-	-	9.8
In-situ Electrical Conductivity (mS/cm)	0.89	-	1.05	0.88	1.37	-	-	0.64
In-situ Total Dissolved Solids (ppt)	0.45	-	0.51	0.48	0.38	-	-	0.31

Notes:

WS1012 - poor recharge, sample taken from purged water.

CIVIC EARTH

Groundwater Monitoring Record

Project Name:	**ID Manchester**	**Client:**	**ID Manchester Limited**
Project Reference:	**51019/02**	**Engineer:**	**KP**
Date of Visit:	**14 May 2024**	**Time of Visit:**	**12:30 to 20:00**

State of Ground:	**Dry**		**Damp**	X	**Wet**	X	**Saturated**	
Wind Strength:	**Calm**		**Light**	X	**Moderate**	X	**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**	X	**Overcast**	
Precipitation Level:	**None**	X	**Slight**	X	**Moderate**		**Heavy**	

Borehole Reference	**BH1014A**	**WS1001**	**WS1002**	**WS1006**	**WS1008**	**WS1012**	**WS1016**	**WS1020**
Target Stratum	Made Ground	Made Ground	Glacial Till	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground
Ground Level (mOD)	32.62	41.50	38.40	33.62	35.00	37.91	34.17	32.88
Groundwater Depth (mbgl)	Dry	Damp	3.57	Dry	Dry	4.10	Dry	Dry
Groundwater Level (mOD)	Dry	Damp	34.83	Dry	Dry	33.81	Dry	Dry
Base of Well (mbgl)	3.83	4.95	3.97	2.57	1.99	4.91	5.28	4.46
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Condition of Well	Good	Good	Good	Good	Good	Good	Good	Good
Top of Response Zone (mbgl)	1.00	1.00	3.60	1.00	0.50	1.00	1.00	1.00
Base of Response Zone (mbgl)	4.00	5.00	4.00	1.50	2.00	4.00	5.00	4.00
Top of Response Zone (mOD)	31.62	40.50	34.80	32.62	34.50	36.91	33.17	31.88
Base of Response Zone (mOD)	28.62	36.50	34.40	32.12	33.00	33.91	29.17	28.88
Hydrocarbon Sheen Observed?	No	No	No	No	No	No	No	No
Thickness of Free Product (m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Groundwater Sampling Details	**BH1014**	**WS1001**	**WS1002**	**WS1006**	**WS1008**	**WS1012**	**WS1016**	**WS1020**
Purge Method	-	-	-	-	-	Bail	-	-
Purged Volume	-	-	-	-	-	2.5	-	-
Recharge (Good / Poor)	-	-	-	-	-	Poor	-	-
Sampling Method	-	-	-	-	-	Bailer	-	-
Volume of Water Sampled (ltrs)	-	-	-	-	-	1B + 1V	-	-
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	0.00	-	-
Colour / Odours Noted	-	-	-	-	-	Dark grey, silty, no odour	-	-
In-situ pH	-	-	-	-	-	7.15	-	-
In-situ Temperature (°C)	-	-	-	-	-	12.5	-	-
In-situ Dissolved Oxygen (%)	-	-	-	-	-	7.1	-	-
In-situ Electrical Conductivity (mS/cm)	-	-	-	-	-	2.16	-	-
In-situ Total Dissolved Solids (ppt)	-	-	-	-	-	0.87	-	-

Notes:

Groundwater Monitoring Record

Project Name:	**ID Manchester**	**Client:**	**ID Manchester Limited**
Project Reference:	**51019/02**	**Engineer:**	**KP**
Date of Visit:	**14 May 2024**	**Time of Visit:**	**12:30 to 20:00**

State of Ground:	**Dry**		**Damp**	X	**Wet**	X	**Saturated**	
Wind Strength:	**Calm**		**Light**	X	**Moderate**	X	**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**	X	**Overcast**	
Precipitation Level:	**None**	X	**Slight**	X	**Moderate**		**Heavy**	

Borehole Reference	**WS1023A**	**WS1024**						
Target Stratum	Made Ground	Made Ground						
Ground Level (mOD)	33	35						
Groundwater Depth (mbgl)	Dry	Damp						
Groundwater Level (mOD)	Dry	Damp						
Base of Well (mbgl)	1.45	3.57						
Diameter of Well (m)	0.05	0.05						
Condition of Well	Good	Good						
Top of Response Zone (mbgl)	1.00	1.00						
Base of Response Zone (mbgl)	1.45	3.70						
Top of Response Zone (mOD)	32.00	34.00						
Base of Response Zone (mOD)	31.55	31.30						
Hydrocarbon Sheen Observed?	No	No						
Thickness of Free Product (m)	0.00	0.00						

Groundwater Sampling Details	**WS1023A**	**WS1024**						
Purge Method	-	-						
Purged Volume	-	-						
Recharge (Good / Poor)	-	-						
Sampling Method	-	-						
Volume of Water Sampled (ltrs)	-	-						
Volume of Free Product Sampled (ltrs)	-	-						
Colour / Odours Noted	-	-						
In-situ pH	-	-						
In-situ Temperature (°C)	-	-						
In-situ Dissolved Oxygen (%)	-	-						
In-situ Electrical Conductivity (mS/cm)	-	-						
In-situ Total Dissolved Solids (ppt)	-	-						

Notes:

CIVIC EARTH

Groundwater Monitoring Record

Project Name:	**ID Manchester**	**Client:**	**ID Manchester Limited**
Project Reference:	**51019/02**	**Engineer:**	**KP**
Date of Visit:	**15 May 2024**	**Time of Visit:**	**07:30 to 18:30**

State of Ground:	**Dry**		**Damp**	X	**Wet**		**Saturated**	
Wind Strength:	**Calm**		**Light**	X	**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**	X	**Overcast**	
Precipitation Level:	**None**	X	**Slight**		**Moderate**		**Heavy**	

Borehole Reference	**BH1001**	**BH1004**	**BH1005**	**BH1015B**	**WS1009**	**WS1014**		
Target Stratum	Sandstone	Sandstone	Sandstone	Sandstone	Glacial Till	Made Ground		
Ground Level (mOD)	35.24	36.50	33.51	33.83	38.70	34.30		
Groundwater Depth (mbgl)	6.96	Dry	5.20	Damp	Dry	Dry		
Groundwater Level (mOD)	28.28	Dry	28.31	Damp	Dry	Dry		
Base of Well (mbgl)	22.00	3.00	14.92	5.99	2.74	1.96		
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05		
Condition of Well	Good	Good	Good	Good	Good	Good		
Top of Response Zone (mbgl)	5.00	7.00	7.00	4.50	1.90	1.00		
Base of Response Zone (mbgl)	25.00	19.50	16.50	6.00	2.60	2.00		
Top of Response Zone (mOD)	30.24	29.50	26.51	29.33	36.80	33.30		
Base of Response Zone (mOD)	10.24	17.00	17.01	27.83	36.10	32.30		
Hydrocarbon Sheen Observed?	No	No	Yes	No	No	No		
Thickness of Free Product (m)	0.00	0.00	0.00	0.00	0.00	0.00		

Groundwater Sampling Details	**BH1001**	**BH1004**	**BH1005**	**BH1015B**	**WS1009**	**WS1014**		
Purge Method	Bail	-	Bail	-	-	-		
Purged Volume	88	-	53	-	-	-		
Recharge (Good / Poor)	Good	-	Good	-	-	-		
Sampling Method	Bailer	-	Bailer	-	-	-		
Volume of Water Sampled (ltrs)	1B + 1V	-	2B + 2V	-	-	-		
Volume of Free Product Sampled (ltrs)	0.00	-	0.00	-	-	-		
Colour / Odours Noted	Light brown, silty, no odour	-	Dark grey brown, silty, no odour	-	-	-		
In-situ pH	7.43	-	-	-	-	-		
In-situ Temperature (°C)	14.4	-	-	-	-	-		
In-situ Dissolved Oxygen (%)	12.3	-	-	-	-	-		
In-situ Electrical Conductivity (mS/cm)	0.68	-	-	-	-	-		
In-situ Total Dissolved Solids (ppt)	0.27	-	-	-	-	-		

Notes:

BH1004 - blocked at 3.00m below ground level with Made Ground material retrieved on end of interface meter.
BH1005 - hydrocarbon sheen and slight to moderate hydrocarbon odour noted after approximately 20 litres bailed from well. Groundwater samples taken after bailing 1 x water column volume (W1 @ 6.50m) and after bailing 3 x water column volume (W2 @ 6.00m). In-situ testing not undertaken due to hydrocarbon contamination.

Groundwater Diver Installation Details:
BH1002 - installed 15mbgl at 16:50, groundwater at 10.65mbgl.
BH1006 - installed 10mbgl at 16:15, groundwater at 6.03mbgl.
BH1007 - installed at 7.5mbgl at 16:20, groundwater at 5.66mbgl.
BH1008 - installed at 7mbgl at 16:40, groundwater at 5.62mbgl.
BH1013A - installed at 10m at 16:00, groundwater at 5.38mbgl. Baro installed within headworks.

CIVIC EARTH

Groundwater Monitoring Record

Project Name:	**ID Manchester**	**Client:**	**ID Manchester Limited**
Project Reference:	**51019/02**	**Engineer:**	**KIA/AP**
Date of Visit:	**10 June 2024**	**Time of Visit:**	**8:30 to 10:30**

State of Ground:	**Dry**	X	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**		**Light**	X	**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**	X	**Overcast**	
Precipitation Level:	**None**	X	**Slight**		**Moderate**		**Heavy**	

Borehole Reference	**BH1001**	**BH1002**	**BH1003**	**BH1004**	**BH1005**	**BH1006**	**BH1009**	**BH1015A**
Target Stratum	Sandstone	Sandstone	Sandstone	Sandstone	Sandstone	Sandstone	Sandstone	Sandstone
Ground Level (mOD)	35.24	38.79	34.06	36.50	33.51	34.19	40.51	33.00
Groundwater Depth (mbgl)	6.74	10.7	DRY	DRY	5.24	6.05	DRY	DRY
Groundwater Level (mOD)	28.50	28.09	DRY	DRY	28.27	28.14	DRY	DRY
Base of Well (mbgl)	21.52	25.24	3.46	2.90	15.05	15.10	5.21	5.86
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Condition of Well	Good	Good	Good	Good	Good	Good	Good	Good
Top of Response Zone (mbgl)	5.00	5.50	3.0	7.0	7.50	7.00	1.0	4.5
Base of Response Zone (mbgl)	25.00	25.00	3.5	20.0	16.50	15.00	5.0	6.0
Top of Response Zone (mOD)	30.24	33.29	31.06	29.50	26.01	27.19	39.51	28.50
Base of Response Zone (mOD)	10.24	13.79	30.56	16.50	17.01	19.19	35.51	27.00
Hydrocarbon Sheen Observed?	No	No	-	-	No	No	-	-
Thickness of Free Product (m)	0.00	0.00	-	-	0.00	0.00	-	-

Groundwater Sampling Details	**BH1001**	**BH1002**	**BH1003**	**BH1004**	**BH1005**	**BH1006**	**BH1009**	**BH1015A**
Purge Method	Bail	Bail	-	-	Bail	Bail	-	-
Purged Volume	36	36	-	-	36	36	-	-
Recharge (Good / Poor)	Good	Good	-	-	Good	Good	-	-
Sampling Method	Bailer	Bailer	-	-	Bailer	Bailer	-	-
Volume of Water Sampled (ltrs)	2 Bottles 2 Vials	2 Bottles 2 Vials	-	-	2 Bottles 2 Vials	2 Bottles 2 Vials	-	-
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	-	-	-
Colour / Odours Noted	Greyish Brown, no odour	Light yellowish brown, no odour	-	-	Hydrocarbon odour, orange, silty	No odour, silty, orange	-	-
In-situ pH	7.43	7.24	-	-	-	6.92	-	-
In-situ Temperature (°C)	14.2	14.1	-	-	-	13.9	-	-
In-situ Dissolved Oxygen (%)	10.3	15.7	-	-	-	9.9	-	-
In-situ Electrical Conductivity (mS/cm)	1.12	1.11	-	-	-	1.14	-	-
In-situ Total Dissolved Solids (ppt)	0.55	0.55	-	-	-	0.52	-	-

Notes:

CIVIC EARTH

Groundwater Monitoring Record

Project Name:	**ID Manchester**	**Client:**	**ID Manchester Limited**
Project Reference:	**51019/02**	**Engineer:**	**KIA/AP**
Date of Visit:	**10 June 2024**	**Time of Visit:**	**8:30 to 10:30**

State of Ground:	**Dry**	X	**Damp**	X	**Wet**		**Saturated**	
Wind Strength:	**Calm**		**Light**	X	**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**	X	**Overcast**	
Precipitation Level:	**None**	X	**Slight**		**Moderate**		**Heavy**	

Borehole Reference	**WS1001**	**WS1002**	**WS1008**	**WS1009**	**WS1012**	**WS1014**	**WS1020**	**WS1023A**
Target Stratum	Made Ground	Glacial Till	Made Ground	Glacial Till	Made Ground	Made Ground	Made Ground	Made Ground
Ground Level (mOD)	41.50	38.40	35.00	38.70	37.91	34.30	32.88	33.00
Groundwater Depth (mbgl)	3.96	3.42	DRY	DRY	2.87	DRY	DRY	DRY
Groundwater Level (mOD)	37.54	34.98	DRY	DRY	35.04	DRY	DRY	DRY
Base of Well (mbgl)	4.90	3.94	1.98	2.70	4.82	1.96	4.45	1.43
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Condition of Well	Good	Good	Good	Good	Good	Good	Good	Good
Top of Response Zone (mbgl)	1.0	3.6	0.5	1.9	1.0	1.0	1.0	1.0
Base of Response Zone (mbgl)	4.0	4.0	2.0	2.6	4.0	2.0	4.0	1.5
Top of Response Zone (mOD)	40.50	34.80	34.50	36.80	36.91	33.30	31.88	32.00
Base of Response Zone (mOD)	37.50	34.40	33.00	36.10	33.91	32.30	28.88	31.55
Hydrocarbon Sheen Observed?	Potential	No	-	-	No	-	-	-
Thickness of Free Product (m)	0.00	0.00	-	-	0.00	-	-	-

Groundwater Sampling Details	**WS1001**	**WS1002**	**WS1008**	**WS1009**	**WS1012**	**WS1014**	**WS1020**	**WS1023A**
Purge Method	Bail	Bail	-	-	-	-	-	-
Purged Volume	2.5	1.5	-	-	-	-	-	-
Recharge (Good / Poor)	Poor	Poor	-	-	-	-	-	-
Sampling Method	Bailer	Bailer	-	-	-	-	-	-
Volume of Water Sampled (ltrs)	2 Bottles 2 Vials	2 Bottles 2 Vials	-	-	-	-	-	-
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	-	-	-
Colour / Odours Noted	Potential Sheen	Orange, no odour, silty	-	-	-	-	-	-
In-situ pH	7.2	6.94	-	-	-	-	-	-
In-situ Temperature (°C)	13.3	11.7	-	-	-	-	-	-
In-situ Dissolved Oxygen (%)	3.5	9.2	-	-	-	-	-	-
In-situ Electrical Conductivity (mS/cm)	1.36	3.15	-	-	-	-	-	-
In-situ Total Dissolved Solids (ppt)	0.68	1.58	-	-	-	-	-	-

Notes:

Groundwater samples from WS1001 and WS1002 taken from purged water due to poor recharge of well.
Potential organic or hydrocarbon sheen observed on bailed water from borehole WS1001.

CIVIC EARTH

Groundwater Monitoring Record

Project Name:	**ID Manchester**	**Client:**	**ID Manchester Limited**
Project Reference:	**51019/02**	**Engineer:**	**KIA/AP**
Date of Visit:	**10 June 2024**	**Time of Visit:**	**8:30 to 10:30**

State of Ground:	**Dry**	X	**Damp**	X	**Wet**		**Saturated**	
Wind Strength:	**Calm**		**Light**	X	**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**		**Cloudy**	X	**Overcast**	
Precipitation Level:	**None**	X	**Slight**		**Moderate**		**Heavy**	

Borehole Reference	**WS1024**							
Target Stratum	Made Ground							
Ground Level (mOD)	35.00							
Groundwater Depth (mbgl)	DRY							
Groundwater Level (mOD)	DRY							
Base of Well (mbgl)	3.54							
Diameter of Well (m)	0.05							
Condition of Well	Good							
Top of Response Zone (mbgl)	1.0							
Base of Response Zone (mbgl)	3.7							
Top of Response Zone (mOD)	34.00							
Base of Response Zone (mOD)	31.30							
Hydrocarbon Sheen Observed?	-							
Thickness of Free Product (m)	-							

Groundwater Sampling Details	**WS1024**							
Purge Method	-							
Purged Volume	-							
Recharge (Good / Poor)	-							
Sampling Method	-							
Volume of Water Sampled (ltrs)	-							
Volume of Free Product Sampled (ltrs)	-							
Colour / Odours Noted	-							
In-situ pH	-							
In-situ Temperature (°C)	-							
In-situ Dissolved Oxygen (%)	-							
In-situ Electrical Conductivity (mS/cm)	-							
In-situ Total Dissolved Solids (ppt)	-							

Notes:

CIVIC EARTH

Groundwater Monitoring Record

Project Name:	**ID Manchester**	**Client:**	**ID Manchester Limited**
Project Reference:	**51019/02**	**Engineer:**	**KIA/AP**
Date of Visit:	**11 June 2024**	**Time of Visit:**	**8:30 to 10:30**

State of Ground:	**Dry**		**Damp**	X	**Wet**		**Saturated**	
Wind Strength:	**Calm**		**Light**	X	**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**	x	**Cloudy**	X	**Overcast**	
Precipitation Level:	**None**	X	**Slight**		**Moderate**		**Heavy**	

Borehole Reference	**BH1007**	**BH1008**	**BH1013A**	**BH1014**	**WS1006**	**WS1016**		
Target Stratum	Sandstone	Sandstone	Sandstone	Made Ground	Made Ground	Made Ground		
Ground Level (mOD)	34.10	33.60	33.60	32.62	33.62	34.17		
Groundwater Depth (mbgl)	5.73	5.68	5.44	DRY	DRY	DRY		
Groundwater Level (mOD)	28.37	27.92	28.16	DRY	DRY	DRY		
Base of Well (mbgl)	8.02	10.08	16.37	3.82	2.57	5.20		
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05		
Condition of Well	Good	Good	Good	Good	Good	Good		
Top of Response Zone (mbgl)	4.00	3.00	5.00	1.0	1.0	1.0		
Base of Response Zone (mbgl)	15.00	10.50	25.00	4.0	1.5	5.0		
Top of Response Zone (mOD)	30.10	30.60	28.60	31.62	32.62	33.17		
Base of Response Zone (mOD)	19.10	23.10	8.60	28.62	32.12	29.17		
Hydrocarbon Sheen Observed?	No	No	No	-	-	-		
Thickness of Free Product (m)	0.00	0.00	0.00	-	-	-		

Groundwater Sampling Details	**BH1007**	**BH1008**	**BH1013A**	**BH1014**	**WS1006**	**WS1016**		
Purge Method	Bail	Bail	Bail	-	-	-		
Purged Volume	13.5	28.00	17	-	-	-		
Recharge (Good / Poor)	Good	Good	Good	-	-	-		
Sampling Method	Bailer	Bailer	Bailer	-	-	-		
Volume of Water Sampled (ltrs)	2 Bottles 2 Vials	2 Bottles 2 Vials	2 Bottles 2 Vials	-	-	-		
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	-		
Colour / Odours Noted	Orangish Brown, very silty and sandy, no odour	Orangish Brown (silty), no odour	No odour, Clear	-	-	-		
In-situ pH	7.17	7.22	6.91	-	-	-		
In-situ Temperature (°C)	12.6	13.7	13.6	-	-	-		
In-situ Dissolved Oxygen (%)	8.8	7.2	9.3	-	-	-		
In-situ Electrical Conductivity (mS/cm)	0.65	0.74	0.67	-	-	-		
In-situ Total Dissolved Solids (ppt)	0.32	0.31	0.34	-	-	-		

Notes:

BH1007 - Groundwater was very silty and sandy

CIVIC EARTH

Groundwater Monitoring Record

Project Name:	**ID Manchester**	**Client:**	**ID Manchester Limited**
Project Reference:	**51019/02**	**Engineer:**	**KIA**
Date of Visit:	**25 June 2024**	**Time of Visit:**	**9:00 - 19:00**

State of Ground:	**Dry**	X	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**		**Light**	X	**Moderate**		**Strong**	
Cloud Cover:	**Clear**	X	**Slight**	X	**Cloudy**		**Overcast**	
Precipitation Level:	**None**	X	**Slight**		**Moderate**		**Heavy**	

Borehole Reference	**BH1002**	**BH1003**	**BH1004**	**BH1005**	**BH1007**	**BH1008**	**BH1009**	**BH1012**
Target Stratum	Sandstone	Alluvium	Sandstone	Sandstone	Sandstone	Sandstone	Glacial Till	Glacial Till
Ground Level (mOD)	38.79	34.06	36.50	33.51	34.10	33.60	40.51	40.60
Groundwater Depth (mbgl)	10.60	Damp	Dry	5.32	5.86	5.72	Dry	4.04
Groundwater Level (mOD)	28.19	Damp	Dry	28.19	28.24	27.88	Dry	36.56
Base of Well (mbgl)	25.55	3.46	2.93	14.35	8.65	10.48	5.21	5.37
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Condition of Well	Good	Good	Good	Good	Good	Good	Good	Good
Top of Response Zone (mbgl)	5.50	4.50	7.00	7.00	4.00	3.00	6.00	4.00
Base of Response Zone (mbgl)	25.00	25.00	19.50	16.50	15.00	10.50	15.00	5.50
Top of Response Zone (mOD)	33.29	29.56	29.50	26.51	30.10	30.60	34.51	36.60
Base of Response Zone (mOD)	13.79	9.06	17.00	17.01	19.10	23.10	25.51	35.10
Hydrocarbon Sheen Observed?	-	-	-	-	-	-	-	-
Thickness of Free Product (m)	-	-	-	-	-	-	-	-

Groundwater Sampling Details	**BH1002**	**BH1003**	**BH1004**	**BH1005**	**BH1007**	**BH1008**	**BH1008**	**BH1008**
Purge Method	-	-	-	-	-	-	-	-
Purged Volume	-	-	-	-	-	-	-	-
Recharge (Good / Poor)	-	-	-	-	-	-	-	-
Sampling Method	-	-	-	-	-	-	-	-
Volume of Water Sampled (ltrs)	-	-	-	-	-	-	-	-
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	-	-	-
Colour / Odours Noted	-	-	-	-	-	-	-	-
In-situ pH	-	-	-	-	-	-	-	-
In-situ Temperature (°C)	-	-	-	-	-	-	-	-
In-situ Dissolved Oxygen (%)	-	-	-	-	-	-	-	-
In-situ Electrical Conductivity (mS/cm)	-	-	-	-	-	-	-	-
In-situ Total Dissolved Solids (ppt)	-	-	-	-	-	-	-	-

Notes:

BH1001 - Not accessible due to locked gate and security could not provide keys.
BH1006 - Not accessible due to utility works occuring next to borehole.
BH1015B - Car parked over borehole position.

CIVIC EARTH

Groundwater Monitoring Record

Project Name:	**ID Manchester**	**Client:**	**ID Manchester Limited**
Project Reference:	**51019/02**	**Engineer:**	**KIA**
Date of Visit:	**25 June 2024**	**Time of Visit:**	**9:00 - 19:00**

State of Ground:	**Dry**	X	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**		**Light**	X	**Moderate**		**Strong**	
Cloud Cover:	**Clear**	X	**Slight**	X	**Cloudy**		**Overcast**	
Precipitation Level:	**None**	X	**Slight**		**Moderate**		**Heavy**	

Borehole Reference	**BH1013A**	**BH1014A**	**WS1001**	**WS1002**	**WS1006**	**WS1008**	**WS1009**	**WS1012**
Target Stratum	Sandstone	Made Ground	Made Ground	Glacial Till	Made Ground	Made Ground	Glacial Till	Made Ground
Ground Level (mOD)	33.60	32.62	41.50	38.40	33.62	35.00	38.70	37.91
Groundwater Depth (mbgl)	5.46	Dry	4.30	3.54	Dry	Dry	Dry	4.11
Groundwater Level (mOD)	28.14	Dry	37.20	34.86	Dry	Dry	Dry	33.80
Base of Well (mbgl)	16.58	3.82	4.90	3.94	2.56	1.98	2.70	4.91
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Condition of Well	Good	Good	Good	Good	Good	Good	Good	Good
Top of Response Zone (mbgl)	5.00	1.00	1.00	3.60	1.00	0.50	1.90	1.00
Base of Response Zone (mbgl)	20.00	4.00	5.00	4.00	1.50	2.00	2.60	4.00
Top of Response Zone (mOD)	28.60	31.62	40.50	34.80	32.62	34.50	36.80	36.91
Base of Response Zone (mOD)	13.60	28.62	36.50	34.40	32.12	33.00	36.10	33.91
Hydrocarbon Sheen Observed?	-	-	No	-	-	-	-	No
Thickness of Free Product (m)	-	-	0.00	-	-	-	-	0.00

Groundwater Sampling Details	**BH1014**	**BH1014**	**WS1001**	**WS1002**	**WS1006**	**WS1008**	**WS1009**	**WS1012**
Purge Method	-	-	Bail	-	-	-	-	Bail
Purged Volume	-	-	1.8	-	-	-	-	1.6
Recharge (Good / Poor)	-	-	Poor	-	-	-	-	Poor
Sampling Method	-	-	Bailer	-	-	-	-	Bailer
Volume of Water Sampled (ltrs)	-	-	2B + 2V	-	-	-	-	1B + 1V
Volume of Free Product Sampled (ltrs)	-	-	0.00	-	-	-	-	0.00
Colour / Odours Noted	-	-	Dark Brown, silty, no odour	-	-	-	-	Dark brown, very silty, no odour
In-situ pH	-	-	7.19	-	-	-	-	7.36
In-situ Temperature (°C)	-	-	18.5	-	-	-	-	21.1
In-situ Dissolved Oxygen (%)	-	-	5.3	-	-	-	-	3.0
In-situ Electrical Conductivity (mS/cm)	-	-	1.25	-	-	-	-	1.60
In-situ Total Dissolved Solids (ppt)	-	-	0.63	-	-	-	-	0.80

Notes:

WS1001 and WS1012 - poor recharge, sample taken from purged water.

CIVIC EARTH

Groundwater Monitoring Record

Project Name:	**ID Manchester**	**Client:**	**ID Manchester Limited**
Project Reference:	**51019/02**	**Engineer:**	**KIA**
Date of Visit:	**25 June 2024**	**Time of Visit:**	**9:00 - 19:00**

State of Ground:	**Dry**	X	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**		**Light**	X	**Moderate**		**Strong**	
Cloud Cover:	**Clear**	X	**Slight**	X	**Cloudy**		**Overcast**	
Precipitation Level:	**None**	X	**Slight**		**Moderate**		**Heavy**	

Borehole Reference	**WS1014**	**WS1016**	**WS1020**	**WS1023A**				
Target Stratum	Made Ground	Made Ground	Made Ground	Made Ground				
Ground Level (mOD)	34.30	34.17	32.88	33				
Groundwater Depth (mbgl)	Dry	Dry	Dry	Dry				
Groundwater Level (mOD)	Dry	Dry	Dry	Dry				
Base of Well (mbgl)	1.96	5.28	4.45	1.42				
Diameter of Well (m)	0.05	0.05	0.05	0.05				
Condition of Well	Good	Good	Good	Good				
Top of Response Zone (mbgl)	1.00	1.00	1.00	1.00				
Base of Response Zone (mbgl)	2.00	5.00	4.00	1.45				
Top of Response Zone (mOD)	33.30	33.17	31.88	32.00				
Base of Response Zone (mOD)	32.30	29.17	28.88	31.55				
Hydrocarbon Sheen Observed?	-	-	-	-				
Thickness of Free Product (m)	-	-	-	-				

Groundwater Sampling Details	**WS1014**	**WS1016**	**WS1020**	**WS1023A**				
Purge Method	-	-	-	-				
Purged Volume	-	-	-	-				
Recharge (Good / Poor)	-	-	-	-				
Sampling Method	-	-	-	-				
Volume of Water Sampled (ltrs)	-	-	-	-				
Volume of Free Product Sampled (ltrs)	-	-	-	-				
Colour / Odours Noted	-	-	-	-				
In-situ pH	-	-	-	-				
In-situ Temperature (°C)	-	-	-	-				
In-situ Dissolved Oxygen (%)	-	-	-	-				
In-situ Electrical Conductivity (mS/cm)	-	-	-	-				
In-situ Total Dissolved Solids (ppt)	-	-	-	-				

Notes:

WS1016 - very sludgey at base

Groundwater Monitoring Record

Project Name:	**ID Manchester**	**Client:**	**ID Manchester Limited**
Project Reference:	**51019/02**	**Engineer:**	**KIA**
Date of Visit:	**23 July 2024**	**Time of Visit:**	**8:45 - 16:45**

State of Ground:	**Dry**	x	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**	x	**Light**		**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**	x	**Cloudy**		**Overcast**	
Precipitation Level:	**None**	x	**Slight**		**Moderate**		**Heavy**	

Borehole Reference	**BH1001**	**BH1002**	**BH1003**	**BH1004**	**BH1005**	**BH1006**	**BH1007**	**BH1008**
Target Stratum	Sandstone	Sandstone	Alluvium	Sandstone	Sandstone	Sandstone	Sandstone	Sandstone
Ground Level (mOD)	35.24	38.79	34.06	36.50	33.51	34.19	34.10	33.60
Groundwater Depth (mbgl)	7.22	10.88	Damp	Dry	5.44	6.21	5.81	6.09
Groundwater Level (mOD)	28.02	27.91	Damp	Dry	28.07	27.98	28.29	27.51
Base of Well (mbgl)	21.83	25.77	3.46	1.92	15.20	15.10	6.87	10.54
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Condition of Well	Good	Good	Good	Good	Good	Good	Good	Good
Top of Response Zone (mbgl)	5.00	5.50	4.50	7.00	7.00	7.00	4.00	3.00
Base of Response Zone (mbgl)	25.00	25.00	25.00	19.50	16.50	15.00	15.00	10.50
Top of Response Zone (mOD)	30.24	33.29	29.56	29.50	26.51	27.19	30.10	30.60
Base of Response Zone (mOD)	10.24	13.79	9.06	17.00	17.01	19.19	19.10	23.10
Hydrocarbon Sheen Observed?	-	-	-	-	-	-	-	-
Thickness of Free Product (m)	-	-	-	-	-	-	-	-

Groundwater Sampling Details	**BH1001**	**BH1002**	**BH1003**	**BH1004**	**BH1005**	**BH1007**	**BH1007**	**BH1008**
Purge Method	-	-	-	-	-	-	-	-
Purged Volume	-	-	-	-	-	-	-	-
Recharge (Good / Poor)	-	-	-	-	-	-	-	-
Sampling Method	-	-	-	-	-	-	-	-
Volume of Water Sampled (ltrs)	-	-	-	-	-	-	-	-
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	-	-	-
Colour / Odours Noted	-	-	-	-	-	-	-	-
In-situ pH	-	-	-	-	-	-	-	-
In-situ Temperature (°C)	-	-	-	-	-	-	-	-
In-situ Dissolved Oxygen (%)	-	-	-	-	-	-	-	-
In-situ Electrical Conductivity (mS/cm)	-	-	-	-	-	-	-	-
In-situ Total Dissolved Solids (ppt)	-	-	-	-	-	-	-	-

Notes:

BH1007 - Borehole extremely silty.

Groundwater Monitoring Record

Project Name:	**ID Manchester**	**Client:**	**ID Manchester Limited**
Project Reference:	**51019/02**	**Engineer:**	**KIA**
Date of Visit:	**23 July 2024**	**Time of Visit:**	**8:45 - 16:45**

State of Ground:	**Dry**	x	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**	x	**Light**		**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**	x	**Cloudy**		**Overcast**	
Precipitation Level:	**None**	x	**Slight**		**Moderate**		**Heavy**	

Borehole Reference	**BH1009**	**BH1012**	**BH1014A**	**WS1001**	**WS1002**	**WS1006**	**WS1008**	**WS1009**
Target Stratum	Glacial Till	Glacial Till	Made Ground	Made Ground	Glacial Till	Made Ground	Made Ground	Glacial Till
Ground Level (mOD)	40.51	40.60	32.62	41.50	38.40	33.62	35.00	38.70
Groundwater Depth (mbgl)	Dry	3.88	Dry	4.00	3.60	Dry	Dry	Dry
Groundwater Level (mOD)	Dry	36.72	Dry	37.50	34.80	Dry	Dry	Dry
Base of Well (mbgl)	5.20	5.37	3.83	4.91	3.90	2.56	1.97	2.70
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Condition of Well	Good	Good	Good	Good	Good	Good	Good	Good
Top of Response Zone (mbgl)	6.00	4.00	1.00	1.00	3.60	1.00	0.50	1.90
Base of Response Zone (mbgl)	15.00	5.50	4.00	5.00	4.00	1.50	2.00	2.60
Top of Response Zone (mOD)	34.51	36.60	31.62	40.50	34.80	32.62	34.50	36.80
Base of Response Zone (mOD)	25.51	35.10	28.62	36.50	34.40	32.12	33.00	36.10
Hydrocarbon Sheen Observed?	-	-	-	-	-	-	-	-
Thickness of Free Product (m)	-	-	-	-	-	-	-	-

Groundwater Sampling Details	**BH1009**	**BH1012**	**BH1014A**	**WS1001**	**WS1002**	**WS1006**	**WS1008**	**WS1009**
Purge Method	-	-	-	-	-	-	-	-
Purged Volume	-	-	-	-	-	-	-	-
Recharge (Good / Poor)	-	-	-	-	-	-	-	-
Sampling Method	-	-	-	-	-	-	-	-
Volume of Water Sampled (ltrs)	-	-	-	-	-	-	-	-
Volume of Free Product Sampled (ltrs)	-	-	-	-	-	-	-	-
Colour / Odours Noted	-	-	-	-	-	-	-	-
In-situ pH	-	-	-	-	-	-	-	-
In-situ Temperature (°C)	-	-	-	-	-	-	-	-
In-situ Dissolved Oxygen (%)	-	-	-	-	-	-	-	-
In-situ Electrical Conductivity (mS/cm)	-	-	-	-	-	-	-	-
In-situ Total Dissolved Solids (ppt)	-	-	-	-	-	-	-	-

Notes:

Groundwater Monitoring Record

Project Name:	**ID Manchester**	**Client:**	**ID Manchester Limited**
Project Reference:	**51019/02**	**Engineer:**	**KIA**
Date of Visit:	**23 July 2024**	**Time of Visit:**	**8:45 - 16:45**

State of Ground:	**Dry**	x	**Damp**		**Wet**		**Saturated**	
Wind Strength:	**Calm**	x	**Light**		**Moderate**		**Strong**	
Cloud Cover:	**Clear**		**Slight**	x	**Cloudy**		**Overcast**	
Precipitation Level:	**None**	x	**Slight**		**Moderate**		**Heavy**	

Borehole Reference	**WS1012**	**WS1014**	**WS1016**	**WS1020**	**WS1023A**			
Target Stratum	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground			
Ground Level (mOD)	37.91	34.30	34.17	32.88	33			
Groundwater Depth (mbgl)	3.46	Dry	Dry	Dry	Dry			
Groundwater Level (mOD)	34.45	Dry	Dry	Dry	Dry			
Base of Well (mbgl)	4.92	1.98	5.24	4.46	1.43			
Diameter of Well (m)	0.05	0.05	0.05	0.05	0.05			
Condition of Well	Good	Good	Good	Good	Good			
Top of Response Zone (mbgl)	1.00	1.00	1.00	1.00	1.00			
Base of Response Zone (mbgl)	4.00	2.00	5.00	4.00	1.45			
Top of Response Zone (mOD)	36.91	33.30	33.17	31.88	32.00			
Base of Response Zone (mOD)	33.91	32.30	29.17	28.88	31.55			
Hydrocarbon Sheen Observed?	-	-	-	-	-			
Thickness of Free Product (m)	-	-	-	-	-			

Groundwater Sampling Details	**WS1012**	**WS1014**	**WS1016**	**WS1020**	**WS1023A**			
Purge Method	-	-	-	-	-			
Purged Volume	-	-	-	-	-			
Recharge (Good / Poor)	-	-	-	-	-			
Sampling Method	-	-	-	-	-			
Volume of Water Sampled (ltrs)	-	-	-	-	-			
Volume of Free Product Sampled (ltrs)	-	-	-	-	-			
Colour / Odours Noted	-	-	-	-	-			
In-situ pH	-	-	-	-	-			
In-situ Temperature (°C)	-	-	-	-	-			
In-situ Dissolved Oxygen (%)	-	-	-	-	-			
In-situ Electrical Conductivity (mS/cm)	-	-	-	-	-			
In-situ Total Dissolved Solids (ppt)	-	-	-	-	-			

Notes:

WS1016 - very sludgey at base

Appendix F

Chemical Soil Laboratory Analysis Results

Civic Earth Limited
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

e: kirsty.poore@civicearth.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
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e: reception@i2analytical.com

Analytical Report Number : 24-014285

Replaces Analytical Report Number: 24-014285, issue no. 1
Additional analysis undertaken.
Asbestos Quantification added to positive sample at client's request.

Project / Site name:	ID Manchester	**Samples received on:**	15/04/2024
Your job number:	51019 02	**Samples instructed on/ Analysis started on:**	15/04/2024
Your order number:	PO 0059	**Analysis completed by:**	22/04/2024
Report Issue Number:	2	**Report issued on:**	01/05/2024
Samples Analysed:	11 soil samples - 3 leachate samples		

Signed: JSzwagrak

Joanna Szwagrzak
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Lab Sample Number				171384	171385	171386	171387	171388
Sample Reference				BH1005	BH1005	BH1005	FIP1017	BH1003
Sample Number				ES1	ES2	ES3	ES1	ES1
Depth (m)				0.60	4.10	5.10	0.80	2.10
Date Sampled				10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	56.6	< 0.1
Moisture Content	%	0.01	NONE	19	20	14	8.2	13
Total mass of sample received	kg	0.1	NONE	1.3	1.3	1	1.1	1
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	-	Detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	IZJ	IZJ	-	EWS	IZJ
Actinolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	Detected	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	0.005	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	Loose Fibrous Debris	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	9.4	8.8	8.6	8.6	8.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	1.1	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	1900	2100	230	710	740
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	2.6	2.1	0.8	7.2	1.5
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	7.8	1.1	0.28	0.12	0.46
Acenaphthylene	mg/kg	0.05	MCERTS	1.6	0.1	< 0.05	0.1	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	1.4	1.2	0.15	0.22	0.21
Fluorene	mg/kg	0.05	MCERTS	1.7	0.83	0.09	0.15	0.16
Phenanthrene	mg/kg	0.05	MCERTS	16	3	0.3	1.5	0.58
Anthracene	mg/kg	0.05	MCERTS	4.3	0.88	0.06	0.43	0.12
Fluoranthene	mg/kg	0.05	MCERTS	23	4.7	0.36	2	0.6
Pyrene	mg/kg	0.05	MCERTS	25	4.5	0.36	1.8	0.63
Benzo(a)anthracene	mg/kg	0.05	MCERTS	14	2.3	0.2	0.9	0.31
Chrysene	mg/kg	0.05	MCERTS	13	2.3	0.17	0.95	0.32
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	14	2.5	0.17	0.95	0.32
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	6.6	1.2	0.12	0.46	0.15
Benzo(a)pyrene	mg/kg	0.05	MCERTS	13	2.2	0.16	0.78	0.27
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	4.8	1	0.07	0.52	0.14
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.8	0.23	< 0.05	0.14	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	5.7	1.2	0.1	0.68	0.18
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	154	29.4	2.59	11.6	4.45
Total WAC-17 PAHs	mg/kg	0.85	NONE	154	29.4	2.59	11.6	4.45
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.8	4.2	< 1.0	< 1.0	2.6

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Lab Sample Number				171384	171385	171386	171387	171388
Sample Reference				BH1005	BH1005	BH1005	FIP1017	BH1003
Sample Number				ES1	ES2	ES3	ES1	ES1
Depth (m)				0.60	4.10	5.10	0.80	2.10
Date Sampled				10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21	31	7.8	8.6	13
Barium (aqua regia extractable)	mg/kg	1	MCERTS	160	110	21	80	92
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.97	0.83	0.39	0.28	0.84
Boron (water soluble)	mg/kg	0.2	MCERTS	1.2	0.7	< 0.2	0.3	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.8	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	20	19	12	11	19
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	19	12	11	19
Copper (aqua regia extractable)	mg/kg	1	MCERTS	58	59	6.2	13	28
Lead (aqua regia extractable)	mg/kg	1	MCERTS	180	120	12	64	120
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.8	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	35	11	14	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	22	22	15	18	23
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	69	100	30	69	46
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	4.7	< 1.0	< 1.0	< 1.0	2.6
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	22	< 2.0	3.8	2.1	13
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	34	< 8.0	< 8.0	8.3	16
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	68	< 8.0	< 8.0	160	75
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	130	< 10	< 10	170	110
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	4.1	< 1.0	< 1.0	< 1.0	1.5
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	35	7.5	2.4	6.9	6.5
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	200	26	< 10	18	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	270	46	13	220	58
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	500	79	16	240	66
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	420	51	20	65	66
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	240	29	18	740	180

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Lab Sample Number				171384	171385	171386	171387	171388
Sample Reference				BH1005	BH1005	BH1005	FIP1017	BH1003
Sample Number				ES1	ES2	ES3	ES1	ES1
Depth (m)				0.60	4.10	5.10	0.80	2.10
Date Sampled				10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	-
Chloroform	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-	-	-	-
Bromoform	µg/kg	5	NONE	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromobenzene	µg/kg	5	NONE	-	-	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Butylbenzene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Lab Sample Number				171384	171385	171386	171387	171388
Sample Reference				BH1005	BH1005	BH1005	FIP1017	BH1003
Sample Number				ES1	ES2	ES3	ES1	ES1
Depth (m)				0.60	4.10	5.10	0.80	2.10
Date Sampled				10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-

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Lab Sample Number				171384	171385	171386	171387	171388
Sample Reference				BH1005	BH1005	BH1005	FIP1017	BH1003
Sample Number				ES1	ES2	ES3	ES1	ES1
Depth (m)				0.60	4.10	5.10	0.80	2.10
Date Sampled				10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-
PCBs by GC-MS								
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	< 0.001	-

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Lab Sample Number				171384	171385	171386	171387	171388
Sample Reference				BH1005	BH1005	BH1005	FIP1017	BH1003
Sample Number				ES1	ES2	ES3	ES1	ES1
Depth (m)				0.60	4.10	5.10	0.80	2.10
Date Sampled				10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCBs								
PCB Congener 077	mg/kg	0.001	NONE	-	-	-	< 0.001	-
PCB Congener 081	mg/kg	0.001	NONE	-	-	-	< 0.001	-
PCB Congener 105	mg/kg	0.001	NONE	-	-	-	< 0.001	-
PCB Congener 114	mg/kg	0.001	NONE	-	-	-	< 0.001	-
PCB Congener 123	mg/kg	0.001	NONE	-	-	-	< 0.001	-
PCB Congener 126	mg/kg	0.001	NONE	-	-	-	< 0.001	-
PCB Congener 156	mg/kg	0.001	NONE	-	-	-	< 0.001	-
PCB Congener 157	mg/kg	0.001	NONE	-	-	-	< 0.001	-
PCB Congener 167	mg/kg	0.001	NONE	-	-	-	< 0.001	-
PCB Congener 169	mg/kg	0.001	NONE	-	-	-	< 0.001	-
PCB Congener 189	mg/kg	0.001	NONE	-	-	-	< 0.001	-
Total PCBs	mg/kg	0.012	NONE	-	-	-	< 0.012	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Lab Sample Number				171389	171390	171391	171392	171393
Sample Reference				BH1003	BH1001	BH1001	BH1006	BH1006
Sample Number				ES2	ES1	ES2	ES1	ES2
Depth (m)				2.70	0.40	3.10	1.30	2.20
Date Sampled				10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	76.9	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	3.5	17	8.5	20
Total mass of sample received	kg	0.1	NONE	1.1	1.1	1	1.1	1.1
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	IZJ	IZJ	IZJ	IZJ	IZJ
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8	9.7	9.6	10.8	8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	560	400	710	1700	16000
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	-	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	1.7	3.3	1.4	1.5	3.1
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.13
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.09	0.09	0.18	0.34	0.51
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.06	0.09
Fluoranthene	mg/kg	0.05	MCERTS	0.08	0.09	0.17	0.58	0.63
Pyrene	mg/kg	0.05	MCERTS	0.09	0.09	0.19	0.62	0.77
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.05	0.06	0.1	0.37	0.57
Chrysene	mg/kg	0.05	MCERTS	0.05	0.08	0.09	0.42	0.52
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.07	0.09	0.46	0.49
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	0.07	0.18	0.25
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.05	0.09	0.38	0.46
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.16	0.18
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.27	0.26
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	0.98	3.84	4.86
Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85	0.98	3.84	4.86
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	< 1.0	2	1.8	5

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Lab Sample Number				171389	171390	171391	171392	171393
Sample Reference				BH1003	BH1001	BH1001	BH1006	BH1006
Sample Number				ES2	ES1	ES2	ES1	ES2
Depth (m)				2.70	0.40	3.10	1.30	2.20
Date Sampled				10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10	5.7	10	15	30
Barium (aqua regia extractable)	mg/kg	1	MCERTS	96	83	100	140	140
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.87	0.18	0.59	0.54	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3	0.3	0.5	0.3	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	2.6	0.6	0.5	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	19	7.5	14	14	92
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	7.5	14	14	92
Copper (aqua regia extractable)	mg/kg	1	MCERTS	21	12	20	53	83
Lead (aqua regia extractable)	mg/kg	1	MCERTS	37	22	57	180	250
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	1.4	1.2
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	14	13	11	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	24	10	19	18	31
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	48	24	80	72	82
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	1.8	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	9.7	3.8	< 2.0	2.3	3.7
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	11	160	< 8.0	10	< 8.0
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	23	160	< 10	12	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	5.7	4.6	< 2.0	2.2	3.1
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	12	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	11	250	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	17	260	< 10	< 10	< 10
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	37	59	< 10	20	19
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	16	730	< 10	< 10	< 10

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Lab Sample Number				171389	171390	171391	171392	171393
Sample Reference				BH1003	BH1001	BH1001	BH1006	BH1006
Sample Number				ES2	ES1	ES2	ES1	ES2
Depth (m)				2.70	0.40	3.10	1.30	2.20
Date Sampled				10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Chloroethane	µg/kg	5	NONE	-	< 5.0	-	-	-
Bromomethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	< 5.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0	-	-	-
Chloroform	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	< 5.0	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Bromoform	µg/kg	5	NONE	-	< 5.0	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0	-	-	-
Bromobenzene	µg/kg	5	NONE	-	< 5.0	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Butylbenzene	µg/kg	5	NONE	-	< 5.0	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Lab Sample Number				171389	171390	171391	171392	171393
Sample Reference				BH1003	BH1001	BH1001	BH1006	BH1006
Sample Number				ES2	ES1	ES2	ES1	ES2
Depth (m)				2.70	0.40	3.10	1.30	2.20
Date Sampled				10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-

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Project / Site name: ID Manchester
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Lab Sample Number				171389	171390	171391	171392	171393
Sample Reference				BH1003	BH1001	BH1001	BH1006	BH1006
Sample Number				ES2	ES1	ES2	ES1	ES2
Depth (m)				2.70	0.40	3.10	1.30	2.20
Date Sampled				10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	< 0.1	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	< 0.05	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.30	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	< 0.3	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	-	-	-
PCBs by GC-MS								
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Lab Sample Number				171389	171390	171391	171392	171393
Sample Reference				BH1003	BH1001	BH1001	BH1006	BH1006
Sample Number				ES2	ES1	ES2	ES1	ES2
Depth (m)				2.70	0.40	3.10	1.30	2.20
Date Sampled				10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCBs								
PCB Congener 077	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 081	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 105	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 114	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 123	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 126	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 156	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 157	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 167	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 169	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 189	mg/kg	0.001	NONE	-	-	-	-	-
Total PCBs	mg/kg	0.012	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Lab Sample Number				171394
Sample Reference				BH1006
Sample Number				ES3
Depth (m)				3.40
Date Sampled				10/04/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	19
Total mass of sample received	kg	0.1	NONE	1.1
Asbestos				
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	-
Asbestos Analyst ID	N/A	N/A	N/A	-
Actinolite detected	Type	N/A	ISO 17025	-
Amosite detected	Type	N/A	ISO 17025	-
Anthophyllite detected	Type	N/A	ISO 17025	-
Chrysotile detected	Type	N/A	ISO 17025	-
Crocidolite detected	Type	N/A	ISO 17025	-
Tremolite detected	Type	N/A	ISO 17025	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-
General Inorganics				
pH (L099)	pH Units	N/A	MCERTS	7.8
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	3900
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	-
Organic Matter (automated)	%	0.1	MCERTS	2.1
Total Phenols				
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0
Speciated PAHs				
Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.19
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.2
Pyrene	mg/kg	0.05	MCERTS	0.23
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.12
Chrysene	mg/kg	0.05	MCERTS	0.17
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.12
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.07
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.11
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05
Total PAH				
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	1.21
Total WAC-17 PAHs	mg/kg	0.85	NONE	1.21
Heavy Metals / Metalloids				
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	3.1

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Lab Sample Number				171394
Sample Reference				BH1006
Sample Number				ES3
Depth (m)				3.40
Date Sampled				10/04/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15
Barium (aqua regia extractable)	mg/kg	1	MCERTS	110
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.81
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (III)	mg/kg	1	NONE	48
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	48
Copper (aqua regia extractable)	mg/kg	1	MCERTS	32
Lead (aqua regia extractable)	mg/kg	1	MCERTS	92
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	22
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	54
Petroleum Hydrocarbons				
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	3.3
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	2.1
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	11
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10

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Lab Sample Number				171394
Sample Reference				BH1006
Sample Number				ES3
Depth (m)				3.40
Date Sampled				10/04/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
VOCs				
Chloromethane	µg/kg	5	ISO 17025	-
Chloroethane	µg/kg	5	NONE	-
Bromomethane	µg/kg	5	ISO 17025	-
Vinyl Chloride	µg/kg	5	NONE	-
Trichlorofluoromethane	µg/kg	5	NONE	-
1,1-Dichloroethene	µg/kg	5	NONE	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-
2,2-Dichloropropane	µg/kg	5	NONE	-
Chloroform	µg/kg	5	ISO 17025	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-
Benzene	µg/kg	5	MCERTS	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-
Trichloroethene	µg/kg	5	ISO 17025	-
Dibromomethane	µg/kg	5	ISO 17025	-
Bromodichloromethane	µg/kg	5	ISO 17025	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-
Toluene	µg/kg	5	MCERTS	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-
Dibromochloromethane	µg/kg	5	ISO 17025	-
Tetrachloroethene	µg/kg	5	NONE	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-
Chlorobenzene	µg/kg	5	ISO 17025	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0
Styrene	µg/kg	5	ISO 17025	-
Bromoform	µg/kg	5	NONE	-
o-Xylene	µg/kg	5	MCERTS	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-
Bromobenzene	µg/kg	5	NONE	-
n-Propylbenzene	µg/kg	5	ISO 17025	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-
Butylbenzene	µg/kg	5	NONE	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Lab Sample Number				171394
Sample Reference				BH1006
Sample Number				ES3
Depth (m)				3.40
Date Sampled				10/04/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Hexachlorobutadiene	µg/kg	5	NONE	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Lab Sample Number				171394
Sample Reference				BH1006
Sample Number				ES3
Depth (m)				3.40
Date Sampled				10/04/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
SVOCs				
Aniline	mg/kg	0.1	NONE	-
Phenol	mg/kg	0.2	ISO 17025	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-
2-Methylphenol	mg/kg	0.3	MCERTS	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-
Nitrobenzene	mg/kg	0.3	MCERTS	-
4-Methylphenol	mg/kg	0.2	NONE	-
Isophorone	mg/kg	0.2	MCERTS	-
2-Nitrophenol	mg/kg	0.3	NONE	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-
4-Chloroaniline	mg/kg	0.1	NONE	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-
Dibenzofuran	mg/kg	0.2	MCERTS	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-
4-Nitroaniline	mg/kg	0.2	NONE	-
Azobenzene	mg/kg	0.3	NONE	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-
Carbazole	mg/kg	0.3	MCERTS	-
Dibutyl phthalate	mg/kg	0.2	NONE	-
Anthraquinone	mg/kg	0.3	NONE	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-
PCBs by GC-MS				
PCB Congener 118	mg/kg	0.001	MCERTS	-

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Lab Sample Number				171394
Sample Reference				BH1006
Sample Number				ES3
Depth (m)				3.40
Date Sampled				10/04/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
PCBs				
PCB Congener 077	mg/kg	0.001	NONE	-
PCB Congener 081	mg/kg	0.001	NONE	-
PCB Congener 105	mg/kg	0.001	NONE	-
PCB Congener 114	mg/kg	0.001	NONE	-
PCB Congener 123	mg/kg	0.001	NONE	-
PCB Congener 126	mg/kg	0.001	NONE	-
PCB Congener 156	mg/kg	0.001	NONE	-
PCB Congener 157	mg/kg	0.001	NONE	-
PCB Congener 167	mg/kg	0.001	NONE	-
PCB Congener 169	mg/kg	0.001	NONE	-
PCB Congener 189	mg/kg	0.001	NONE	-
Total PCBs	mg/kg	0.012	NONE	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester
Your Order No: PO 0059

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
171387	FIP1017	0.80	123	Loose Fibrous Debris	**Chrysotile**	0.005	**0.005**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester

Your Order No: PO 0059

Lab Sample Number				171385	171391	171392
Sample Reference				BH1005	BH1001	BH1006
Sample Number				ES2	ES2	ES1
Depth (m)				4.10	3.10	1.30
Date Sampled				10/04/2024	10/04/2024	10/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
General Inorganics						
pH (automated)	pH Units	N/A	ISO 17025	7.4	9.3	11.4
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	1.3	3.9
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	-	< 1	< 1
Sulphate as SO_4	mg/l	0.045	ISO 17025	159	5.97	11.7
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	3.9	8.1	7.6
Total Phenols						
Total Phenols (monohydric) low level	µg/l	1	NONE	1.3	< 1.0	1.5
Speciated PAHs						
Naphthalene	µg/l	0.01	ISO 17025	0.66	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	1.9	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	0.61	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	0.72	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	0.19	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	0.15	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	0.1	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Total PAH						
Total EPA-16 PAHs	µg/l	0.16	NONE	4.29	< 0.16	< 0.16
Heavy Metals / Metalloids						
Antimony (dissolved)	µg/l	1.7	ISO 17025	2.7	< 1.7	< 1.7
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	6.3	3.2
Barium (dissolved)	µg/l	0.05	ISO 17025	44	7.8	61
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	31	31	< 10
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	13
Chromium (III)	µg/l	5	NONE	< 5.0	8.9	6.6
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4	8.9	19
Copper (dissolved)	µg/l	0.7	ISO 17025	9.7	27	80
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Mercury - CV-AFS	µg/l	0.007	ISO 17025	< 0.0070	0.0075	0.0328
Nickel (dissolved)	µg/l	0.3	ISO 17025	3.3	0.3	1.4
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7	5.7	13
Zinc (dissolved)	µg/l	0.4	ISO 17025	13	1.8	2.9
Calcium (dissolved)	mg/l	0.012	ISO 17025	82	15	60
Petroleum Hydrocarbons						
Petroleum Range Organics (C6 - C10) $_{HS\_1D\_TOTAL}$	µg/l	10	NONE	< 10	< 10	< 10

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Analytical Report Number: 24-014285
Project / Site name: ID Manchester

Your Order No: PO 0059

Lab Sample Number				171385	171391	171392
Sample Reference				BH1005	BH1001	BH1006
Sample Number				ES2	ES2	ES1
Depth (m)				4.10	3.10	1.30
Date Sampled				10/04/2024	10/04/2024	10/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
TPH (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	62	< 10	< 10
TPH (C25 - C40) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 24-014285
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
171384	BH1005	ES1	0.6	Brown clay and sand with gravel
171385	BH1005	ES2	4.1	Brown loam and sand with gravel
171386	BH1005	ES3	5.1	Brown sand with gravel
171387	FIP1017	ES1	0.8	Brown loam and sand with stones
171388	BH1003	ES1	2.1	Brown loam and sand with gravel
171389	BH1003	ES2	2.7	Brown sandy clay with gravel
171390	BH1001	ES1	0.4	Brown gravely sand with stones
171391	BH1001	ES2	3.1	Brown sandy clay with gravel
171392	BH1006	ES1	1.3	Brown sand with gravel
171393	BH1006	ES2	2.2	Brown clay and sand with gravel
171394	BH1006	ES3	3.4	Brown clay and sand with gravel

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Analytical Report Number : 24-014285
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
PCBs WHO 12 in soil	Determination of PCBs (WHO-12 Congeners) by GC-MS	In-house method based on USEPA 8082	L027B	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons by GC-MS/GC-MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS	In-house method	L070B/L088	W	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

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Analytical Report Number : 24-014285
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS
Chromium III in leachate	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	MCERTS
Free cyanide (low level) in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Monohydric phenols (low level) in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method,10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099	W	ISO 17025

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Analytical Report Number : 24-014285
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		ISO 17025
Organic 2:1 Leachate		In-house method	L020B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 24-014790

Replaces Analytical Report Number: 24-014790, issue no. 1
Additional analysis undertaken.
Quantification added to positive samples as per client's request.

Project / Site name:	ID Manchester	**Samples received on:**	17/04/2024
Your job number:	51019 02	**Samples instructed on/ Analysis started on:**	17/04/2024
Your order number:	PO-0059	**Analysis completed by:**	25/04/2024
Report Issue Number:	2	**Report issued on:**	30/04/2024
Samples Analysed:	8 soil samples		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number: 24-014790
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				174029	174030	174031	174032	174033
Sample Reference				BH1015B	BH1015B	BH1015B	BH1005	WS1011
Sample Number				ES1	ES3	ES4	ES4	ES1
Depth (m)				0.20	0.80	1.00	16.50	0.20
Date Sampled				15/04/2024	15/04/2024	15/04/2024	15/04/2024	15/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	12	13	17	29
Total mass of sample received	kg	0.1	NONE	1.2	1	1.1	1.2	1.1
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Detected	-	-	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MMI	MMI	-	-	MMI
Actinolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	Detected	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	< 0.001	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	Loose Fibres	-	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8.9	8.2	8.7	8.4	7.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	2
Total Sulphate as SO_4	mg/kg	50	MCERTS	920	860	1200	170	980
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	-	-	-	1.2	-
Organic Matter (automated)	%	0.1	MCERTS	7.1	6.6	6.8	0.6	11
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	1.2	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	7.9	12	4.5	0.1	0.18
Acenaphthylene	mg/kg	0.05	MCERTS	1.2	1.9	0.79	< 0.05	0.07
Acenaphthene	mg/kg	0.05	MCERTS	39	41	21	0.16	0.16
Fluorene	mg/kg	0.05	MCERTS	24	30	14	0.26	0.1
Phenanthrene	mg/kg	0.05	MCERTS	150	150	84	1.2	1.3
Anthracene	mg/kg	0.05	MCERTS	53	51	28	0.28	0.3
Fluoranthene	mg/kg	0.05	MCERTS	190	200	130	0.9	3
Pyrene	mg/kg	0.05	MCERTS	150	170	110	0.74	3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	77	78	53	0.14	1.7
Chrysene	mg/kg	0.05	MCERTS	72	78	51	0.15	2.1
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	80	91	50	0.11	3.1
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	31	36	30	< 0.05	1
Benzo(a)pyrene	mg/kg	0.05	MCERTS	72	80	51	0.07	2.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	32	39	24	< 0.05	1.6
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	6.3	9.1	5	< 0.05	0.39
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	36	41	27	< 0.05	1.9
Coronene	mg/kg	0.05	NONE	13	17	11	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	1020	1120	686	4.06	22.2
Total WAC-17 PAHs	mg/kg	0.85	NONE	1030	1130	697	4.06	22.2
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	1.5	1.8	2.3	< 1.0	5

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-014790
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				174029	174030	174031	174032	174033
Sample Reference				BH1015B	BH1015B	BH1015B	BH1005	WS1011
Sample Number				ES1	ES3	ES4	ES4	ES1
Depth (m)				0.20	0.80	1.00	16.50	0.20
Date Sampled				15/04/2024	15/04/2024	15/04/2024	15/04/2024	15/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	22	14	17	5.5	22
Barium (aqua regia extractable)	mg/kg	1	MCERTS	260	270	180	23	300
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.69	0.87	0.9	0.69	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	1	1.4	0.2	2.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.9	< 0.2	< 0.2	1.1
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	12	12	14	4.9	48
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	12	12	14	4.9	48
Copper (aqua regia extractable)	mg/kg	1	MCERTS	29	47	57	6.7	150
Lead (aqua regia extractable)	mg/kg	1	MCERTS	36	86	99	8.3	370
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	0.4	< 0.3	0.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	17	19	3.7	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	21	21	23	5.3	26
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	44	92	79	13	260
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	3.3	8.8	1.9	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	28	47	15	< 2.0	< 2.0
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	43	64	33	< 8.0	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	190	190	82	< 8.0	25
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	260	310	130	< 10	25
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	11	24	12	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	120	240	58	3.2	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	560	930	210	< 10	16
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	930	1400	360	< 10	68
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	1600	2600	640	< 10	84
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	1100	1800	480	15	35
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	1100	1300	420	< 10	100

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Analytical Report Number: 24-014790
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				174029	174030	174031	174032	174033
Sample Reference				BH1015B	BH1015B	BH1015B	BH1005	WS1011
Sample Number				ES1	ES3	ES4	ES4	ES1
Depth (m)				0.20	0.80	1.00	16.50	0.20
Date Sampled				15/04/2024	15/04/2024	15/04/2024	15/04/2024	15/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Chloroethane	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
Bromomethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
Chloroform	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Trichloroethene	µg/kg	5	ISO 17025	-	< 5.0##	-	< 5.0##	-
Dibromomethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Chlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Bromoform	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
Bromobenzene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-

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Analytical Report Number: 24-014790
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				174029	174030	174031	174032	174033
Sample Reference				BH1015B	BH1015B	BH1015B	BH1005	WS1011
Sample Number				ES1	ES3	ES4	ES4	ES1
Depth (m)				0.20	0.80	1.00	16.50	0.20
Date Sampled				15/04/2024	15/04/2024	15/04/2024	15/04/2024	15/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Butylbenzene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0	-	< 5.0	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	< 5.0	-
SVOCs								
Aniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	< 0.05	-	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	-	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	9.7	-	< 0.1	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	17	-	< 0.2	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	-
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	-	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.30	-	< 0.30	-
Carbazole	mg/kg	0.3	MCERTS	-	9.4	-	< 0.3	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	-
Anthraquinone	mg/kg	0.3	NONE	-	8	-	< 0.3	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	-	< 0.3	-
Organotins								
Tributyltin (chloride)	µg/kg	10	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-014790
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				174034	174035	174036
Sample Reference				WS1011	WS1016	WS1016
Sample Number				ES3	ES5	ES7
Depth (m)				1.00	2.50	4.00
Date Sampled				15/04/2024	15/04/2024	15/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	31	19
Total mass of sample received	kg	0.1	NONE	1.2	1.1	1
Asbestos						
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MMI	MBI	MBI
Actinolite detected	Type	N/A	ISO 17025	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-
General Inorganics						
pH (L099)	pH Units	N/A	MCERTS	8.3	9.6	9.9
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	2000	18000	1500
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	3.8	2.9	2.6
Total Phenols						
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	0.27	0.25	0.18
Acenaphthylene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.44	< 0.05	0.06
Fluorene	mg/kg	0.05	MCERTS	0.34	< 0.05	0.05
Phenanthrene	mg/kg	0.05	MCERTS	3.4	0.2	0.42
Anthracene	mg/kg	0.05	MCERTS	0.72	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	6	0.19	0.28
Pyrene	mg/kg	0.05	MCERTS	6.9	0.18	0.31
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.9	0.09	0.15
Chrysene	mg/kg	0.05	MCERTS	4.3	0.14	0.21
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	3.8	0.18	0.19
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.1	< 0.05	0.06
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.1	0.06	0.14
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.5	0.08	0.08
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.46	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.8	0.09	0.11
Coronene	mg/kg	0.05	NONE	0.73	< 0.05	< 0.05
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	38.1	1.47	2.23
Total WAC-17 PAHs	mg/kg	0.85	NONE	38.8	1.47	2.23
Heavy Metals / Metalloids						
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	6.3	6.4	1.9

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Analytical Report Number: 24-014790
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				174034	174035	174036
Sample Reference				WS1011	WS1016	WS1016
Sample Number				ES3	ES5	ES7
Depth (m)				1.00	2.50	4.00
Date Sampled				15/04/2024	15/04/2024	15/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	23	16	17
Barium (aqua regia extractable)	mg/kg	1	MCERTS	300	500	130
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.4	3.2	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	2.6	1.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1	5.1	0.8
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	40	40	12
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	40	40	12
Copper (aqua regia extractable)	mg/kg	1	MCERTS	110	450	53
Lead (aqua regia extractable)	mg/kg	1	MCERTS	330	1700	290
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.1	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	33	73	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	34	23	14
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	240	220	110
Petroleum Hydrocarbons						
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	2.1	< 2.0	< 2.0
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	33	< 8.0	44
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	35	< 10	44
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	5.4	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	63	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	110	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	180	< 10	< 10
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	130	< 10	16
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	110	< 10	42

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Analytical Report Number: 24-014790
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				174034	174035	174036
Sample Reference				WS1011	WS1016	WS1016
Sample Number				ES3	ES5	ES7
Depth (m)				1.00	2.50	4.00
Date Sampled				15/04/2024	15/04/2024	15/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
VOCs						
Chloromethane	µg/kg	5	ISO 17025	-	< 5.0	-
Chloroethane	µg/kg	5	NONE	-	< 5.0	-
Bromomethane	µg/kg	5	ISO 17025	-	< 5.0	-
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	-
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0	-
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	< 5.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0	-
Chloroform	µg/kg	5	ISO 17025	-	< 5.0	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	< 5.0	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	< 5.0	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-
Trichloroethene	µg/kg	5	ISO 17025	-	< 5.0##	-
Dibromomethane	µg/kg	5	ISO 17025	-	< 5.0	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	< 5.0	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	< 5.0	-
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	< 5.0	-
Chlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	< 5.0	-
Bromoform	µg/kg	5	NONE	-	< 5.0	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0	-
Bromobenzene	µg/kg	5	NONE	-	< 5.0	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-

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Analytical Report Number: 24-014790
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				174034	174035	174036
Sample Reference				WS1011	WS1016	WS1016
Sample Number				ES3	ES5	ES7
Depth (m)				1.00	2.50	4.00
Date Sampled				15/04/2024	15/04/2024	15/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	< 5.0	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-
Butylbenzene	µg/kg	5	NONE	-	< 5.0	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	< 5.0	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-
SVOCs						
Aniline	mg/kg	0.1	NONE	-	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	0.1	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	-
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.30	-
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	-
Anthraquinone	mg/kg	0.3	NONE	-	< 0.3	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	-
Organotins						
Tributyltin (chloride)	µg/kg	10	NONE	-	< 10	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-014790
Project / Site name: ID Manchester
Your Order No: PO-0059

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
174030	BH1015B	0.80	120	Loose Fibres	**Amosite**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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Analytical Report Number : 24-014790
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
174029	BH1015B	ES1	0.2	Brown loam and gravel
174030	BH1015B	ES3	0.8	Brown loam and gravel
174031	BH1015B	ES4	1	Brown loam and gravel
174032	BH1005	ES4	16.5	Brown sand
174033	WS1011	ES1	0.2	Brown loam and clay with gravel and vegetation
174034	WS1011	ES3	1	Brown loam with gravel and vegetation
174035	WS1016	ES5	2.5	Brown loam and clay with gravel and vegetation
174036	WS1016	ES7	4	Brown loam and sand with gravel and vegetation

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Analytical Report Number : 24-014790
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Organotins in soil	Determination of organotins compounds in soil by GC-MS	In-house method		W	NONE
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS

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Analytical Report Number : 24-014790
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method,10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised

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Analytical Report Number : 24-015354

Replaces Analytical Report Number: 24-015354, issue no. 1
Additional analysis undertaken.
Asbestos Quantification added to sample 176799 at client's request.

Project / Site name:	ID Manchester	**Samples received on:**	19/04/2024
Your job number:	51019-02	**Samples instructed on/ Analysis started on:**	19/04/2024
Your order number:	PO-0059	**Analysis completed by:**	29/04/2024
Report Issue Number:	2	**Report issued on:**	09/05/2024
Samples Analysed:	13 soil samples		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number: 24-015354
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				176791	176792	176793	176794	176795
Sample Reference				WS1017	WS1010A	WS1015	BH1013A	BH1013A
Sample Number				1	3	2	2	4
Depth (m)				0.20	2.50	0.50	0.50	1.00
Date Sampled				17/04/2024	17/04/2024	17/04/2024	17/04/2024	17/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	28.8	55.2	57.7
Moisture Content	%	0.01	NONE	18	12	12	3.1	4.1
Total mass of sample received	kg	0.1	NONE	0.9	0.8	0.9	0.9	0.9
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	-	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	WEM	-	WEM	WEM	WEM
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.7	8.2	8	8.7	9
Total Cyanide	mg/kg	1	MCERTS	1.4	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	1100	130	3500	920	820
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	-	-	-	-	< 0.5
Organic Matter (automated)	%	0.1	MCERTS	10	0.3	2.4	1.7	1
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	2.2	< 0.05	0.48	0.15	0.09
Acenaphthylene	mg/kg	0.05	MCERTS	0.74	< 0.05	0.23	0.13	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	9.1	< 0.05	0.85	1.5	0.12
Fluorene	mg/kg	0.05	MCERTS	5.8	< 0.05	0.96	1.1	0.08
Phenanthrene	mg/kg	0.05	MCERTS	45	< 0.05	8.2	11	0.55
Anthracene	mg/kg	0.05	MCERTS	12	< 0.05	1.8	3.7	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	67	< 0.05	11	13	1
Pyrene	mg/kg	0.05	MCERTS	58	< 0.05	10	12	1.2
Benzo(a)anthracene	mg/kg	0.05	MCERTS	29	< 0.05	5.1	4.2	0.49
Chrysene	mg/kg	0.05	MCERTS	28	< 0.05	5.5	4.2	0.58
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	34	< 0.05	5.4	3.8	0.86
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	14	< 0.05	2.2	2.2	0.28
Benzo(a)pyrene	mg/kg	0.05	MCERTS	30	< 0.05	5	3.7	0.68
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	15	< 0.05	2.1	1.6	0.42
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	2.6	< 0.05	0.6	0.37	0.15
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	17	< 0.05	2.5	1.8	0.41
Coronene	mg/kg	0.05	NONE	7.5	< 0.05	1.2	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	370	-	62.2	64.8	6.89
Total WAC-17 PAHs	mg/kg	0.85	NONE	378	< 0.85	63.4	64.8	6.89

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Analytical Report Number: 24-015354
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				176791	176792	176793	176794	176795
Sample Reference				WS1017	WS1010A	WS1015	BH1013A	BH1013A
Sample Number				1	3	2	2	4
Depth (m)				0.20	2.50	0.50	0.50	1.00
Date Sampled				17/04/2024	17/04/2024	17/04/2024	17/04/2024	17/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	3.7	< 1.0	24	< 1.0	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17	3.7	54	5.6	7.8
Barium (aqua regia extractable)	mg/kg	1	MCERTS	200	17	580	890	710
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.7	0.22	1.1	0.28	0.27
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	< 0.2	0.4	0.3	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.9	< 0.2	< 0.2	1.6	1.8
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	62	9.5	30	5.9	6.3
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	62	9.5	30	5.9	6.3
Copper (aqua regia extractable)	mg/kg	1	MCERTS	55	9.8	120	11	12
Lead (aqua regia extractable)	mg/kg	1	MCERTS	140	7.4	600	33	32
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4	< 0.3	0.9	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	6.4	21	8.8	9.2
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	20	11	28	7.7	8.5
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	210	22	320	61	66
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	1.4	< 1.0	< 1.0	19	1.3
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	11	< 2.0	4.8	77	27
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	16	< 8.0	22	59	18
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	47	< 8.0	90	440	200
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	76	< 10	120	590	250
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	5.8	< 1.0	< 1.0	1.1	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	88	< 2.0	13	21	2.9
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	440	< 10	90	83	19
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	720	< 10	120	340	260
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	1200	< 10	220	440	280
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	800	< 10	210	390	140
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	620	< 10	160	1100	730

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Analytical Report Number: 24-015354
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				176791	176792	176793	176794	176795
Sample Reference				WS1017	WS1010A	WS1015	BH1013A	BH1013A
Sample Number				1	3	2	2	4
Depth (m)				0.20	2.50	0.50	0.50	1.00
Date Sampled				17/04/2024	17/04/2024	17/04/2024	17/04/2024	17/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	-
Chloroform	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-	-	-	-
Bromoform	µg/kg	5	NONE	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromobenzene	µg/kg	5	NONE	-	-	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-

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Analytical Report Number: 24-015354
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				176791	176792	176793	176794	176795
Sample Reference				WS1017	WS1010A	WS1015	BH1013A	BH1013A
Sample Number				1	3	2	2	4
Depth (m)				0.20	2.50	0.50	0.50	1.00
Date Sampled				17/04/2024	17/04/2024	17/04/2024	17/04/2024	17/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butylbenzene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-
Organotins								
Tributyltin (chloride)	µg/kg	10	NONE	-	-	< 10	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-015354
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				176796	176797	176798	176799	176800
Sample Reference				BH1014A	BH1014A	BH1014A	WS1021	WS1007
Sample Number				1	3	5	4	3
Depth (m)				0.20	0.80	2.00	1.00	0.80
Date Sampled				17/04/2024	17/04/2024	17/04/2024	17/04/2024	17/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	21.8	< 0.1	52.1	< 0.1
Moisture Content	%	0.01	NONE	20	12	19	7.4	14
Total mass of sample received	kg	0.1	NONE	0.9	0.9	0.9	0.9	1.3
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	WEM	WEM	WEM	WEM	WEM
Actinolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	Detected	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	< 0.001	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	Loose Fibres	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.3	8.8	9.1	9.5	8.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	440	770	480	4900	690
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	-	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	4.7	2.3	1	0.7	1.6
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.07	0.39	0.09	< 0.05	0.28
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.22
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.07	< 0.05	0.55
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.09	< 0.05	0.76
Phenanthrene	mg/kg	0.05	MCERTS	0.47	0.28	1.4	< 0.05	4.2
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.22	< 0.05	0.95
Fluoranthene	mg/kg	0.05	MCERTS	0.82	0.3	1.8	0.11	4.2
Pyrene	mg/kg	0.05	MCERTS	0.87	0.31	1.7	0.12	4.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.5	0.17	0.75	0.05	1.7
Chrysene	mg/kg	0.05	MCERTS	0.53	0.19	0.85	0.05	1.9
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.76	0.21	1	0.09	1.9
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.2	< 0.05	0.39	< 0.05	0.68
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.44	0.14	0.78	< 0.05	1.7
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.31	< 0.05	0.35	< 0.05	0.81
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.33	< 0.05	0.4	< 0.05	0.97
Coronene	mg/kg	0.05	NONE	< 0.05	0.12	< 0.05	< 0.05	0.36
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	5.31	1.99	9.8	< 0.80	24.9
Total WAC-17 PAHs	mg/kg	0.85	NONE	5.31	2.1	9.8	< 0.85	25.3

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Analytical Report Number: 24-015354
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				176796	176797	176798	176799	176800
Sample Reference				BH1014A	BH1014A	BH1014A	WS1021	WS1007
Sample Number				1	3	5	4	3
Depth (m)				0.20	0.80	2.00	1.00	0.80
Date Sampled				17/04/2024	17/04/2024	17/04/2024	17/04/2024	17/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	3.2	2	1.2	3.4	3.8
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	19	16	9.9	40	19
Barium (aqua regia extractable)	mg/kg	1	MCERTS	110	650	190	520	240
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.88	1.2	0.37	1.9	1
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.4	< 0.2	1.9	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.9	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	15	18	8.4	31	23
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15	18	8.4	31	23
Copper (aqua regia extractable)	mg/kg	1	MCERTS	46	40	26	51	51
Lead (aqua regia extractable)	mg/kg	1	MCERTS	120	24	55	54	110
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	23	8.3	30	17
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	25	36	10	64	20
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	96	33	54	92	130
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	2.5	1.1
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	4.5	3.8
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	11
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	13	19
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	20	35
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	8.2
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	12	< 10	< 10	< 10	30
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	26	< 10	< 10	13	27
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	37	< 10	< 10	13	65
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	23	< 10	14	14	73
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	37	< 10	< 10	59	27

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Analytical Report Number: 24-015354
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				176796	176797	176798	176799	176800
Sample Reference				BH1014A	BH1014A	BH1014A	WS1021	WS1007
Sample Number				1	3	5	4	3
Depth (m)				0.20	0.80	2.00	1.00	0.80
Date Sampled				17/04/2024	17/04/2024	17/04/2024	17/04/2024	17/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Chloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Bromomethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	< 5.0
Chloroform	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Bromoform	µg/kg	5	NONE	-	-	-	-	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Bromobenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0

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Analytical Report Number: 24-015354
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				176796	176797	176798	176799	176800
Sample Reference				BH1014A	BH1014A	BH1014A	WS1021	WS1007
Sample Number				1	3	5	4	3
Depth (m)				0.20	0.80	2.00	1.00	0.80
Date Sampled				17/04/2024	17/04/2024	17/04/2024	17/04/2024	17/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butylbenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.30
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Organotins								
Tributyltin (chloride)	µg/kg	10	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-015354
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				176801	176802	176803
Sample Reference				BH1007	BH1007	BH1007
Sample Number				1	2	3
Depth (m)				0.80	1.50	3.30
Date Sampled				17/04/2024	17/04/2024	17/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	32.4	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	8.3	9	12
Total mass of sample received	kg	0.1	NONE	0.8	0.8	0.8
Asbestos						
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	WEM	WEM	-
Actinolite detected	Type	N/A	ISO 17025	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-
General Inorganics						
pH (L099)	pH Units	N/A	MCERTS	8	8.2	8.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	260	380	520
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	1.3	1.6	0.3
Total Phenols						
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.59	0.57	0.13
Fluorene	mg/kg	0.05	MCERTS	0.51	0.53	0.08
Phenanthrene	mg/kg	0.05	MCERTS	6	6.7	0.76
Anthracene	mg/kg	0.05	MCERTS	1.2	1.4	0.19
Fluoranthene	mg/kg	0.05	MCERTS	6	6.9	1.2
Pyrene	mg/kg	0.05	MCERTS	5	5.9	0.98
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.1	2.7	0.41
Chrysene	mg/kg	0.05	MCERTS	2.1	2.4	0.57
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2	3.1	0.5
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.71	0.99	0.27
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.6	2.3	0.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1	1.1	0.23
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.29	0.53	0.08
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.1	1.1	0.27
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	30.1	36.3	6.02
Total WAC-17 PAHs	mg/kg	0.85	NONE	30.1	36.3	6.02

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Analytical Report Number: 24-015354
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				176801	176802	176803
Sample Reference				BH1007	BH1007	BH1007
Sample Number				1	2	3
Depth (m)				0.80	1.50	3.30
Date Sampled				17/04/2024	17/04/2024	17/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Heavy Metals / Metalloids						
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	< 1.0	1.3
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10	11	14
Barium (aqua regia extractable)	mg/kg	1	MCERTS	74	79	64
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.71	0.62	0.44
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.3	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.6	0.8	1
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	19	15	11
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	15	11
Copper (aqua regia extractable)	mg/kg	1	MCERTS	23	23	22
Lead (aqua regia extractable)	mg/kg	1	MCERTS	87	100	20
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	15	9.5
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	21	19	15
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110	130	70
Petroleum Hydrocarbons						
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	9.6	12
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	12
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	3.7	3.8	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	25	19	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	23	21	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	52	44	< 10
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	38	38	< 10
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	17	24	11

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Analytical Report Number: 24-015354
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				176801	176802	176803
Sample Reference				BH1007	BH1007	BH1007
Sample Number				1	2	3
Depth (m)				0.80	1.50	3.30
Date Sampled				17/04/2024	17/04/2024	17/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
VOCs						
Chloromethane	µg/kg	5	ISO 17025	< 5.0	-	-
Chloroethane	µg/kg	5	NONE	< 5.0	-	-
Bromomethane	µg/kg	5	ISO 17025	< 5.0	-	-
Vinyl Chloride	µg/kg	5	NONE	< 5.0	-	-
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	-	-
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	-	-
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	-	-
Chloroform	µg/kg	5	ISO 17025	< 5.0	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	-	-
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	-	-
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	-	-
Tetrachloroethene	µg/kg	5	NONE	< 5.0	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	-	-
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	-	-
Bromoform	µg/kg	5	NONE	< 5.0	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	-	-
Bromobenzene	µg/kg	5	NONE	< 5.0	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-

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Analytical Report Number: 24-015354
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				176801	176802	176803
Sample Reference				BH1007	BH1007	BH1007
Sample Number				1	2	3
Depth (m)				0.80	1.50	3.30
Date Sampled				17/04/2024	17/04/2024	17/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Butylbenzene	µg/kg	5	NONE	< 5.0	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-
SVOCs						
Aniline	mg/kg	0.1	NONE	< 0.1	-	-
Phenol	mg/kg	0.2	ISO 17025	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-	-
Isophorone	mg/kg	0.2	MCERTS	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	0.2	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	-	-
Azobenzene	mg/kg	0.3	NONE	< 0.3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.30	-	-
Carbazole	mg/kg	0.3	MCERTS	< 0.3	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	-	-
Anthraquinone	mg/kg	0.3	NONE	0.4	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	-	-
Organotins						
Tributyltin (chloride)	µg/kg	10	NONE	< 10	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-015354
Project / Site name: ID Manchester
Your Order No: PO-0059

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
176799	WS1021	1.00	140	Loose Fibres	**Amosite**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 24-015354
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
176791	WS1017	1	0.2	Brown loam with gravel and vegetation
176792	WS1010A	3	2.5	Brown sand
176793	WS1015	2	0.5	Brown loam and clay with clinker and brick
176794	BH1013A	2	0.5	Brown loam and sand with tar and concrete
176795	BH1013A	4	1	Light brown sand with tar and concrete
176796	BH1014A	1	0.2	Brown loam and sand with gravel and vegetation
176797	BH1014A	3	0.8	Brown gravely loam with clinker and stones
176798	BH1014A	5	2	Brown sand with gravel and brick
176799	WS1021	4	1	Brown loam and sand with gravel and concrete
176800	WS1007	3	0.8	Brown sandy loam with clinker and gravel
176801	BH1007	1	0.8	Brown loam and sand with gravel and stones
176802	BH1007	2	1.5	Brown sand with gravel
176803	BH1007	3	3.3	Brown clay and sand with gravel

Analytical Report Number : 24-015354
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Organotins in soil	Determination of organotins compounds in soil by GC-MS	In-house method		W	NONE
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS

Analytical Report Number : 24-015354
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method,10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 24-015976

Replaces Analytical Report Number: 24-015976, issue no. 1
Additional analysis undertaken.
Asbestos Quantification added to sample 179751 as per client request.

Project / Site name:	ID Manchester	**Samples received on:**	23/04/2024
Your job number:		**Samples instructed on/ Analysis started on:**	24/04/2024
Your order number:	PO-0059	**Analysis completed by:**	30/04/2024
Report Issue Number:	2	**Report issued on:**	14/05/2024
Samples Analysed:	13 soil samples - 2 leachate samples		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number: 24-015976
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				179741	179742	179743	179744	179745
Sample Reference				WS1006	WS1006	WS1020	WS1020	WS1020
Sample Number				ES1	ES2	ES1	ES2	ES3
Depth (m)				0.20	0.90	0.50	3.80	4.00
Date Sampled				19/04/2024	19/04/2024	19/04/2024	19/04/2024	19/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	30.1	78.2	< 0.1	29.8
Moisture Content	%	0.01	NONE	28	9.1	6.1	11	9.7
Total mass of sample received	kg	0.1	NONE	1.2	1.1	1.2	1.1	1.2
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SPU	SPU	SPU	SPU	SPU
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	6.9	8.4	10.4	7.8	7.8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	5	1.8	1.9
Total Sulphate as SO_4	mg/kg	50	MCERTS	630	450	1700	2600	670
Organic Matter (automated)	%	0.1	MCERTS	6.9	1.4	2.1	1.9	1.3
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	4.3	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.77	0.15	0.76	0.53
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.21	0.09	0.07	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.06	1.1	0.25	1.2	0.88
Fluorene	mg/kg	0.05	MCERTS	< 0.05	1.2	0.18	0.67	0.15
Phenanthrene	mg/kg	0.05	MCERTS	0.51	8.7	2.5	2.1	0.58
Anthracene	mg/kg	0.05	MCERTS	0.12	2.1	0.57	0.92	0.19
Fluoranthene	mg/kg	0.05	MCERTS	0.99	9.4	4	4.8	0.59
Pyrene	mg/kg	0.05	MCERTS	1	9	3.8	4.7	0.55
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.58	4.5	1.9	1.9	0.21
Chrysene	mg/kg	0.05	MCERTS	0.77	4.3	2	1.9	0.23
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.79	4.6	2.5	1.9	0.2
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.27	1.6	0.81	0.46	0.08
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.71	4.2	2.3	1.5	0.16
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.34	2	1.2	0.76	0.09
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.08	0.4	0.25	0.16	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.4	2.3	1.4	0.82	0.13
Coronene	mg/kg	0.05	NONE	0.23	0.7	< 0.05	0.19	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	6.62	56.4	23.8	24.6	-
Total WAC-17 PAHs	mg/kg	0.85	NONE	6.85	57.1	23.8	24.8	4.58

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 24-015976
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				179741	179742	179743	179744	179745
Sample Reference				WS1006	WS1006	WS1020	WS1020	WS1020
Sample Number				ES1	ES2	ES1	ES2	ES3
Depth (m)				0.20	0.90	0.50	3.80	4.00
Date Sampled				19/04/2024	19/04/2024	19/04/2024	19/04/2024	19/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.6	2.2	1.9	7.1	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	15	14	27	13
Barium (aqua regia extractable)	mg/kg	1	MCERTS	96	150	170	130	31
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.72	0.99	0.56	0.51	0.46
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	< 0.2	0.3	0.8	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.8	1.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	19	16	11	36	10
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	16	11	36	10
Copper (aqua regia extractable)	mg/kg	1	MCERTS	36	48	30	81	34
Lead (aqua regia extractable)	mg/kg	1	MCERTS	83	94	120	230	27
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	0.8	0.7	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15	17	10	25	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	30	22	16	33	13
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	86	64	73	170	35
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	4.8	< 2.0	< 2.0
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	20	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	19	78	52	< 8.0
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	19	83	71	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	1	1.3	1.4	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	5.5	8.6	7.5	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	24	24	35	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	12	38	140	54	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	12	68	170	98	< 10
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	50	66	110	< 10
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	10	41	290	62	< 10
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Chloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Bromomethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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Analytical Report Number: 24-015976
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				179741	179742	179743	179744	179745
Sample Reference				WS1006	WS1006	WS1020	WS1020	WS1020
Sample Number				ES1	ES2	ES1	ES2	ES3
Depth (m)				0.20	0.90	0.50	3.80	4.00
Date Sampled				19/04/2024	19/04/2024	19/04/2024	19/04/2024	19/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	< 5.0
Chloroform	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Bromoform	µg/kg	5	NONE	-	-	-	-	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Bromobenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Butylbenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1

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Analytical Report Number: 24-015976
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				179741	179742	179743	179744	179745
Sample Reference				WS1006	WS1006	WS1020	WS1020	WS1020
Sample Number				ES1	ES2	ES1	ES2	ES3
Depth (m)				0.20	0.90	0.50	3.80	4.00
Date Sampled				19/04/2024	19/04/2024	19/04/2024	19/04/2024	19/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.30
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	< 0.3

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-015976
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				179746	179747	179748	179749	179750
Sample Reference				BH1004	BH1004	BH1004	WS1025	WS1025
Sample Number				ES1	ES2	ES3	ES1	ES3
Depth (m)				0.70	6.00	7.50	0.50	4.00
Date Sampled				19/04/2024	19/04/2024	19/04/2024	19/04/2024	19/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	27	< 0.1	39.1	< 0.1
Moisture Content	%	0.01	NONE	14	15	10	9.6	17
Total mass of sample received	kg	0.1	NONE	1.1	1.2	1.1	1.2	1.1
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	-	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	SPU	SPU	-	SPU	-
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	10.3	7.3	9.1	9.9	7.8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	2200	8800	120	990	270
Organic Matter (automated)	%	0.1	MCERTS	2.3	3	< 0.1	3.2	1
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.6	0.07	< 0.05	4.3	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	1.4	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.15	< 0.05	< 0.05	0.64	< 0.05
Fluorene	mg/kg	0.05	MCERTS	1.4	< 0.05	< 0.05	0.45	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	17	0.1	< 0.05	3.5	0.12
Anthracene	mg/kg	0.05	MCERTS	7.1	< 0.05	< 0.05	0.72	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	28	0.08	< 0.05	3.1	0.18
Pyrene	mg/kg	0.05	MCERTS	25	0.1	< 0.05	3.6	0.17
Benzo(a)anthracene	mg/kg	0.05	MCERTS	12	< 0.05	< 0.05	0.94	< 0.05
Chrysene	mg/kg	0.05	MCERTS	12	< 0.05	< 0.05	1.4	0.07
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	14	< 0.05	< 0.05	1.3	0.07
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	6.3	< 0.05	< 0.05	0.86	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	12	< 0.05	< 0.05	1.2	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	6.5	< 0.05	< 0.05	0.7	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	2.2	< 0.05	< 0.05	0.19	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	7.8	< 0.05	< 0.05	0.82	0.08
Coronene	mg/kg	0.05	NONE	2.9	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	< 0.80	-	23.7	< 0.80
Total WAC-17 PAHs	mg/kg	0.85	NONE	156	< 0.85	< 0.85	23.7	< 0.85

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Analytical Report Number: 24-015976
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				179746	179747	179748	179749	179750
Sample Reference				BH1004	BH1004	BH1004	WS1025	WS1025
Sample Number				ES1	ES2	ES3	ES1	ES3
Depth (m)				0.70	6.00	7.50	0.50	4.00
Date Sampled				19/04/2024	19/04/2024	19/04/2024	19/04/2024	19/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	1.7	< 1.0	3.3	2	1.7
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	20	260	2.6	66	8.6
Barium (aqua regia extractable)	mg/kg	1	MCERTS	260	28	11	130	73
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.1	0.49	0.17	1	0.82
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.6	< 0.2	0.9	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	15	9.9	4.8	17	22
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15	9.9	4.8	17	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	49	12	5.9	43	15
Lead (aqua regia extractable)	mg/kg	1	MCERTS	55	30	2.9	35	12
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.5	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	21	13	2.2	21	15
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	36	17	8.4	42	26
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	42	26	7.3	34	54
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	2.9	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	17	< 2.0
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	16	< 8.0	< 8.0	90	< 8.0
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	16	< 10	< 10	110	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	2	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	6	< 2.0	< 2.0	11	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	78	< 10	< 10	23	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	110	< 10	< 10	130	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	190	< 10	< 10	170	< 10
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	130	< 10	< 10	88	< 10
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	94	< 10	< 10	160	< 10
VOCs								
Chloromethane	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Chloroethane	µg/kg	5	NONE	< 5.0	-	-	-	-
Bromomethane	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	< 5.0	-	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	-	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	-	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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Analytical Report Number: 24-015976
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				179746	179747	179748	179749	179750
Sample Reference				BH1004	BH1004	BH1004	WS1025	WS1025
Sample Number				ES1	ES2	ES3	ES1	ES3
Depth (m)				0.70	6.00	7.50	0.50	4.00
Date Sampled				19/04/2024	19/04/2024	19/04/2024	19/04/2024	19/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	-	-	-	-
Chloroform	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	-	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Tetrachloroethene	µg/kg	5	NONE	< 5.0	-	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Bromoform	µg/kg	5	NONE	< 5.0	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	-	-	-	-
Bromobenzene	µg/kg	5	NONE	< 5.0	-	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Butylbenzene	µg/kg	5	NONE	< 5.0	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	< 0.2	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-

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Analytical Report Number: 24-015976
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				179746	179747	179748	179749	179750
Sample Reference				BH1004	BH1004	BH1004	WS1025	WS1025
Sample Number				ES1	ES2	ES3	ES1	ES3
Depth (m)				0.70	6.00	7.50	0.50	4.00
Date Sampled				19/04/2024	19/04/2024	19/04/2024	19/04/2024	19/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	0.3	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	0.8	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	< 0.3	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.30	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	0.9	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	< 0.3	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-015976
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				179751	179752	179753
Sample Reference				WS1012	WS1012	WS1018
Sample Number				ES1	ES2	ES3
Depth (m)				0.60	3.00	2.00
Date Sampled				19/04/2024	19/04/2024	19/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	18	18
Total mass of sample received	kg	0.1	NONE	1	1	1
Asbestos						
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SPU	SPU	SPU
Actinolite detected	Type	N/A	ISO 17025	Not-detected	-	-
Amosite detected	Type	N/A	ISO 17025	Not-detected	-	-
Anthophyllite detected	Type	N/A	ISO 17025	Not-detected	-	-
Chrysotile detected	Type	N/A	ISO 17025	Detected	-	-
Crocidolite detected	Type	N/A	ISO 17025	Not-detected	-	-
Tremolite detected	Type	N/A	ISO 17025	Not-detected	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	< 0.001	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	Loose Fibres	-	-
General Inorganics						
pH (L099)	pH Units	N/A	MCERTS	8.5	8.2	8.1
Total Cyanide	mg/kg	1	MCERTS	31	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	2600	480	500
Organic Matter (automated)	%	0.1	MCERTS	3.9	1.9	2.6
Total Phenols						
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	1.8	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	4.6	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.67	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	2.7	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	35	0.08	< 0.05
Anthracene	mg/kg	0.05	MCERTS	13	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	60	0.07	0.07
Pyrene	mg/kg	0.05	MCERTS	56	0.09	0.06
Benzo(a)anthracene	mg/kg	0.05	MCERTS	22	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	21	0.07	0.06
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	24	< 0.05	0.07
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	11	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	24	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	15	< 0.05	0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	3.5	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	17	0.05	0.07
Coronene	mg/kg	0.05	NONE	1.5	< 0.05	< 0.05
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	311	< 0.80	< 0.80
Total WAC-17 PAHs	mg/kg	0.85	NONE	312	< 0.85	< 0.85

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Analytical Report Number: 24-015976
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				179751	179752	179753
Sample Reference				WS1012	WS1012	WS1018
Sample Number				ES1	ES2	ES3
Depth (m)				0.60	3.00	2.00
Date Sampled				19/04/2024	19/04/2024	19/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Heavy Metals / Metalloids						
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	3.2	< 1.0	4.5
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	31	12	34
Barium (aqua regia extractable)	mg/kg	1	MCERTS	260	130	76
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.9	1.2	1.2
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.9	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	1.8
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	20	29	21
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	29	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	100	79	43
Lead (aqua regia extractable)	mg/kg	1	MCERTS	62	39	160
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.7	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	37	31	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	55	32	28
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	49	93	180
Petroleum Hydrocarbons						
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	28	< 8.0	< 8.0
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	28	< 10	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	1	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	11	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	130	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	190	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	330	< 10	< 10
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	230	< 10	< 10
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	160	< 10	< 10
VOCs						
Chloromethane	µg/kg	5	ISO 17025	-	-	-
Chloroethane	µg/kg	5	NONE	-	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0

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Analytical Report Number: 24-015976
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				179751	179752	179753
Sample Reference				WS1012	WS1012	WS1018
Sample Number				ES1	ES2	ES3
Depth (m)				0.60	3.00	2.00
Date Sampled				19/04/2024	19/04/2024	19/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-
Chloroform	µg/kg	5	ISO 17025	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-	-
Bromoform	µg/kg	5	NONE	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-
Bromobenzene	µg/kg	5	NONE	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-
Butylbenzene	µg/kg	5	NONE	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-

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Analytical Report Number: 24-015976
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				179751	179752	179753
Sample Reference				WS1012	WS1012	WS1018
Sample Number				ES1	ES2	ES3
Depth (m)				0.60	3.00	2.00
Date Sampled				19/04/2024	19/04/2024	19/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-015976
Project / Site name: ID Manchester
Your Order No: PO-0059

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
179751	WS1012	0.60	163	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-015976
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				179747	179751
Sample Reference				BH1004	WS1012
Sample Number				ES2	ES1
Depth (m)				6.00	0.60
Date Sampled				19/04/2024	19/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
General Inorganics					
pH (automated)	pH Units	N/A	ISO 17025	7.2	8.1
Total Cyanide	µg/l	10	ISO 17025	< 10	590
Free Cyanide	µg/l	10	ISO 17025	-	< 10
Sulphate as SO_4	mg/l	0.045	ISO 17025	48.6	74
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	5.5	5.6
Total Phenols					
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10
Speciated PAHs					
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.16	NONE	< 0.16	< 0.16
Heavy Metals / Metalloids					
Antimony (dissolved)	µg/l	1.7	ISO 17025	3.7	3.8
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	5.9
Barium (dissolved)	µg/l	0.05	ISO 17025	11	38
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	74	34
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.7	1.8
Copper (dissolved)	µg/l	0.7	ISO 17025	4.4	13
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0
Mercury - CV-AFS	µg/l	0.007	ISO 17025	< 0.0070	0.0346
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.2	1
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7	< 1.7
Zinc (dissolved)	µg/l	0.4	ISO 17025	8.6	4.6
Calcium (dissolved)	mg/l	0.012	ISO 17025	14	22

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Analytical Report Number: 24-015976
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				179747	179751
Sample Reference				BH1004	WS1012
Sample Number				ES2	ES1
Depth (m)				6.00	0.60
Date Sampled				19/04/2024	19/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Petroleum Hydrocarbons					
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	NONE	< 10	< 10
TPH (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10
TPH (C25 - C40) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 24-015976
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
179741	WS1006	ES1	0.2	Brown loam and clay with gravel and vegetation
179742	WS1006	ES2	0.9	Brown clay and sand with gravel and stones
179743	WS1020	ES1	0.5	Brown clay and sand with gravel and stones
179744	WS1020	ES2	3.8	Brown loam and sand with gravel and rubble
179745	WS1020	ES3	4	Brown clay and sand with gravel and stones
179746	BH1004	ES1	0.7	Brown clay and sand with gravel
179747	BH1004	ES2	6	Brown clay and sand with gravel and stones
179748	BH1004	ES3	7.5	Brown sandy clay
179749	WS1025	ES1	0.5	Brown clay and sand with gravel and stones
179750	WS1025	ES3	4	Brown clay and sand
179751	WS1012	ES1	0.6	Brown sand with gravel and clinker
179752	WS1012	ES2	3	Brown clay and sand with gravel
179753	WS1018	ES3	2	Brown clay and sand with gravel

Analytical Report Number : 24-015976
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons by GC-MS/GC-MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS	In-house method	L070B/L088	W	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS
Chromium III in leachate	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE

Analytical Report Number : 24-015976
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	MCERTS
Free cyanide in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099	W	ISO 17025
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		ISO 17025

Analytical Report Number : 24-015976
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Organic 2:1 Leachate		In-house method	L020B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 24-016379

Replaces Analytical Report Number: 24-016379, issue no. 1
Additional analysis undertaken.
Asbestos Quantification added to samples 181774, 75, 77, 79 & 81 as per client's request.
Leachate added to samples 181774, 5, 7 & 9

Project / Site name:	ID Manchester	**Samples received on:**	25/04/2024
Your job number:	51019 02	**Samples instructed on/ Analysis started on:**	25/04/2024
Your order number:	PO-0059	**Analysis completed by:**	02/05/2024
Report Issue Number:	2	**Report issued on:**	20/05/2024
Samples Analysed:	9 soil samples - 4 leachate samples		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-016379
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181773	181774	181775	181776	181777
Sample Reference				WS1023A	WS1023A	WS1008	WS1008	WS1005
Sample Number				1	2	1	2	1
Depth (m)				0.50	0.80	0.50	1.50	1.00
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	6.9	4.9	14	14	11
Total mass of sample received	kg	0.1	NONE	1	1	1	1	1
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Detected	Detected	Not-detected	Detected
Asbestos Analyst ID	N/A	N/A	N/A	SSZ	SSZ	SSZ	SSZ	SSZ
Actinolite detected	Type	N/A	ISO 17025	-	Not-detected	Not-detected	-	Not-detected
Amosite detected	Type	N/A	ISO 17025	-	Not-detected	Detected	-	Not-detected
Anthophyllite detected	Type	N/A	ISO 17025	-	Not-detected	Not-detected	-	Not-detected
Chrysotile detected	Type	N/A	ISO 17025	-	Detected	Detected	-	Detected
Crocidolite detected	Type	N/A	ISO 17025	-	Not-detected	Not-detected	-	Not-detected
Tremolite detected	Type	N/A	ISO 17025	-	Not-detected	Not-detected	-	Not-detected
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	< 0.001	0.001	-	< 0.001
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	Loose Fibres	Loose Fibres	-	Loose Fibres
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	11.2	8.9	10.6	8.7	9.5
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	1.5
Free Cyanide	mg/kg	1	MCERTS	-	-	-	-	-
Total Sulphate as SO_4	mg/kg	50	MCERTS	6800	6600	2800	2800	3400
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	1.5	0.6	1.9	5.3	1
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.19	< 0.05	0.16	0.2	0.61
Acenaphthylene	mg/kg	0.05	MCERTS	0.12	< 0.05	< 0.05	0.13	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.06	< 0.05	0.09	0.1	1
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.1	0.1	0.45
Phenanthrene	mg/kg	0.05	MCERTS	3.1	0.11	1.1	1.3	5.7
Anthracene	mg/kg	0.05	MCERTS	0.54	< 0.05	0.19	0.27	0.75
Fluoranthene	mg/kg	0.05	MCERTS	3.4	0.22	1.3	2.4	4.6
Pyrene	mg/kg	0.05	MCERTS	4.1	0.23	1.4	2.4	4.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.5	< 0.05	0.68	1.1	1.8
Chrysene	mg/kg	0.05	MCERTS	1.7	0.16	0.8	1.3	2.4
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.5	0.17	0.75	1.3	1.8
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.54	0.08	0.36	0.51	0.97
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.3	< 0.05	0.73	1.2	1.9
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.76	0.09	0.33	0.7	0.75
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.23	< 0.05	0.13	0.19	0.35
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.82	0.12	0.46	0.81	1.1
Coronene	mg/kg	0.05	NONE	0.38	< 0.05	< 0.05	0.37	< 0.05

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Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181773	181774	181775	181776	181777
Sample Reference				WS1023A	WS1023A	WS1008	WS1008	WS1005
Sample Number				1	2	1	2	1
Depth (m)				0.50	0.80	0.50	1.50	1.00
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	1.19	8.57	-	28.8
Total WAC-17 PAHs	mg/kg	0.85	NONE	20.2	1.19	8.57	14.4	28.8
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	2.1	3.4	3.3	1.5
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21	26	21	32	13
Barium (aqua regia extractable)	mg/kg	1	MCERTS	210	81	180	200	200
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.61	0.76	0.79	1.2	0.73
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	0.2	0.7	0.4	1.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	2.9	< 0.2	0.5
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	11	9.5	31	21	18
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	11	9.5	31	21	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	24	45	66	88	44
Lead (aqua regia extractable)	mg/kg	1	MCERTS	60	62	150	320	73
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	1	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	9.6	11	20	22	12
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	16	16	28	46	31
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	70	50	310	100	100
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	3.6	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	42	< 2.0	2.3	4.6	< 2.0
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	34	< 8.0	23	27	11
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	270	< 8.0	89	260	57
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	340	< 10	110	290	68
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	11	< 2.0	< 2.0	< 2.0	2.8
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	26	< 10	13	19	21
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	240	13	50	190	44
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	270	13	63	210	67
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	180	< 10	92	150	75
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	660	30	110	490	81

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Analytical Report Number: 24-016379
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181773	181774	181775	181776	181777
Sample Reference				WS1023A	WS1023A	WS1008	WS1008	WS1005
Sample Number				1	2	1	2	1
Depth (m)				0.50	0.80	0.50	1.50	1.00
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Chloroethane	µg/kg	5	NONE	< 5.0	-	-	< 5.0	-
Bromomethane	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Vinyl Chloride	µg/kg	5	NONE	< 5.0	-	-	< 5.0	-
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	-	-	< 5.0	-
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	-	-	< 5.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	-	-	< 5.0	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	-	-	< 5.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	-	-	< 5.0	-
Chloroform	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	-	-	< 5.0	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Tetrachloroethene	µg/kg	5	NONE	< 5.0	-	-	< 5.0	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Bromoform	µg/kg	5	NONE	< 5.0	-	-	< 5.0	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	-	-	< 5.0	-
Bromobenzene	µg/kg	5	NONE	< 5.0	-	-	< 5.0	-
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-

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Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181773	181774	181775	181776	181777
Sample Reference				WS1023A	WS1023A	WS1008	WS1008	WS1005
Sample Number				1	2	1	2	1
Depth (m)				0.50	0.80	0.50	1.50	1.00
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butylbenzene	µg/kg	5	NONE	< 5.0	-	-	< 5.0	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	-	-	< 5.0	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-	-	< 5.0	-
SVOCs								
Aniline	mg/kg	0.1	NONE	< 0.1	-	-	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	< 0.2	-	-	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	-	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	-	-	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	-	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	-	-	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	-	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	-	-	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	-	-	< 0.3	-
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	-	-	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-	-	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	< 0.2	-	-	< 0.2	-
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	-	-	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	-	-	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	-	-	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	< 0.3	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	-	-	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-	-	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	-	-	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	-	-	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	-	-	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	-	-	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	0.2	-	-	0.2	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	-	-	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	-	-	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	-	-	< 0.1	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	-	-	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	0.2	-	-	< 0.2	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	-	-	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	-	< 0.2	-
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	-	-	< 0.2	-
Azobenzene	mg/kg	0.3	NONE	< 0.3	-	-	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	-	-	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.30	-	-	< 0.30	-
Carbazole	mg/kg	0.3	MCERTS	< 0.3	-	-	< 0.3	-
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	-	-	< 0.2	-
Anthraquinone	mg/kg	0.3	NONE	0.3	-	-	< 0.3	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	-	-	< 0.3	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-016379
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181778	181779	181780	181781
Sample Reference				BH1008	BH1008	BH1008	WS1026
Sample Number				1	2	3	2
Depth (m)				0.10	0.80	3.00	0.50
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	20	16	7.9	12
Total mass of sample received	kg	0.1	NONE	1	1.1	1.4	1.1
Asbestos							
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Detected	-	Detected
Asbestos Analyst ID	N/A	N/A	N/A	SSZ	SSZ	-	SSZ
Actinolite detected	Type	N/A	ISO 17025	-	Not-detected	-	Not-detected
Amosite detected	Type	N/A	ISO 17025	-	Detected	-	Detected
Anthophyllite detected	Type	N/A	ISO 17025	-	Not-detected	-	Not-detected
Chrysotile detected	Type	N/A	ISO 17025	-	Not-detected	-	Detected
Crocidolite detected	Type	N/A	ISO 17025	-	Not-detected	-	Not-detected
Tremolite detected	Type	N/A	ISO 17025	-	Not-detected	-	Not-detected
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	0.01	-	< 0.001
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	Sheeting/Board Debris	-	Loose Fibres
General Inorganics							
pH (L099)	pH Units	N/A	MCERTS	7.9	7.8	8.5	7.5
Total Cyanide	mg/kg	1	MCERTS	< 1.0	1.1	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	-	< 1.0	-	-
Total Sulphate as SO_4	mg/kg	50	MCERTS	850	2200	68	1400
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	5	3.9	0.3	2.3
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	0.08	< 0.05	< 0.05	0.14
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.08	< 0.05	< 0.05	0.18
Fluorene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05	0.13
Phenanthrene	mg/kg	0.05	MCERTS	0.68	0.22	< 0.05	1.4
Anthracene	mg/kg	0.05	MCERTS	0.13	< 0.05	< 0.05	0.25
Fluoranthene	mg/kg	0.05	MCERTS	0.99	0.3	< 0.05	1.7
Pyrene	mg/kg	0.05	MCERTS	0.89	0.29	< 0.05	1.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.44	0.13	< 0.05	0.86
Chrysene	mg/kg	0.05	MCERTS	0.59	0.18	< 0.05	1.1
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.59	0.18	< 0.05	1.1
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.07	< 0.05	0.51
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.41	0.17	< 0.05	1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.23	0.14	< 0.05	0.58
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.29	0.16	< 0.05	0.66
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05

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Analytical Report Number: 24-016379
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181778	181779	181780	181781
Sample Reference				BH1008	BH1008	BH1008	WS1026
Sample Number				1	2	3	2
Depth (m)				0.10	0.80	3.00	0.50
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	5.48	-	-	11.3
Total WAC-17 PAHs	mg/kg	0.85	NONE	5.48	1.84	< 0.85	11.3
Heavy Metals / Metalloids							
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	4	5	< 1.0	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	26	42	3.3	59
Barium (aqua regia extractable)	mg/kg	1	MCERTS	170	180	12	370
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.1	1.6	0.22	1.2
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	1.7	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	22	27	5.5	42
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	27	5.5	42
Copper (aqua regia extractable)	mg/kg	1	MCERTS	66	140	7.6	120
Lead (aqua regia extractable)	mg/kg	1	MCERTS	130	160	7.5	230
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	21	31	4.3	68
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	34	47	7.1	40
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120	230	13	180
Petroleum Hydrocarbons							
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	4.6
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	11
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	54
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	70
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	18
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	< 10	< 10	18
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	< 10	< 10	38
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	< 10	< 10	62

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Analytical Report Number: 24-016379
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181778	181779	181780	181781
Sample Reference				BH1008	BH1008	BH1008	WS1026
Sample Number				1	2	3	2
Depth (m)				0.10	0.80	3.00	0.50
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
VOCs							
Chloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	-
Chloroethane	µg/kg	5	NONE	-	< 5.0	-	-
Bromomethane	µg/kg	5	ISO 17025	-	< 5.0	-	-
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	< 5.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0	-	-
Chloroform	µg/kg	5	ISO 17025	-	< 5.0	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	< 5.0	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	< 5.0	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	< 5.0	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	< 5.0	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	-
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	< 5.0	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	< 5.0	-	-
Bromoform	µg/kg	5	NONE	-	< 5.0	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0	-	-
Bromobenzene	µg/kg	5	NONE	-	< 5.0	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	< 5.0	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-

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Analytical Report Number: 24-016379
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181778	181779	181780	181781
Sample Reference				BH1008	BH1008	BH1008	WS1026
Sample Number				1	2	3	2
Depth (m)				0.10	0.80	3.00	0.50
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Butylbenzene	µg/kg	5	NONE	-	< 5.0	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	-	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	< 0.05	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	-	-
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.30	-	-
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	-	-
Anthraquinone	mg/kg	0.3	NONE	-	< 0.3	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-016379
Project / Site name: ID Manchester
Your Order No: PO-0059

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
181774	WS1023A	0.80	148	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
181775	WS1008	0.50	108	Loose Fibres	**Amosite & Chrysotile**	0.001	**0.001**
181777	WS1005	1.00	118	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
181779	BH1008	0.80	123	Sheeting/Board Debris	**Amosite**	0.010	**0.010**
181781	WS1026	0.50	122	Loose Fibres	**Amosite & Chrysotile**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-016379
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				181774	181775	181777	181779
Sample Reference				WS1023A	WS1008	WS1005	BH1008
Sample Number				2	1	1	2
Depth (m)				0.80	0.50	1.00	0.80
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
General Inorganics							
pH (automated)	pH Units	N/A	ISO 17025	7.5	8.2	10.7	8.2
Total Cyanide	µg/l	10	ISO 17025	-	-	150	52
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	1.3	< 1.0	-	-
Free Cyanide	µg/l	10	ISO 17025	-	-	< 10	< 10
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1	-	-	-
Sulphate as SO_4	mg/l	0.045	ISO 17025	817	42.5	45.2	10.3
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	4.6	8.8	11	12
Total Phenols							
Total Phenols (monohydric)	µg/l	10	ISO 17025	-	-	< 10	< 10
Total Phenols (monohydric) low level	µg/l	1	NONE	< 1.0	1.3	-	-
Speciated PAHs							
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH							
Total EPA-16 PAHs	µg/l	0.16	NONE	< 0.16	< 0.16	< 0.16	< 0.16

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Analytical Report Number: 24-016379
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				181774	181775	181777	181779
Sample Reference				WS1023A	WS1008	WS1005	BH1008
Sample Number				2	1	1	2
Depth (m)				0.80	0.50	1.00	0.80
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Heavy Metals / Metalloids							
Antimony (dissolved)	µg/l	1.7	ISO 17025	< 1.7	< 1.7	< 1.7	< 1.7
Arsenic (dissolved)	µg/l	1	ISO 17025	13	15	30	3
Barium (dissolved)	µg/l	0.05	ISO 17025	29	29	26	36
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	60	81	78	< 10
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	23	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	11	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	2.4	11	28	1.4
Copper (dissolved)	µg/l	0.7	ISO 17025	14	7.4	24	25
Lead (dissolved)	µg/l	1	ISO 17025	2.2	3.4	4.4	2.5
Mercury - CV-AFS	µg/l	0.007	ISO 17025	< 0.0070	0.0169	0.0945	0.044
Nickel (dissolved)	µg/l	0.3	ISO 17025	0.4	0.7	0.8	1.7
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	1.7	4.4	160	3.9
Zinc (dissolved)	µg/l	0.4	ISO 17025	18	4	5.3	12
Calcium (dissolved)	mg/l	0.012	ISO 17025	350	57	37	49
Petroleum Hydrocarbons							
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH (C25 - C40) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 24-016379
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
181773	WS1023A	1	0.5	Brown gravely sand with chalk
181774	WS1023A	2	0.8	Brown sand with gravel
181775	WS1008	1	0.5	Brown clay and sand with gravel and chalk
181776	WS1008	2	1.5	Brown gravely sand with chalk
181777	WS1005	1	1	Brown gravely sand with chalk
181778	BH1008	1	0.1	Brown loam and clay with gravel and vegetation
181779	BH1008	2	0.8	Brown clay and sand with gravel and vegetation
181780	BH1008	3	3	Brown sand
181781	WS1026	2	0.5	Brown loam and sand with gravel and vegetation

Analytical Report Number : 24-016379
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons by GC-MS/GC-MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS	In-house method	L070B/L088	W	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS
Chromium III in leachate	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE

Analytical Report Number : 24-016379
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	MCERTS
Free cyanide in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Free cyanide (low level) in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Monohydric phenols (low level) in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method,10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

Analytical Report Number : 24-016379
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099	W	ISO 17025
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		ISO 17025
Organic 2:1 Leachate		In-house method	L020B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 24-016380

Replaces Analytical Report Number: 24-016380, issue no. 1
Additional analysis undertaken.
Asbestos Quantification added to sample 181783 and Leachate added to samples 181786,787 and 790 as per client's request.

Project / Site name:	ID Manchester	**Samples received on:**	25/04/2024
Your job number:	51019-02	**Samples instructed on/ Analysis started on:**	25/04/2024
Your order number:	PO-0059	**Analysis completed by:**	02/05/2024
Report Issue Number:	2	**Report issued on:**	15/05/2024
Samples Analysed:	12 soil samples - 3 leachate samples		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-016380
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181782	181783	181784	181785	181786
Sample Reference				BH1012	BH1012	BH1012	BH1012	WS1001
Sample Number				ES1	ES2	ES3	ES4	ES1
Depth (m)				0.20	1.00	4.00	6.00	0.50
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	19	16	15	9	12
Total mass of sample received	kg	0.1	NONE	1	1	1.1	1.1	1.1
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Detected	-	-	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SSZ	SSZ	-	-	SSZ
Actinolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	Detected	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	< 0.001	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	Loose Fibres	-	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8	8.3	8.9	8.6	8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	1.8
Total Sulphate as SO_4	mg/kg	50	MCERTS	660	1200	330	290	1600
Organic Matter (automated)	%	0.1	MCERTS	4.2	3.7	1.4	0.7	3.6
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.59	1	< 0.05	< 0.05	0.25
Acenaphthylene	mg/kg	0.05	MCERTS	0.29	0.46	< 0.05	< 0.05	0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.8	0.95	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.7	1	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	7.2	8.1	< 0.05	0.09	0.27
Anthracene	mg/kg	0.05	MCERTS	1.4	1.9	< 0.05	0.09	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	9.5	9.2	< 0.05	0.08	0.53
Pyrene	mg/kg	0.05	MCERTS	10	9.9	< 0.05	0.07	0.49
Benzo(a)anthracene	mg/kg	0.05	MCERTS	4.7	4.3	< 0.05	< 0.05	0.29
Chrysene	mg/kg	0.05	MCERTS	5.4	4.7	< 0.05	< 0.05	0.44
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	4.8	4.4	< 0.05	< 0.05	0.46
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	2.6	1.6	< 0.05	< 0.05	0.29
Benzo(a)pyrene	mg/kg	0.05	MCERTS	5	4.1	< 0.05	< 0.05	0.35
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.1	2.1	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.54	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.7	2.4	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	0.85	0.73	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	58.2	-	-	< 0.80	3.42
Total WAC-17 PAHs	mg/kg	0.85	NONE	59	57.4	< 0.85	< 0.85	3.42

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Analytical Report Number: 24-016380
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181782	181783	181784	181785	181786
Sample Reference				BH1012	BH1012	BH1012	BH1012	WS1001
Sample Number				ES1	ES2	ES3	ES4	ES1
Depth (m)				0.20	1.00	4.00	6.00	0.50
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	3.9	3.8	< 1.0	< 1.0	5.4
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	27	38	9.2	11	24
Barium (aqua regia extractable)	mg/kg	1	MCERTS	180	190	150	170	1600
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.6	1.3	1	0.77	2.4
Boron (water soluble)	mg/kg	0.2	MCERTS	0.2	0.4	0.7	0.4	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	4
Chromium (III)	mg/kg	1	NONE	25	24	25	18	46
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	24	25	18	46
Copper (aqua regia extractable)	mg/kg	1	MCERTS	79	74	23	24	120
Lead (aqua regia extractable)	mg/kg	1	MCERTS	220	290	11	16	150
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.6	0.7	< 0.3	< 0.3	0.6
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	24	28	20	43
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	50	35	27	22	59
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	140	150	54	52	230
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	63	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	63	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	6.4	< 2.0	< 2.0	2
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	22	20	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	50	34	< 10	< 10	15
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	72	60	< 10	< 10	17
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	42	60	< 10	< 10	13
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	36	95	< 10	< 10	12

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Analytical Report Number: 24-016380
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181782	181783	181784	181785	181786
Sample Reference				BH1012	BH1012	BH1012	BH1012	WS1001
Sample Number				ES1	ES2	ES3	ES4	ES1
Depth (m)				0.20	1.00	4.00	6.00	0.50
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Chloroethane	µg/kg	5	NONE	-	< 5.0	-	-	-
Bromomethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	< 5.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0	-	-	-
Chloroform	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	< 5.0	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Bromoform	µg/kg	5	NONE	-	< 5.0	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0	-	-	-
Bromobenzene	µg/kg	5	NONE	-	< 5.0	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-

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Analytical Report Number: 24-016380
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181782	181783	181784	181785	181786
Sample Reference				BH1012	BH1012	BH1012	BH1012	WS1001
Sample Number				ES1	ES2	ES3	ES4	ES1
Depth (m)				0.20	1.00	4.00	6.00	0.50
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butylbenzene	µg/kg	5	NONE	-	< 5.0	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	-
SVOCs								
Aniline	mg/kg	0.1	NONE	-	< 0.1	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	< 0.05	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	0.8	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	0.6	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.30	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	0.4	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	0.6	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	-	-	-

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Analytical Report Number: 24-016380
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181782	181783	181784	181785	181786
Sample Reference				BH1012	BH1012	BH1012	BH1012	WS1001
Sample Number				ES1	ES2	ES3	ES4	ES1
Depth (m)				0.20	1.00	4.00	6.00	0.50
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCBs by GC-MS								
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCBs								
PCB Congener 077	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 081	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 105	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 114	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 123	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 126	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 156	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 157	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 167	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 169	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 189	mg/kg	0.001	NONE	-	-	-	-	-
Total PCBs	mg/kg	0.012	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-016380
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181787	181788	181789	181790	181791
Sample Reference				WS1002	WS1003	WS1003	BH1009	BH1009
Sample Number				ES2	ES1	ES3	ES1	ES2
Depth (m)				1.00	0.35	1.50	0.20	0.80
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	14	11	16	18
Total mass of sample received	kg	0.1	NONE	0.9	1.1	1.1	1.1	1.2
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	-	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SSZ	SSZ	-	SSZ	SSZ
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.9	8.6	8.7	6.1	7.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.1	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	220	1100	340	1900	840
Organic Matter (automated)	%	0.1	MCERTS	1.3	2	1.2	2.9	1.6
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.18	< 0.05	0.19	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.2	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.86	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.68	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	9.3	< 0.05	0.27	0.14
Anthracene	mg/kg	0.05	MCERTS	< 0.05	1.8	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	13	< 0.05	0.56	0.27
Pyrene	mg/kg	0.05	MCERTS	< 0.05	11	< 0.05	0.53	0.23
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	3.9	< 0.05	0.3	0.11
Chrysene	mg/kg	0.05	MCERTS	< 0.05	3.7	< 0.05	0.46	0.14
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	3.6	< 0.05	0.6	0.19
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	1.3	< 0.05	0.37	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	3	< 0.05	0.4	0.13
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	1.6	< 0.05	0.4	0.13
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.35	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	1.6	< 0.05	0.43	0.17
Coronene	mg/kg	0.05	NONE	< 0.05	0.63	< 0.05	< 0.05	0.28
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	-	-	4.5	-
Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	56.3	< 0.85	4.5	1.79

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Analytical Report Number: 24-016380
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181787	181788	181789	181790	181791
Sample Reference				WS1002	WS1003	WS1003	BH1009	BH1009
Sample Number				ES2	ES1	ES3	ES1	ES2
Depth (m)				1.00	0.35	1.50	0.20	0.80
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	3.8	< 1.0	6.9	3.6
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	41	8	20	14
Barium (aqua regia extractable)	mg/kg	1	MCERTS	75	550	140	2100	650
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.71	1.2	0.94	1.3	1.3
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	< 0.2	0.2	< 0.2	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	2.3	< 1.8
Chromium (III)	mg/kg	1	NONE	24	19	23	56	45
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	19	23	56	45
Copper (aqua regia extractable)	mg/kg	1	MCERTS	18	79	20	83	36
Lead (aqua regia extractable)	mg/kg	1	MCERTS	33	72	8.7	210	69
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	1	0.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14	30	26	25	30
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	35	46	25	31	40
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	38	84	48	270	79
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	9.9	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	58	< 8.0
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	68	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	29	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	42	< 10	19	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	71	< 10	19	< 10
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	45	< 10	40	< 10
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	37	< 10	65	< 10

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Analytical Report Number: 24-016380
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181787	181788	181789	181790	181791
Sample Reference				WS1002	WS1003	WS1003	BH1009	BH1009
Sample Number				ES2	ES1	ES3	ES1	ES2
Depth (m)				1.00	0.35	1.50	0.20	0.80
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Chloroethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Bromomethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Chloroform	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Bromoform	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Bromobenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0

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Analytical Report Number: 24-016380
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181787	181788	181789	181790	181791
Sample Reference				WS1002	WS1003	WS1003	BH1009	BH1009
Sample Number				ES2	ES1	ES3	ES1	ES2
Depth (m)				1.00	0.35	1.50	0.20	0.80
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butylbenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	< 5.0	-	-	< 5.0

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	-	< 0.05	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	0.2	-	-	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	-	-	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	0.4	-	-	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	< 0.3	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	-	-	< 0.2
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.30	-	-	< 0.30
Carbazole	mg/kg	0.3	MCERTS	-	0.5	-	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	-	-	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	0.9	-	-	< 0.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	-	-	< 0.3

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Analytical Report Number: 24-016380
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181787	181788	181789	181790	181791
Sample Reference				WS1002	WS1003	WS1003	BH1009	BH1009
Sample Number				ES2	ES1	ES3	ES1	ES2
Depth (m)				1.00	0.35	1.50	0.20	0.80
Date Sampled				23/04/2024	23/04/2024	23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCBs by GC-MS								
PCB Congener 118	mg/kg	0.001	MCERTS	-	< 0.001	-	-	-
PCBs								
PCB Congener 077	mg/kg	0.001	NONE	-	< 0.001	-	-	-
PCB Congener 081	mg/kg	0.001	NONE	-	< 0.001	-	-	-
PCB Congener 105	mg/kg	0.001	NONE	-	< 0.001	-	-	-
PCB Congener 114	mg/kg	0.001	NONE	-	< 0.001	-	-	-
PCB Congener 123	mg/kg	0.001	NONE	-	< 0.001	-	-	-
PCB Congener 126	mg/kg	0.001	NONE	-	< 0.001	-	-	-
PCB Congener 156	mg/kg	0.001	NONE	-	< 0.001	-	-	-
PCB Congener 157	mg/kg	0.001	NONE	-	< 0.001	-	-	-
PCB Congener 167	mg/kg	0.001	NONE	-	< 0.001	-	-	-
PCB Congener 169	mg/kg	0.001	NONE	-	< 0.001	-	-	-
PCB Congener 189	mg/kg	0.001	NONE	-	< 0.001	-	-	-
Total PCBs	mg/kg	0.012	NONE	-	< 0.012	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-016380
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181792	181793
Sample Reference				BH1009	BH1009
Sample Number				ES3	ES4
Depth (m)				5.50	6.00
Date Sampled				23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	9.8
Total mass of sample received	kg	0.1	NONE	1.1	1.2
Asbestos					
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	-	-
Asbestos Analyst ID	N/A	N/A	N/A	-	-
Actinolite detected	Type	N/A	ISO 17025	-	-
Amosite detected	Type	N/A	ISO 17025	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-
General Inorganics					
pH (L099)	pH Units	N/A	MCERTS	9.2	9.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	250	180
Organic Matter (automated)	%	0.1	MCERTS	0.6	0.7
Total Phenols					
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.09
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.07
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.06
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	< 0.80
Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85

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Analytical Report Number: 24-016380
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181792	181793
Sample Reference				BH1009	BH1009
Sample Number				ES3	ES4
Depth (m)				5.50	6.00
Date Sampled				23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Heavy Metals / Metalloids					
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	1.6
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.2	7.4
Barium (aqua regia extractable)	mg/kg	1	MCERTS	130	100
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.65	0.7
Boron (water soluble)	mg/kg	0.2	MCERTS	0.2	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	14	14
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	14	14
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.9	9.8
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15	15
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	16	16
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	32	33
Petroleum Hydrocarbons					
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	< 10
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	< 10
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	< 10

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Analytical Report Number: 24-016380
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181792	181793
Sample Reference				BH1009	BH1009
Sample Number				ES3	ES4
Depth (m)				5.50	6.00
Date Sampled				23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
VOCs					
Chloromethane	µg/kg	5	ISO 17025	-	-
Chloroethane	µg/kg	5	NONE	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-
Chloroform	µg/kg	5	ISO 17025	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-
Bromoform	µg/kg	5	NONE	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-
Bromobenzene	µg/kg	5	NONE	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-

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Analytical Report Number: 24-016380
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181792	181793
Sample Reference				BH1009	BH1009
Sample Number				ES3	ES4
Depth (m)				5.50	6.00
Date Sampled				23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Butylbenzene	µg/kg	5	NONE	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-
Azobenzene	mg/kg	0.3	NONE	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-

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Analytical Report Number: 24-016380
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				181792	181793
Sample Reference				BH1009	BH1009
Sample Number				ES3	ES4
Depth (m)				5.50	6.00
Date Sampled				23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
PCBs by GC-MS					
PCB Congener 118	mg/kg	0.001	MCERTS	-	-
PCBs					
PCB Congener 077	mg/kg	0.001	NONE	-	-
PCB Congener 081	mg/kg	0.001	NONE	-	-
PCB Congener 105	mg/kg	0.001	NONE	-	-
PCB Congener 114	mg/kg	0.001	NONE	-	-
PCB Congener 123	mg/kg	0.001	NONE	-	-
PCB Congener 126	mg/kg	0.001	NONE	-	-
PCB Congener 156	mg/kg	0.001	NONE	-	-
PCB Congener 157	mg/kg	0.001	NONE	-	-
PCB Congener 167	mg/kg	0.001	NONE	-	-
PCB Congener 169	mg/kg	0.001	NONE	-	-
PCB Congener 189	mg/kg	0.001	NONE	-	-
Total PCBs	mg/kg	0.012	NONE	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: **24-016380**
Project / Site name: **ID Manchester**
Your Order No: **PO-0059**

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
181783	BH1012	1.00	128	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-016380
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				181786	181787	181790
Sample Reference				WS1001	WS1002	BH1009
Sample Number				ES1	ES2	ES1
Depth (m)				0.50	1.00	0.20
Date Sampled				23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
General Inorganics						
pH (automated)	pH Units	N/A	ISO 17025	7.3	7.7	6.8
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	< 1.0	1.4
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	-	-	< 1
Sulphate as SO_4	mg/l	0.045	ISO 17025	18.3	14	16.9
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	7	4.4	5.8
Total Phenols						
Total Phenols (monohydric) low level	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Total PAH						
Total EPA-16 PAHs	µg/l	0.16	NONE	< 0.16	< 0.16	< 0.16
Heavy Metals / Metalloids						
Antimony (dissolved)	µg/l	1.7	ISO 17025	3.8	< 1.7	11
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	2.5	3.4
Barium (dissolved)	µg/l	0.05	ISO 17025	57	10	91
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	19	48	18
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.2	< 0.4	1.6
Copper (dissolved)	µg/l	0.7	ISO 17025	67	43	36
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	1.9	< 1.0
Mercury - CV-AFS	µg/l	0.007	ISO 17025	0.0633	< 0.0070	0.0735
Nickel (dissolved)	µg/l	0.3	ISO 17025	6.8	1.8	5.9
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7	< 1.7	< 1.7
Zinc (dissolved)	µg/l	0.4	ISO 17025	52	5.7	81
Calcium (dissolved)	mg/l	0.012	ISO 17025	3.8	12	3.6

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Analytical Report Number: 24-016380
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				181786	181787	181790
Sample Reference				WS1001	WS1002	BH1009
Sample Number				ES1	ES2	ES1
Depth (m)				0.50	1.00	0.20
Date Sampled				23/04/2024	23/04/2024	23/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Petroleum Hydrocarbons						
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	NONE	< 10	< 10	< 10
TPH (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH (C25 - C40) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 24-016380
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
181782	BH1012	ES1	0.2	Brown clay and sand with gravel and vegetation
181783	BH1012	ES2	1	Brown clay and sand with gravel and vegetation
181784	BH1012	ES3	4	Brown clay with gravel
181785	BH1012	ES4	6	Brown clay and sand with gravel
181786	WS1001	ES1	0.5	Brown gravely sand with clinker and vegetation
181787	WS1002	ES2	1	Brown clay and sand with gravel and vegetation
181788	WS1003	ES1	0.35	Brown clay and sand with clinker and gravel
181789	WS1003	ES3	1.5	Brown sandy clay with gravel
181790	BH1009	ES1	0.2	Brown clay and loam with gravel and vegetation
181791	BH1009	ES2	0.8	Brown clay and sand with gravel and vegetation
181792	BH1009	ES3	5.5	Brown clay and sand with gravel
181793	BH1009	ES4	6	Brown clay and sand with gravel

Analytical Report Number : 24-016380
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
PCBs WHO 12 in soil	Determination of PCBs (WHO-12 Congeners) by GC-MS	In-house method based on USEPA 8082	L027B	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons by GC-MS/GC MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS	In-house method	L070B/L088	W	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS

Analytical Report Number : 24-016380
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS
Chromium III in leachate	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	MCERTS
Free cyanide (low level) in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Monohydric phenols (low level) in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099	W	ISO 17025

Analytical Report Number : 24-016380
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		ISO 17025
Organic 2:1 Leachate		In-house method	L020B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 24-016598

Project / Site name:	ID Manchester	**Samples received on:**	17/04/2024
Your job number:	51019 02	**Samples instructed on/ Analysis started on:**	29/04/2024
Your order number:	PO-0059	**Analysis completed by:**	03/05/2024
Report Issue Number:	1	**Report issued on:**	07/05/2024
Samples Analysed:	2 leachate samples		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-016598
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				182925	182926
Sample Reference				BH1015B	WS1016
Sample Number				ES4	ES5
Depth (m)				1.00	2.50
Date Sampled				15/04/2024	15/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
General Inorganics					
pH (automated)	pH Units	N/A	ISO 17025	7.8	9.3
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	1.8
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	-	< 1
Sulphate as SO_4	mg/l	0.045	ISO 17025	134	158
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	10	12
Total Phenols					
Total Phenols (monohydric) low level	µg/l	1	NONE	1.8	1.1
Speciated PAHs					
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.16	NONE	< 0.16	< 0.16
Heavy Metals / Metalloids					
Antimony (dissolved)	µg/l	1.7	ISO 17025	8.7	13
Arsenic (dissolved)	µg/l	1	ISO 17025	4.4	78
Barium (dissolved)	µg/l	0.05	ISO 17025	56	2.9
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	150	530
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	34
Chromium (III)	µg/l	5	NONE	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4	35
Copper (dissolved)	µg/l	0.7	ISO 17025	19	14
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	14
Mercury - CV-AFS	µg/l	0.007	ISO 17025	< 0.0070	0.1889
Nickel (dissolved)	µg/l	0.3	ISO 17025	2.6	1.2
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	9.4
Vanadium (dissolved)	µg/l	1.7	ISO 17025	2.8	21
Zinc (dissolved)	µg/l	0.4	ISO 17025	16	3.9
Calcium (dissolved)	mg/l	0.012	ISO 17025	76	3.8

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Analytical Report Number: 24-016598
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				182925	182926
Sample Reference				BH1015B	WS1016
Sample Number				ES4	ES5
Depth (m)				1.00	2.50
Date Sampled				15/04/2024	15/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Petroleum Hydrocarbons					
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	NONE	< 10	< 10
TPH (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	90	< 10
TPH (C25 - C40) EH_1D_TOTAL_MS	µg/l	10	NONE	10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 24-016598
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Total petroleum hydrocarbons by GC-MS/GC-MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS	In-house method	L070B/L088	W	NONE
Chromium III in leachate	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	ISO 17025
Free cyanide (low level) in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Monohydric phenols (low level) in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099	W	ISO 17025
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		ISO 17025

Analytical Report Number : 24-016598
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Organic 2:1 Leachate		In-house method	L020B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 24-016922

Replaces Analytical Report Number: 24-016922, issue no. 1
Additional analysis undertaken.
Asbestos Quantification added to samples 184450, 56 & 61 as per client's request.

Project / Site name:	ID Manchester	**Samples received on:**	29/04/2024
Your job number:	51019-02	**Samples instructed on/ Analysis started on:**	29/04/2024
Your order number:	PO-0059	**Analysis completed by:**	06/05/2024
Report Issue Number:	2	**Report issued on:**	17/05/2024
Samples Analysed:	17 soil samples		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184448	184449	184450	184451	184452
Sample Reference				WS1024	WS1022B	WS1022B	BH1002	BH1002
Sample Number				ES1	ES1	ES2	ES1	ES2
Depth (m)				0.40	0.60	1.00	0.40	1.30
Date Sampled				25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	29.6	< 0.1	< 0.1	18.4
Moisture Content	%	0.01	NONE	17	10	14	17	15
Total mass of sample received	kg	0.1	NONE	1.1	1.1	1.2	1.2	1.2
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MWI	MWI	MWI	MWI	MWI
Actinolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	Detected	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	0.003	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	Loose Fibrous Debris	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.1	7.2	8	10.9	10.1
Total Cyanide	mg/kg	1	MCERTS	< 1.0	51	< 1.0	< 1.0	2.3
Total Sulphate as SO_4	mg/kg	50	MCERTS	1700	4100	7300	760	790
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	-	-	< 0.5	-	-
Organic Matter (automated)	%	0.1	MCERTS	12	5.2	2.5	6.5	5.4
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.22	2.8	0.66	110	87
Acenaphthylene	mg/kg	0.05	MCERTS	0.13	0.87	1.1	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.31	2.6	0.49	130	99
Fluorene	mg/kg	0.05	MCERTS	0.25	1.6	1.2	98	82
Phenanthrene	mg/kg	0.05	MCERTS	3.2	18	8.3	550	480
Anthracene	mg/kg	0.05	MCERTS	0.75	4	2.5	150	130
Fluoranthene	mg/kg	0.05	MCERTS	3.6	23	12	460	400
Pyrene	mg/kg	0.05	MCERTS	4.3	22	12	390	340
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.3	8.2	6.9	160	140
Chrysene	mg/kg	0.05	MCERTS	2.3	9.3	6.9	180	150
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2.1	9.8	6.4	180	150
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.76	4.3	3	73	55
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.8	8.6	6.1	160	140
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.69	4.4	2.6	83	68
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.22	1.1	< 0.05	22	19
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.87	5.3	2.9	94	77
Coronene	mg/kg	0.05	NONE	< 0.05	1.9	< 0.05	51	39

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184448	184449	184450	184451	184452
Sample Reference				WS1024	WS1022B	WS1022B	BH1002	BH1002
Sample Number				ES1	ES1	ES2	ES1	ES2
Depth (m)				0.40	0.60	1.00	0.40	1.30
Date Sampled				25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	23.8	125	73.9	2820	2410
Total WAC-17 PAHs	mg/kg	0.85	NONE	23.8	127	73.9	2870	2450
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	9.5	1.9	4.5	3.9	2.8
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	66	21	41	21	14
Barium (aqua regia extractable)	mg/kg	1	MCERTS	250	480	210	180	240
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	7.7	1.1	1.9	1.5	1.2
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3	2.5	1.4	< 0.2	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.8	0.4
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	29	22	27	29	31
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	29	22	27	29	31
Copper (aqua regia extractable)	mg/kg	1	MCERTS	640	51	100	230	90
Lead (aqua regia extractable)	mg/kg	1	MCERTS	200	36	230	950	290
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	0.7	0.5	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	91	24	27	33	30
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	1.1	1.1	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	110	38	41	38	32
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	130	32	160	260	190
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	14	< 1.0	5.6	2.8
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	59	10	18	13
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	35	52	33	26
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	40	200	140	75	50
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	40	310	200	130	91
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	0.066	0.05
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	0.092	0.06
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	0.43	0.2
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	5.7	< 1.0	89	96
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	7.1	34	13	480	440
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	25	91	75	1300	1200
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	51	300	150	1200	910
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	83	430	240	3100	2600
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	58	320	240	2500	2100
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	83	660	230	910	690

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184448	184449	184450	184451	184452
Sample Reference				WS1024	WS1022B	WS1022B	BH1002	BH1002
Sample Number				ES1	ES1	ES2	ES1	ES2
Depth (m)				0.40	0.60	1.00	0.40	1.30
Date Sampled				25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0 ##
Chloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Bromomethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	< 5.0
Chloroform	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	61	48
Carbontetrachloride	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0 ##
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	86	58
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	68	33
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	150	82
Styrene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Bromoform	µg/kg	5	NONE	-	-	-	-	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	180	53
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Bromobenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	50
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	110
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184448	184449	184450	184451	184452
Sample Reference				WS1024	WS1022B	WS1022B	BH1002	BH1002
Sample Number				ES1	ES1	ES2	ES1	ES2
Depth (m)				0.40	0.60	1.00	0.40	1.30
Date Sampled				25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butylbenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	53
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	59
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.30
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	42
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	14
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	< 0.3

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184448	184449	184450	184451	184452
Sample Reference				WS1024	WS1022B	WS1022B	BH1002	BH1002
Sample Number				ES1	ES1	ES2	ES1	ES2
Depth (m)				0.40	0.60	1.00	0.40	1.30
Date Sampled				25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCBs by GC-MS								
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCBs								
PCB Congener 077	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 081	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 105	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 114	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 123	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 126	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 156	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 157	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 167	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 169	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 189	mg/kg	0.001	NONE	-	-	-	-	-
Total PCBs	mg/kg	0.012	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184453	184454	184455	184456	184457
Sample Reference				BH1002	BH1002	WS1019	WS1009	WS1009
Sample Number				ES3	ES4	ES2	ES2	ES4
Depth (m)				3.10	5.00	1.70	0.50	2.00
Date Sampled				25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	12	21	13	13
Total mass of sample received	kg	0.1	NONE	1.1	1.2	1.2	1	1.2
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	-	Not-detected	Detected	-
Asbestos Analyst ID	N/A	N/A	N/A	MWI	-	MWI	MWI	-
Actinolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	Detected	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	< 0.001	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	Loose Fibres	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8.7	8.7	7.8	8.3	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	620	4400	40000	670	320
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	-	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	0.8	0.4	< 0.1	3.6	1
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.57	0.15	< 0.05	0.28	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.62	0.21	< 0.05	0.49	0.07
Fluorene	mg/kg	0.05	MCERTS	0.54	0.22	< 0.05	0.38	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	3.5	1.2	0.17	3.4	0.41
Anthracene	mg/kg	0.05	MCERTS	0.91	0.34	< 0.05	0.72	0.1
Fluoranthene	mg/kg	0.05	MCERTS	3	1.1	0.19	4.3	0.74
Pyrene	mg/kg	0.05	MCERTS	2.5	0.89	< 0.05	3.8	0.62
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.93	0.36	< 0.05	1.6	0.26
Chrysene	mg/kg	0.05	MCERTS	1.1	0.38	< 0.05	1.9	0.3
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.92	0.4	< 0.05	2	0.28
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.55	0.14	< 0.05	0.78	0.18
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.92	0.33	< 0.05	1.7	0.22
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.43	0.16	< 0.05	0.81	0.15
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.12	< 0.05	< 0.05	0.21	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.49	0.19	< 0.05	0.93	0.16
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	0.46	< 0.05

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184453	184454	184455	184456	184457
Sample Reference				BH1002	BH1002	WS1019	WS1009	WS1009
Sample Number				ES3	ES4	ES2	ES2	ES4
Depth (m)				3.10	5.00	1.70	0.50	2.00
Date Sampled				25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	17	6.1	< 0.80	23.3	3.5
Total WAC-17 PAHs	mg/kg	0.85	NONE	17	6.1	< 0.85	23.8	3.5
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	< 1.0	2.3	3.6	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.4	7.3	18	15	9.8
Barium (aqua regia extractable)	mg/kg	1	MCERTS	70	74	110	280	87
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.44	0.48	0.23	1.4	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	< 0.2	0.2	0.3	1.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.4	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	12	12	27	49	29
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	12	12	27	49	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13	8.1	14	69	23
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11	43	340	120	23
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	9.3	8.8	4.5	29	26
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	12	14	19	38	33
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	26	25	10	180	61
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	3.5	< 2.0	< 2.0	6.5	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	14	< 10	< 10	25	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	22	< 10	< 10	40	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	39	< 10	< 10	71	< 10
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	24	< 10	< 10	45	< 10
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	18	< 10	< 10	31	< 10

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184453	184454	184455	184456	184457
Sample Reference				BH1002	BH1002	WS1019	WS1009	WS1009
Sample Number				ES3	ES4	ES2	ES2	ES4
Depth (m)				3.10	5.00	1.70	0.50	2.00
Date Sampled				25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	-
Chloroform	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-	-	-	-
Bromoform	µg/kg	5	NONE	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromobenzene	µg/kg	5	NONE	-	-	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184453	184454	184455	184456	184457
Sample Reference				BH1002	BH1002	WS1019	WS1009	WS1009
Sample Number				ES3	ES4	ES2	ES2	ES4
Depth (m)				3.10	5.00	1.70	0.50	2.00
Date Sampled				25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butylbenzene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184453	184454	184455	184456	184457
Sample Reference				BH1002	BH1002	WS1019	WS1009	WS1009
Sample Number				ES3	ES4	ES2	ES2	ES4
Depth (m)				3.10	5.00	1.70	0.50	2.00
Date Sampled				25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCBs by GC-MS								
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCBs								
PCB Congener 077	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 081	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 105	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 114	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 123	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 126	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 156	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 157	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 167	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 169	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 189	mg/kg	0.001	NONE	-	-	-	-	-
Total PCBs	mg/kg	0.012	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184458	184459	184460	184461	184462
Sample Reference				WS1013	WS1013	WS1014	WS1014	FIP1014
Sample Number				ES1	ES2	ES1	ES2	ES3
Depth (m)				0.50	3.00	0.50	2.00	1.00
Date Sampled				25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	21.5
Moisture Content	%	0.01	NONE	11	13	12	15	5.1
Total mass of sample received	kg	0.1	NONE	1.1	1.1	1.1	1.1	1.1
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Detected	-
Asbestos Analyst ID	N/A	N/A	N/A	MWI	MWI	PDO	PDO	-
Actinolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	Detected	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	Detected	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	Detected	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	0.003	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	Loose Fibrous Debris, Loose Fibres	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8.3	8.6	8.4	8.4	8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	44	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	1600	1700	1300	13000	140
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	-	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	3.2	1.5	6.5	8.2	0.3
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.41	0.93	32	13	0.06
Acenaphthylene	mg/kg	0.05	MCERTS	0.22	0.29	9.5	12	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	1.1	1.5	55	54	0.07
Fluorene	mg/kg	0.05	MCERTS	0.69	1.3	52	40	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	8.5	10	360	330	0.13
Anthracene	mg/kg	0.05	MCERTS	2.2	2.4	78	100	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	15	13	400	500	0.07
Pyrene	mg/kg	0.05	MCERTS	13	12	390	420	0.07
Benzo(a)anthracene	mg/kg	0.05	MCERTS	6.4	5.9	160	210	< 0.05
Chrysene	mg/kg	0.05	MCERTS	7.5	6.1	180	200	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	8	6.5	180	240	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	3.2	2.4	75	81	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	6.8	5.8	170	200	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	3.5	2.9	84	94	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.9	0.47	23	25	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.8	3.4	100	100	< 0.05
Coronene	mg/kg	0.05	NONE	1.1	1.3	< 0.05	40	< 0.05

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184458	184459	184460	184461	184462
Sample Reference				WS1013	WS1013	WS1014	WS1014	FIP1014
Sample Number				ES1	ES2	ES1	ES2	ES3
Depth (m)				0.50	3.00	0.50	2.00	1.00
Date Sampled				25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	81	75.9	2350	2610	< 0.80
Total WAC-17 PAHs	mg/kg	0.85	NONE	82.1	77.2	2350	2650	< 0.85
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	6.1	3.5	3.6	9.2	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	91	16	22	110	2.8
Barium (aqua regia extractable)	mg/kg	1	MCERTS	250	340	200	480	10
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.91	0.84	1.1	2.3	0.27
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.2	< 0.2	0.7	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	22	18	22	53	6.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	18	22	53	6.2
Copper (aqua regia extractable)	mg/kg	1	MCERTS	170	66	110	200	7.2
Lead (aqua regia extractable)	mg/kg	1	MCERTS	380	330	780	650	7.1
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.9	0.4	0.4	1.8	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	14	25	41	3.4
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.6	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	27	26	33	95	11
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	180	210	100	220	19
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	2.7	< 1.0	4.4	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	8.1	2.7	20	31	< 2.0
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	9.6	< 8.0	23	73	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	36	22	34	240	< 8.0
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	57	25	82	350	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	27	8	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	9.7	12	220	230	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	54	52	950	1400	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	130	110	1100	2200	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	200	170	2300	3800	< 10
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	130	110	1700	2700	< 10
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	160	110	890	2000	< 10

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184458	184459	184460	184461	184462
Sample Reference				WS1013	WS1013	WS1014	WS1014	FIP1014
Sample Number				ES1	ES2	ES1	ES2	ES3
Depth (m)				0.50	3.00	0.50	2.00	1.00
Date Sampled				25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	-	-	< 5.0 ##	-	-
Chloroethane	µg/kg	5	NONE	-	-	< 5.0	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	< 5.0	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	< 5.0	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	< 5.0	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	< 5.0	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-	< 5.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-	< 5.0	-	-
Chloroform	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-	< 5.0	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-	< 5.0 ##	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	< 5.0	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
Bromoform	µg/kg	5	NONE	-	-	< 5.0	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	< 5.0	-	-
Bromobenzene	µg/kg	5	NONE	-	-	< 5.0	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184458	184459	184460	184461	184462
Sample Reference				WS1013	WS1013	WS1014	WS1014	FIP1014
Sample Number				ES1	ES2	ES1	ES2	ES3
Depth (m)				0.50	3.00	0.50	2.00	1.00
Date Sampled				25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butylbenzene	µg/kg	5	NONE	-	-	< 5.0	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	< 5.0	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	< 5.0	-	-
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	< 0.1	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	< 0.05	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	< 0.1	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	< 0.2	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	60	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	< 0.1	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	< 0.2	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	63	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	< 0.2	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	< 0.3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.30	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	39	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	< 0.2	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	36	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	< 0.3	-	-

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184458	184459	184460	184461	184462
Sample Reference				WS1013	WS1013	WS1014	WS1014	FIP1014
Sample Number				ES1	ES2	ES1	ES2	ES3
Depth (m)				0.50	3.00	0.50	2.00	1.00
Date Sampled				25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCBs by GC-MS								
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCBs								
PCB Congener 077	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 081	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 105	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 114	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 123	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 126	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 156	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 157	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 167	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 169	mg/kg	0.001	NONE	-	-	-	-	-
PCB Congener 189	mg/kg	0.001	NONE	-	-	-	-	-
Total PCBs	mg/kg	0.012	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184463	184464
Sample Reference				FIP1015	FIP1024
Sample Number				ES1	ES1
Depth (m)				1.00	0.50
Date Sampled				25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	31.3	52.3
Moisture Content	%	0.01	NONE	12	6.4
Total mass of sample received	kg	0.1	NONE	1.1	1.1
Asbestos					
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	PDO	PDO
Actinolite detected	Type	N/A	ISO 17025	-	-
Amosite detected	Type	N/A	ISO 17025	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-
General Inorganics					
pH (L099)	pH Units	N/A	MCERTS	9.9	11.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	3100	2100
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	-	-
Organic Matter (automated)	%	0.1	MCERTS	1.3	0.5
Total Phenols					
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	0.08	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.35	0.3
Anthracene	mg/kg	0.05	MCERTS	0.09	0.07
Fluoranthene	mg/kg	0.05	MCERTS	0.51	0.34
Pyrene	mg/kg	0.05	MCERTS	0.51	0.31
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.36	0.17
Chrysene	mg/kg	0.05	MCERTS	0.49	0.19
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.29	0.19
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.08	0.06
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.2	0.15
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.11	0.1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.12	0.1
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184463	184464
Sample Reference				FIP1015	FIP1024
Sample Number				ES1	ES1
Depth (m)				1.00	0.50
Date Sampled				25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	3.36	1.98
Total WAC-17 PAHs	mg/kg	0.85	NONE	3.36	1.98
Heavy Metals / Metalloids					
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	1.7	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	6.9
Barium (aqua regia extractable)	mg/kg	1	MCERTS	82	320
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.69	0.25
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	0.3
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	19	13
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	13
Copper (aqua regia extractable)	mg/kg	1	MCERTS	99	20
Lead (aqua regia extractable)	mg/kg	1	MCERTS	110	53
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.6	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15	5.6
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	26	9.4
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	130	35
Petroleum Hydrocarbons					
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	4.6	6.5
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	16	13
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	110	80
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	130	100
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	< 10
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	47	33
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	80	85

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184463	184464
Sample Reference				FIP1015	FIP1024
Sample Number				ES1	ES1
Depth (m)				1.00	0.50
Date Sampled				25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
VOCs					
Chloromethane	µg/kg	5	ISO 17025	-	-
Chloroethane	µg/kg	5	NONE	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-
Trans 1,2-dichloroethylene	µg/kg	5	NONE	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-
Chloroform	µg/kg	5	ISO 17025	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-
Bromoform	µg/kg	5	NONE	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-
Bromobenzene	µg/kg	5	NONE	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184463	184464
Sample Reference				FIP1015	FIP1024
Sample Number				ES1	ES1
Depth (m)				1.00	0.50
Date Sampled				25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Butylbenzene	µg/kg	5	NONE	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-
Azobenzene	mg/kg	0.3	NONE	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-

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Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				184463	184464
Sample Reference				FIP1015	FIP1024
Sample Number				ES1	ES1
Depth (m)				1.00	0.50
Date Sampled				25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
PCBs by GC-MS					
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCBs					
PCB Congener 077	mg/kg	0.001	NONE	< 0.001	< 0.001
PCB Congener 081	mg/kg	0.001	NONE	< 0.001	< 0.001
PCB Congener 105	mg/kg	0.001	NONE	< 0.001	< 0.001
PCB Congener 114	mg/kg	0.001	NONE	< 0.001	< 0.001
PCB Congener 123	mg/kg	0.001	NONE	< 0.001	< 0.001
PCB Congener 126	mg/kg	0.001	NONE	< 0.001	< 0.001
PCB Congener 156	mg/kg	0.001	NONE	< 0.001	< 0.001
PCB Congener 157	mg/kg	0.001	NONE	< 0.001	< 0.001
PCB Congener 167	mg/kg	0.001	NONE	< 0.001	< 0.001
PCB Congener 169	mg/kg	0.001	NONE	< 0.001	< 0.001
PCB Congener 189	mg/kg	0.001	NONE	< 0.001	< 0.001
Total PCBs	mg/kg	0.012	NONE	< 0.012	< 0.012

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 24-016922
Project / Site name: ID Manchester
Your Order No: PO-0059

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
184450	WS1022B	1.00	105	Loose Fibrous Debris	**Chrysotile**	0.003	**0.003**
184456	WS1009	0.50	144	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
184461	WS1014	2.00	145	Loose Fibrous Debris, Loose Fibres	**Amosite & Chrysotile & Crocidolite**	0.003	**0.003**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 24-016922
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
184448	WS1024	ES1	0.4	Brown gravel [*b]
184449	WS1022B	ES1	0.6	Brown gravel with stones [*b]
184450	WS1022B	ES2	1	Brown clay and sand with gravel
184451	BH1002	ES1	0.4	Brown clay and sand with vegetation and oil / petroleum
184452	BH1002	ES2	1.3	Brown clay and sand with stones and oil / petroleum
184453	BH1002	ES3	3.1	Brown sandy clay with gravel
184454	BH1002	ES4	5	Brown sandy clay
184455	WS1019	ES2	1.7	Brown clay and sand
184456	WS1009	ES2	0.5	Brown loam with glass and vegetation
184457	WS1009	ES4	2	Brown clay and sand with gravel
184458	WS1013	ES1	0.5	Brown loam with gravel and vegetation
184459	WS1013	ES2	3	Brown gravely sand with vegetation
184460	WS1014	ES1	0.5	Brown loam and clay with gravel and vegetation
184461	WS1014	ES2	2	Brown loam with gravel
184462	FIP1014	ES3	1	Brown sand with stones
184463	FIP1015	ES1	1	Brown loam with stones and vegetation
184464	FIP1024	ES1	0.5	Brown gravel with stones [*b]

Analytical Report Number : 24-016922
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
PCBs WHO 12 in soil	Determination of PCBs (WHO-12 Congeners) by GC-MS	In-house method based on USEPA 8082	L027B	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	MCERTS

Analytical Report Number : 24-016922
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method,10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

*b - Unaccredited sample matrix.
- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised

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Analytical Report Number : 24-017525

Project / Site name:	ID Manchester	**Samples received on:**	02/05/2024
Your job number:	51019 02	**Samples instructed on/ Analysis started on:**	02/05/2024
Your order number:	PO-0059	**Analysis completed by:**	09/05/2024
Report Issue Number:	1	**Report issued on:**	09/05/2024
Samples Analysed:	1 soil sample		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-017525
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				187758
Sample Reference				FIP1020
Sample Number				1
Depth (m)				0.70
Date Sampled				30/04/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	13
Total mass of sample received	kg	0.1	NONE	0.8
Asbestos				
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	WEM
General Inorganics				
pH (L099)	pH Units	N/A	MCERTS	8.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	11000
Organic Matter (automated)	%	0.1	MCERTS	2.1
Total Phenols				
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0
Speciated PAHs				
Naphthalene	mg/kg	0.05	MCERTS	0.11
Acenaphthylene	mg/kg	0.05	MCERTS	0.12
Acenaphthene	mg/kg	0.05	MCERTS	0.82
Fluorene	mg/kg	0.05	MCERTS	0.48
Phenanthrene	mg/kg	0.05	MCERTS	5.4
Anthracene	mg/kg	0.05	MCERTS	1.2
Fluoranthene	mg/kg	0.05	MCERTS	7.5
Pyrene	mg/kg	0.05	MCERTS	6.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.1
Chrysene	mg/kg	0.05	MCERTS	3.4
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	3.3
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.4
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.9
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.5
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.47
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.7
Coronene	mg/kg	0.05	NONE	0.67
Total PAH				
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	40
Total WAC-17 PAHs	mg/kg	0.85	NONE	40.7

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Analytical Report Number: 24-017525
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				187758
Sample Reference				FIP1020
Sample Number				1
Depth (m)				0.70
Date Sampled				30/04/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Heavy Metals / Metalloids				
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	8.7
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	42
Barium (aqua regia extractable)	mg/kg	1	MCERTS	230
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.4
Boron (water soluble)	mg/kg	0.2	MCERTS	1.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (III)	mg/kg	1	NONE	160
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	160
Copper (aqua regia extractable)	mg/kg	1	MCERTS	140
Lead (aqua regia extractable)	mg/kg	1	MCERTS	550
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	38
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	2.1
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	32
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	160
Petroleum Hydrocarbons				
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	41
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	41
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	1.4
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	10
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	30
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	45
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	87
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	72
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	70
VOCs				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 24-017525
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
187758	FIP1020	1	0.7	Brown loam and clay with gravel

Analytical Report Number : 24-017525
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS

Analytical Report Number : 24-017525
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 24-017529

Project / Site name:	ID Manchester	**Samples received on:**	02/05/2024
Your job number:	51019 02	**Samples instructed on/ Analysis started on:**	02/05/2024
Your order number:	PO-0059	**Analysis completed by:**	08/05/2024
Report Issue Number:	1	**Report issued on:**	08/05/2024
Samples Analysed:	1 soil sample		

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-017529
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				187792
Sample Reference				BH1013A
Sample Number				6
Depth (m)				3.50
Date Sampled				02/05/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	12
Total mass of sample received	kg	0.1	NONE	0.8
General Inorganics				
pH (L099)	pH Units	N/A	MCERTS	8.9
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	51
Organic Matter (automated)	%	0.1	MCERTS	0.2
Total Phenols				
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0
Speciated PAHs				
Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05
Total PAH				
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80
Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85

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Analytical Report Number: 24-017529
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				187792
Sample Reference				BH1013A
Sample Number				6
Depth (m)				3.50
Date Sampled				02/05/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Heavy Metals / Metalloids				
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	1.4
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	2
Barium (aqua regia extractable)	mg/kg	1	MCERTS	14
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.2
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (III)	mg/kg	1	NONE	5.5
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	5.5
Copper (aqua regia extractable)	mg/kg	1	MCERTS	4.6
Lead (aqua regia extractable)	mg/kg	1	MCERTS	1.7
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	2.7
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	9
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	14
Petroleum Hydrocarbons				
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10
VOCs				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 24-017529
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
187792	BH1013A	6	3.5	Brown sand

Analytical Report Number : 24-017529
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS

Analytical Report Number : 24-017529
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 24-018701

Replaces Analytical Report Number: 24-018701, issue no. 1
Additional analysis undertaken.
Leachate suite added to sample 194323 as per client's request.

Project / Site name:	ID Manchester	**Samples received on:**	09/05/2024
Your job number:	51019-02	**Samples instructed on/ Analysis started on:**	09/05/2024
Your order number:	PO-0059	**Analysis completed by:**	23/05/2024
Report Issue Number:	2	**Report issued on:**	24/05/2024
Samples Analysed:	2 soil samples - 1 leachate sample		

Signed:

Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-018701
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				194323	194324
Sample Reference				FIP1033	FIP1035
Sample Number				ES1	ES1
Depth (m)				0.50	0.50
Date Sampled				07/05/2024	07/05/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	62.9	59
Moisture Content	%	0.01	NONE	8.7	11
Total mass of sample received	kg	0.1	NONE	1.1	1.1
Asbestos					
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KSZ	KSZ
General Inorganics					
pH (L099)	pH Units	N/A	MCERTS	8.3	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	500	170
Organic Matter (automated)	%	0.1	MCERTS	3.2	1.8
Total Phenols					
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	0.16	0.13
Acenaphthylene	mg/kg	0.05	MCERTS	0.19	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.13	0.38
Fluorene	mg/kg	0.05	MCERTS	0.15	0.22
Phenanthrene	mg/kg	0.05	MCERTS	12	1.9
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.52
Fluoranthene	mg/kg	0.05	MCERTS	21	2.2
Pyrene	mg/kg	0.05	MCERTS	22	2
Benzo(a)anthracene	mg/kg	0.05	MCERTS	10	0.77
Chrysene	mg/kg	0.05	MCERTS	13	1
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	14	1.1
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	4.9	0.3
Benzo(a)pyrene	mg/kg	0.05	MCERTS	7.3	0.81
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	3.6	0.35
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1	0.08
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	4.4	0.4
Coronene	mg/kg	0.05	NONE	1.7	< 0.05
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	114	12.3
Total WAC-17 PAHs	mg/kg	0.85	NONE	116	12.3

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Analytical Report Number: 24-018701
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				194323	194324
Sample Reference				FIP1033	FIP1035
Sample Number				ES1	ES1
Depth (m)				0.50	0.50
Date Sampled				07/05/2024	07/05/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Heavy Metals / Metalloids					
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.5	1.9
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	19	6.7
Barium (aqua regia extractable)	mg/kg	1	MCERTS	120	78
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.93	0.58
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.3
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	17	21
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	44	29
Lead (aqua regia extractable)	mg/kg	1	MCERTS	110	31
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	19	17
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	66	56
Petroleum Hydrocarbons					
TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL	mg/kg	1	MCERTS	1.2	1.4
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL	mg/kg	2	MCERTS	7.4	12
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL	mg/kg	8	MCERTS	22	15
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL	mg/kg	8	MCERTS	84	10
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL	mg/kg	10	NONE	120	38
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	5.4	7.1
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	33	19
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	83	18
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	120	44
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	110	64
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	160	18
VOCs					
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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UKAS TESTING
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Analytical i2 Environmental Science

Analytical Report Number: 24-018701
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number	194323
Sample Reference	FIP1033
Sample Number	ES1
Depth (m)	0.50
Date Sampled	07/05/2024
Time Taken	None Supplied

Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH (automated)	pH Units	N/A	ISO 17025	8.3
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0
Sulphate as SO_4	mg/l	0.045	ISO 17025	5.99
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	9.4
Total Phenols				
Total Phenols (monohydric) low level	µg/l	1	NONE	< 1.0
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.16	NONE	< 0.16
Heavy Metals / Metalloids				
Antimony (dissolved)	µg/l	1.7	ISO 17025	< 1.7
Arsenic (dissolved)	µg/l	1	ISO 17025	12
Barium (dissolved)	µg/l	0.05	ISO 17025	21
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	37
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.8
Copper (dissolved)	µg/l	0.7	ISO 17025	13
Lead (dissolved)	µg/l	1	ISO 17025	1.5
Mercury - CV-AFS	µg/l	0.007	ISO 17025	0.1427
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.5
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	2.4
Zinc (dissolved)	µg/l	0.4	ISO 17025	4.5
Calcium (dissolved)	mg/l	0.012	ISO 17025	19

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4041

Analytical Report Number: 24-018701
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				194323
Sample Reference				FIP1033
Sample Number				ES1
Depth (m)				0.50
Date Sampled				07/05/2024
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Petroleum Hydrocarbons				
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	NONE	< 10
TPH (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10
TPH (C25 - C40) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 24-018701
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
194323	FIP1033	ES1	0.5	Brown loam and sand with gravel and stones
194324	FIP1035	ES1	0.5	Brown sand with gravel and stones

Analytical Report Number : 24-018701
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons by GC-MS/GC MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS	In-house method	L070B/L088	W	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	MCERTS
Chromium III in leachate	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE

Analytical Report Number : 24-018701
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	MCERTS
Monohydric phenols (low level) in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099	W	ISO 17025
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		ISO 17025
Organic 2:1 Leachate		In-house method	L020B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Analytical Report Number : 24-018701
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

UKAS TESTING
4041

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Analytical Report Number : 24-018896

Project / Site name:	ID Manchester	**Samples received on:**	29/04/2024
Your job number:	51019-02	**Samples instructed on/ Analysis started on:**	13/05/2024
Your order number:	PO-0059	**Analysis completed by:**	16/05/2024
Report Issue Number:	1	**Report issued on:**	17/05/2024
Samples Analysed:	1 soil sample - 2 leachate samples		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-018896
Project / Site name: ID Manchester
Your Order No: PO-0059

Lab Sample Number				195186
Sample Reference				FIP1024
Sample Number				ES1
Depth (m)				0.50
Date Sampled				25/04/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
Alkali Reserve (soils)	g/100g NaOH	0.0025	NONE	0.2367

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-018896
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				195183	195186
Sample Reference				WS1013	FIP1024
Sample Number				ES2	ES1
Depth (m)				3.00	0.50
Date Sampled				25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
General Inorganics					
pH (automated)	pH Units	N/A	ISO 17025	7.9	12
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	2
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	-	< 1
Sulphate as SO_4	mg/l	0.045	ISO 17025	28.8	35.8
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	5.8	13
Total Phenols					
Total Phenols (monohydric) low level	µg/l	1	NONE	< 1.0	1.7
Speciated PAHs					
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.16	NONE	< 0.16	< 0.16
Heavy Metals / Metalloids					
Antimony (dissolved)	µg/l	1.7	ISO 17025	< 1.7	< 1.7
Arsenic (dissolved)	µg/l	1	ISO 17025	2	< 1.0
Barium (dissolved)	µg/l	0.05	ISO 17025	25	240
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	36	< 10
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	9	21
Chromium (III)	µg/l	5	NONE	6.7	12
Chromium (dissolved)	µg/l	0.4	ISO 17025	16	34
Copper (dissolved)	µg/l	0.7	ISO 17025	12	40
Lead (dissolved)	µg/l	1	ISO 17025	7.2	1.8
Mercury - CV-AFS	µg/l	0.007	ISO 17025	0.0249	< 0.0070
Nickel (dissolved)	µg/l	0.3	ISO 17025	0.7	2.5
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	2.2	< 1.7
Zinc (dissolved)	µg/l	0.4	ISO 17025	12	4.2
Calcium (dissolved)	mg/l	0.012	ISO 17025	24	130

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Analytical Report Number: 24-018896
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				195183	195186
Sample Reference				WS1013	FIP1024
Sample Number				ES2	ES1
Depth (m)				3.00	0.50
Date Sampled				25/04/2024	25/04/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Petroleum Hydrocarbons					
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	NONE	< 10	< 10
TPH (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10
TPH (C25 - C40) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10

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Analytical Report Number : 24-018896
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Alkali Reserve of soils	Alkali Reserve of Soils by calculation	In-house method	L046B	W	NONE
Total petroleum hydrocarbons by GC-MS/GC-MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS	In-house method	L070B/L088	W	NONE
Chromium III in leachate	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	ISO 17025
Free cyanide (low level) in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Monohydric phenols (low level) in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099	W	ISO 17025
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		ISO 17025

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Analytical Report Number : 24-018896
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Organic 2:1 Leachate		In-house method	L020B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 24-019236

Replaces Analytical Report Number: 24-019236, issue no. 1
Additional analysis undertaken.
Dissolved Tin and Tributyltin added to all samples as per clients request

Project / Site name:	ID Manchester	**Samples received on:**	19/04/2024
Your job number:	51019-02	**Samples instructed on/ Analysis started on:**	14/05/2024
Your order number:	PO-0059	**Analysis completed by:**	28/05/2024
Report Issue Number:	2	**Report issued on:**	03/06/2024
Samples Analysed:	3 leachate samples		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Analytical i2 Environmental Science

Analytical Report Number: 24-019236
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				196805	196806	196807
Sample Reference				BH1014A	WS1007	BH1007
Sample Number				1	3	2
Depth (m)				0.20	0.80	1.50
Date Sampled				18/04/2024	18/04/2024	18/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
General Inorganics						
pH (automated)	pH Units	N/A	ISO 17025	7.3	7.8	7.9
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Sulphate as SO_4	mg/l	0.045	ISO 17025	4.32	9.14	6.46
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	10	5.5	7.8
Total Phenols						
Total Phenols (monohydric) low level	µg/l	1	NONE	< 1.0	2.4	1.8
Speciated PAHs						
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Total PAH						
Total EPA-16 PAHs	µg/l	0.16	NONE	< 0.16	< 0.16	< 0.16
Heavy Metals / Metalloids						
Antimony (dissolved)	µg/l	1.7	ISO 17025	5	9.3	1.8
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	5	3.9
Barium (dissolved)	µg/l	0.05	ISO 17025	26	39	31
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	23	17	22
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.7	3.2	2.9
Copper (dissolved)	µg/l	0.7	ISO 17025	9.7	14	20
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	8.2	13
Mercury - CV-AFS	µg/l	0.007	ISO 17025	0.0204	0.009	< 0.0070
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.2	2.1	3
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0
Tin (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7	< 1.7	2.7
Zinc (dissolved)	µg/l	0.4	ISO 17025	6.5	12	26
Calcium (dissolved)	mg/l	0.012	ISO 17025	12	19	18

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 24-019236
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				196805	196806	196807
Sample Reference				BH1014A	WS1007	BH1007
Sample Number				1	3	2
Depth (m)				0.20	0.80	1.50
Date Sampled				18/04/2024	18/04/2024	18/04/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Petroleum Hydrocarbons						
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	NONE	< 10	< 10	< 10
TPH (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH (C25 - C40) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10
Organotin						
Tributyltin (chloride)	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 24-019236
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Organotins in leachate	Determination of organotins compounds in leachate by GC MS	In-house method		W	NONE
Total petroleum hydrocarbons by GC-MS/GC MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS	In-house method	L070B/L088	W	NONE
Chromium III in leachate	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	ISO 17025
Monohydric phenols (low level) in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		ISO 17025
Organic 2:1 Leachate		In-house method	L020B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

4041

Analytical Report Number : 24-019236
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 24-016050

Project / Site name:	ID Manchester	**Samples received on:**	15/04/2024
Your job number:	51019 02	**Samples instructed on/ Analysis started on:**	25/04/2024
Your order number:	PO 0059	**Analysis completed by:**	30/04/2024
Report Issue Number:	1	**Report issued on:**	30/04/2024
Samples Analysed:	2 10:1 WAC samples		

Signed: JSzwagrak

Joanna Szwagrzak
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

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Waste Acceptance Criteria Analytical Results

Report No:	**24-016050**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	180153				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	10/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH1003 ES2						
Depth (m)	2.70						
Solid Waste Analysis							
TOC (%)**	1.3				3%	5%	6%
Loss on Ignition (%) **	3.3				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--
pH (units)**	8.2				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	7.3				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00130			0.0130	0.5	2	25
Barium *	0.0247			0.247	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0022			0.022	0.5	10	70
Copper *	0.017			0.17	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00872			0.0872	0.5	10	30
Nickel *	0.0012			0.012	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0087			0.087	4	50	200
Chloride *	3.4			34	800	15000	25000
Fluoride*	0.72			7.2	10	150	500
Sulphate *	12			120	1000	20000	50000
TDS*	80			800	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	7.48			74.8	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.8						
Dry Matter (%)	83						
Moisture (%)	17						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results

Report No:	**24-016050**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	180154				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	10/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH1006 ES2						
Depth (m)	2.20						
Solid Waste Analysis							
TOC (%)**	1.3				3%	5%	6%
Loss on Ignition (%) **	3.5				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	24				500	--	--
Total PAH (WAC-17) (mg/kg)	4.83				100	--	--
pH (units)**	8.0				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	43				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00488			0.0488	0.5	2	25
Barium *	0.0393			0.393	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.018			0.18	0.5	10	70
Copper *	0.010			0.10	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00673			0.0673	0.5	10	30
Nickel *	0.00038			0.0038	0.4	10	40
Lead *	0.0031			0.031	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.011			0.11	4	50	200
Chloride *	2.3			23	800	15000	25000
Fluoride*	0.29			2.9	10	150	500
Sulphate *	990			9900	1000	20000	50000
TDS*	900			9000	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	4.23			42.3	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.8						
Dry Matter (%)	83						
Moisture (%)	17						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

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** = MCERTS accredited

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Analytical Report Number : 24-016050
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
180153	BH1003	ES2	2.7	Brown clay and sand with gravel
180154	BH1006	ES2	2.2	Brown sand with gravel

Analytical Report Number : 24-016050
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Sample Preparation		In-house method	L043B	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025

Analytical Report Number : 24-016050
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
WAC Leachate 10:1		In-house method	L043B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report

Analytical Report Number : 24-016050
Project / Site name: ID Manchester

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH1003	ES2	S	180153	c	BTEX and/or Volatile organic compounds in soil	L073B	c
BH1003	ES2	S	180153	c	Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	L076B/L088	c
BH1006	ES2	S	180154	c	BTEX and/or Volatile organic compounds in soil	L073B	c
BH1006	ES2	S	180154	c	Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	L076B/L088	c

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Analytical Report Number : 24-016594

Project / Site name:	ID Manchester	**Samples received on:**	17/04/2024
Your job number:	51019 02	**Samples instructed on/ Analysis started on:**	29/04/2024
Your order number:	PO-0059	**Analysis completed by:**	02/05/2024
Report Issue Number:	1	**Report issued on:**	03/05/2024
Samples Analysed:	10:1 WAC sample		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
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Waste Acceptance Criteria Analytical Results

Report No:	**24-016594**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	182905				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	15/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH1015B ES1						
Depth (m)	0.20						
Solid Waste Analysis							
TOC (%)**	3.8				3%	5%	6%
Loss on Ignition (%) **	7.0				--	--	10%
BTEX (µg/kg) **	-				6000	--	--
Sum of PCBs (mg/kg) **	-				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	-				500	--	--
Total PAH (WAC-17) (mg/kg)	-				100	--	--
pH (units)**	7.9				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	9.3				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0321			0.321	0.5	2	25
Barium *	0.0218			0.218	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0014			0.014	0.5	10	70
Copper *	0.020			0.20	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00526			0.0526	0.5	10	30
Nickel *	0.0015			0.015	0.4	10	40
Lead *	0.010			0.10	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.011			0.11	4	50	200
Chloride *	3.0			30	800	15000	25000
Fluoride*	0.21			2.1	10	150	500
Sulphate *	26			260	1000	20000	50000
TDS*	78			780	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	9.93			99.3	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.8						
Dry Matter (%)	85						
Moisture (%)	15						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Analytical Report Number : 24-016594
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
182905	BH1015B	ES1	0.2	Brown loam and gravel

Analytical Report Number : 24-016594
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Sample Preparation		In-house method	L043B	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
WAC Leachate 10:1		In-house method	L043B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 24-017433

Project / Site name:	ID Manchester	**Samples received on:**	23/04/2024
Your job number:		**Samples instructed on/ Analysis started on:**	02/05/2024
Your order number:	PO-0059	**Analysis completed by:**	08/05/2024
Report Issue Number:	1	**Report issued on:**	09/05/2024
Samples Analysed:	2 10:1 WAC sample		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

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Waste Acceptance Criteria Analytical Results

Report No:	**24-017433**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	187305				**Landfill Waste Acceptance Criteria**		
					Limits		
Sampling Date	19/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS1006 ES2						
Depth (m)	0.90						
Solid Waste Analysis							
TOC (%)**	0.5				3%	5%	6%
Loss on Ignition (%) **	1.1				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	21				500	--	--
Total PAH (WAC-17) (mg/kg)	11.7				100	--	--
pH (units)**	8.0				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	6.7				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00229			0.0229	0.5	2	25
Barium *	0.00438			0.0438	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.00077			0.0077	0.5	10	70
Copper *	0.0096			0.096	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00446			0.0446	0.5	10	30
Nickel *	0.0011			0.011	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0033			0.033	4	50	200
Chloride *	0.50			5.0	800	15000	25000
Fluoride*	0.36			3.6	10	150	500
Sulphate *	5.0			50	1000	20000	50000
TDS*	35			350	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	9.05			90.5	500	800	1000
Leach Test Information							
Stone Content (%)	30.1						
Sample Mass (kg)	1.1						
Dry Matter (%)	91						
Moisture (%)	9.1						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results

Report No:	**24-017433**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	187306				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	19/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS1020 ES2						
Depth (m)	3.80						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	2.8				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	67				500	--	--
Total PAH (WAC-17) (mg/kg)	54.2				100	--	--
pH (units)**	7.3				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	0.86				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.00100			< 0.0100	0.5	2	25
Barium *	0.0593			0.593	20	100	300
Cadmium *	0.000296			0.00296	0.04	1	5
Chromium *	0.00055			0.0055	0.5	10	70
Copper *	0.0082			0.082	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	< 0.000400			< 0.00400	0.5	10	30
Nickel *	0.0046			0.046	0.4	10	40
Lead *	0.0023			0.023	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.024			0.24	4	50	200
Chloride *	4.3			43	800	15000	25000
Fluoride*	0.086			0.86	10	150	500
Sulphate *	140			1400	1000	20000	50000
TDS*	180			1800	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	3.56			35.6	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.1						
Dry Matter (%)	89						
Moisture (%)	11						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

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** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Analytical Report Number : 24-017433
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
187305	WS1006	ES2	0.9	Brown clay and sand with gravel and stones
187306	WS1020	ES2	3.8	Brown loam and sand with gravel and rubble

Analytical Report Number : 24-017433
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Sample Preparation		In-house method	L043B	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025

Analytical Report Number : 24-017433
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
WAC Leachate 10:1		In-house method	L043B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 24-017858

Project / Site name:	ID Manchester	**Samples received on:**	25/04/2024
Your job number:	51019-02	**Samples instructed on/ Analysis started on:**	07/05/2024
Your order number:	PO-0059	**Analysis completed by:**	13/05/2024
Report Issue Number:	1	**Report issued on:**	14/05/2024
Samples Analysed:	2 10:1 WAC samples		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Waste Acceptance Criteria Analytical Results

Report No:	**24-017858**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	189670				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	23/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH1012 ES1						
Depth (m)	0.20						
Solid Waste Analysis							
TOC (%)**	2.1				3%	5%	6%
Loss on Ignition (%) **	5.0				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	35				500	--	--
Total PAH (WAC-17) (mg/kg)	57.1				100	--	--
pH (units)**	7.7				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	9.0				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00618			0.0618	0.5	2	25
Barium *	0.0303			0.303	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0029			0.029	0.5	10	70
Copper *	0.030			0.30	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00189			0.0189	0.5	10	30
Nickel *	0.0026			0.026	0.4	10	40
Lead *	0.017			0.17	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.021			0.21	4	50	200
Chloride *	0.84			8.4	800	15000	25000
Fluoride*	0.45			4.5	10	150	500
Sulphate *	5.3			53	1000	20000	50000
TDS*	45			450	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	7.91			79.1	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	81						
Moisture (%)	19						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results

Report No:	**24-017858**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	189671				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	24/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH1009 ES2						
Depth (m)	0.80						
Solid Waste Analysis							
TOC (%)**	0.9				3%	5%	6%
Loss on Ignition (%) **	3.3				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	1.52				100	--	--
pH (units)**	6.8				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	-6.6				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.00100			< 0.0100	0.5	2	25
Barium *	0.00494			0.0494	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.00052			0.0052	0.5	10	70
Copper *	0.0061			0.061	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.000498			0.00498	0.5	10	30
Nickel *	0.00054			0.0054	0.4	10	40
Lead *	0.0016			0.016	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0045			0.045	4	50	200
Chloride *	1.1			11	800	15000	25000
Fluoride*	0.25			2.5	10	150	500
Sulphate *	9.2			92	1000	20000	50000
TDS*	18			180	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	6.15			61.5	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.2						
Dry Matter (%)	82						
Moisture (%)	18						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

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** = MCERTS accredited

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 24-017858
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
189670	BH1012	ES1	0.2	Brown clay and sand with gravel and vegetation
189671	BH1009	ES2	0.8	Brown clay and sand with gravel and vegetation

Analytical Report Number : 24-017858
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Sample Preparation		In-house method	L043B	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025

Analytical Report Number : 24-017858
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
WAC Leachate 10:1		In-house method	L043B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 24-017957

Project / Site name:	ID Manchester	**Samples received on:**	25/04/2024
Your job number:	51019 02	**Samples instructed on/ Analysis started on:**	07/05/2024
Your order number:	PO-0059	**Analysis completed by:**	13/05/2024
Report Issue Number:	1	**Report issued on:**	14/05/2024
Samples Analysed:	1 10:1 WAC sample		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Waste Acceptance Criteria Analytical Results

Report No:	**24-017957**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	190317				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	23/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH1008 1						
Depth (m)	0.10						
Solid Waste Analysis							
TOC (%)**	2.0				3%	5%	6%
Loss on Ignition (%) **	5.2				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	33				500	--	--
Total PAH (WAC-17) (mg/kg)	6.44				100	--	--
pH (units)**	8.0				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	10				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00270			0.0270	0.5	2	25
Barium *	0.00913			0.0913	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.00061			0.0061	0.5	10	70
Copper *	0.0089			0.089	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00208			0.0208	0.5	10	30
Nickel *	< 0.00030			< 0.0030	0.4	10	40
Lead *	0.0012			0.012	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0036			0.036	4	50	200
Chloride *	1.3			13	800	15000	25000
Fluoride*	0.58			5.8	10	150	500
Sulphate *	2.5			25	1000	20000	50000
TDS*	44			440	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	6.86			68.6	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	86						
Moisture (%)	14						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

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Analytical Report Number : 24-017957
Project / Site name: ID Manchester

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Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
190317	BH1008	1	0.1	Brown loam and clay with gravel and vegetation

Analytical Report Number : 24-017957
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Sample Preparation		In-house method	L043B	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025

Analytical Report Number : 24-017957
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
WAC Leachate 10:1		In-house method	L043B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
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Information in Support of Analytical Results

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Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 24-018895

Project / Site name:	ID Manchester	**Samples received on:**	29/04/2024
Your job number:	51019-02	**Samples instructed on/ Analysis started on:**	13/05/2024
Your order number:	PO-0059	**Analysis completed by:**	16/05/2024
Report Issue Number:	1	**Report issued on:**	20/05/2024
Samples Analysed:	4 10:1 WAC samples		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

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soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Waste Acceptance Criteria Analytical Results

Report No:	**24-018895**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	195181				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	25/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH1002 ES1						
Depth (m)	0.40						
Solid Waste Analysis							
TOC (%)**	2.8				3%	5%	6%
Loss on Ignition (%) **	6.3				--	--	10%
BTEX (µg/kg) **	-				6000	--	--
Sum of PCBs (mg/kg) **	-				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	-				500	--	--
Total PAH (WAC-17) (mg/kg)	-				100	--	--
pH (units)**	8.7				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	6.4				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00811			0.0811	0.5	2	25
Barium *	0.0162			0.162	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0011			0.011	0.5	10	70
Copper *	0.022			0.22	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00708			0.0708	0.5	10	30
Nickel *	0.00092			0.0092	0.4	10	40
Lead *	0.0056			0.056	0.5	10	50
Antimony *	0.0025			0.025	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0034			0.034	4	50	200
Chloride *	2.3			23	800	15000	25000
Fluoride*	0.20			2.0	10	150	500
Sulphate *	19			190	1000	20000	50000
TDS*	60			600	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	10.5			105	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.8						
Dry Matter (%)	81						
Moisture (%)	19						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

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** = MCERTS accredited

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Waste Acceptance Criteria Analytical Results

Report No:	**24-018895**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	195182				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	25/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS1019 ES2						
Depth (m)	1.70						
Solid Waste Analysis							
TOC (%)**	< 0.1				3%	5%	6%
Loss on Ignition (%) **	1.3				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	18				500	--	--
Total PAH (WAC-17) (mg/kg)	76.3				100	--	--
pH (units)**	7.2				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	0.53				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.00100			< 0.0100	0.5	2	25
Barium *	0.0106			0.106	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0036			0.036	0.5	10	70
Copper *	0.016			0.16	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.000736			0.00736	0.5	10	30
Nickel *	0.00057			0.0057	0.4	10	40
Lead *	0.0094			0.094	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.023			0.23	4	50	200
Chloride *	0.36			3.6	800	15000	25000
Fluoride*	0.15			1.5	10	150	500
Sulphate *	720			7200	1000	20000	50000
TDS*	650			6500	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	2.37			23.7	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.8						
Dry Matter (%)	81						
Moisture (%)	19						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

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** = MCERTS accredited

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Waste Acceptance Criteria Analytical Results

Report No:	**24-018895**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	195184				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	25/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS1014 ES2						
Depth (m)	2.00						
Solid Waste Analysis							
TOC (%)**	5.8				3%	5%	6%
Loss on Ignition (%) **	10				--	--	10%
BTEX (µg/kg) **	-				6000	--	--
Sum of PCBs (mg/kg) **	-				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	-				500	--	--
Total PAH (WAC-17) (mg/kg)	-				100	--	--
pH (units)**	8.2				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	11				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00728			0.0728	0.5	2	25
Barium *	0.0555			0.555	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0046			0.046	0.5	10	70
Copper *	0.024			0.24	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.0153			0.153	0.5	10	30
Nickel *	0.0022			0.022	0.4	10	40
Lead *	0.039			0.39	0.5	10	50
Antimony *	0.0027			0.027	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.020			0.20	4	50	200
Chloride *	0.71			7.1	800	15000	25000
Fluoride*	0.72			7.2	10	150	500
Sulphate *	14			140	1000	20000	50000
TDS*	78			780	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	9.50			95.0	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.8						
Dry Matter (%)	87						
Moisture (%)	13						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
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The results included within the report are representative of the samples submitted for analysis.

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Waste Acceptance Criteria Analytical Results

Report No:	**24-018895**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	195185				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	25/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	FIP1015 ES1						
Depth (m)	1.00						
Solid Waste Analysis							
TOC (%)**	0.5				3%	5%	6%
Loss on Ignition (%) **	1.9				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	110				500	--	--
Total PAH (WAC-17) (mg/kg)	53.7				100	--	--
pH (units)**	8.5				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	26				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00510			0.0510	0.5	2	25
Barium *	0.0131			0.131	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0027			0.027	0.5	10	70
Copper *	0.0099			0.099	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00508			0.0508	0.5	10	30
Nickel *	0.00067			0.0067	0.4	10	40
Lead *	0.0038			0.038	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.010			0.10	4	50	200
Chloride *	1.0			10	800	15000	25000
Fluoride*	0.073			0.73	10	150	500
Sulphate *	160			1600	1000	20000	50000
TDS*	220			2200	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	2.68			26.8	500	800	1000
Leach Test Information							
Stone Content (%)	31.3						
Sample Mass (kg)	0.8						
Dry Matter (%)	86						
Moisture (%)	14						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

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Analytical Report Number : 24-018895
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
195181	BH1002	ES1	0.4	Brown clay and sand with oil / petroleum and vegetation
195182	WS1019	ES2	1.7	Brown clay and sand
195184	WS1014	ES2	2	Brown loam with gravel
195185	FIP1015	ES1	1	Brown loam with vegetation and stones

Analytical Report Number : 24-018895
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Sample Preparation		In-house method	L043B	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025

Analytical Report Number : 24-018895
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
WAC Leachate 10:1		In-house method	L043B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report

Analytical Report Number : 24-018895
Project / Site name: ID Manchester

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
FIP1015	ES1	S	195185	c	BTEX and/or Volatile organic compounds in soil	L073B	c
FIP1015	ES1	S	195185	c	Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	L076B/L088	c
WS1019	ES2	S	195182	c	BTEX and/or Volatile organic compounds in soil	L073B	c
WS1019	ES2	S	195182	c	Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	L076B/L088	c

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Analytical Report Number : 24-019238

Project / Site name:	ID Manchester	**Samples received on:**	19/04/2024
Your job number:	51019-02	**Samples instructed on/ Analysis started on:**	14/05/2024
Your order number:	PO-0059	**Analysis completed by:**	17/05/2024
Report Issue Number:	1	**Report issued on:**	21/05/2024
Samples Analysed:	3 10:1 WAC samples		

Signed: JSzwagrak

Joanna Szwagrzak
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Waste Acceptance Criteria Analytical Results

Report No:	**24-019238**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	196826				**Landfill Waste Acceptance Criteria**		
					Limits		
Sampling Date	17/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS1017 1						
Depth (m)	0.20						
Solid Waste Analysis							
TOC (%)**	5.0				3%	5%	6%
Loss on Ignition (%) **	10				--	--	10%
BTEX (µg/kg) **	-				6000	--	--
Sum of PCBs (mg/kg) **	-				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	-				500	--	--
Total PAH (WAC-17) (mg/kg)	-				100	--	--
pH (units)**	8.2				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	21				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00367			0.0367	0.5	2	25
Barium *	0.0656			0.656	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0038			0.038	0.5	10	70
Copper *	0.027			0.27	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.000803			0.00803	0.5	10	30
Nickel *	0.0025			0.025	0.4	10	40
Lead *	0.014			0.14	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.028			0.28	4	50	200
Chloride *	2.0			20	800	15000	25000
Fluoride*	1.3			13	10	150	500
Sulphate *	7.4			74	1000	20000	50000
TDS*	90			900	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	10.0			100	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.8						
Dry Matter (%)	82						
Moisture (%)	18						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

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** = MCERTS accredited

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Waste Acceptance Criteria Analytical Results

Report No:	**24-019238**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	196827				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	17/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH1013A 2						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	1.9				--	--	10%
BTEX (µg/kg) **	-				6000	--	--
Sum of PCBs (mg/kg) **	-				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	-				500	--	--
Total PAH (WAC-17) (mg/kg)	-				100	--	--
pH (units)**	8.4				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	52				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.00100			< 0.0100	0.5	2	25
Barium *	0.168			1.68	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0020			0.020	0.5	10	70
Copper *	0.0058			0.058	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00128			0.0128	0.5	10	30
Nickel *	0.0011			0.011	0.4	10	40
Lead *	0.0017			0.017	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0088			0.088	4	50	200
Chloride *	0.90			9.0	800	15000	25000
Fluoride*	0.22			2.2	10	150	500
Sulphate *	6.4			64	1000	20000	50000
TDS*	40			400	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	4.58			45.8	500	800	1000
Leach Test Information							
Stone Content (%)	55.2						
Sample Mass (kg)	0.8						
Dry Matter (%)	97						
Moisture (%)	3.1						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

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Waste Acceptance Criteria Analytical Results

Report No:	**24-019238**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	196828				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	17/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH1014A 5						
Depth (m)	2.00						
Solid Waste Analysis							
TOC (%)**	1.0				3%	5%	6%
Loss on Ignition (%) **	2.0				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	9.92				100	--	--
pH (units)**	8.6				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	25				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0131			0.131	0.5	2	25
Barium *	0.0422			0.422	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0026			0.026	0.5	10	70
Copper *	0.012			0.12	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00270			0.0270	0.5	10	30
Nickel *	0.0023			0.023	0.4	10	40
Lead *	0.0047			0.047	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.012			0.12	4	50	200
Chloride *	1.1			11	800	15000	25000
Fluoride*	0.21			2.1	10	150	500
Sulphate *	17			170	1000	20000	50000
TDS*	71			710	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	5.55			55.5	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.8						
Dry Matter (%)	81						
Moisture (%)	19						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

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Analytical Report Number : 24-019238
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
196826	WS1017	1	0.2	Brown loam with gravel and vegetation
196827	BH1013A	2	0.5	Brown loam and sand with tar and concrete
196828	BH1014A	5	2	Brown sand with gravel and brick

Analytical Report Number : 24-019238
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Sample Preparation		In-house method	L043B	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025

Analytical Report Number : 24-019238
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
WAC Leachate 10:1		In-house method	L043B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report

Analytical Report Number : 24-019238
Project / Site name: ID Manchester

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH1014A	5	S	196828	c	BTEX and/or Volatile organic compounds in soil	L073B	c
BH1014A	5	S	196828	c	PCB's By GC-MS in soil	L027B	c
BH1014A	5	S	196828	c	Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	L064B	c
BH1014A	5	S	196828	c	Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	L076B/L088	c

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Analytical Report Number : 24-020213

Project / Site name:	ID Manchester	**Samples received on:**	02/05/2024
Your job number:	51019 02	**Samples instructed on/ Analysis started on:**	20/05/2024
Your order number:	PO-0059	**Analysis completed by:**	23/05/2024
Report Issue Number:	1	**Report issued on:**	24/05/2024
Samples Analysed:	10:1 WAC sample		

Signed: Szwagrak

Joanna Szwagrzak
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

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Waste Acceptance Criteria Analytical Results

Report No:	**24-020213**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**						
Lab Reference (Sample Number)	202320				**Landfill Waste Acceptance Criteria**		
					Limits		
Sampling Date	30/04/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	FIP1020 1						
Depth (m)	0.70						
Solid Waste Analysis							
TOC (%)**	1.7				3%	5%	6%
Loss on Ignition (%) **	3.4				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	47				500	--	--
Total PAH (WAC-17) (mg/kg)	12.4				100	--	--
pH (units)**	8.7				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	29				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0128			0.128	0.5	2	25
Barium *	0.0172			0.172	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0075			0.075	0.5	10	70
Copper *	0.010			0.10	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00841			0.0841	0.5	10	30
Nickel *	0.00046			0.0046	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0069			0.069	4	50	200
Chloride *	1.7			17	800	15000	25000
Fluoride*	0.27			2.7	10	150	500
Sulphate *	290			2900	1000	20000	50000
TDS*	360			3600	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	4.58			45.8	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.8						
Dry Matter (%)	87						
Moisture (%)	13						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 24-020213
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
202320	FIP1020	1	0.7	Brown loam and clay with gravel

Analytical Report Number : 24-020213
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Sample Preparation		In-house method	L043B	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088	D/W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025

Analytical Report Number : 24-020213
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
WAC Leachate 10:1		In-house method	L043B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report

Analytical Report Number : 24-020213

Project / Site name: ID Manchester

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
FIP1020	1	S	202320	c	BTEX and/or Volatile organic compounds in soil	L073B	c
FIP1020	1	S	202320	c	Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	L076B/L088	c

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Analytical Report Number : 24-020214

Project / Site name:	ID Manchester	**Samples received on:**	09/05/2024
Your job number:	51019-02	**Samples instructed on/ Analysis started on:**	20/05/2024
Your order number:	PO-0059	**Analysis completed by:**	23/05/2024
Report Issue Number:	1	**Report issued on:**	24/05/2024
Samples Analysed:	10:1 WAC samples		

Signed:

Joanna Szwagrzak
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Waste Acceptance Criteria Analytical Results

Report No:	**24-020214**						
					Client:	**CIVICEARTH**	
Location	**ID Manchester**				**Landfill Waste Acceptance Criteria**		
Lab Reference (Sample Number)	202321				**Limits**		
Sampling Date	07/05/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	FIP1035 ES1						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	1.3				3%	5%	6%
Loss on Ignition (%) **	2.5				--	--	10%
BTEX (µg/kg) **	-				6000	--	--
Sum of PCBs (mg/kg) **	-				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	-				500	--	--
Total PAH (WAC-17) (mg/kg)	-				100	--	--
pH (units)**	6.8				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	-3.0				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00185			0.0185	0.5	2	25
Barium *	0.00861			0.0861	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	< 0.00040			< 0.0040	0.5	10	70
Copper *	0.010			0.10	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.000849			0.00849	0.5	10	30
Nickel *	< 0.00030			< 0.0030	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0062			0.062	4	50	200
Chloride *	0.42			4.2	800	15000	25000
Fluoride*	0.31			3.1	10	150	500
Sulphate *	1.7			17	1000	20000	50000
TDS*	20			200	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	8.87			88.7	500	800	1000
Leach Test Information							
Stone Content (%)	59.0						
Sample Mass (kg)	1.1						
Dry Matter (%)	89						
Moisture (%)	11						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 24-020214
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
202321	FIP1035	ES1	0.5	Brown sand with gravel and stones

Analytical Report Number : 24-020214
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Sample Preparation		In-house method	L043B	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	D	MCERTS
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
WAC Leachate 10:1		In-house method	L043B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Analytical Report Number : 24-020214
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 24-020044

Replaces Analytical Report Number: 24-020044, issue no. 1
Additional analysis undertaken.
Dissolved Tin added to samples 201287 & 201291 by laboratory

Project / Site name:	ID Manchester	**Samples received on:**	16/05/2024
Your job number:	51019-02	**Samples instructed on/ Analysis started on:**	16/05/2024
Your order number:	PO-0059	**Analysis completed by:**	29/05/2024
Report Issue Number:	2	**Report issued on:**	03/06/2024
Samples Analysed:	9 water samples		

Signed: JSzwagrak

Joanna Szwagrzak
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-020044
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				201286	201287	201288	201289	201290
Sample Reference				BH1008	BH1007	WS1012	BH1013A	BH1002
Sample Number				W1	W1	W1	W1	W1
Depth (m)				6.50	6.00	4.50	1.00	16.00
Date Sampled				14/05/2024	14/05/2024	14/05/2024	14/05/2024	14/05/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.1	7.1	7.3	7	7.3
Total Cyanide	µg/l	10	ISO 17025	-	-	97	-	-
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	-	-	4.4	2.5
Free Cyanide	µg/l	10	ISO 17025	-	-	< 10	-	-
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	-	-	-	< 1.0	< 1.0
Sulphate as SO_4	mg/l	0.045	ISO 17025	38.5	I/S	88.1	62.4	63.4
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	27	4300	4400	< 15	< 15
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	2.2	3.44	8.09	1.19	1.4
Hardness - Total	mgCaCO3/l	1	ISO 17025	251	I/S	549	179	233
Redox Potential	mV	-800	NONE	201.4	83.6	196.5	195.4	195.3
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	0.34	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	0.08	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.63	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	0.59	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	0.39	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	0.42	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.45	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.18	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	0.38	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	0.19	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	0.23	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	3.88	< 0.16	< 0.16	< 0.16

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Analytical Report Number: 24-020044
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				201286	201287	201288	201289	201290
Sample Reference				BH1008	BH1007	WS1012	BH1013A	BH1002
Sample Number				W1	W1	W1	W1	W1
Depth (m)				6.50	6.00	4.50	1.00	16.00
Date Sampled				14/05/2024	14/05/2024	14/05/2024	14/05/2024	14/05/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.8	I/S	1	1.2	0.8
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.36	I/S	0.97	0.36	< 0.15
Barium (dissolved)	µg/l	0.06	ISO 17025	130	I/S	200	120	130
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	I/S	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.1	I/S	0.07	0.06	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	I/S	0.2	0.3	1.7
Copper (dissolved)	µg/l	0.5	ISO 17025	1.6	I/S	3.8	1.8	1.4
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	I/S	0.8	1.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	I/S	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	3.7	I/S	9.6	1.8	< 0.5
Selenium (dissolved)	µg/l	0.6	ISO 17025	2.8	I/S	0.9	4.2	0.8
Tin (dissolved)	µg/l	0.2	ISO 17025	-	I/S	-	-	-
Vanadium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	I/S	0.5	0.5	0.8
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.3	I/S	7.6	4.5	5.2
Boron (dissolved)	µg/l	10	ISO 17025	89	I/S	100	55	85
Calcium (dissolved)	mg/l	0.012	ISO 17025	78	I/S	100	60	42
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	I/S	< 5.0	< 5.0	< 5.0
Petroleum Hydrocarbons								
TPH - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aliphatic >C5 - C35 $_{HS+EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aromatic >EC12 - EC16 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	15	< 10	< 10	< 10
TPH - Aromatic >EC16 - EC21 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	20	< 10	< 10	< 10
TPH - Aromatic >EC21 - EC35 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	20	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC35 $_{HS+EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	55	< 10	< 10	< 10

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Analytical Report Number: 24-020044
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				201286	201287	201288	201289	201290
Sample Reference				BH1008	BH1007	WS1012	BH1013A	BH1002
Sample Number				W1	W1	W1	W1	W1
Depth (m)				6.50	6.00	4.50	1.00	16.00
Date Sampled				14/05/2024	14/05/2024	14/05/2024	14/05/2024	14/05/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

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Analytical Report Number: 24-020044
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				201286	201287	201288	201289	201290
Sample Reference				BH1008	BH1007	WS1012	BH1013A	BH1002
Sample Number				W1	W1	W1	W1	W1
Depth (m)				6.50	6.00	4.50	1.00	16.00
Date Sampled				14/05/2024	14/05/2024	14/05/2024	14/05/2024	14/05/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
3+4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

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Analytical Report Number: 24-020044
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				201286	201287	201288	201289	201290
Sample Reference				BH1008	BH1007	WS1012	BH1013A	BH1002
Sample Number				W1	W1	W1	W1	W1
Depth (m)				6.50	6.00	4.50	1.00	16.00
Date Sampled				14/05/2024	14/05/2024	14/05/2024	14/05/2024	14/05/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Organotin								
Tributyltin (chloride)	µg/l	0.01	NONE	-	< 0.01	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-020044
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				201291	201292	201293	201294
Sample Reference				BH1006	BH1001	BH1005	BH1005
Sample Number				W1	W1	W1	W2
Depth (m)				7.00	10.00	6.50	6.00
Date Sampled				14/05/2024	14/05/2024	14/05/2024	14/05/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
General Inorganics							
pH (L099)	pH Units	N/A	ISO 17025	7.1	7.5	7.4	7.4
Total Cyanide	µg/l	10	ISO 17025	-	-	24	20
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	2.3	2.7	-	-
Free Cyanide	µg/l	10	ISO 17025	-	-	< 10	< 10
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	< 1.0	-	-
Sulphate as SO_4	mg/l	0.045	ISO 17025	215	19.1	49.8	46.8
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	48	46	1200	1100
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	1.69	4.78	1.99	1.59
Hardness - Total	mgCaCO3/l	1	ISO 17025	529	155	162	162
Redox Potential	mV	-800	NONE	199.6	200.8	128.6	139.3
Total Phenols							
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Speciated PAHs							
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	2.9	2.1
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.09
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.13	0.21
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.07
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.11	0.08	0.18
Pyrene	µg/l	0.01	ISO 17025	< 0.01	0.14	0.09	0.18
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH							
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	0.25	3.2	2.78

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Analytical Report Number: 24-020044
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				201291	201292	201293	201294
Sample Reference				BH1006	BH1001	BH1005	BH1005
Sample Number				W1	W1	W1	W2
Depth (m)				7.00	10.00	6.50	6.00
Date Sampled				14/05/2024	14/05/2024	14/05/2024	14/05/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Heavy Metals / Metalloids							
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.2	1.1	1	0.9
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.87	0.82	4.41	3.34
Barium (dissolved)	µg/l	0.06	ISO 17025	110	61	76	72
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.06	< 0.02	0.03	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	1	1.4	1.6	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	1.3	3.5	2	1.5
Lead (dissolved)	µg/l	0.2	ISO 17025	1.4	0.9	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.5	0.6	17	1
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.3	1	< 0.6	< 0.6
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	-	-	-
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.5	0.7	0.3	< 0.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.4	1.3	4.9	2
Boron (dissolved)	µg/l	10	ISO 17025	200	32	39	44
Calcium (dissolved)	mg/l	0.012	ISO 17025	190	47	53	54
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Petroleum Hydrocarbons							
TPH - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH - Aliphatic >C5 - C35 $_{HS+EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	10	< 10
TPH - Aromatic >EC12 - EC16 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	25	42
TPH - Aromatic >EC16 - EC21 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	20	35
TPH - Aromatic >EC21 - EC35 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	14	< 10
TPH - Aromatic >EC5 - EC35 $_{HS+EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	69	77

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Analytical Report Number: 24-020044
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				201291	201292	201293	201294
Sample Reference				BH1006	BH1001	BH1005	BH1005
Sample Number				W1	W1	W1	W2
Depth (m)				7.00	10.00	6.50	6.00
Date Sampled				14/05/2024	14/05/2024	14/05/2024	14/05/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
VOCs							
Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0

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Analytical Report Number: 24-020044
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				201291	201292	201293	201294
Sample Reference				BH1006	BH1001	BH1005	BH1005
Sample Number				W1	W1	W1	W2
Depth (m)				7.00	10.00	6.50	6.00
Date Sampled				14/05/2024	14/05/2024	14/05/2024	14/05/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
SVOCs							
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
3+4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10

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The results included within the report relate only to the sample(s) submitted for testing.

4041

Analytical Report Number: 24-020044
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				201291	201292	201293	201294
Sample Reference				BH1006	BH1001	BH1005	BH1005
Sample Number				W1	W1	W1	W2
Depth (m)				7.00	10.00	6.50	6.00
Date Sampled				14/05/2024	14/05/2024	14/05/2024	14/05/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Organotin							
Tributyltin (chloride)	µg/l	0.01	NONE	< 0.01	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 24-020044
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW	In-house method based on USEPA Method 6020 & 200.8 for the determination of trace elements in water by ICP-MS	L012B	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices: SW, GW, PW, PrW (Al, Cu, Fe,Zn)	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Organotins in water	Determination of organotins compounds in water by GC-MS	In-house method		W	NONE
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045B	W	ISO 17025
Total petroleum hydrocarbons with carbon banding by GC-MS in water	Determination of total petroleum hydrocarbons in water by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L070B	W	NONE
BTEX and/or Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA 8260	L073B	W	ISO 17025
Chromium III in water	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW	L080	W	ISO 17025
Free cyanide (low level) in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Total cyanide (low level) in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Redox Potential of water	Determination of conductivity of water by conductivity meter	In-house method	L084	W	NONE
Total petroleum hydrocarbons by GC-MS HS in water	Determination of total petroleum hydrocarbons in water by GC-MS HS	In-house method	L088	W	ISO 17025

Analytical Report Number : 24-020044
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method	L099	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds (including PAH) in leachate by extraction in dichloromethane followed by GC-MS	In-house method based on USEPA 8270	L102B	W	ISO 17025
Phenols in water by GC-MS	Determination of phenols in water by GC-MS	In-house method	L102B	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW, LL	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

*I/S - Insufficient sample for analysis.

Appendix G

Chemical Water Laboratory Analysis Results

UKAS TESTING
4041

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Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

e: kirsty.poore@civicearth.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
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e: reception@i2analytical.com

Analytical Report Number : 24-024760

Replaces Analytical Report Number: 24-024760, issue no. 1
Client sampling date amended.
Sample Date amended for Sample No 225845, as per client's request

Project / Site name:	ID Manchester	**Samples received on:**	12/06/2024
Your job number:	51019-02	**Samples instructed on/ Analysis started on:**	12/06/2024
Your order number:	PO-0059	**Analysis completed by:**	19/06/2024
Report Issue Number:	2	**Report issued on:**	23/07/2024
Samples Analysed:	9 water samples		



Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-024760
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				225844	225845	225846	225847	225848
Sample Reference				BH1008	BH1007	BH1013A	BH1002	WS1001
Sample Number				ES1	ES1	ES1	ES1	ES1
Depth (m)				7.00	7.00	6.50	12.00	4.00
Date Sampled				11/06/2024	11/06/2024	11/06/2024	10/06/2024	10/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.2	7.4	7.2	7.5	7.4
Total Cyanide	µg/l	10	ISO 17025	-	41	-	-	-
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	-	6.8	3.5	6.4
Free Cyanide	µg/l	10	ISO 17025	-	< 10	-	-	-
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	-	-	< 1.0	< 1.0	< 1.0
Sulphate as SO_4	mg/l	0.045	ISO 17025	42.9	119	91.3	68.7	88.3
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	130	160	< 15	50	1100
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	2.13	1.63	1.1	2.09	10
Hardness - Total	mgCaCO3/l	1	ISO 17025	296	275	233	274	567
Redox Potential	mV	-800	NONE	19.3	15.2	48.9	26.7	29.5
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	-	< 10	-	-	-
Total Phenols (Monohydric) Low Level	µg/l	1	NONE	< 1.0	-	< 1.0	1.2	< 1.0
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.06	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.04	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.31	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.31	0.09
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.26	0.09
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.12	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.11	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.13	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.04	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.1	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	1.48	0.18

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Analytical Report Number: 24-024760
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				225844	225845	225846	225847	225848
Sample Reference				BH1008	BH1007	BH1013A	BH1002	WS1001
Sample Number				ES1	ES1	ES1	ES1	ES1
Depth (m)				7.00	7.00	6.50	12.00	4.00
Date Sampled				11/06/2024	11/06/2024	11/06/2024	10/06/2024	10/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (dissolved)	µg/l	0.4	ISO 17025	1	2	0.9	0.5	3.6
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.85	1.17	0.28	0.15	18.3
Barium (dissolved)	µg/l	0.06	ISO 17025	180	74	130	140	240
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.04	0.98	0.07	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.4	0.6	1.8	0.6
Copper (dissolved)	µg/l	0.5	ISO 17025	1	6.3	2.5	2.2	1.3
Lead (dissolved)	µg/l	0.2	ISO 17025	0.3	71	1.2	< 0.2	3
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	3	4.5	1.3	< 0.5	7.8
Selenium (dissolved)	µg/l	0.6	ISO 17025	2.9	0.8	4.9	1.2	< 0.6
Tin (dissolved)	µg/l	0.2	ISO 17025	-	0.71	-	-	-
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.3	0.2	0.6	0.9	4
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.2	32	4.4	4	3.3
Boron (dissolved)	µg/l	10	ISO 17025	98	50	66	85	140
Calcium (dissolved)	mg/l	0.012	ISO 17025	98	100	80	48	150
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Petroleum Hydrocarbons								
TPH - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	45
TPH - Aliphatic >EC12 - EC16 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	54
TPH - Aliphatic >EC16 - EC21 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	96
TPH - Aliphatic >EC21 - EC35 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	920
TPH - Aliphatic >EC5 - EC35 $_{HS+EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	1100
TPH - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aromatic >EC12 - EC16 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aromatic >EC16 - EC21 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aromatic >EC21 - EC35 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC35 $_{HS+EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
VOCs								
Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

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Analytical Report Number: 24-024760
Project / Site name: ID Manchester

Your Order No: PO-0059

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Sample Number				ES1	ES1	ES1	ES1	ES1
Depth (m)				7.00	7.00	6.50	12.00	4.00
Date Sampled				11/06/2024	11/06/2024	11/06/2024	10/06/2024	10/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

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Analytical Report Number: 24-024760
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				225844	225845	225846	225847	225848
Sample Reference				BH1008	BH1007	BH1013A	BH1002	WS1001
Sample Number				ES1	ES1	ES1	ES1	ES1
Depth (m)				7.00	7.00	6.50	12.00	4.00
Date Sampled				11/06/2024	11/06/2024	11/06/2024	10/06/2024	10/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	0.41
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	1.18
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
3+4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	1.2
Organotin								
Tributyltin (chloride)	µg/l	0.01	NONE	-	< 0.01	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-024760
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				225849	225859	225860	225861
Sample Reference				WS1002	BH1006	BH1001	BH1005
Sample Number				ES1	ES1	ES1	ES1
Depth (m)				3.50	7.00	8.00	9.50
Date Sampled				10/06/2024	11/06/2024	10/06/2024	10/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**				
General Inorganics							
pH (L099)	pH Units	N/A	ISO 17025	7.3	7.4	7.6	7.4
Total Cyanide	µg/l	10	ISO 17025	-	-	-	-
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	3.9	1.5	13
Free Cyanide	µg/l	10	ISO 17025	-	-	-	-
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	-	< 1.0	< 1.0	< 1.0
Sulphate as SO_4	mg/l	0.045	ISO 17025	1320	169	14.4	59.5
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	4800	1100	< 15	1200
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	13.1	1.54	3.79	1.59
Hardness - Total	mgCaCO3/l	1	ISO 17025	2030	438	181	234
Redox Potential	mV	-800	NONE	58.4	30.8	8.4	28.4
Total Phenols							
Total Phenols (monohydric)	µg/l	10	ISO 17025	-	-	-	-
Total Phenols (Monohydric) Low Level	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	4
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH							
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	4.03

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Analytical Report Number: 24-024760
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				225849	225859	225860	225861
Sample Reference				WS1002	BH1006	BH1001	BH1005
Sample Number				ES1	ES1	ES1	ES1
Depth (m)				3.50	7.00	8.00	9.50
Date Sampled				10/06/2024	11/06/2024	10/06/2024	10/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**				
Heavy Metals / Metalloids							
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.8	0.6	1.5	0.7
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.09	1.73	0.91	2.94
Barium (dissolved)	µg/l	0.06	ISO 17025	68	130	54	78
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.09	0.06	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.9	1.5	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	3.8	2.4	2.5	0.8
Lead (dissolved)	µg/l	0.2	ISO 17025	0.5	0.4	0.5	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	7.6	1.4	< 0.5	1
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.7	2.1	0.8	< 0.6
Tin (dissolved)	µg/l	0.2	ISO 17025	-	< 0.20	-	-
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.4	0.4	0.8	< 0.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	27	3.9	0.6	< 0.5
Boron (dissolved)	µg/l	10	ISO 17025	490	96	38	52
Calcium (dissolved)	mg/l	0.012	ISO 17025	520	160	60	82
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Petroleum Hydrocarbons							
TPH - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH - Aliphatic >EC12 - EC16 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH - Aliphatic >EC16 - EC21 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH - Aliphatic >EC21 - EC35 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH - Aliphatic >EC5 - EC35 $_{HS+EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH - Aromatic >EC12 - EC16 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	24
TPH - Aromatic >EC16 - EC21 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	15
TPH - Aromatic >EC21 - EC35 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC35 $_{HS+EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	39
VOCs							
Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0

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Analytical Report Number: 24-024760
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				225849	225859	225860	225861
Sample Reference				WS1002	BH1006	BH1001	BH1005
Sample Number				ES1	ES1	ES1	ES1
Depth (m)				3.50	7.00	8.00	9.50
Date Sampled				10/06/2024	11/06/2024	10/06/2024	10/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**				
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 24-024760
Project / Site name: ID Manchester

Your Order No: PO-0059

Lab Sample Number				225849	225859	225860	225861
Sample Reference				WS1002	BH1006	BH1001	BH1005
Sample Number				ES1	ES1	ES1	ES1
Depth (m)				3.50	7.00	8.00	9.50
Date Sampled				10/06/2024	11/06/2024	10/06/2024	10/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**				
SVOCs							
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
3+4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10
Organotin							
Tributyltin (chloride)	µg/l	0.01	NONE	-	< 0.01	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 24-024760
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW	In-house method based on USEPA Method 6020 & 200.8 for the determination of trace elements in water by ICP-MS	L012B	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices: SW, GW, PW, PrW (Al, Cu, Fe,Zn)	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Organotins in water	Determination of organotins compounds in water by GC-MS	In-house method		W	NONE
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045B	W	ISO 17025
Total petroleum hydrocarbons with carbon banding by GC-MS in water	Determination of total petroleum hydrocarbons in water by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L070B	W	NONE
BTEX and/or Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA 8260	L073B	W	ISO 17025
Chromium III in water	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW	L080	W	ISO 17025
Free cyanide (low level) in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Monohydric phenols (low level) in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Total cyanide (low level) in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Redox Potential of water	Determination of conductivity of water by conductivity meter	In-house method	L084	W	NONE

Analytical Report Number : 24-024760
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons by GC-MS HS in water	Determination of total petroleum hydrocarbons in water by GC-MS HS	In-house method	L088B	W	ISO 17025
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method	L099	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds (including PAH) in leachate by extraction in dichloromethane followed by GC-MS	In-house method based on USEPA 8270	L102B	W	ISO 17025
Phenols in water by GC-MS	Determination of phenols in water by GC-MS	In-house method	L102B	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW, LL	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

4041

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Analytical Report Number : 24-027987

Project / Site name:	ID Manchester	**Samples received on:**	27/06/2024
Your job number:	51019 03	**Samples instructed on/ Analysis started on:**	01/07/2024
Your order number:	PO-0060	**Analysis completed by:**	05/07/2024
Report Issue Number:	1	**Report issued on:**	05/07/2024
Samples Analysed:	2 water samples		

Signed:

Dominika Liana
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

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Analytical Report Number: 24-027987
Project / Site name: ID Manchester

Your Order No: PO-0060

Lab Sample Number				242693	242694
Sample Reference				WS1012	WS1001
Sample Number				W1	W2
Depth (m)				4.11	4.30
Date Sampled				25/06/2024	25/06/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
General Inorganics					
pH (L099)	pH Units	N/A	ISO 17025	7.5	7.3
Total Cyanide	µg/l	10	ISO 17025	120	-
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	-	3.5
Free Cyanide	µg/l	10	ISO 17025	< 10	-
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	-	< 1.0
Sulphate as SO_4	mg/l	0.045	ISO 17025	95	108
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	4000	630
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	5.84	4.44
Hardness - Total	mgCaCO3/l	1	ISO 17025	570	645
Redox Potential	mV	-800	NONE	98.1	111.1
Total Phenols					
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	-
Total Phenols (Monohydric) Low Level	µg/l	1	NONE	-	1.9
Speciated PAHs					
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16

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Analytical Report Number: 24-027987
Project / Site name: ID Manchester

Your Order No: PO-0060

Lab Sample Number				242693	242694
Sample Reference				WS1012	WS1001
Sample Number				W1	W2
Depth (m)				4.11	4.30
Date Sampled				25/06/2024	25/06/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Heavy Metals / Metalloids					
Antimony (dissolved)	µg/l	0.4	ISO 17025	1	1.7
Arsenic (dissolved)	µg/l	0.15	ISO 17025	4.95	6.75
Barium (dissolved)	µg/l	0.06	ISO 17025	320	170
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.3
Copper (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.9
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	2	2.6
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.7	< 0.6
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.9	2.7
Zinc (dissolved)	µg/l	0.5	ISO 17025	0.6	1.7
Boron (dissolved)	µg/l	10	ISO 17025	120	130
Calcium (dissolved)	mg/l	0.012	ISO 17025	110	160
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	< 5.0
Petroleum Hydrocarbons					
TPH - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC12 - EC16 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC16 - EC21 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC21 - EC35 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC5 - EC35 $_{HS+EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC12 - EC16 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC16 - EC21 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC21 - EC35 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC5 - EC35 $_{HS+EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10

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Analytical Report Number: 24-027987
Project / Site name: ID Manchester

Your Order No: PO-0060

Lab Sample Number				242693	242694
Sample Reference				WS1012	WS1001
Sample Number				W1	W2
Depth (m)				4.11	4.30
Date Sampled				25/06/2024	25/06/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
VOCs					
Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0

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The results included within the report relate only to the sample(s) submitted for testing.

4041

Analytical Report Number: 24-027987
Project / Site name: ID Manchester

Your Order No: PO-0060

Lab Sample Number				242693	242694
Sample Reference				WS1012	WS1001
Sample Number				W1	W2
Depth (m)				4.11	4.30
Date Sampled				25/06/2024	25/06/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05

3+4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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4041

Analytical Report Number : 24-027987
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW	In-house method based on USEPA Method 6020 & 200.8 for the determination of trace elements in water by ICP-MS	L012B	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices: SW, GW, PW, PrW (Al, Cu, Fe,Zn)	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045B	W	ISO 17025
Total petroleum hydrocarbons with carbon banding by GC-MS in water	Determination of total petroleum hydrocarbons in water by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L070B	W	NONE
BTEX and/or Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA 8260	L073B	W	ISO 17025
Chromium III in water	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW	L080	W	ISO 17025
Free cyanide (low level) in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Monohydric phenols (low level) in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Total cyanide (low level) in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Redox Potential of water	Determination of conductivity of water by conductivity meter	In-house method	L084	W	NONE
Total petroleum hydrocarbons by GC-MS HS in water	Determination of total petroleum hydrocarbons in water by GC-MS HS	In-house method	L088B	W	ISO 17025
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method	L099	W	ISO 17025

4041

Analytical Report Number : 24-027987
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated PAHs and/or Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds (including PAH) in leachate by extraction in dichloromethane followed by GC-MS	In-house method based on USEPA 8270	L102B	W	ISO 17025
Phenols in water by GC-MS	Determination of phenols in water by GC-MS	In-house method	L102B	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW, LL	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

4041

Sample Deviation Report

Analytical Report Number : 24-027987
Project / Site name: ID Manchester

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS1001	W2	W	242694	c	Ammoniacal Nitrogen as N in water	L082B	c
WS1001	W2	W	242694	c	Redox Potential of water	L084	c
WS1001	W2	W	242694	c	pH at 20°C in water (automated)	L099	c
WS1012	W1	W	242693	c	Ammoniacal Nitrogen as N in water	L082B	c
WS1012	W1	W	242693	c	Redox Potential of water	L084	c
WS1012	W1	W	242693	c	pH at 20°C in water (automated)	L099	c

Appendix H

Geotechnical Laboratory Analysis Results

GEOLABS Limited
Bucknalls Lane
Garston
Watford
Hertfordshire
WD25 9XX
Tel: +44(0) 1923 892 190
Fax: +44(0) 1923 892 191
email: admin@geolabs.co.uk
web: www.geolabs.co.uk

Civic Earth Limited
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

31 May 2024
Report No : GEO/40435/01

For the attention of Ms K Poore

Date samples received	01/05/2024
Date written instructions received	07/05/2024
Date testing commenced	08/05/2024
Date of sample disposal	**28/06/2024**

Our ref **GEO / 40435**
Your Ref **51019/02**

Project **ID MANCHESTER**

Further to your instructions we have pleasure in enclosing the results of the tests you requested in the attached figures.

LABORATORY TEST REPORT

Item No	Test Quantity	Description
1	~	Geotechnical Test Summary
2	~	Liquid & Plastic Limits Summary
	1	Water Content
	1	Liquid & Plastic Limits
3	9	Particle Size Distribution
4	1	Unconfined Compressive Strength
5	8	Point Load Strength Index

Any opinions or interpretations expressed herein are outside the scope of UKAS accreditation. All results contained in this report are provisional unless signed by an approved signatory. The results contained in this report relate only to samples received in the laboratory and are tested 'as received' unless otherwise stated. This report should not be reproduced, except in full, without the written approval of the laboratory. The results reported are applicable only to the test items received by the laboratory.

All the necessary data required by the documented test procedures has been recorded and will be stored for a period of not less than 6 years. This data will be issued to yourselves at your request. All samples will be disposed of after the date shown above. Written confirmation will be required to retain the samples beyond this period and a storage charge may be applied.

We trust that the above meets your requirements and should you require any further information or assistance, please do not hesitate to contact us.

Yours faithfully
on behalf of **GEOLABS Limited**

J Sturges
Operations Manager

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Registered Office: Bucknalls Lane Garston Watford Hertfordshire WD25 9XX Registered in England and Wales No: 3177641

SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Location	Depth (m)	Sample Ref	Type	Description	WC %	LL %	PL %	PI %	<425 µm %	Bulk Mg/m³	Dry Mg/m³	Condition	Cell Pressure kPa	Deviator Stress kPa	Shear Stress kPa	pH	2:1 W/S SO4 g/L	W/S Mg mg/L	
BH1001	3.00-3.50		B	Greyish brown gravelly sandy CLAY. Gravel is fine to medium. Sand is fine to medium.	19.0	32	22	10	56										
BH1001	4.00-5.00		B	Orangish brown slightly gravelly clayey silty SAND. Gravel is fine to medium.															Particle Size Distribution
BH1001	5.00-5.50		B	Reddish brown slightly clayey slightly silty gravelly SAND.															Particle Size Distribution
BH1001	16.50-18.00		B	Orangish brown clayey silty SAND.															Particle Size Distribution
BH1001	22.50-24.00		B	Orangish brown slightly silty SAND.															Particle Size Distribution
BH1003	5.00		B	Orangish brown slightly clayey silty gravelly micaceous SAND.															Particle Size Distribution
BH1003	18.00-19.50		B	Orangish brown slightly silty SAND.															Particle Size Distribution
BH1005	4.00-4.45		B	Black and dark grey mottled slightly clayey silty gravelly SAND. Gravel is fine to medium.															Particle Size Distribution
BH1005	5.00-5.50		B	Grey brown slightly silty very gravelly SAND.															Particle Size Distribution
BH1005	6.50-7.50		B	Orangish brown slightly silty gravelly SAND.															Particle Size Distribution

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

Checked and Approved by



J Sturges - Operations Manager
31/05/2024

Project Number:

GEO / 40435

Project Name:

ID MANCHESTER
51019/02

GEOLABS®

BS EN ISO 17892-12 : 2018+A2:2022

SUMMARY OF LIQUID AND PLASTIC LIMIT TESTS

Location	Depth m	Sample Ref	Sample Type	Description	Water Content BS EN ISO 17892-1 : 2014 +A1:2022 %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Percentage Passing 425µm %	Atterberg Classification	Test Type	Sample Condition
BH1001	3.00-3.50		B	Greyish brown gravelly sandy CLAY. Gravel is fine to medium. Sand is fine to medium.	19.0	32	22	10	56	CL	2	3

Test Type: 2 - 4 point 80g / 30° fall cone method.

Sample condition: 1 - As Received
2 - Air Dried
3 - Washed & Air Dried

Checked and Approved by:

J Sturges - Operations Manager
31/05/2024

Project Number:

GEO / 40435

Project Name:

ID MANCHESTER
51019/02

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

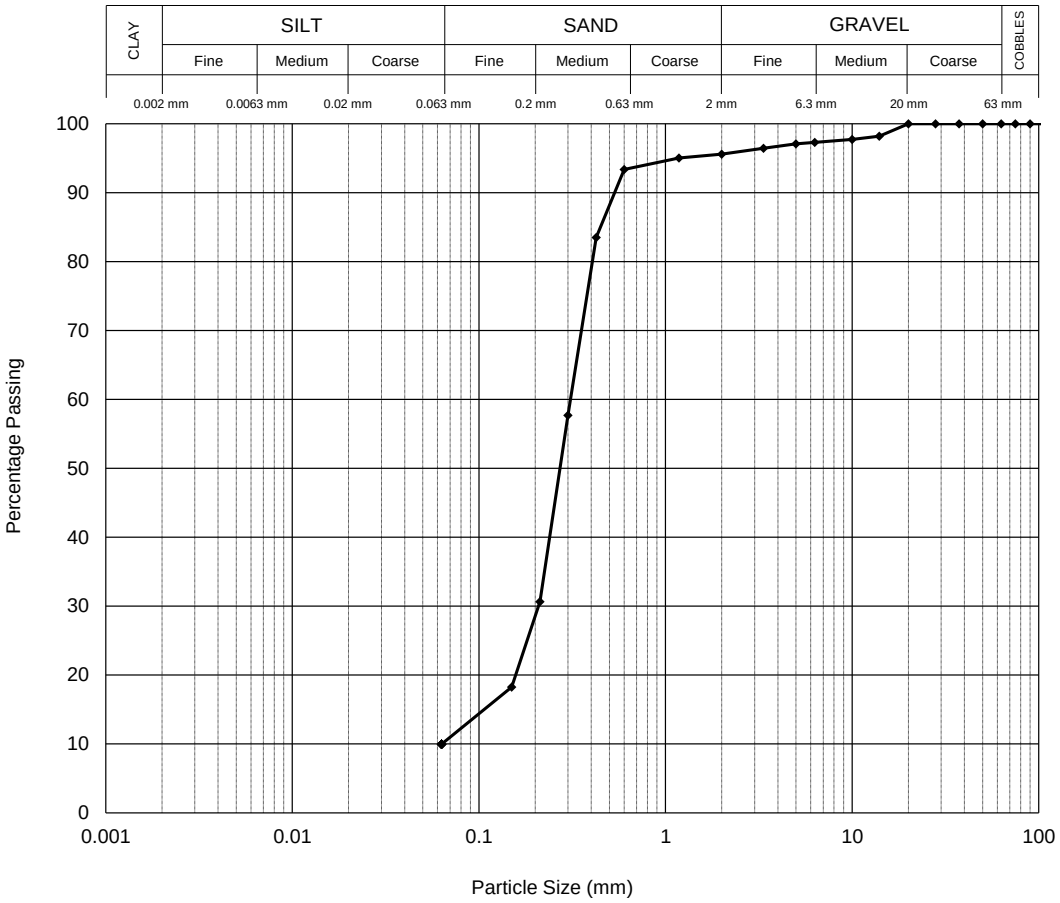
Location	BH1001
Sample Depth	4.00-5.00 m
Sample Type	B

Description

Orangish brown slightly gravelly clayey silty SAND. Gravel is fine to medium.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	98
10.0 mm	98
6.30 mm	97
5.00 mm	97
3.35 mm	96
2.00 mm	96
1.18 mm	95
600 µm	93
425 µm	83
300 µm	58
212 µm	31
150 µm	18
63 µm	10



Particle Proportions	
Cobbles	0.0
Gravel	4.4
Sand	85.6
Silt & Clay	10.0

Tested by XW
Checked and Approved by

J Sturges - Operations Manager
31/05/2024

Project Number:

GEO / 40435

Project Name:

ID MANCHESTER
51019/02

GEOLABS®
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1982

Test Report By GEOLABS Limited Bucknalls Lane, Garston, Watford, Hertfordshire, WD25 9XX

Client : Civic Earth Limited, Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG (Ref 1717167388)

BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

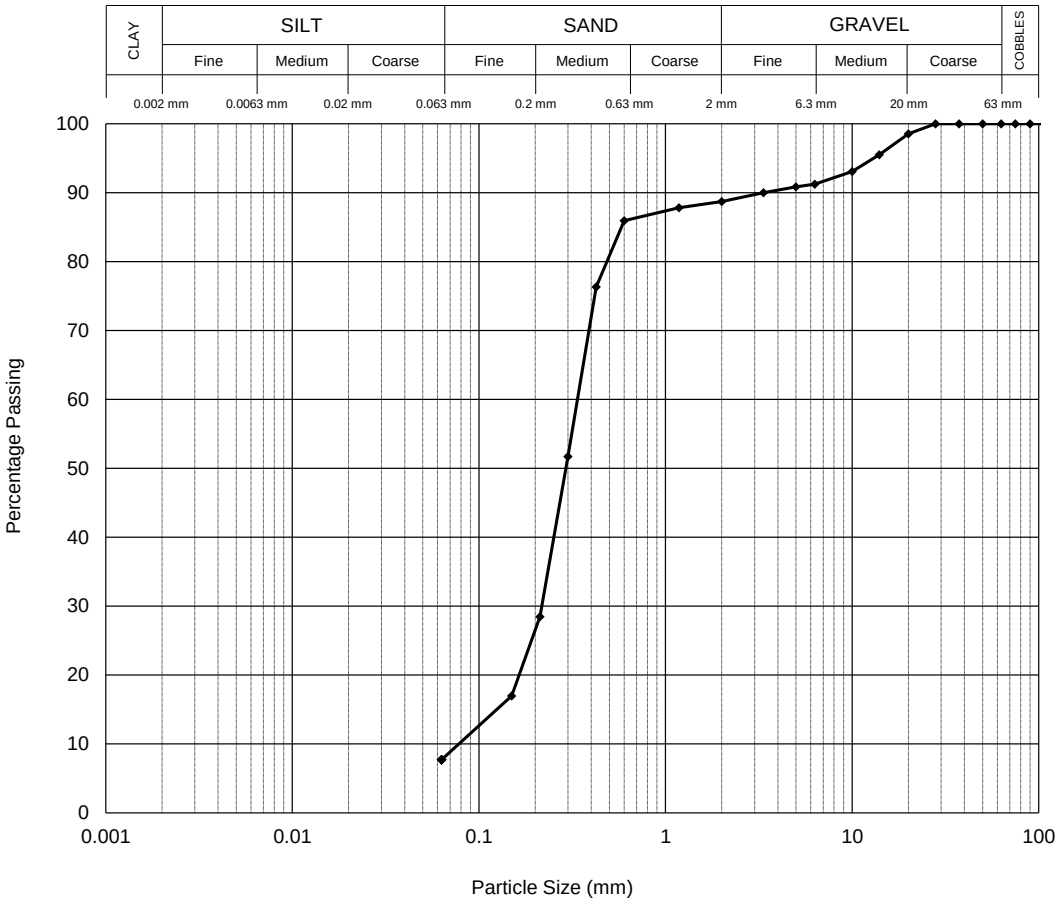
Location	BH1001
Sample Depth	5.00-5.50 m
Sample Type	B

Description

Reddish brown slightly clayey slightly silty gravelly SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	99
14.0 mm	96
10.0 mm	93
6.30 mm	91
5.00 mm	91
3.35 mm	90
2.00 mm	89
1.18 mm	88
600 µm	86
425 µm	76
300 µm	52
212 µm	28
150 µm	17
63 µm	8



Particle Proportions	
Cobbles	0.0
Gravel	11.3
Sand	81.0
Silt & Clay	7.7

Tested by XW
Checked and Approved by

J Sturges - Operations Manager
31/05/2024

Project Number:

GEO / 40435

Project Name:

ID MANCHESTER
51019/02

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

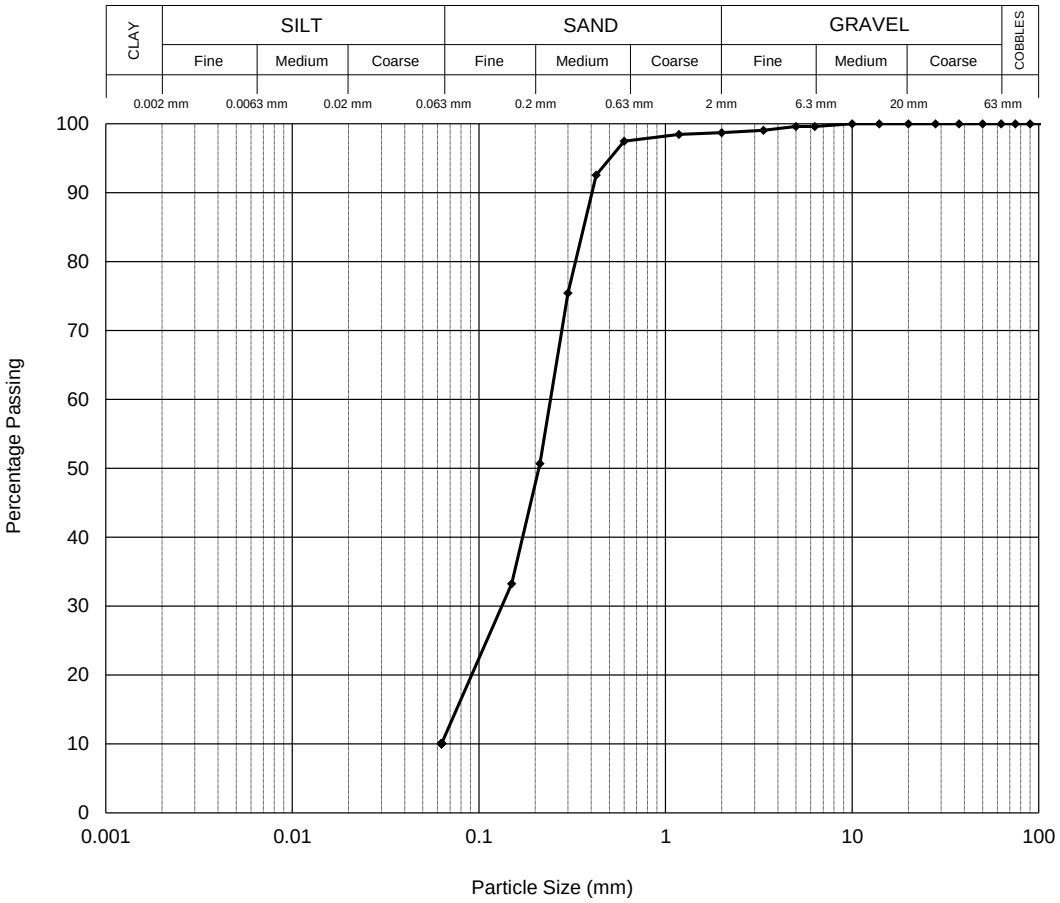
Location	BH1001
Sample Depth	16.50-18.00 m
Sample Type	B

Description

Orangish brown clayey silty SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	99
2.00 mm	99
1.18 mm	98
600 µm	97
425 µm	93
300 µm	75
212 µm	51
150 µm	33
63 µm	10



Particle Proportions	
Cobbles	0.0
Gravel	1.3
Sand	88.7
Silt & Clay	10.0

Tested by XW
Checked and Approved by

J Sturges - Operations Manager
31/05/2024

Project Number:

GEO / 40435

Project Name:

ID MANCHESTER
51019/02

GEOLABS®
UKAS TESTING
1982

Test Report By GEOLABS Limited Bucknalls Lane, Garston, Watford, Hertfordshire, WD25 9XX

Client : Civic Earth Limited, Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG (Ref 1717167399)

BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

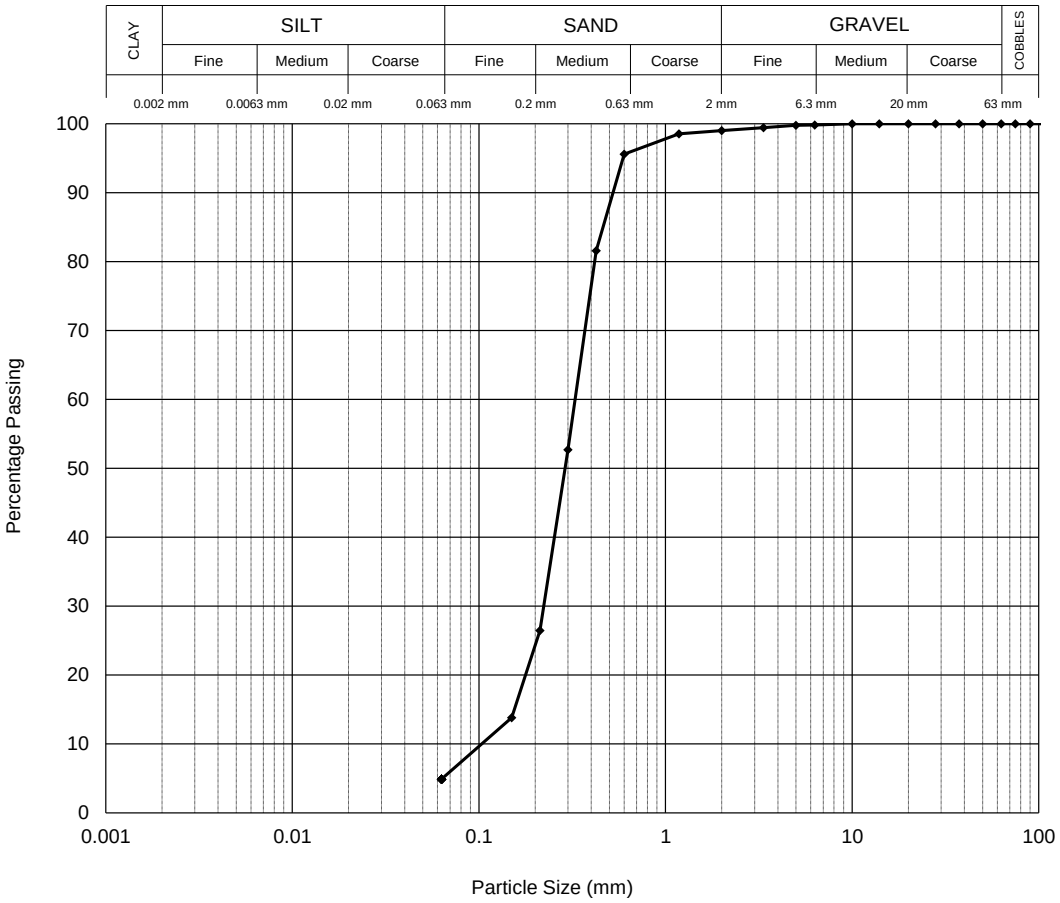
Location	BH1001
Sample Depth	22.50-24.00 m
Sample Type	B

Description

Orangish brown slightly silty SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	99
2.00 mm	99
1.18 mm	99
600 µm	96
425 µm	82
300 µm	53
212 µm	26
150 µm	14
63 µm	5



Particle Proportions	
Cobbles	0.0
Gravel	1.0
Sand	94.1
Silt & Clay	4.9

Tested by XW
Checked and Approved by

J Sturges - Operations Manager
31/05/2024

Project Number:

GEO / 40435

Project Name:

ID MANCHESTER
51019/02

GEOLABS®
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1982

BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

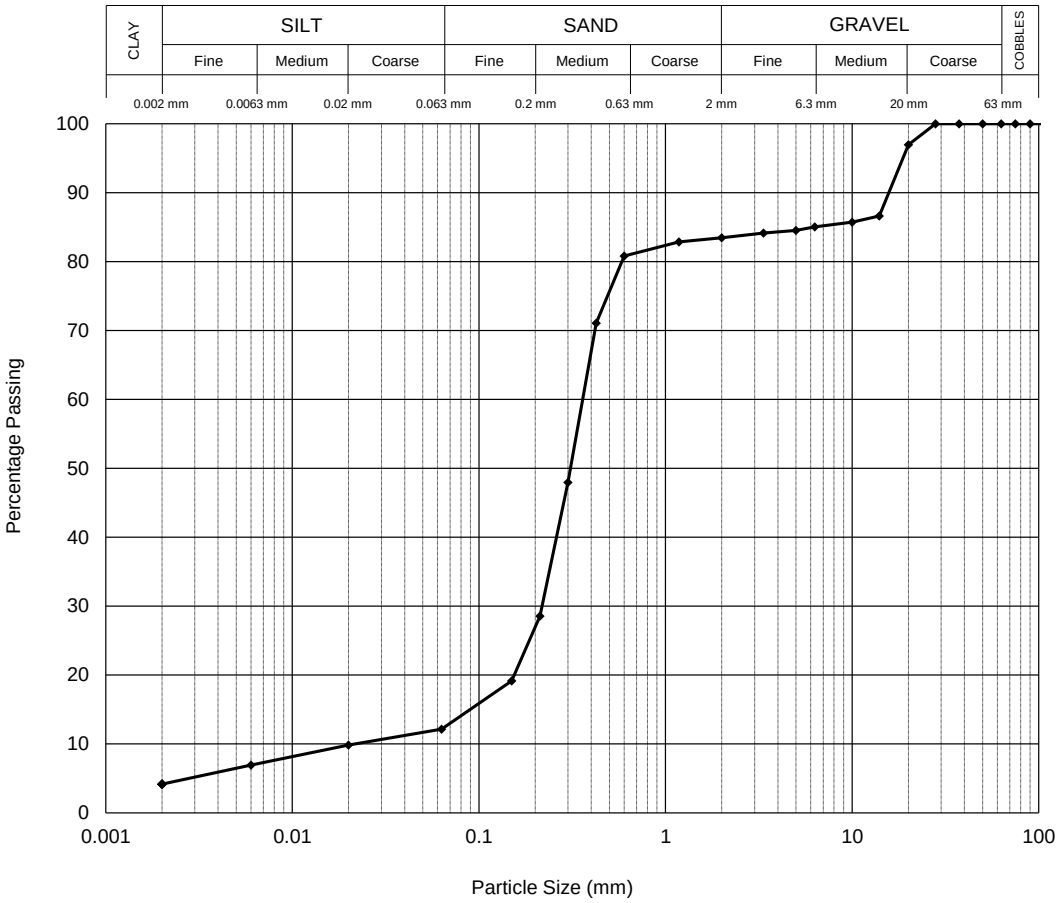
Location	BH1003
Sample Depth	5.00 m
Sample Type	B

Description

Orangish brown slightly clayey silty gravelly micaceous SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve
BS EN ISO 17892-4 : 2016 : Clause 5.4 - Sedimentation by Pipette

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	97
14.0 mm	87
10.0 mm	86
6.30 mm	85
5.00 mm	85
3.35 mm	84
2.00 mm	83
1.18 mm	83
600 µm	81
425 µm	71
300 µm	48
212 µm	29
150 µm	19
63 µm	12



Sedimentation	
No Pre-treatment used	
Temp (°C)	25.0
Size	% Pass
20 µm	10
6 µm	7
2 µm	4
Particle Density 2.70(A) Mg/m³	

Particle Proportions	
Cobbles	0.0
Gravel	16.5
Sand	71.3
Silt	8.0
Clay	4.2

Tested by XW
Checked and Approved by

J Sturges - Operations Manager
31/05/2024

Project Number:

GEO / 40435

Project Name:

ID MANCHESTER
51019/02

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

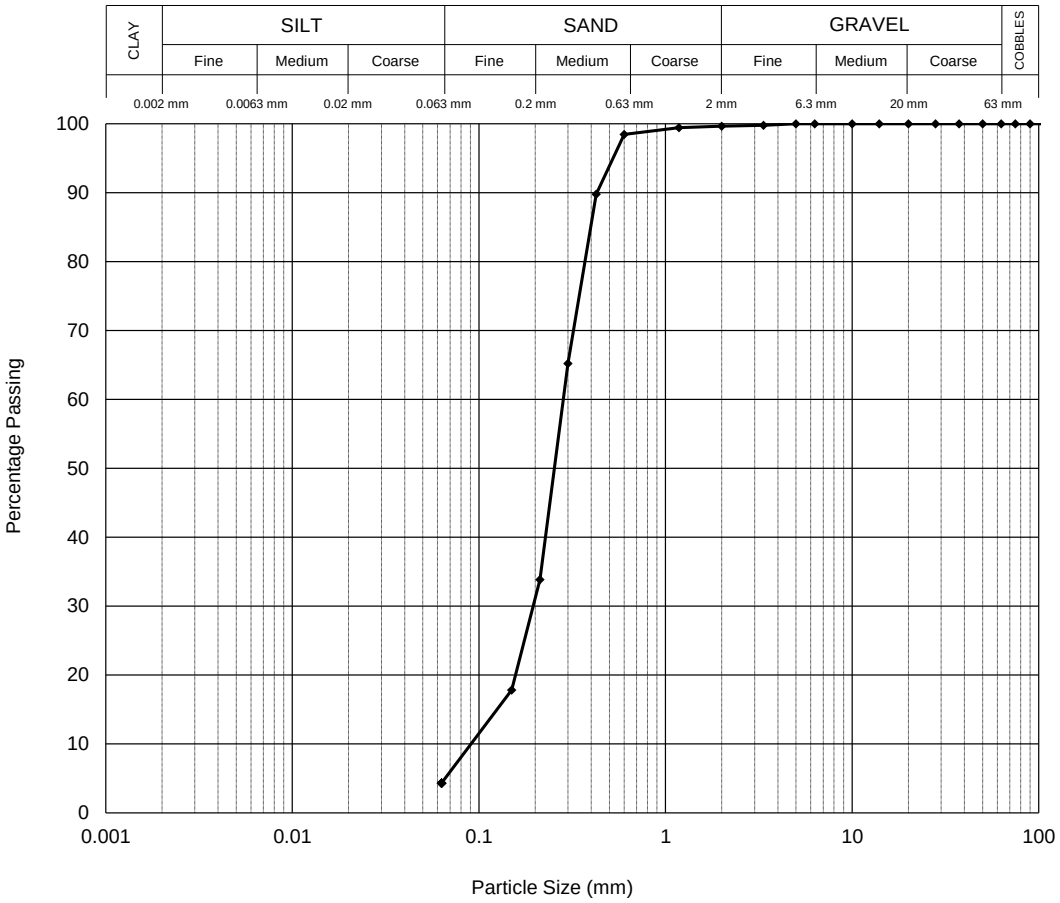
Location	BH1003
Sample Depth	18.00-19.50 m
Sample Type	B

Description

Orangish brown slightly silty SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	100
2.00 mm	100
1.18 mm	99
600 µm	98
425 µm	90
300 µm	65
212 µm	34
150 µm	18
63 µm	4



Particle Proportions	
Cobbles	0.0
Gravel	0.4
Sand	95.3
Silt & Clay	4.3

Tested by XW
Checked and Approved by

J Sturges - Operations Manager
31/05/2024

Project Number:

GEO / 40435

Project Name:

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

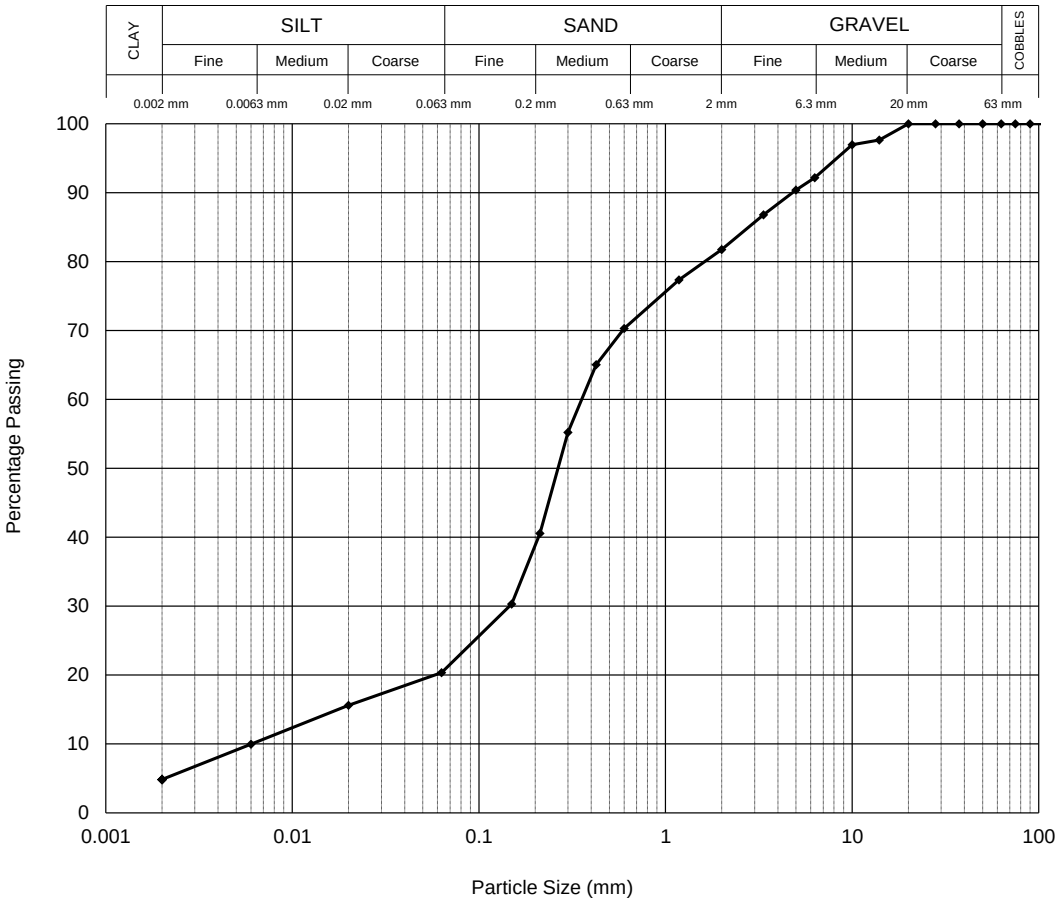
Location	BH1005
Sample Depth	4.00-4.45 m
Sample Type	B

Description

Black and dark grey mottled slightly clayey silty gravelly SAND. Gravel is fine to medium.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve
BS EN ISO 17892-4 : 2016 : Clause 5.4 - Sedimentation by Pipette

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	98
10.0 mm	97
6.30 mm	92
5.00 mm	90
3.35 mm	87
2.00 mm	82
1.18 mm	77
600 µm	70
425 µm	65
300 µm	55
212 µm	41
150 µm	30
63 µm	20



Sedimentation	
No Pre-treatment used	
Temp (°C)	25.0
Size	% Pass
20 µm	16
6 µm	10
2 µm	5

Particle Density 2.70(A) Mg/m³

Particle Proportions	
Cobbles	0.0
Gravel	18.2
Sand	61.4
Silt	15.5
Clay	4.9

Tested by XW
Checked and Approved by

J Sturges - Operations Manager
31/05/2024

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PARTICLE SIZE DISTRIBUTION

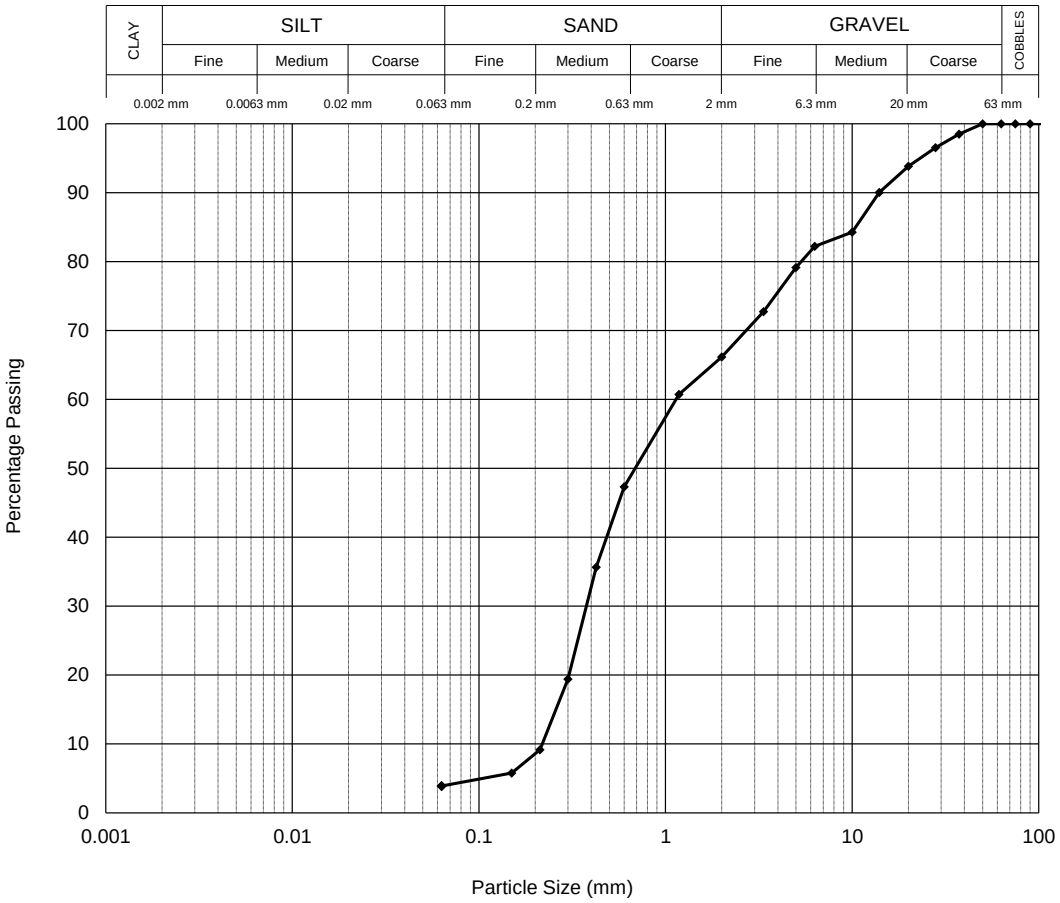
Location	BH1005
Sample Depth	5.00-5.50 m
Sample Type	B

Description

Grey brown slightly silty very gravelly SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	98
28.0 mm	97
20.0 mm	94
14.0 mm	90
10.0 mm	84
6.30 mm	82
5.00 mm	79
3.35 mm	73
2.00 mm	66
1.18 mm	61
600 µm	47
425 µm	36
300 µm	19
212 µm	9
150 µm	6
63 µm	4



Particle Proportions	
Cobbles	0.0
Gravel	33.8
Sand	62.3
Silt & Clay	3.9

Tested by XW
Checked and Approved by

J Sturges - Operations Manager
31/05/2024

Project Number:

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

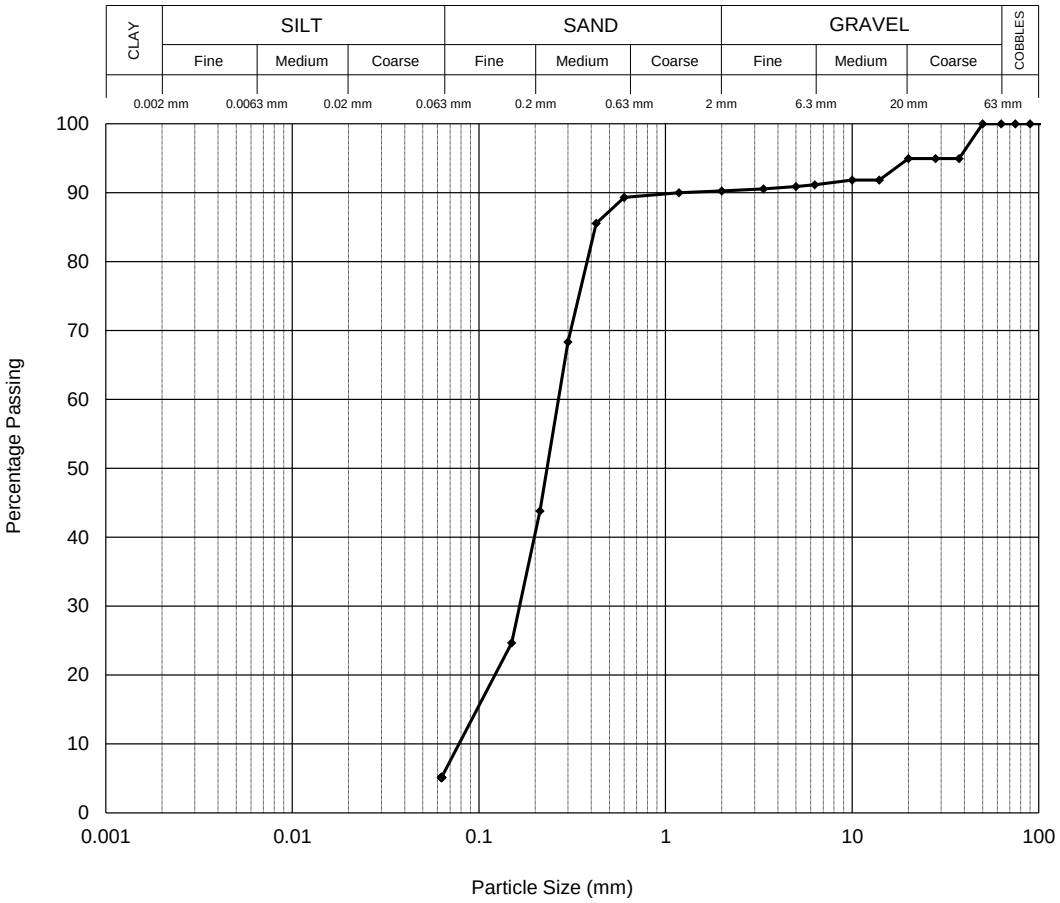
Location	BH1005
Sample Depth	6.50-7.50 m
Sample Type	B

Description

Orangish brown slightly silty gravelly SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	95
28.0 mm	95
20.0 mm	95
14.0 mm	92
10.0 mm	92
6.30 mm	91
5.00 mm	91
3.35 mm	91
2.00 mm	90
1.18 mm	90
600 µm	89
425 µm	86
300 µm	68
212 µm	44
150 µm	25
63 µm	5



Particle Proportions	
Cobbles	0.0
Gravel	9.8
Sand	85.1
Silt & Clay	5.1

Tested by XW
Checked and Approved by

J Sturges - Operations Manager
31/05/2024

Project Number:

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ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

UNIAXIAL COMPRESSIVE STRENGTH OF ROCK MATERIALS

Sample details				Density				Uniaxial Compression Test (LF0879C (1000kN) compression frame used)							
								Mean after prep.							
Borehole Ref.	Sample Ref.	Depth (m)	Description	MC (%)	Degree of Saturation (%)	Bulk (Mg/m³)	Dry (Mg/m³)	Diameter (mm)	Height (mm)	H/D Ratio	Load at Failure (kN)	UCS (MPa) 3 sig. fig.	Failure Sketch	D. Tested	Remarks
BH1005		13.00-13.20	Weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered	2.5	14.9	2.00	1.95	72.00	163.90	2.3	28.7	7.05		22/05/24	

Note: The dimensional requirements of flatness (<0.02 mm), perpendicularity (<0.05 / 50 mm) and straightness (0.3 mm deviation) are all met. Specific Gravity used for Degree of Saturation is assumed unless specified by the client.

Checked and Approved by

IT

I Tabios (Head of Department)

Date: 24/05/2024

Project Number:

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Project Name:

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ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

UNCONFINED COMPRESSIVE STRENGTH WITH YOUNG'S MODULUS AND POISSON'S RATIO

Borehole Ref.:	BH1005
Sample Ref.:	-
Depth (m):	13.00-13.20

Description:
Weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered

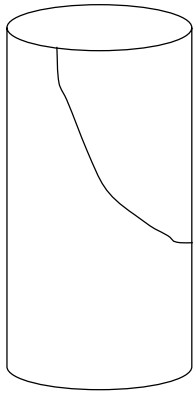
LF0879C (1000kN) compression frame used

Diameter	72.00 mm
Height	163.90 mm
Bulk Density	2.00 Mg/m³
Dry Density	1.95 Mg/m³
Water Content	2.5 %

Degree of Saturation: 14.9 % Specific Gravity: 2.9 Mg/m³ (Assumed)

Failure Sketch

Mode of failure: Diagonal shearing



Solid lines for material failures.
Dashed lines for apparent weakness failure.

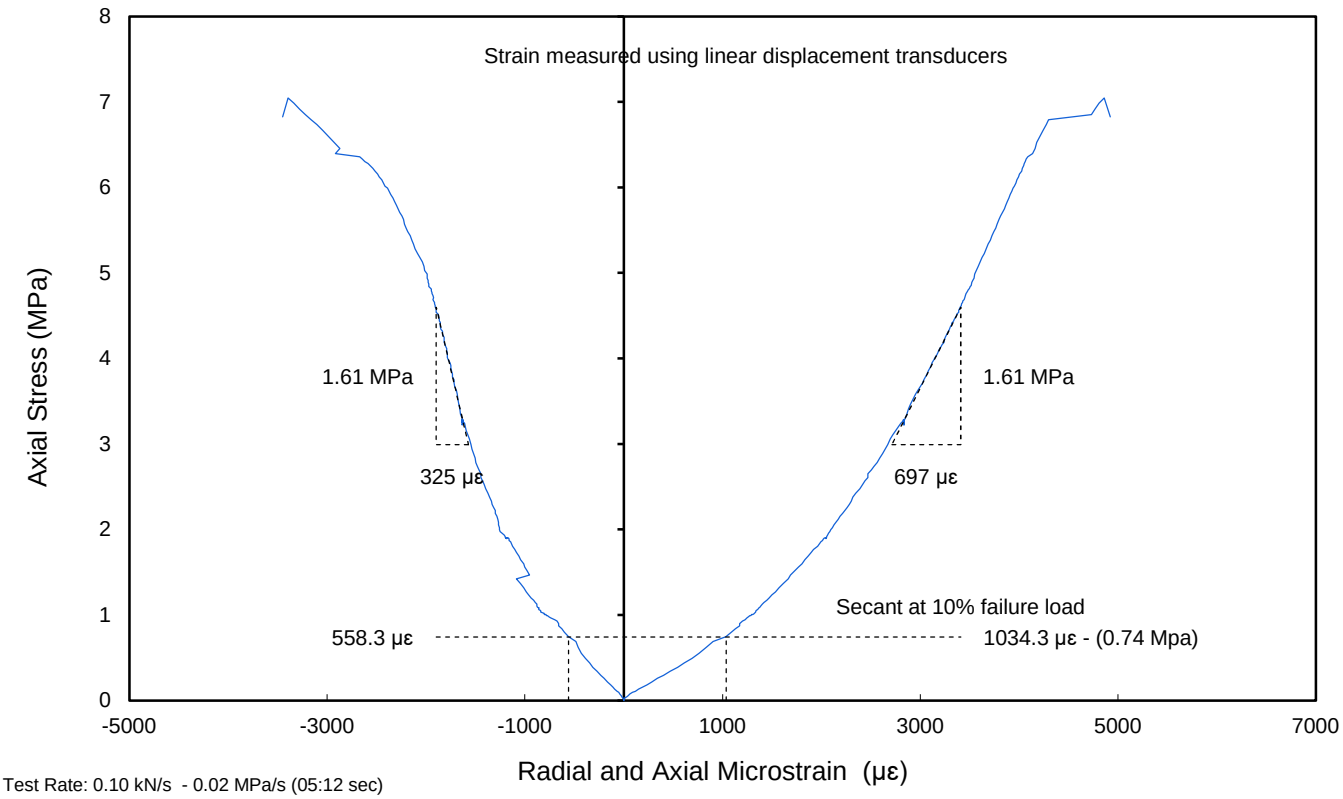
Date tested: 22/05/2024

Angle of foliation/Axis of loading: n/a
Angle of shear plane/Axis of loading: n/a

Sample type	C

Test results

Unconfined Compressive Strength Maximum load (kN): 28.70	7.05 MPa
Young's Modulus (tangential at 50% failure load)	2.31 GPa
Poisson's Ratio (tangential at 50% failure load)	0.47
Young's Modulus (secant at 10% failure load)	0.72 GPa
Poisson's Ratio (secant at 10% failure load)	0.54



Test Rate: 0.10 kN/s - 0.02 MPa/s (05:12 sec)

Note: The dimensional requirements of Flatness (<0.02 mm), Perpendicularity (<0.05 / 50 mm) and Straightness (0.3 mm deviation) are all met.

Checked and Approved by

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Date: 24/05/2024

Project Number:

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Project Name:

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ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006 In-house Technical Procedure TP35

DETERMINATION OF POINT LOAD STRENGTH ON ROCK

Sample details				Point Load test											
Borehole Ref.	Sample Ref.	Depth (m)	Description	D. Tested	Test type & Direction		Sample width W (mm)	Platen separation (mm) Start D	Platen separation (mm) End D'	Water Content (%)	Equiv. Diameter D_e (mm)	Failure Load P (kN)	I_s P/De^2 (MPa)	Correction Factor F	Point Load Index $I_{s(50)}$ (MPa)
BH1001		7.50-9.00	Extremely weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered	23/05/24	D	L	103.7	102.8	100.4		101.6	0.37	0.04	1.38	0.06
BH1001		10.50-12.00	Very weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered	23/05/24	A	P	98.2	59.8	57.6		84.9	0.62	0.09	1.27	0.11
BH1001		13.50-15.00	Extremely weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered	23/05/24	D	L	104.5	100.4	98.1		99.2	0.27	0.03	1.36	0.04
BH1003		15.00-16.50	Weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered	23/05/24	A	P	71.1	61.9	60.2		73.8	3.27	0.60	1.19	0.71
BH1003		21.00-22.50	Very weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered	24/05/24	D	L	33.1	31.7	29.8		30.7	0.05	0.06	0.80	0.05
BH1003		22.50-24.00	Very weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered	23/05/24	D	L	71.9	70.4	68.4		69.4	0.77	0.16	1.16	0.19
BH1003		24.00-25.00	Very weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered	23/05/24	D	L	71.6	70.6	68.1		69.3	0.51	0.11	1.16	0.13
BH1005		8.50-10.00	Very weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered	24/05/24	D	L	37.9	35.9	33.3		34.6	0.19	0.16	0.85	0.14

(*) Sample failed on weakness

Test type and direction: **D** - Diametral **A** - Axial **B** - Block **I** - Irregular lump **P** - Perpendicular to planes of weakness **U** - Random or unknown orientation **L** - Parallel to planes of weakness

Checked and Approved by

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I Tabios (Head of Department)

Date: 24/05/2024

Project Number:

GEO / 40435

Project Name:

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TESTING RESTRICTION

The following tests have been scheduled on the below project. Those listed **CANNOT** be performed for the reason stated. If alternative samples are available for the restricted tests, please supply details.

Sample details					
Borehole Ref.	Sample Ref.	Depth (m)	Description	Tests restricted	Reason for restriction and comments
BH1001		10.50-12.00	n/a	UCS w/ YM and PR	Sample too short even for recoring. Cancel test.
BH1003		15.00-16.50	n/a	UCS	Sample too short even for recoring. Cancel test.
BH1003		21.00-22.50	n/a	UCS w/ YM and PR	Sample failed during recoring process.
BH1005		8.50-10.00	n/a	UCS	Sample failed during recoring process.
BH1005		13.00-14.50	n/a	Not Test Restricted but please see comments	Sample only scheduled for Point Load but is suitable for UCS.

Checked and Approved by

IT

I Tabios (Head of Department)

Date: 24/05/2024

Project Number:

GEO / 40435

Project Name:

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web: www.geolabs.co.uk

Civic Earth Limited
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

30 May 2024
Report No : GEO/40436/01

For the attention of Ms K Poore

Date samples received	01/05/2024
Date written instructions received	07/05/2024
Date testing commenced	08/05/2024
Date of sample disposal	**27/06/2024**

Our ref **GEO / 40436**
Your Ref **51019/02**

Project **ID MANCHESTER**

Further to your instructions we have pleasure in enclosing the results of the tests you requested in the attached figures.

LABORATORY TEST REPORT

Item No	Test Quantity	Description
1	~	Geotechnical Test Summary
~	2	Water Content
~	2	Liquid & Plastic Limits
2	5	Particle Size Distribution
3	1	Unconsolidated Undrained Triaxial Compression

Any opinions or interpretations expressed herein are outside the scope of UKAS accreditation. All results contained in this report are provisional unless signed by an approved signatory. The results contained in this report relate only to samples received in the laboratory and are tested 'as received' unless otherwise stated. This report should not be reproduced, except in full, without the written approval of the laboratory. The results reported are applicable only to the test items received by the laboratory.

All the necessary data required by the documented test procedures has been recorded and will be stored for a period of not less than 6 years. This data will be issued to yourselves at your request. All samples will be disposed of after the date shown above. Written confirmation will be required to retain the samples beyond this period and a storage charge may be applied.

We trust that the above meets your requirements and should you require any further information or assistance, please do not hesitate to contact us.

Yours faithfully
on behalf of **GEOLABS Limited**

S Burke
Senior Technician

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SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Location	Depth (m)	Sample Ref	Type	Description	WC %	LL %	PL %	PI %	<425 µm %	Bulk Mg/m³	Dry Mg/m³	Condition	Cell Pressure kPa	Deviator Stress kPa	Shear Stress kPa	pH	2:1 W/S SO4 g/L	W/S Mg mg/L	
BH1006	2.00-2.45		B	Dark brown gravelly clayey sandy SILT.	23.0		NP		56										
BH1006	3.00-3.50		B	Dark brown slightly gravelly clayey silty SAND with rare brick fragments.															Particle Size Distribution
BH1006	5.00-5.50		B	Brown clayey silty very gravelly SAND.															Particle Size Distribution
BH1006	9.50-10.50		B	Orangish brown slightly clayey slightly silty gravelly SAND.															Particle Size Distribution
BH1007	4.00-5.50		B	Orangish brown SAND.															Particle Size Distribution
BH1015B	2.00-2.45		U	Soft to firm brown sandy CLAY.	24.2					1.93	1.56	Undisturbed	40	72	36				
BH1015B	3.00-3.50		B	Dark brown gravelly sandy silty CLAY. Gravel is fine to medium.	18.2	27	17	10	74										
BH1015B	6.00		B	Orangish brown slightly gravelly slightly clayey silty SAND.															Particle Size Distribution

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed) NP=Non Plastic

Checked and Approved by

S Burke

S Burke - Senior Technician
30/05/2024

Project Number:

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

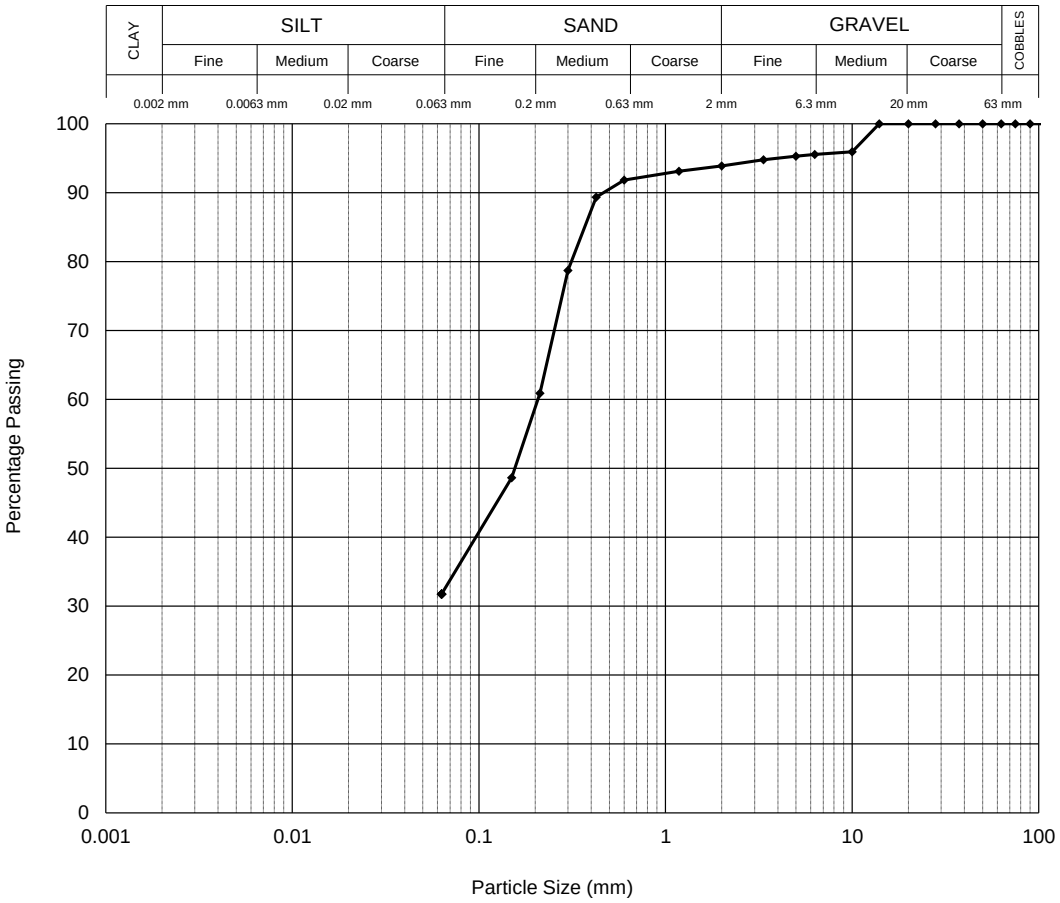
Location	BH1006
Sample Depth	3.00-3.50 m
Sample Type	B

Description

Dark brown slightly gravelly clayey silty SAND with rare brick fragments.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	96
6.30 mm	96
5.00 mm	95
3.35 mm	95
2.00 mm	94
1.18 mm	93
600 µm	92
425 µm	89
300 µm	79
212 µm	61
150 µm	49
63 µm	32



Particle Proportions	
Cobbles	0.0
Gravel	6.1
Sand	62.1
Silt & Clay	31.8

Tested by XW
Checked and Approved by

S Burke - Senior Technician
30/05/2024

Project Number:

GEO / 40436

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

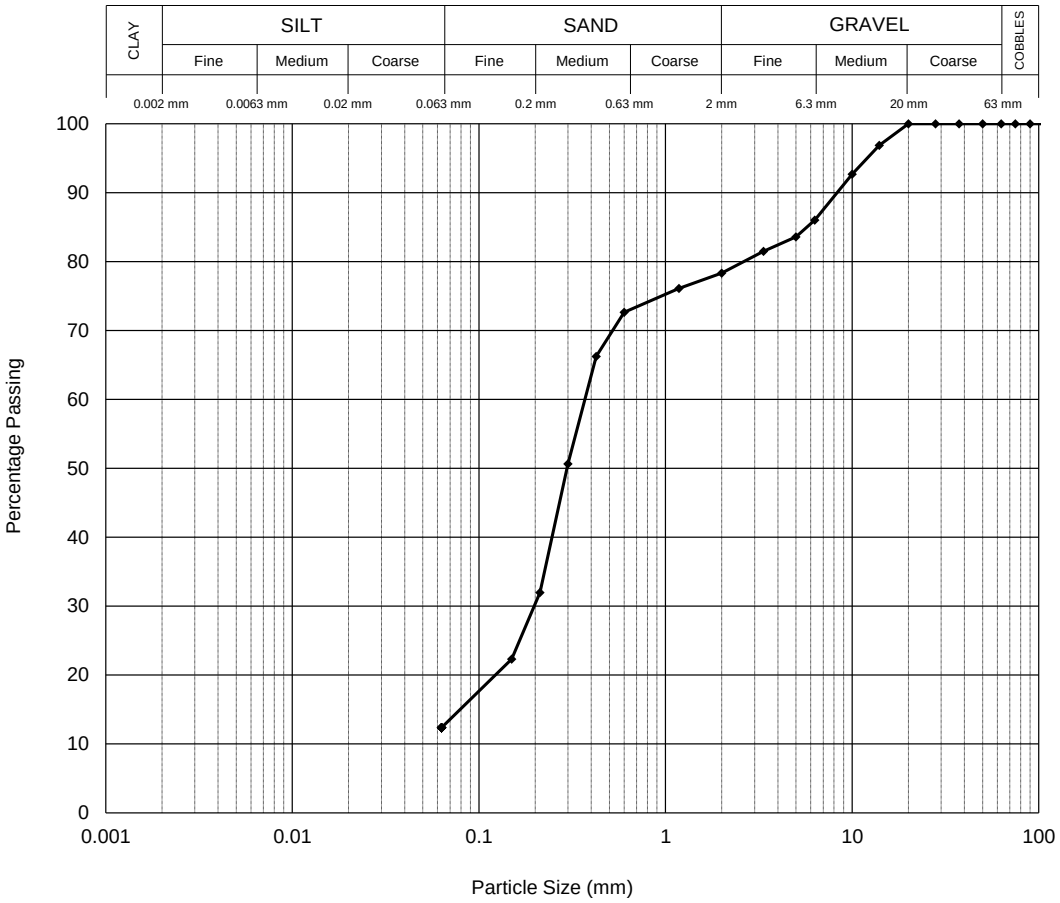
Location	BH1006
Sample Depth	5.00-5.50 m
Sample Type	B

Description

Brown clayey silty very gravelly SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	97
10.0 mm	93
6.30 mm	86
5.00 mm	84
3.35 mm	81
2.00 mm	78
1.18 mm	76
600 µm	73
425 µm	66
300 µm	51
212 µm	32
150 µm	22
63 µm	12



Particle Proportions	
Cobbles	0.0
Gravel	21.7
Sand	65.9
Silt & Clay	12.4

Tested by XW
Checked and Approved by

S Burke

S Burke - Senior Technician
30/05/2024

Project Number:

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

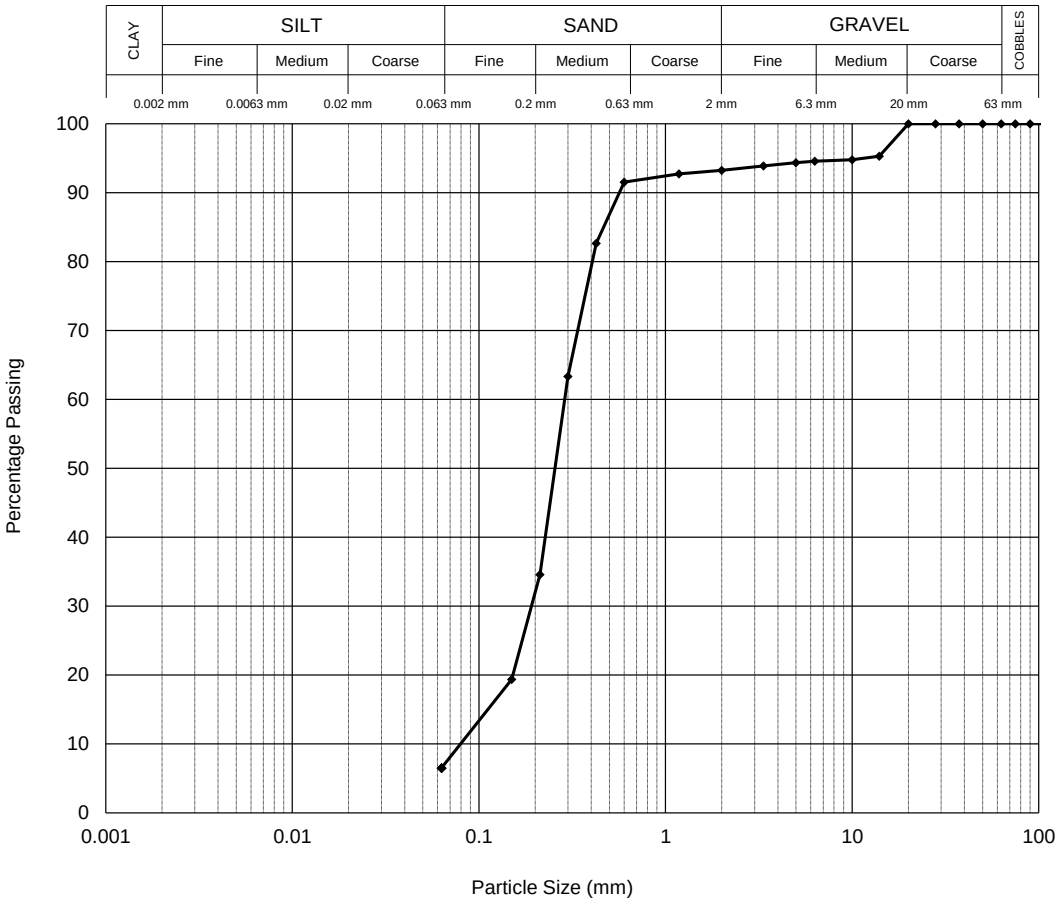
Location	BH1006
Sample Depth	9.50-10.50 m
Sample Type	B

Description

Orangish brown slightly clayey slightly silty gravelly SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	95
10.0 mm	95
6.30 mm	95
5.00 mm	94
3.35 mm	94
2.00 mm	93
1.18 mm	93
600 µm	92
425 µm	83
300 µm	63
212 µm	35
150 µm	19
63 µm	7



Particle Proportions	
Cobbles	0.0
Gravel	6.8
Sand	86.7
Silt & Clay	6.5

Tested by AD
Checked and Approved by

S Burke

S Burke - Senior Technician
30/05/2024

Project Number:

GEO / 40436

Project Name:

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PARTICLE SIZE DISTRIBUTION

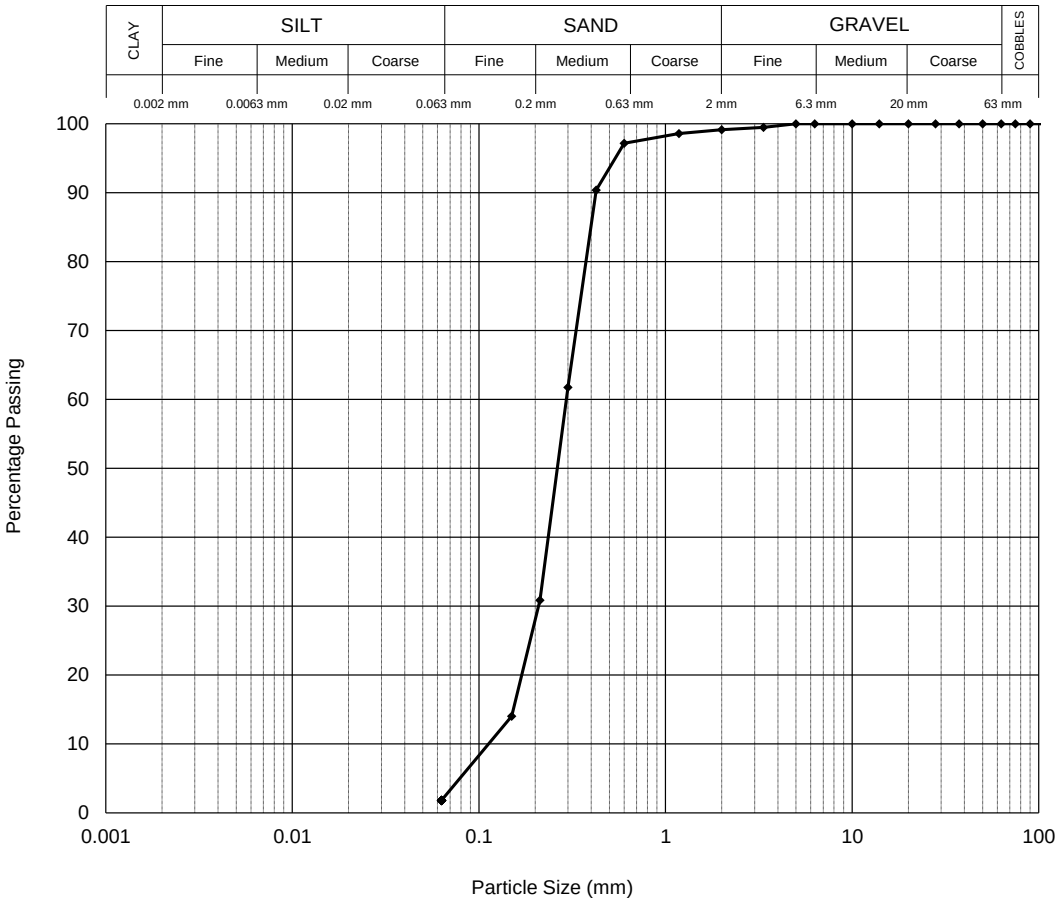
Location	BH1007
Sample Depth	4.00-5.50 m
Sample Type	B

Description

Orangish brown SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	99
2.00 mm	99
1.18 mm	99
600 µm	97
425 µm	90
300 µm	62
212 µm	31
150 µm	14
63 µm	2



Particle Proportions	
Cobbles	0.0
Gravel	0.9
Sand	97.3
Silt & Clay	1.8

Tested by XW
Checked and Approved by

S Burke - Senior Technician
30/05/2024

Project Number:

GEO / 40436

Project Name:

ID MANCHESTER
51019/02

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

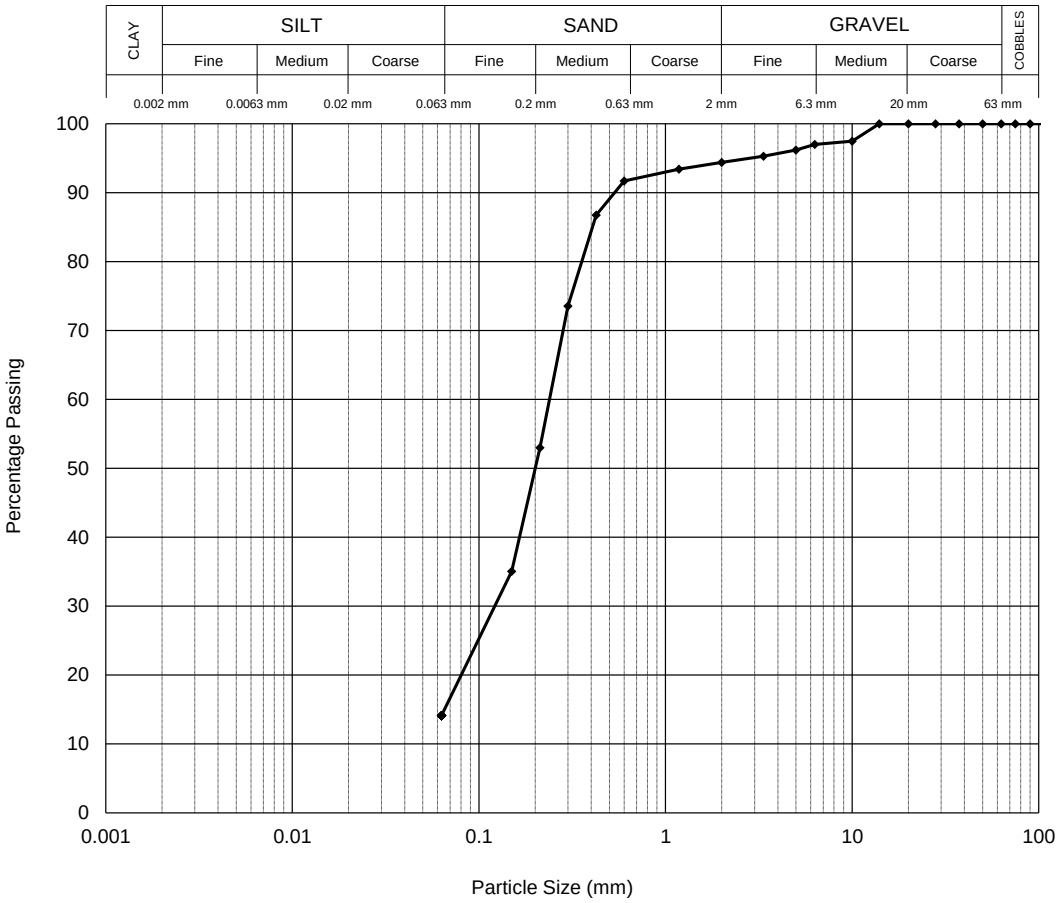
Location	BH1015B
Sample Depth	6.00 m
Sample Type	B

Description

Orangish brown slightly gravelly slightly clayey silty SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	97
6.30 mm	97
5.00 mm	96
3.35 mm	95
2.00 mm	94
1.18 mm	93
600 µm	92
425 µm	87
300 µm	74
212 µm	53
150 µm	35
63 µm	14



Particle Proportions	
Cobbles	0.0
Gravel	5.6
Sand	80.3
Silt & Clay	14.1

Tested by XW
Checked and Approved by

S Burke - Senior Technician
30/05/2024

Project Number:

GEO / 40436

Project Name:

ID MANCHESTER
51019/02

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BS EN ISO 17892-8 : 2018

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH1015B
Sample Depth	2.00-2.45 m
Sample Type	U

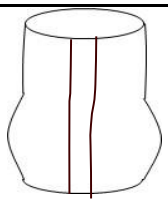
Description:

Soft to firm brown sandy CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	200.3
Diameter	(mm)	101.8
Water content	(%)	24.2
Bulk density	(Mg/m³)	1.93
Dry density	(Mg/m³)	1.56
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	200.3
Membrane correction	(kPa)	1.1
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	40
Strain at failure	(%)	20.0
Maximum deviator stress	(kPa)	72
Shear Stress Cu	(kPa)	36

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	115

Tested by ME
Checked and Approved by

S Burke

S Burke - Senior Technician
30/05/2024

Project Number:

GEO / 40436

Project Name:

ID MANCHESTER
51019/02

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1982

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web: www.geolabs.co.uk

Civic Earth Limited
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

20 May 2024
Report No : GEO/40437/01

For the attention of Ms K Poore

Date samples received	01/05/2024
Date written instructions received	07/05/2024
Date testing commenced	08/05/2024
Date of sample disposal	**17/06/2024**

Our ref **GEO / 40437**
Your Ref **51019/02**

Project **ID MANCHESTER**

Further to your instructions we have pleasure in enclosing the results of the tests you requested in the attached figures.

LABORATORY TEST REPORT

Item No	Test Quantity	Description
1	~	Liquid & Plastic Limits Summary
~	1	Water Content
~	1	Liquid & Plastic Limits

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All the necessary data required by the documented test procedures has been recorded and will be stored for a period of not less than 6 years. This data will be issued to yourselves at your request. All samples will be disposed of after the date shown above. Written confirmation will be required to retain the samples beyond this period and a storage charge may be applied.

We trust that the above meets your requirements and should you require any further information or assistance, please do not hesitate to contact us.

Yours faithfully
on behalf of **GEOLABS Limited**

S Burke
Senior Technician

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BS EN ISO 17892-12 : 2018+A2:2022

SUMMARY OF LIQUID AND PLASTIC LIMIT TESTS

Location	Depth m	Sample Ref	Sample Type	Description	Water Content BS EN ISO 17892-1 : 2014 +A1:2022 %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Percentage Passing 425µm %	Atterberg Classification	Test Type	Sample Condition
BH1012	4.00-4.50		B	Dark brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to medium.	19.6	36	18	18	87	CI	2	3
BH1012	5.00-5.50		B	Dark brown mottled orangish brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to medium.	20.7	37	21	16	89	CI	2	3

Test Type: 2 - 4 point 80g / 30° fall cone method.

Sample condition: 1 - As Received
2 - Air Dried
3 - Washed & Air Dried

Checked and Approved by:

S Burke

S Burke - Senior Technician
20/05/2024

Project Number:

GEO / 40437

Project Name:

ID MANCHESTER
51019/02

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Civic Earth Limited
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

12 June 2024
Report No : GEO/40519/01

For the attention of Ms K Poore

Date samples received	01/05/2024
Date written instructions received	20/05/2024
Date testing commenced	21/05/2024
Date of sample disposal	**10/07/2024**

Our ref **GEO / 40519**
Your Ref **51019/02**

Project **ID MANCHESTER**

Further to your instructions we have pleasure in enclosing the results of the tests you requested in the attached figures.

LABORATORY TEST REPORT

Item No	Test Quantity	Description
1	~	Liquid & Plastic Limits Summary
~	3	Water Content
~	3	Liquid & Plastic Limits
2	6	Particle Size Distribution
3	1	Unconfined Compressive Strength
4	2	Unconfined Compressive Strength with Deformability
5	1	Point Load Strength Index

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All the necessary data required by the documented test procedures has been recorded and will be stored for a period of not less than 6 years. This data will be issued to yourselves at your request. All samples will be disposed of after the date shown above. Written confirmation will be required to retain the samples beyond this period and a storage charge may be applied.

We trust that the above meets your requirements and should you require any further information or assistance, please do not hesitate to contact us.

Yours faithfully
on behalf of **GEOLABS Limited**

S Burke
Senior Technician

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BS EN ISO 17892-12 : 2018+A2:2022

SUMMARY OF LIQUID AND PLASTIC LIMIT TESTS

Location	Depth m	Sample Ref	Sample Type	Description	Water Content BS EN ISO 17892-1 : 2014 +A1:2022 %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Percentage Passing 425µm %	Atterberg Classification	Test Type	Sample Condition
BH1002	1.20-1.70		B	Dark brown gravelly sandy silty CLAY. Gravel is fine to medium.	19.2	43	19	24	71	CI	2	3
BH1004	2.00-2.45		B	Dark brown gravelly sandy silty CLAY. Gravel is fine to medium.	16.5	34	20	14	73	CL	2	3
BH1004	5.00-5.45		B	Dark brown gravelly sandy silty CLAY. Gravel is fine to medium.	21.5	43	21	22	87	CI	2	3

Test Type: 2 - 4 point 80g / 30° fall cone method.

Sample condition: 1 - As Received
2 - Air Dried
3 - Washed & Air Dried

Checked and Approved by:

S Burke

S Burke - Senior Technician
12/06/2024

Project Number:

GEO / 40519

Project Name:

ID MANCHESTER
51019/02

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

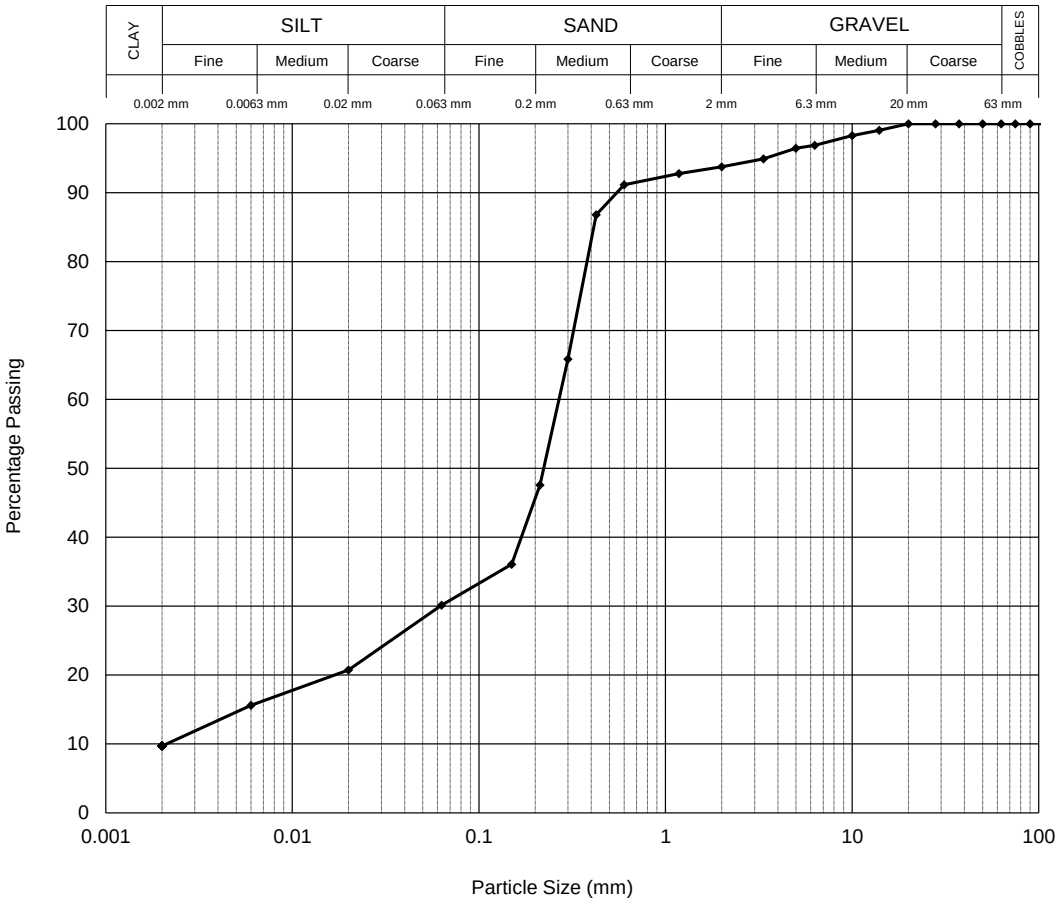
Location	BH1002
Sample Depth	5.00-5.50 m
Sample Type	B

Description

Orangish brown slightly gravelly clayey silty SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve
BS EN ISO 17892-4 : 2016 : Clause 5.4 - Sedimentation by Pipette

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	99
10.0 mm	98
6.30 mm	97
5.00 mm	96
3.35 mm	95
2.00 mm	94
1.18 mm	93
600 µm	91
425 µm	87
300 µm	66
212 µm	48
150 µm	36
63 µm	30



Sedimentation	
No Pre-treatment used	
Temp (°C)	25.0
Size	% Pass
20 µm	21
6 µm	16
2 µm	10
Particle Density 2.70(A) Mg/m³	

Particle Proportions	
Cobbles	0.0
Gravel	6.3
Sand	63.6
Silt	20.4
Clay	9.7

Tested by MJ
Checked and Approved by

S Burke - Senior Technician
12/06/2024

Project Number:

GEO / 40519

Project Name:

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

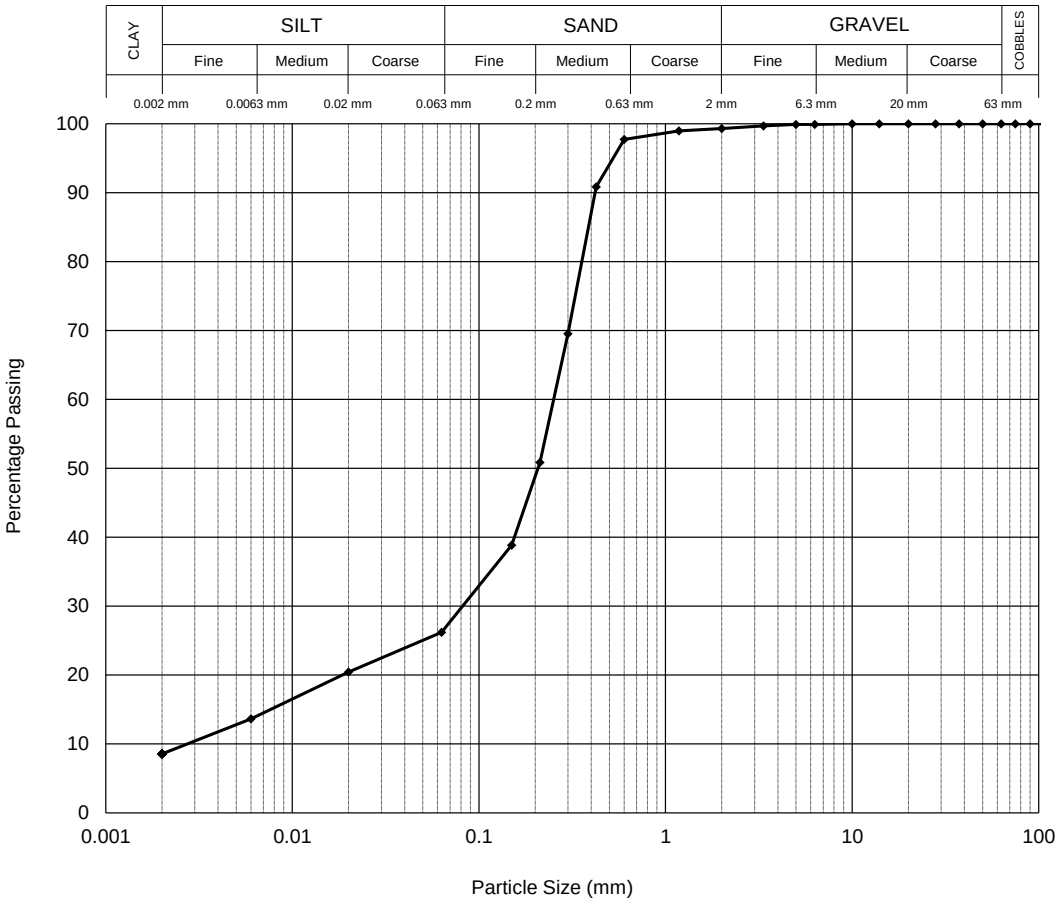
Location	BH1002
Sample Depth	10.00-11.50 m
Sample Type	B

Description

Orangish brown clayey silty SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve
BS EN ISO 17892-4 : 2016 : Clause 5.4 - Sedimentation by Pipette

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	100
2.00 mm	99
1.18 mm	99
600 µm	98
425 µm	91
300 µm	70
212 µm	51
150 µm	39
63 µm	26



Sedimentation	
No Pre-treatment used	
Temp (°C)	25.0
Size	% Pass
20 µm	20
6 µm	14
2 µm	9
Particle Density 2.70(A) Mg/m³	

Particle Proportions	
Cobbles	0.0
Gravel	0.7
Sand	73.1
Silt	17.6
Clay	8.6

Tested by MJ
Checked and Approved by

S Burke

S Burke - Senior Technician
12/06/2024

Project Number:

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PARTICLE SIZE DISTRIBUTION

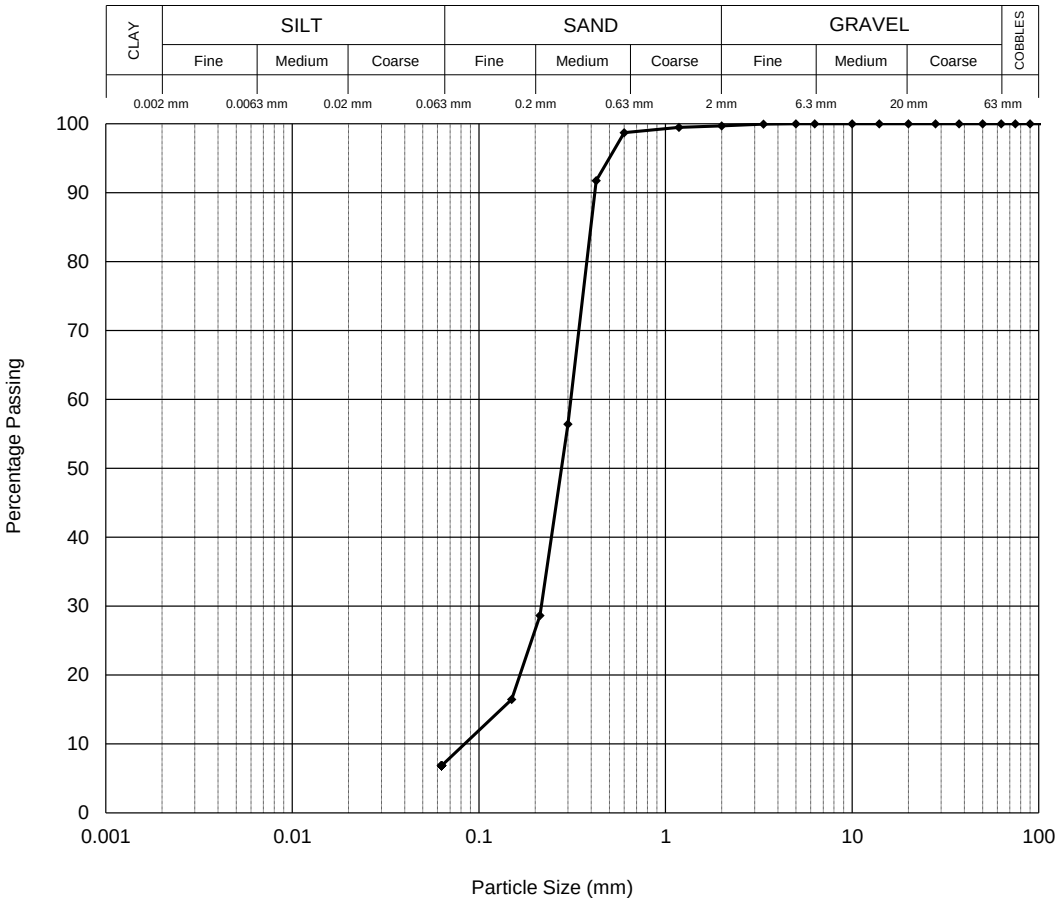
Location	BH1002
Sample Depth	17.50-19.00 m
Sample Type	B

Description

Orangish brown silty SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	100
2.00 mm	100
1.18 mm	99
600 µm	99
425 µm	92
300 µm	56
212 µm	29
150 µm	16
63 µm	7



Particle Proportions	
Cobbles	0.0
Gravel	0.3
Sand	92.8
Silt & Clay	6.9

Tested by MJ
Checked and Approved by

S Burke

S Burke - Senior Technician
12/06/2024

Project Number:

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Project Name:

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

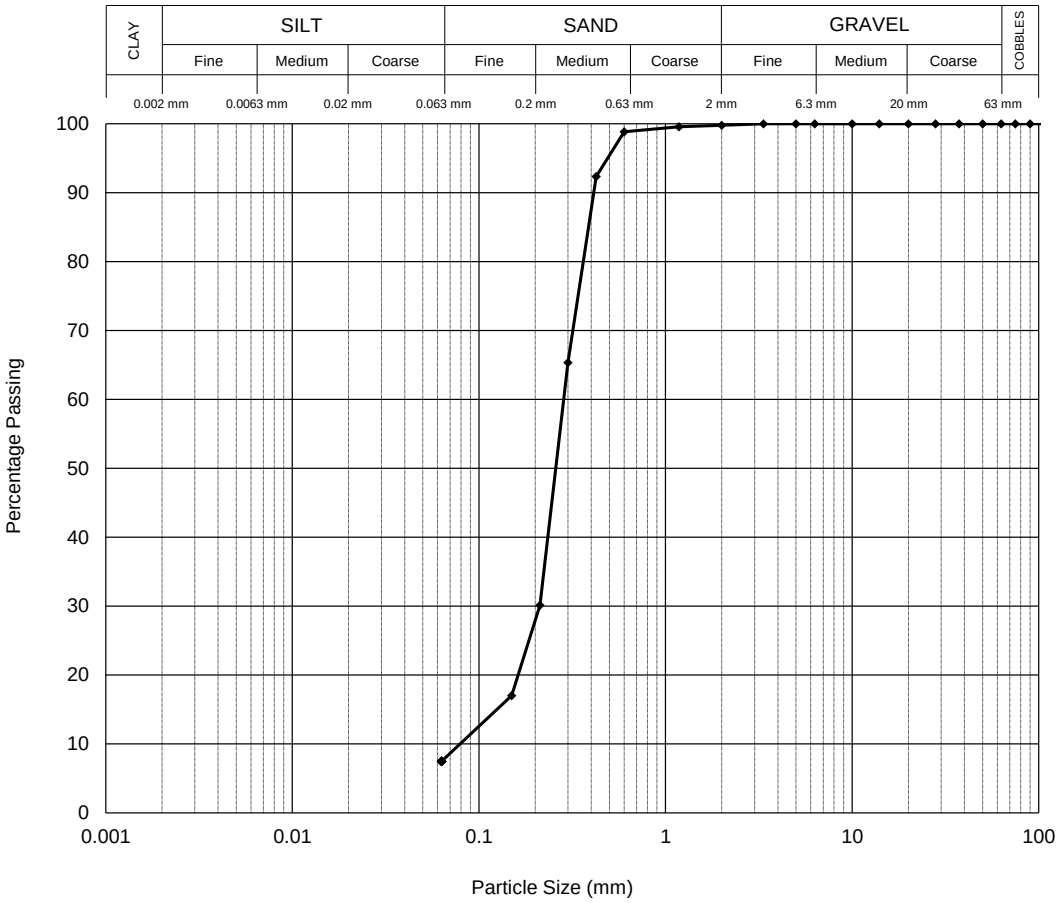
Location	BH1002
Sample Depth	23.50-25.00 m
Sample Type	B

Description

Orangish brown slightly clayey silty SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	100
2.00 mm	100
1.18 mm	100
600 µm	99
425 µm	92
300 µm	65
212 µm	30
150 µm	17
63 µm	7



Particle Proportions	
Cobbles	0.0
Gravel	0.2
Sand	92.3
Silt & Clay	7.5

Tested by MJ
Checked and Approved by

S Burke - Senior Technician
12/06/2024

Project Number:

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

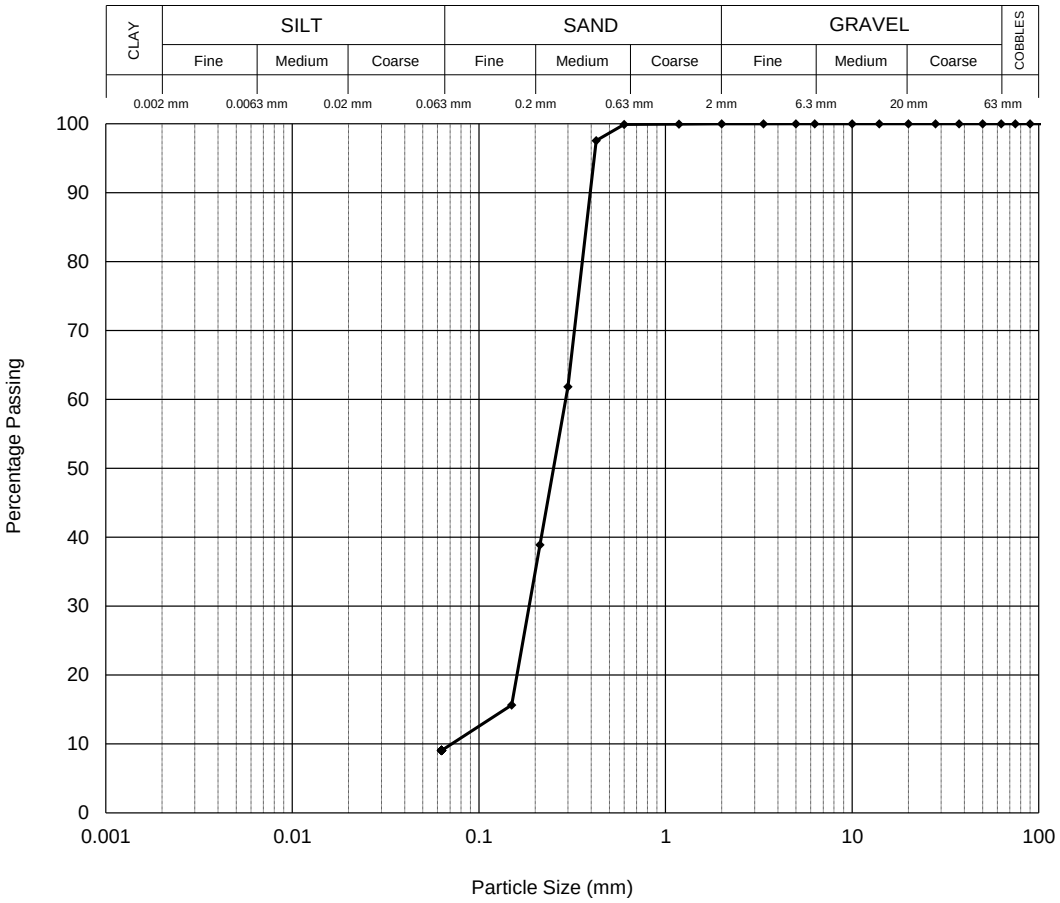
Location	BH1004
Sample Depth	7.50-9.00 m
Sample Type	B

Description

Orangish brown slightly clayey silty SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	100
2.00 mm	100
1.18 mm	100
600 µm	100
425 µm	98
300 µm	62
212 µm	39
150 µm	16
63 µm	9



Particle Proportions	
Cobbles	0.0
Gravel	0.0
Sand	90.9
Silt & Clay	9.1

Tested by MJ
Checked and Approved by

S Burke - Senior Technician
12/06/2024

Project Number:

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Project Name:

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

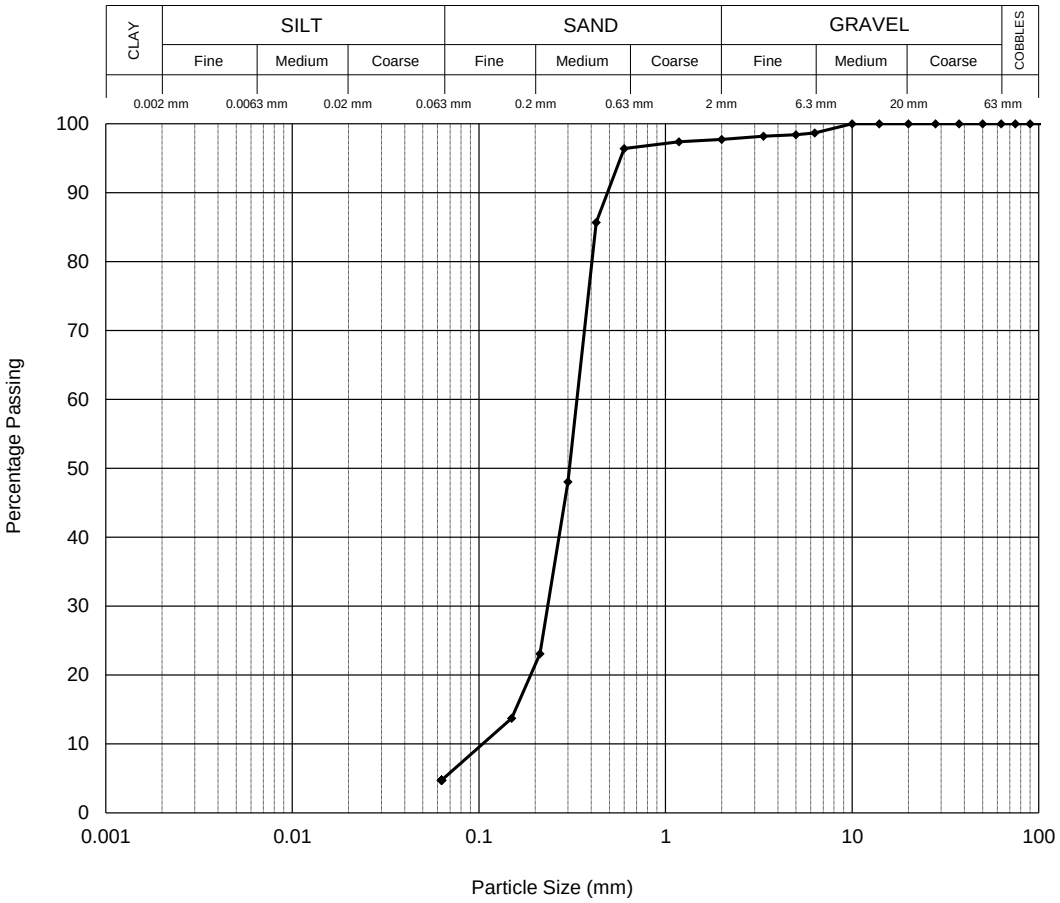
Location	BH1004
Sample Depth	12.00-13.50 m
Sample Type	B

Description

Reddish brown slightly gravelly slightly clayey slightly silty SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	99
5.00 mm	98
3.35 mm	98
2.00 mm	98
1.18 mm	97
600 µm	96
425 µm	86
300 µm	48
212 µm	23
150 µm	14
63 µm	5



Particle Proportions	
Cobbles	0.0
Gravel	2.3
Sand	93.0
Silt & Clay	4.7

Tested by MJ
Checked and Approved by

S Burke - Senior Technician
12/06/2024

Project Number:

GEO / 40519

Project Name:

ID MANCHESTER
51019/02

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ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006 In-house Technical Procedure TP35

DETERMINATION OF POINT LOAD STRENGTH ON ROCK

Sample details				Point Load test											
Borehole Ref.	Sample Ref.	Depth (m)	Description	D. Tested	Test type & Direction		Sample width W (mm)	Platen separation (mm)		Water Content (%)	Equiv. Diameter D_e (mm)	Failure Load P (kN)	I_s P/De^2 (MPa)	Correction Factor F	Point Load Index $I_{s(50)}$ (MPa)
								Start D	End D'						
BH1004		15.00-16.50	Extremely weak reddish brown fine to medium grained SANDSTONE. Moderately to highly weathered	04/06/24	D	P	86.3	85.9	84.8		85.3	0.16	0.02	1.27	0.03

(*) Sample failed on weakness

Test type and direction: **D** - Diametral **A** - Axial **B** - Block **I** - Irregular lump **P** - Perpendicular to planes of weakness **U** - Random or unknown orientation **L** - Parallel to planes of weakness

Checked and Approved by

IT

I Tabios (Head of Department)

Date: 06/06/2024

Project Number:

GEO / 40519

Project Name:

ID MANCHESTER
51019/02

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UKAS TESTING 1982

TESTING RESTRICTION

The following tests have been scheduled on the below project. Those listed **CANNOT** be performed for the reason stated. If alternative samples are available for the restricted tests, please supply details.

Sample details					
Borehole Ref.	Sample Ref.	Depth (m)	Description	Tests restricted	Reason for restriction and comments
BH1004		15.00-16.50	n/a	UCS	No suitable sample throughout the core. Cancel UCS and perform Point Load Test instead.
BH1004		18.00-19.50	n/a	UCS	Sample too short. Recore a 54mm diameter specimen to get a suitable UCS sample.

Checked and Approved by

IT

I Tabios (Head of Department)

Date: 03/06/2024

Project Number:

GEO / 40519

Project Name:

ID MANCHESTER
51019/02

GEOLABS®

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

UNIAXIAL COMPRESSIVE STRENGTH OF ROCK MATERIALS

Sample details				Density				Uniaxial Compression Test (LF0879C (1000kN) compression frame used)							
								Mean after prep.							
Borehole Ref.	Sample Ref.	Depth (m)	Description	MC (%)	Degree of Saturation (%)	Bulk (Mg/m³)	Dry (Mg/m³)	Diameter (mm)	Height (mm)	H/D Ratio	Load at Failure (kN)	UCS (MPa) 3 sig. fig.	Failure Sketch	D. Tested	Remarks
BH1004		13.50-15.00	Weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered	5.0	28.7	2.02	1.92	100.30	211.90	2.1	54.7	6.92		04/06/24	Test Upper 1/3 of Core.
BH1004		16.50-18.00	Weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered	8.2	43.0	2.02	1.87	99.40	208.80	2.1	40.4	5.21		03/06/24	Test Middle 1/3 of Core.
BH1004		18.00-19.50	Weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered	9.7	48.2	2.01	1.83	53.50	112.70	2.1	13.9	6.18		04/06/24	Test Lower 1/3 of Core.

Note: The dimensional requirements of flatness (<0.02 mm), perpendicularity (<0.05 / 50 mm) and straightness (0.3 mm deviation) are all met. Specific Gravity used for Degree of Saturation is assumed unless specified by the client.

Checked and Approved by

IT

I Tabios (Head of Department)

Date: 06/06/2024

Project Number:

GEO / 40519

Project Name:

ID MANCHESTER 51019/02

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ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

UNCONFINED COMPRESSIVE STRENGTH WITH YOUNG'S MODULUS AND POISSON'S RATIO

Borehole Ref.:	BH1004
Sample Ref.:	-
Depth (m):	13.50-15.00

Description:
Weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered

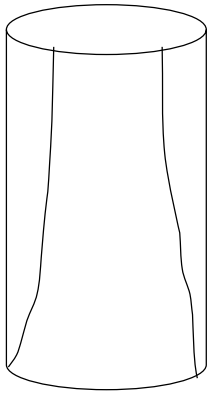
LF0879C (1000kN) compression frame used

Diameter	100.30 mm
Height	211.90 mm
Bulk Density	2.02 Mg/m³
Dry Density	1.92 Mg/m³
Water Content	5.0 %

Degree of Saturation: 28.7 % Specific Gravity: 2.9 Mg/m³ (Assumed)

Failure Sketch

Mode of failure: Axial splitting



Solid lines for material failures.
Dashed lines for apparent weakness failure.

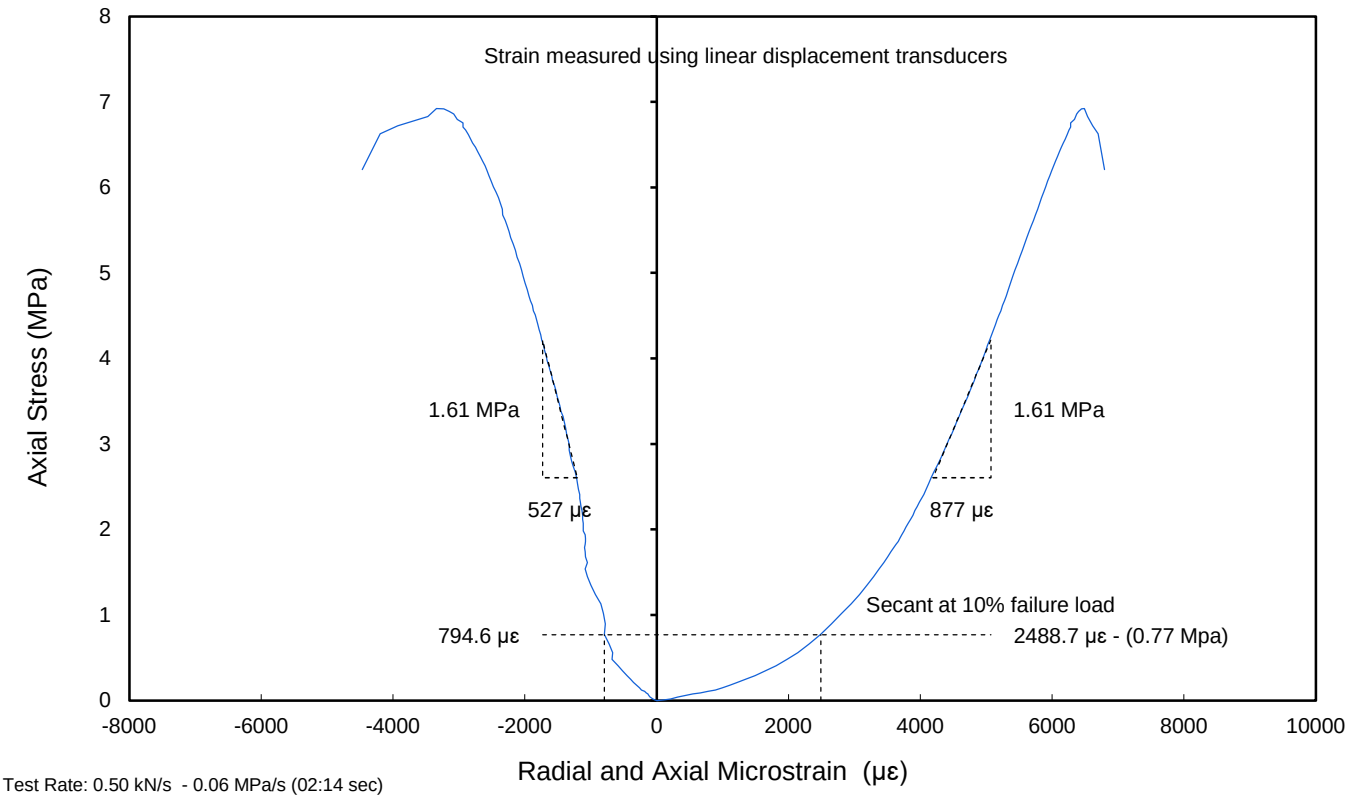
Date tested: 04/06/2024

Angle of foliation/Axis of loading: n/a
Angle of shear plane/Axis of loading: n/a

Sample type	C

Test results

Unconfined Compressive Strength Maximum load (kN): 54.70	6.92 MPa
Young's Modulus (tangential at 50% failure load)	1.84 GPa
Poisson's Ratio (tangential at 50% failure load)	0.60
Young's Modulus (secant at 10% failure load)	0.31 GPa
Poisson's Ratio (secant at 10% failure load)	0.32



Test Rate: 0.50 kN/s - 0.06 MPa/s (02:14 sec)

Remarks: Test Upper 1/3 of Core.

Note: The dimensional requirements of Flatness (<0.02 mm), Perpendicularity (<0.05 / 50 mm) and Straightness (0.3 mm deviation) are all met.

Checked and Approved by

IT

I Tabios (Head of Department)

Date: 06/06/2024

Project Number:

GEO / 40519

Project Name:

ID MANCHESTER
51019/02

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ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

UNCONFINED COMPRESSIVE STRENGTH WITH YOUNG'S MODULUS AND POISSON'S RATIO

Borehole Ref.:	BH1004
Sample Ref.:	-
Depth (m):	16.50-18.00

Description:
Weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered

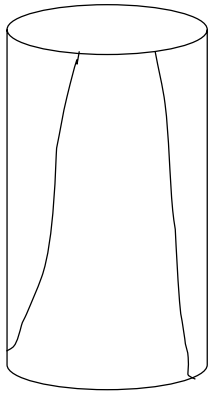
LF0879C (1000kN) compression frame used

Diameter	99.40 mm
Height	208.80 mm
Bulk Density	2.02 Mg/m³
Dry Density	1.87 Mg/m³
Water Content	8.2 %

Degree of Saturation: 43.0 % Specific Gravity: 2.9 Mg/m³ (Assumed)

Failure Sketch

Mode of failure: Axial splitting



Solid lines for material failures.
Dashed lines for apparent weakness failure.

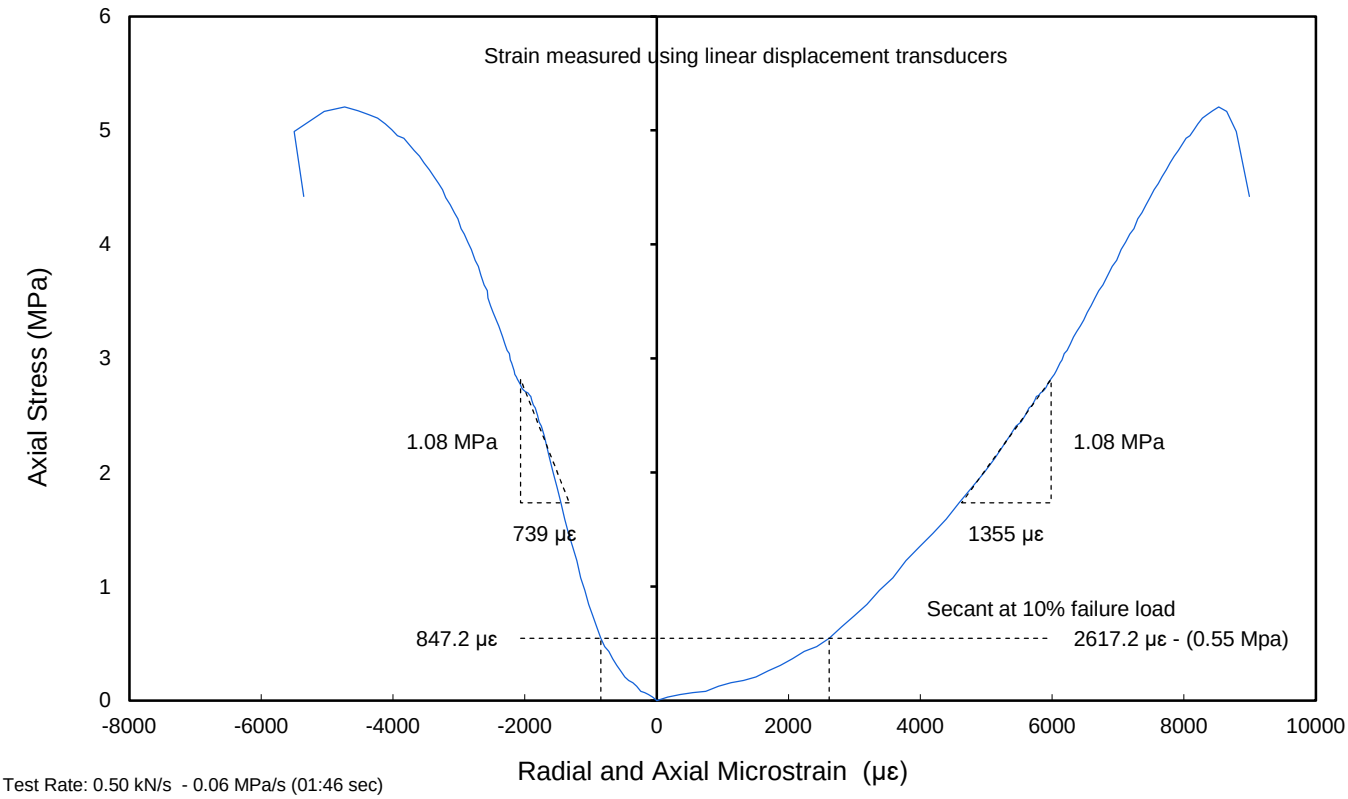
Date tested: 03/06/2024

Angle of foliation/Axis of loading: n/a
Angle of shear plane/Axis of loading: n/a

Sample type	C

Test results

Unconfined Compressive Strength Maximum load (kN): 40.40	5.21 MPa
Young's Modulus (tangential at 50% failure load)	0.799 GPa
Poisson's Ratio (tangential at 50% failure load)	0.55
Young's Modulus (secant at 10% failure load)	0.209 GPa
Poisson's Ratio (secant at 10% failure load)	0.32



Test Rate: 0.50 kN/s - 0.06 MPa/s (01:46 sec)

Remarks: Test Middle 1/3 of Core.

Note: The dimensional requirements of Flatness (<0.02 mm), Perpendicularity (<0.05 / 50 mm) and Straightness (0.3 mm deviation) are all met.

Checked and Approved by

IT

I Tabios (Head of Department)

Date: 06/06/2024

Project Number:

GEO / 40519

Project Name:

ID MANCHESTER
51019/02

GEOLABS®

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

UNIAXIAL COMPRESSIVE STRENGTH OF ROCK MATERIALS

Borehole Ref.:	BH1004
Sample Ref.:	-
Depth (m):	18.00-19.50

Description:
Weak thinly laminated reddish brown fine grained SANDSTONE. Fresh to slightly weathered

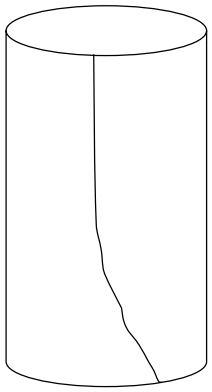
Diameter	53.50 mm
Height	112.70 mm
Bulk Density	2.01 Mg/m³
Dry Density	1.83 Mg/m³
Water Content	9.7 %

Degree of Saturation: 48.2 % Specific Gravity: 2.9 Mg/m³ (Assumed)

LF0879C (1000kN) compression frame used

Failure Sketch

Mode of failure: Diagonal shearing



Solid lines for material failures.
Dashed lines for apparent weakness failure.

Date tested: 04/06/2024

Angle of foliation/Axis of loading: n/a
Angle of shear plane/Axis of loading: n/a

Sample type	C

Test results

Unconfined Compressive Strength Maximum load (kN): 13.90	6.18 MPa
Young's Modulus (tangential at 50% failure load)	n/a
Poisson's Ratio (tangential at 50% failure load)	n/a
Young's Modulus (secant at 10% failure load)	n/a
Poisson's Ratio (secant at 10% failure load)	n/a

Remarks: Test Lower 1/3 of Core.

Note: The dimensional requirements of Flatness (<0.02 mm), Perpendicularity (<0.05 / 50 mm) and Straightness (0.3 mm deviation) are all met.

Checked and Approved by

IT

I Tabios (Head of Department)

Date: 06/06/2024

Project Number:

GEO / 40519

Project Name:

ID MANCHESTER 51019/02

GEOLABS

UKAS TESTING 1982

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web: www.geolabs.co.uk

Civic Earth Limited
Carvers Warehouse
77 Dale Street
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M1 2HG

06 June 2024
Report No : GEO/40520/01

For the attention of Ms K Poore

Date samples received	01/05/2024
Date written instructions received	20/05/2024
Date testing commenced	21/05/2024
Date of sample disposal	**04/07/2024**

Our ref **GEO / 40520**
Your Ref **51019/02**

Project **ID MANCHESTER**

Further to your instructions we have pleasure in enclosing the results of the tests you requested in the attached figures.

LABORATORY TEST REPORT

Item No	Test Quantity	Description
1	3	Particle Size Distribution
2	1	Unconfined Compressive Strength
3	4	Point Load Strength Index

Any opinions or interpretations expressed herein are outside the scope of UKAS accreditation. All results contained in this report are provisional unless signed by an approved signatory. The results contained in this report relate only to samples received in the laboratory and are tested 'as received' unless otherwise stated. This report should not be reproduced, except in full, without the written approval of the laboratory. The results reported are applicable only to the test items received by the laboratory.

All the necessary data required by the documented test procedures has been recorded and will be stored for a period of not less than 6 years. This data will be issued to yourselves at your request. All samples will be disposed of after the date shown above. Written confirmation will be required to retain the samples beyond this period and a storage charge may be applied.

We trust that the above meets your requirements and should you require any further information or assistance, please do not hesitate to contact us.

Yours faithfully
on behalf of **GEOLABS Limited**

S Burke
Senior Technician

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Registered Office: Bucknalls Lane Garston Watford Hertfordshire WD25 9XX Registered in England and Wales No: 3177641

BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

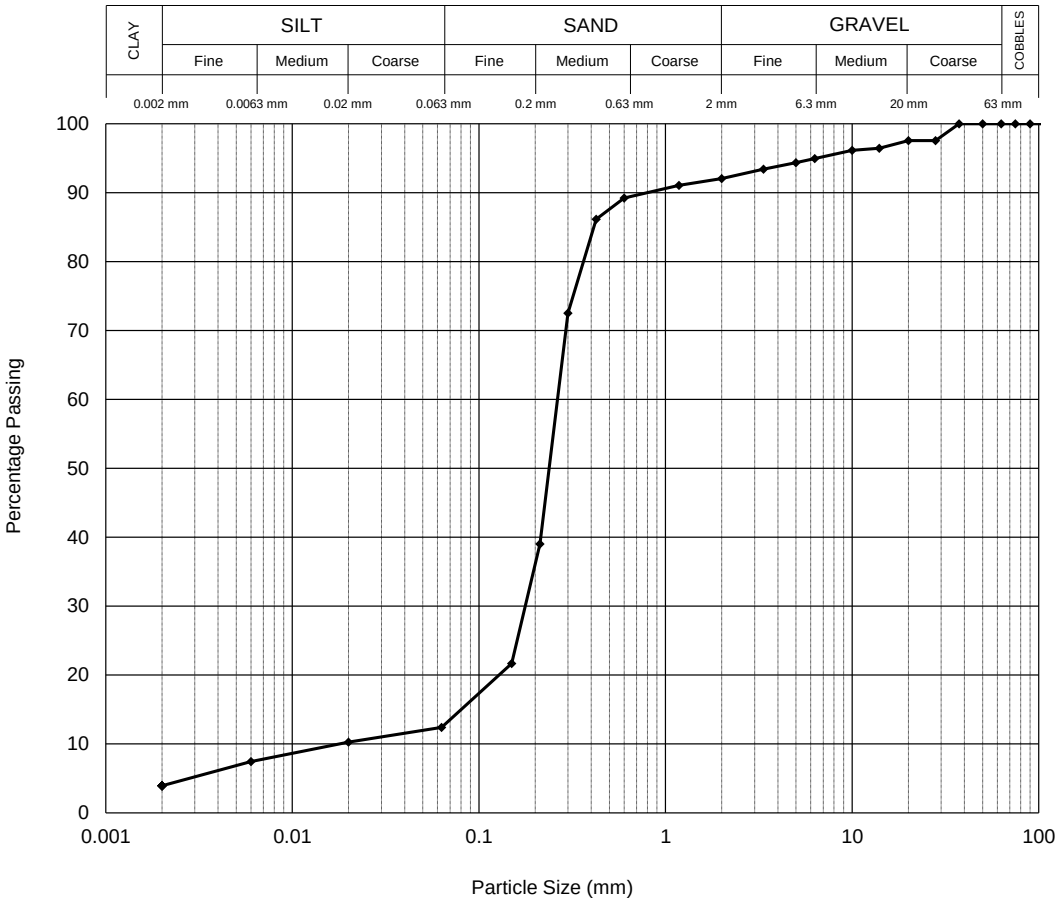
Location	BH1008
Sample Depth	3.00-3.50 m
Sample Type	B

Description

Orangish brown slightly clayey gravelly silty SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve
BS EN ISO 17892-4 : 2016 : Clause 5.4 - Sedimentation by Pipette

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	98
20.0 mm	98
14.0 mm	96
10.0 mm	96
6.30 mm	95
5.00 mm	94
3.35 mm	93
2.00 mm	92
1.18 mm	91
600 µm	89
425 µm	86
300 µm	73
212 µm	39
150 µm	22
63 µm	12



Sedimentation	
No Pre-treatment used	
Temp (°C)	25.0
Size	% Pass
20 µm	10
6 µm	7
2 µm	4

Particle Density 2.70(A) Mg/m³

Particle Proportions	
Cobbles	0.0
Gravel	8.0
Sand	79.6
Silt	8.5
Clay	3.9

Tested by TH
Checked and Approved by

S Burke

S Burke - Senior Technician
06/06/2024

Project Number:

GEO / 40520

Project Name:

ID MANCHESTER
51019/02

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

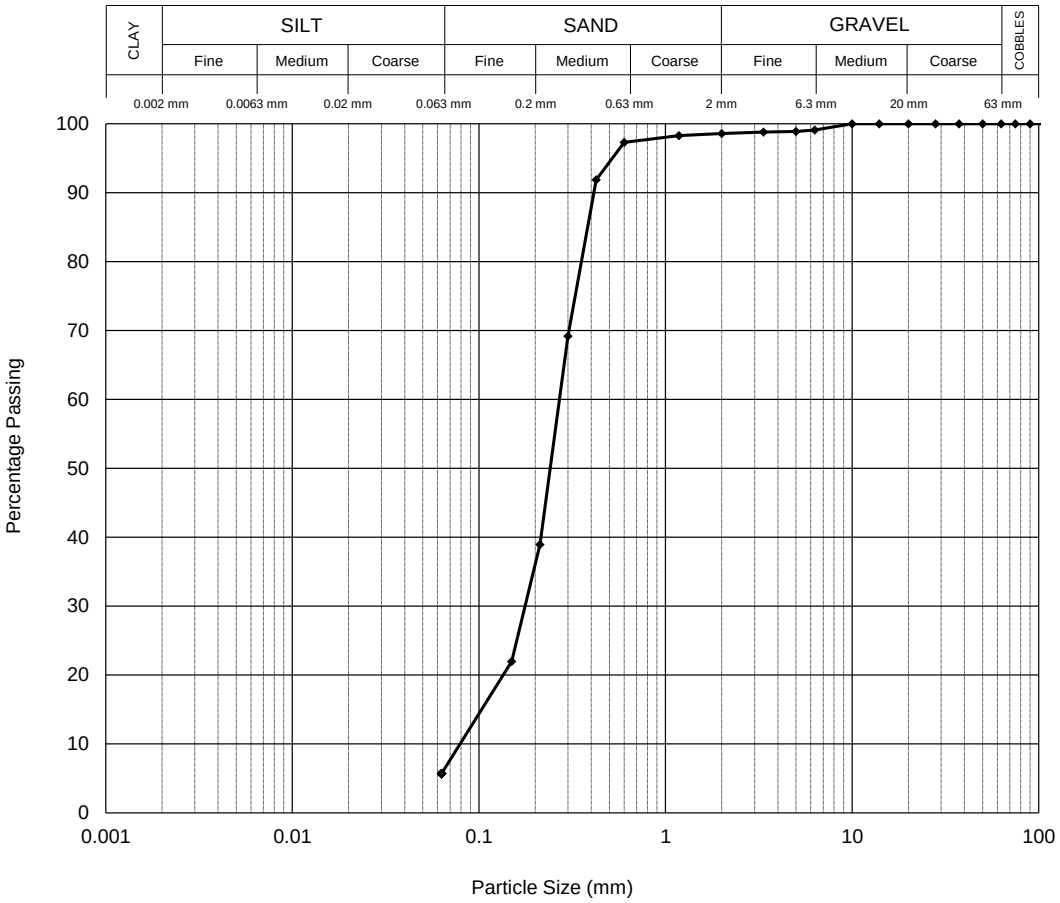
Location	BH1013A
Sample Depth	18.00-19.50 m
Sample Type	B

Description

Orangish brown slightly gravelly silty clayey SAND. Gravel is fine to medium.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	99
5.00 mm	99
3.35 mm	99
2.00 mm	99
1.18 mm	98
600 µm	97
425 µm	92
300 µm	69
212 µm	39
150 µm	22
63 µm	6



Particle Proportions	
Cobbles	0.0
Gravel	1.4
Sand	92.9
Silt & Clay	5.7

Tested by TH
Checked and Approved by

S Burke

S Burke - Senior Technician
06/06/2024

Project Number:

GEO / 40520

Project Name:

ID MANCHESTER
51019/02

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

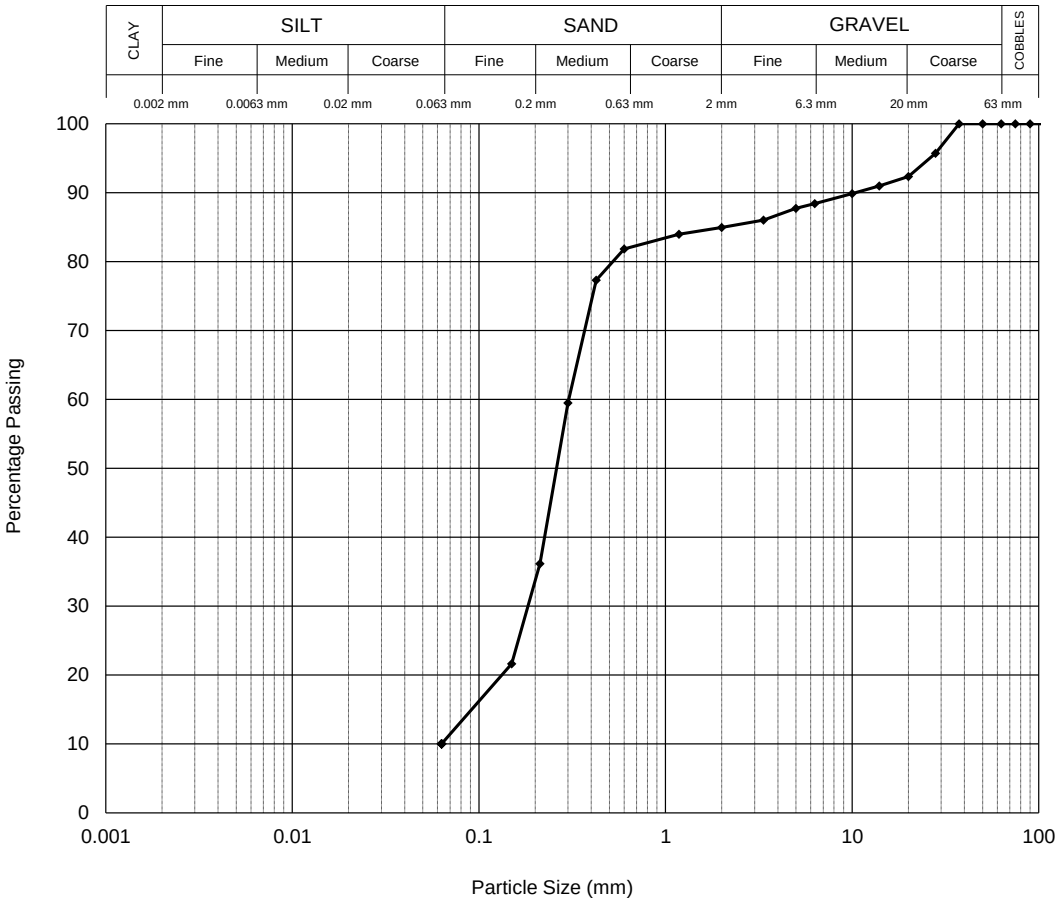
Location	FIP1014
Sample Depth	1.00 m
Sample Type	B

Description

Orangish brown gravelly silty clayey SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	96
20.0 mm	92
14.0 mm	91
10.0 mm	90
6.30 mm	88
5.00 mm	88
3.35 mm	86
2.00 mm	85
1.18 mm	84
600 µm	82
425 µm	77
300 µm	59
212 µm	36
150 µm	22
63 µm	10



Particle Proportions	
Cobbles	0.0
Gravel	15.1
Sand	74.9
Silt & Clay	10.0

Tested by TH
Checked and Approved by

S Burke

S Burke - Senior Technician
06/06/2024

Project Number:

GEO / 40520

Project Name:

ID MANCHESTER
51019/02

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ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006 In-house Technical Procedure TP35

DETERMINATION OF POINT LOAD STRENGTH ON ROCK

Sample details				Point Load test											
Borehole Ref.	Sample Ref.	Depth (m)	Description	D. Tested	Test type & Direction		Sample width W (mm)	Platen separation (mm) Start D	Platen separation (mm) End D'	Water Content (%)	Equiv. Diameter D_e (mm)	Failure Load P (kN)	I_s P/De^2 (MPa)	Correction Factor F	Point Load Index $I_{s(50)}$ (MPa)
BH1008		3.00-4.50	Very weak reddish brown fine to medium grained SANDSTONE. Moderately to highly weathered	04/06/24	D	P	97.8	97.2	96.6		96.9	0.95	0.10	1.35	0.13
BH1008		6.00-7.50	Extremely weak reddish brown fine to medium grained SANDSTONE. Moderately to highly weathered	04/06/24	A	L	98.4	42.8	41.3		71.9	0.22	0.04	1.18	0.05
BH1013A		12.00-13.50	Very weak reddish brown fine to medium grained SANDSTONE. Moderately to highly weathered	04/06/24	D	P	99.1	98.6	97.6		98.1	0.66	0.07	1.35	0.09
BH1013A		15.00-16.50	Very weak reddish brown fine to medium grained SANDSTONE. Moderately to highly weathered	04/06/24	D	P	98.4	97.9	97.3		97.6	0.85	0.09	1.35	0.12

(*) Sample failed on weakness

Test type and direction: **D** - Diametral **A** - Axial **B** - Block **I** - Irregular lump **P** - Perpendicular to planes of weakness **U** - Random or unknown orientation **L** - Parallel to planes of weakness

Checked and Approved by

IT

I Tabios (Head of Department)

Date: 06/06/2024

Project Number:

GEO / 40520

Project Name:

ID MANCHESTER
51019/02

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UKAS TESTING 1982

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

UNIAXIAL COMPRESSIVE STRENGTH OF ROCK MATERIALS

Sample details				Density				Uniaxial Compression Test (LF0879C (1000kN) compression frame used)							
								Mean after prep.							
Borehole Ref.	Sample Ref.	Depth (m)	Description	MC (%)	Degree of Saturation (%)	Bulk (Mg/m³)	Dry (Mg/m³)	Diameter (mm)	Height (mm)	H/D Ratio	Load at Failure (kN)	UCS (MPa) 3 sig. fig.	Failure Sketch	D. Tested	Remarks
BH1008		4.50-6.00	Weak reddish brown fine to medium grained SANDSTONE. Slightly to moderately weathered	8.8	48.5	2.07	1.90	100.20	238.10	2.4	62.6	7.94		03/06/24	Test Middle 1/3 of Core.

Note: The dimensional requirements of flatness (<0.02 mm), perpendicularity (<0.05 / 50 mm) and straightness (0.3 mm deviation) are all met. Specific Gravity used for Degree of Saturation is assumed unless specified by the client.

Checked and Approved by

IT

I Tabios (Head of Department)

Date: 06/06/2024

Project Number:

GEO / 40520

Project Name:

ID MANCHESTER
51019/02

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ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

UNIAXIAL COMPRESSIVE STRENGTH OF ROCK MATERIALS

Borehole Ref.:	BH1008
Sample Ref.:	-
Depth (m):	4.50-6.00

Description:
Weak reddish brown fine to medium grained SANDSTONE. Slightly to moderately weathered

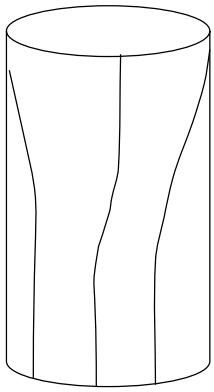
LF0879C (1000kN) compression frame used

Diameter	100.20 mm
Height	238.10 mm
Bulk Density	2.07 Mg/m³
Dry Density	1.90 Mg/m³
Water Content	8.8 %

Degree of Saturation: 48.5 % Specific Gravity: 2.9 Mg/m³ (Assumed)

Failure Sketch

Mode of failure: Axial splitting



Solid lines for material failures.
Dashed lines for apparent weakness failure.

Date tested: 03/06/2024

Angle of foliation/Axis of loading: n/a
Angle of shear plane/Axis of loading: n/a

Sample type	C

Test results

Unconfined Compressive Strength Maximum load (kN): 62.60	7.94 MPa
Young's Modulus (tangential at 50% failure load)	n/a
Poisson's Ratio (tangential at 50% failure load)	n/a
Young's Modulus (secant at 10% failure load)	n/a
Poisson's Ratio (secant at 10% failure load)	n/a

Remarks: Test Middle 1/3 of Core.

Note: The dimensional requirements of Flatness (<0.02 mm), Perpendicularity (<0.05 / 50 mm) and Straightness (0.3 mm deviation) are all met.

Checked and Approved by

IT

I Tabios (Head of Department)

Date: 06/06/2024

Project Number:

GEO / 40520

Project Name:

ID MANCHESTER 51019/02

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Civic Earth Limited
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

13 June 2024
Report No : GEO/40521/01

For the attention of Ms K Poore

Date samples received	01/05/2024
Date written instructions received	20/05/2024
Date testing commenced	21/05/2024
Date of sample disposal	**11/07/2024**

Our ref **GEO / 40521**
Your Ref **51019/02**

Project **ID MANCHESTER**

Further to your instructions we have pleasure in enclosing the results of the tests you requested in the attached figures.

LABORATORY TEST REPORT

Item No	Test Quantity	Description
1	~	Liquid & Plastic Limits Summary
~	5	Water Content
~	4	Liquid & Plastic Limits
2	1	Particle Size Distribution

Any opinions or interpretations expressed herein are outside the scope of UKAS accreditation. All results contained in this report are provisional unless signed by an approved signatory. The results contained in this report relate only to samples received in the laboratory and are tested 'as received' unless otherwise stated. This report should not be reproduced, except in full, without the written approval of the laboratory. The results reported are applicable only to the test items received by the laboratory.

All the necessary data required by the documented test procedures has been recorded and will be stored for a period of not less than 6 years. This data will be issued to yourselves at your request. All samples will be disposed of after the date shown above. Written confirmation will be required to retain the samples beyond this period and a storage charge may be applied.

We trust that the above meets your requirements and should you require any further information or assistance, please do not hesitate to contact us.

Yours faithfully
on behalf of **GEOLABS Limited**

S Burke
Senior Technician

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BS EN ISO 17892-12 : 2018+A2:2022

SUMMARY OF LIQUID AND PLASTIC LIMIT TESTS

Location	Depth m	Sample Ref	Sample Type	Description	Water Content BS EN ISO 17892-1 : 2014 +A1:2022 %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Percentage Passing 425µm %	Atterberg Classification	Test Type	Sample Condition
BH1009	0.70-1.00		B	Brown mottled brownish grey and dark brown slightly sandy gravelly CLAY with rootlets. Gravel is fine to medium. Sand is fine.	26.3	56	22	34	93	CH	2	3
BH1009	1.20-1.65		D	Dark brown silty CLAY.	24.7	43	21	22	100	CI	2	1
BH1009	3.00-3.45		U	Soft to stiff dark brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium.	26.2	33	15	18	98	CL	2	1
BH1009	5.00-5.45		U	Stiff slightly sandy slightly gravelly CLAY. Gravel is fine to medium.	13.6	~	~	~	~	~	~	~
WS1001	3.00	SPT	D	Dark brown slightly gravelly silty CLAY.	18.9	35	23	12	80	CL	2	3

Test Type: 2 - 4 point 80g / 30° fall cone method.

Sample condition: 1 - As Received
2 - Air Dried
3 - Washed & Air Dried

Checked and Approved by:

S Burke

S Burke - Senior Technician
13/06/2024

Project Number:

GEO / 40521

Project Name:

ID MANCHESTER
51019/02

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

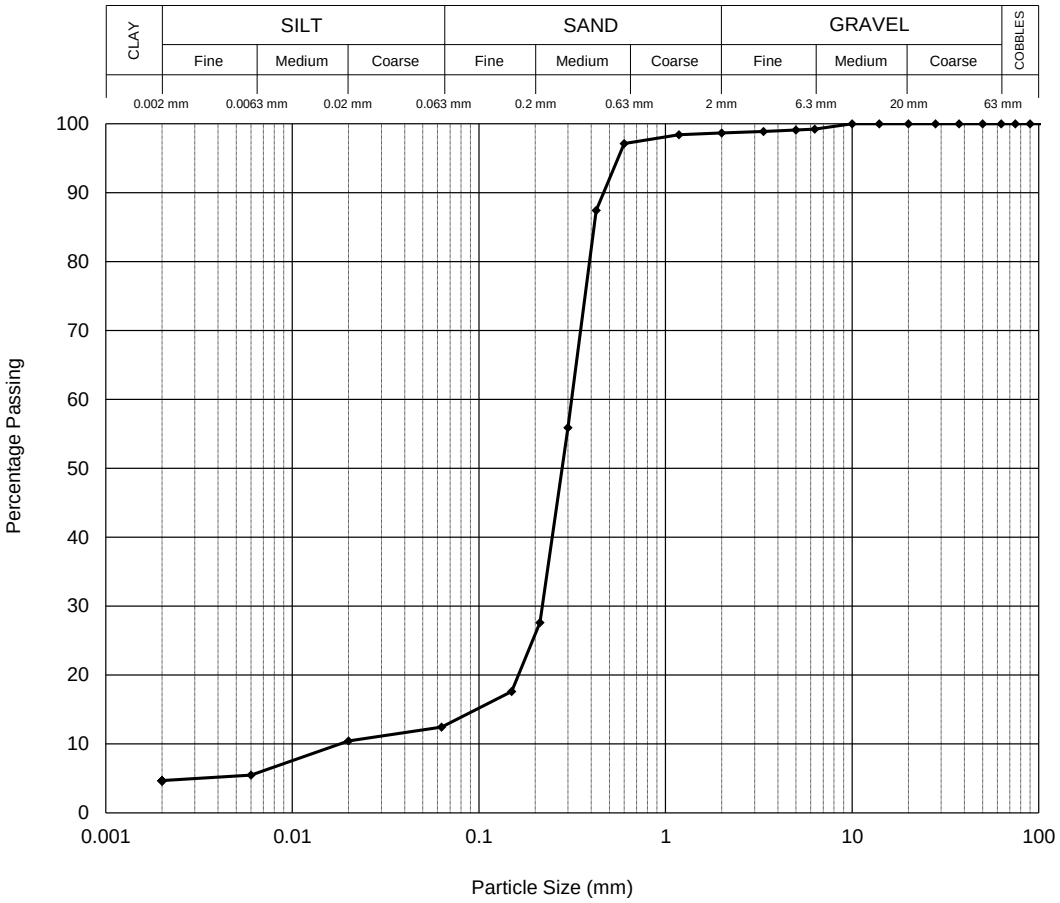
Location	BH1009
Sample Depth	11.50-13.00 m
Sample Type	B

Description

Orangish brown slightly gravelly slightly clayey silty SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve
BS EN ISO 17892-4 : 2016 : Clause 5.4 - Sedimentation by Pipette

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	99
5.00 mm	99
3.35 mm	99
2.00 mm	99
1.18 mm	98
600 µm	97
425 µm	87
300 µm	56
212 µm	28
150 µm	18
63 µm	12



Sedimentation	
No Pre-treatment used	
Temp (°C)	25.0
Size	% Pass
20 µm	10
6 µm	5
2 µm	5

Particle Density 2.70(A) Mg/m³

Particle Proportions	
Cobbles	0.0
Gravel	1.3
Sand	86.2
Silt	7.8
Clay	4.7

Tested by TH
Checked and Approved by

S Burke

S Burke - Senior Technician
13/06/2024

Project Number:

GEO / 40521

Project Name:

ID MANCHESTER
51019/02

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Client	Civic Earth Limited		**TEST RESTRICTION**
Project No.	40521	Date 05/06/2024	
Project Name	**ID MANCHESTER**		

The following tests have been scheduled on the above project and **CANNOT** be performed for the reason stated. If alternative instructions or samples are available for the restricted tests, please supply details.

Laboratory ID	Location	Sample Ref.	Depth (m)		Type	Test(s) Scheduled			Reason for Restriction	Description
625890	BH1009		5.00	5.45	U		UU TXL		Sample fell out of tube in pieces - none suitable to test.	Stiff slightly sandy slightly gravelly CLAY. Gravel is fine to medium.
625889	BH1009		3.00	3.45	U		UU TXL		Sample fell out of tube in pieces - none suitable to test.	Soft to stiff dark brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium.

Comments / remarks		Test restriction raised by ME

Ref. WS 04 - TERE - Issue 1B (12/18)

Civic Earth Limited
Carvers Warehouse
77 Dale Street
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M1 2HG

e: kirsty.poore@civicearth.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
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Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Combined Report - ID Manchester

Project / Site name:	ID Manchester	**Samples received on:**	22/04/2024
Your job number:	51019 02	**Samples instructed on/ Analysis started on:**	24/05/2024
Your order number:	PO-0096	**Analysis completed by:**	29/05/2024
Report Issue Number:	1	**Report issued on:**	03/06/2024
Samples Analysed:	17 soil samples		

Signed: Izabela Wójcik

Izabela Wójcik
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Combined Report - ID Manchester
Project / Site name: ID Manchester
Your Order No: PO-0096

Lab Sample Number				208759	208760	208761	208762	208763
Sample Reference				BH1001	BH1003	BH1005	BH1005	BH1003
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.00-2.50	1.00-1.45	1.00-1.50	2.00-2.45	3.00-3.45
Date Sampled				10/04/2024	09/04/2024	09/04/2024	09/04/2024	09/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	12.8	82.5
Moisture Content	%	0.01	NONE	8.7	18	15	16	6
Total mass of sample received	kg	0.1	NONE	0.4	0.5	0.3	0.4	0.5
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	9.2	8.3	9.5	9.1	8.3
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	36	120	1600	1400	42
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	17.9	57.5	812	720	20.8
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	2	3.9	9.6	10	2.5
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Heavy Metals / Metalloids								
Magnesium (leachate equivalent)	mg/l	2.5	NONE	4.6	5.5	3.1	6.7	3.4
Magnesium (water soluble)	mg/kg	5	NONE	9.1	11	6.3	13	6.7

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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The results included within the report are representative of the samples submitted for analysis.

Analytical Combined Report - ID Manchester
Project / Site name: ID Manchester
Your Order No: PO-0096

Lab Sample Number				208764	208765	208766	208767	210322
Sample Reference				BH1001	BH1001	BH1005	BH1003	BH1002
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				5.00-5.45	6.00-7.50	6.00-6.45	13.50-15.00	2.00-2.45
Date Sampled				10/04/2024	10/04/2024	09/04/2024	10/04/2024	26/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	49.3	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	12	18	16	13
Total mass of sample received	kg	0.1	NONE	0.6	0.4	0.3	0.5	0.2
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8.8	8.5	8.5	8.9	8.6
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	16	15	130	13	57
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	8.14	7.46	63.4	6.57	28.4
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	3	2.4	4.2	4.1	28
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Heavy Metals / Metalloids								
Magnesium (leachate equivalent)	mg/l	2.5	NONE	< 2.5	2.7	4	< 2.5	7.5
Magnesium (water soluble)	mg/kg	5	NONE	< 5.0	5.5	8	< 5.0	15

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Analytical Combined Report - ID Manchester
Project / Site name: ID Manchester
Your Order No: PO-0096

Lab Sample Number				210323	210324	210325	210326	210327
Sample Reference				BH1002	BH1004	BH1004	BH1004	BH1002
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				4.00-4.45	0.70	3.00-3.45	6.00-6.45	5.00-5.45
Date Sampled				26/04/2024	18/05/2024	18/05/2024	18/05/2024	26/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	83.6	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	7.5	12	16	17	6.1
Total mass of sample received	kg	0.1	NONE	0.4	0.6	0.5	0.4	0.5
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	9	11.1	9.1	7.8	9.1
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	53	280	65	150	38
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	26.4	142	32.5	77.2	18.8
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	5.4	20	18	16	5.6
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	3.7	< 2.0	< 2.0	3.6	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	2	< 2.0	< 2.0	2.1	< 2.0
Heavy Metals / Metalloids								
Magnesium (leachate equivalent)	mg/l	2.5	NONE	3.6	< 2.5	2.9	6.2	3
Magnesium (water soluble)	mg/kg	5	NONE	7.1	< 5.0	5.8	12	6.1

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Combined Report - ID Manchester
Project / Site name: ID Manchester
Your Order No: PO-0096

Lab Sample Number				210328	210329
Sample Reference				BH1002	BH1004
Sample Number				None Supplied	None Supplied
Depth (m)				20.50-22.00	9.00-10.50
Date Sampled				07/05/2024	18/05/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	17
Total mass of sample received	kg	0.1	NONE	0.4	0.8

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	9	9.3
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	16	15
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	7.73	7.46
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	5.4	2.7
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	< 2.0

Heavy Metals / Metalloids

Magnesium (leachate equivalent)	mg/l	2.5	NONE	< 2.5	< 2.5
Magnesium (water soluble)	mg/kg	5	NONE	< 5.0	< 5.0

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Analytical Combined Report - ID Manchester
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
208759	BH1001	None Supplied	2.00-2.50	Brown gravely sand with brick and rubble
208760	BH1003	None Supplied	1.00-1.45	Brown clay and sand with gravel
208761	BH1005	None Supplied	1.00-1.50	Brown clay and sand with gravel
208762	BH1005	None Supplied	2.00-2.45	Brown sandy clay with gravel and stones
208763	BH1003	None Supplied	3.00-3.45	Brown sand with gravel and stones
208764	BH1001	None Supplied	5.00-5.45	Brown sand with gravel
208765	BH1001	None Supplied	6.00-7.50	Brown sand with gravel and stones
208766	BH1005	None Supplied	6.00-6.45	Brown sand with gravel and vegetation
208767	BH1003	None Supplied	13.50-15.00	Brown sand
210322	BH1002	None Supplied	2.00-2.45	Brown clay
210323	BH1002	None Supplied	4.00-4.45	Brown clay and sand
210324	BH1004	None Supplied	0.7	Brown sand with brick and stones
210325	BH1004	None Supplied	3.00-3.45	Brown clay and sand with brick
210326	BH1004	None Supplied	6.00-6.45	Brown clay and sand
210327	BH1002	None Supplied	5.00-5.45	Brown clay and sand
210328	BH1002	None Supplied	20.50-22.00	Brown sand
210329	BH1004	None Supplied	9.00-10.50	Brown sand

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Analytical Combined Report - ID Manchester
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES	In-house method based on TRL 447	L038B	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078B	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Combined Report - ID Manchester

Project / Site name: ID Manchester

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH1001	N/A	S	208759	c	Chloride, water soluble, in soil	L082B	c
BH1001	N/A	S	208759	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1001	N/A	S	208759	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1001	N/A	S	208759	c	pH in soil (automated)	L099	c
BH1001	N/A	S	208764	c	Chloride, water soluble, in soil	L082B	c
BH1001	N/A	S	208764	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1001	N/A	S	208764	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1001	N/A	S	208764	c	pH in soil (automated)	L099	c
BH1001	N/A	S	208765	c	Chloride, water soluble, in soil	L082B	c
BH1001	N/A	S	208765	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1001	N/A	S	208765	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1001	N/A	S	208765	c	pH in soil (automated)	L099	c
BH1002	N/A	S	210322	c	Chloride, water soluble, in soil	L082B	c
BH1002	N/A	S	210322	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1002	N/A	S	210322	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1002	N/A	S	210322	c	pH in soil (automated)	L099	c
BH1002	N/A	S	210323	c	Chloride, water soluble, in soil	L082B	c
BH1002	N/A	S	210323	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1002	N/A	S	210323	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1002	N/A	S	210323	c	pH in soil (automated)	L099	c
BH1002	N/A	S	210327	c	Chloride, water soluble, in soil	L082B	c
BH1002	N/A	S	210327	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1002	N/A	S	210327	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1002	N/A	S	210327	c	pH in soil (automated)	L099	c
BH1003	N/A	S	208760	c	Chloride, water soluble, in soil	L082B	c
BH1003	N/A	S	208760	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1003	N/A	S	208760	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1003	N/A	S	208760	c	pH in soil (automated)	L099	c
BH1003	N/A	S	208763	c	Chloride, water soluble, in soil	L082B	c
BH1003	N/A	S	208763	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1003	N/A	S	208763	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1003	N/A	S	208763	c	pH in soil (automated)	L099	c
BH1003	N/A	S	208767	c	Chloride, water soluble, in soil	L082B	c
BH1003	N/A	S	208767	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1003	N/A	S	208767	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1003	N/A	S	208767	c	pH in soil (automated)	L099	c
BH1005	N/A	S	208761	c	Chloride, water soluble, in soil	L082B	c
BH1005	N/A	S	208761	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1005	N/A	S	208761	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1005	N/A	S	208761	c	pH in soil (automated)	L099	c
BH1005	N/A	S	208762	c	Chloride, water soluble, in soil	L082B	c
BH1005	N/A	S	208762	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1005	N/A	S	208762	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1005	N/A	S	208762	c	pH in soil (automated)	L099	c
BH1005	N/A	S	208766	c	Chloride, water soluble, in soil	L082B	c
BH1005	N/A	S	208766	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1005	N/A	S	208766	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1005	N/A	S	208766	c	pH in soil (automated)	L099	c

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Combined Analytical Report - ID Manchester

Project / Site name:	ID Manchester	**Samples received on:**	22/04/2024
Your job number:	51019 02	**Samples instructed on/ Analysis started on:**	24/05/2024
Your order number:	PO-0096	**Analysis completed by:**	29/05/2024
Report Issue Number:	1	**Report issued on:**	03/06/2024
Samples Analysed:	7 soil samples		

Signed: Izabela Wójcik

Izabela Wójcik
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Combined Analytical Report - ID Manchester
Project / Site name: ID Manchester
Your Order No: PO-0096

Lab Sample Number				208803	208804	210339	210340	210341
Sample Reference				BH1012	BH1012	BH1009	WS1001	BH1009
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20-1.70	5.00-5.45	0.30-0.50	5.00	2.00-2.50
Date Sampled				23/04/2024	23/04/2024	24/04/2024	24/04/2024	24/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	26.2	< 0.1	46.9	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	10	13	11	18
Total mass of sample received	kg	0.1	NONE	0.4	0.9	0.7	1	0.8
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.3	8.5	6.9	8.7	8
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	110	45	44	73	130
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	56.7	22.6	21.8	36.3	67
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	3.5	1.4	3.4	5.3	8.2
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	2.7	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Heavy Metals / Metalloids								
Magnesium (leachate equivalent)	mg/l	2.5	NONE	5.9	5.6	4.1	8.5	12
Magnesium (water soluble)	mg/kg	5	NONE	12	11	8.1	17	24

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Combined Analytical Report - ID Manchester
Project / Site name: ID Manchester
Your Order No: PO-0096

Lab Sample Number				210342	210343
Sample Reference				BH1009	BH1009
Sample Number				None Supplied	None Supplied
Depth (m)				4.00-4.50	7.00-8.50
Date Sampled				24/04/2024	02/05/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	4.9
Total mass of sample received	kg	0.1	NONE	0.4	0.6

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.1	9.1
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	130	14
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	65.6	7.19
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	7.6	1.5
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	< 2.0

Heavy Metals / Metalloids

Magnesium (leachate equivalent)	mg/l	2.5	NONE	13	< 2.5
Magnesium (water soluble)	mg/kg	5	NONE	25	< 5.0

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Combined Analytical Report - ID Manchester
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
208803	BH1012	None Supplied	1.20-1.70	Brown loam and clay with vegetation and stones
208804	BH1012	None Supplied	5.00-5.45	Brown clay
210339	BH1009	None Supplied	0.30-0.50	Brown sand with vegetation and stones
210340	WS1001	None Supplied	5	Brown clay with gravel
210341	BH1009	None Supplied	2.00-2.50	Brown clay with gravel
210342	BH1009	None Supplied	4.00-4.50	Brown clay with gravel
210343	BH1009	None Supplied	7.00-8.50	Brown sand

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Combined Analytical Report - ID Manchester
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES	In-house method based on TRL 447	L038B	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078B	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Combined Analytical Report - ID Manchester

Project / Site name: ID Manchester

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH1009	N/A	S	210339	c	Chloride, water soluble, in soil	L082B	c
BH1009	N/A	S	210339	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1009	N/A	S	210339	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1009	N/A	S	210339	c	pH in soil (automated)	L099	c
BH1009	N/A	S	210341	c	Chloride, water soluble, in soil	L082B	c
BH1009	N/A	S	210341	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1009	N/A	S	210341	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1009	N/A	S	210341	c	pH in soil (automated)	L099	c
BH1009	N/A	S	210342	c	Chloride, water soluble, in soil	L082B	c
BH1009	N/A	S	210342	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1009	N/A	S	210342	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1009	N/A	S	210342	c	pH in soil (automated)	L099	c
BH1012	N/A	S	208803	c	Chloride, water soluble, in soil	L082B	c
BH1012	N/A	S	208803	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1012	N/A	S	208803	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1012	N/A	S	208803	c	pH in soil (automated)	L099	c
BH1012	N/A	S	208804	c	Chloride, water soluble, in soil	L082B	c
BH1012	N/A	S	208804	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1012	N/A	S	208804	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1012	N/A	S	208804	c	pH in soil (automated)	L099	c
WS1001	N/A	S	210340	c	Chloride, water soluble, in soil	L082B	c
WS1001	N/A	S	210340	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
WS1001	N/A	S	210340	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
WS1001	N/A	S	210340	c	pH in soil (automated)	L099	c

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Combined Analytical Report ID Manchester

Project / Site name:	ID Manchester	**Samples received on:**	22/04/2024
Your job number:	51019 02	**Samples instructed on/ Analysis started on:**	24/05/2024
Your order number:	PO-0096	**Analysis completed by:**	29/05/2024
Report Issue Number:	1	**Report issued on:**	03/06/2024
Samples Analysed:	12 soil samples		

Signed: Izabela Wójcik

Izabela Wójcik
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Combined Analytical Report ID Manchester
Project / Site name: ID Manchester
Your Order No: PO-0096

Lab Sample Number				208756	208757	208758	210330	210331
Sample Reference				BH1006	BH1015B	BH1006	BH1008	BH1013A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.00-2.45	1.20-1.65	6.00-6.45	0.80-1.00	0.60-0.80
Date Sampled				10/04/2024	12/04/2024	10/04/2024	22/04/2024	11/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	54.7
Moisture Content	%	0.01	NONE	14	19	18	17	4.4
Total mass of sample received	kg	0.1	NONE	0.5	0.7	0.5	0.6	0.7
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.9	7.9	7.8	8.1	9.2
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	230	650	2500	27	83
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	113	327	1260	13.6	41.5
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	8.8	6.5	12	2.9	6.5
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Heavy Metals / Metalloids								
Magnesium (leachate equivalent)	mg/l	2.5	NONE	3.5	20	8.2	3.7	< 2.5
Magnesium (water soluble)	mg/kg	5	NONE	7	41	16	7.4	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Combined Analytical Report ID Manchester
Project / Site name: ID Manchester
Your Order No: PO-0096

Lab Sample Number				210332	210333	210334	210335	210336
Sample Reference				FIP1016	FIP1024	WS1013	WS1014	WS1006
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.50	3.00	2.00	2.50
Date Sampled				25/04/2024	23/05/2024	25/04/2024	25/04/2024	19/04/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	62	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	11	3.2	13	12	7.4
Total mass of sample received	kg	0.1	NONE	0.9	0.5	0.1	0.2	0.5
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	9.7	12.2	8.2	8.3	7.8
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	1600	25	210	65	13
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	800	12.6	105	32.5	6.65
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	9.2	4.5	15	3.8	1.4
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	13	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	7.4	< 2.0	< 2.0	< 2.0	< 2.0
Heavy Metals / Metalloids								
Magnesium (leachate equivalent)	mg/l	2.5	NONE	11	< 2.5	6.2	2.9	< 2.5
Magnesium (water soluble)	mg/kg	5	NONE	21	< 5.0	12	5.7	< 5.0

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Combined Analytical Report ID Manchester
Project / Site name: ID Manchester
Your Order No: PO-0096

Lab Sample Number				210337	210338
Sample Reference				BH1008	BH1013A
Sample Number				None Supplied	None Supplied
Depth (m)				3.00-3.45	16.50-18.00
Date Sampled				22/04/2024	02/05/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	5.9	14
Total mass of sample received	kg	0.1	NONE	0.4	0.5
General Inorganics					
pH (L099)	pH Units	N/A	MCERTS	8.7	8.6
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	7.5	12
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	3.73	5.89
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	1.3	3
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	< 2.0
Heavy Metals / Metalloids					
Magnesium (leachate equivalent)	mg/l	2.5	NONE	< 2.5	< 2.5
Magnesium (water soluble)	mg/kg	5	NONE	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Combined Analytical Report ID Manchester
Project / Site name: ID Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
208756	BH1006	None Supplied	2.00-2.45	Brown clay and sand with gravel
208757	BH1015B	None Supplied	1.20-1.65	Brown clay and sand with gravel
208758	BH1006	None Supplied	6.00-6.45	Brown clay and sand with gravel
210330	BH1008	None Supplied	0.80-1.00	Brown loam and clay with gravel and vegetation
210331	BH1013A	None Supplied	0.60-0.80	Brown sandy clay with gravel and stones
210332	FIP1016	None Supplied	0.5	Brown sand with gravel and stones
210333	FIP1024	None Supplied	0.5	Brown sand with metal and gravel
210334	WS1013	None Supplied	3	Brown clay and sand with gravel and brick
210335	WS1014	None Supplied	2	Non Soil.**
210336	WS1006	None Supplied	2.5	Brown sand with gravel
210337	BH1008	None Supplied	3.00-3.45	Brown sand
210338	BH1013A	None Supplied	16.50-18.00	Brown sand

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Combined Analytical Report ID Manchester
Project / Site name: ID Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES	In-house method based on TRL 447	L038B	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078B	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
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**Unaccredited sample matrix

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Combined Analytical Report ID Manchester

Project / Site name: ID Manchester

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH1006	N/A	S	208756	c	Chloride, water soluble, in soil	L082B	c
BH1006	N/A	S	208756	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1006	N/A	S	208756	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1006	N/A	S	208756	c	pH in soil (automated)	L099	c
BH1006	N/A	S	208758	c	Chloride, water soluble, in soil	L082B	c
BH1006	N/A	S	208758	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1006	N/A	S	208758	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1006	N/A	S	208758	c	pH in soil (automated)	L099	c
BH1008	N/A	S	210330	c	Chloride, water soluble, in soil	L082B	c
BH1008	N/A	S	210330	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1008	N/A	S	210330	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1008	N/A	S	210330	c	pH in soil (automated)	L099	c
BH1008	N/A	S	210337	c	Chloride, water soluble, in soil	L082B	c
BH1008	N/A	S	210337	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1008	N/A	S	210337	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1008	N/A	S	210337	c	pH in soil (automated)	L099	c
BH1013A	N/A	S	210331	c	Chloride, water soluble, in soil	L082B	c
BH1013A	N/A	S	210331	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1013A	N/A	S	210331	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1013A	N/A	S	210331	c	pH in soil (automated)	L099	c
BH1015B	N/A	S	208757	c	Chloride, water soluble, in soil	L082B	c
BH1015B	N/A	S	208757	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
BH1015B	N/A	S	208757	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
BH1015B	N/A	S	208757	c	pH in soil (automated)	L099	c
FIP1016	N/A	S	210332	c	Chloride, water soluble, in soil	L082B	c
FIP1016	N/A	S	210332	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
FIP1016	N/A	S	210332	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
FIP1016	N/A	S	210332	c	pH in soil (automated)	L099	c
WS1006	N/A	S	210336	c	Chloride, water soluble, in soil	L082B	c
WS1006	N/A	S	210336	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
WS1006	N/A	S	210336	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
WS1006	N/A	S	210336	c	pH in soil (automated)	L099	c
WS1013	N/A	S	210334	c	Chloride, water soluble, in soil	L082B	c
WS1013	N/A	S	210334	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
WS1013	N/A	S	210334	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
WS1013	N/A	S	210334	c	pH in soil (automated)	L099	c
WS1014	N/A	S	210335	c	Chloride, water soluble, in soil	L082B	c
WS1014	N/A	S	210335	c	Water Soluble Nitrate (2:1) as N in soil	L078	c
WS1014	N/A	S	210335	c	Water Soluble Nitrate (2:1) as N in soil	L078B	c
WS1014	N/A	S	210335	c	pH in soil (automated)	L099	c

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