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Ref:14-768-L4-2

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Dear Lewis,

SUPPLEMENTARY GROUND INVESTIGATION HEYWOOD ROAD, CASTLETON (MAIN DEVELOPMENT SITE)

1. INTRODUCTION

1.1. BACKGROUND

E3P has previously completed intrusive ground investigations at the Site known as Castleton Sidings, located off Heywood Road, Castleton, in Rochdale (Phase I and II Geoenvironmental Assessment, Report Ref: 14-768-R1-3, March 2023). These investigations were completed in the central sector of the ownership boundary (referred to as the Main Development Site) and were completed in three phases as follows:

-  Preliminary site investigation – between 4th and 18th March 2021
-  Additional trial pitting to target / delineate peat identified in preliminary site investigation – 16th June 2021
-  Further rotary probing on 40 m grid to bottom out peat and shallow soil sampling of southwestern Public Open Space (POS) area – between 19th and 28th July 2021

1.2. PREVIOUS REPORTS

1.2.1. E3P – PHASE I & II GEOENVIRONMENTAL SITE ASSESSMENT, CASTLETON SIDINGS, ROCHDALE REF: 14-768-R1-3, DATED MARCH 2023, ON BEHALF OF KELLEN HOMES.

The above-referenced report was previously completed for the Site and should be read in conjunction with this report.

Ground conditions were found to comprise the following general sequence:



- ✿ MADE GROUND to a maximum proven depth of 6.60 m bgl (RO227), comprising black, slightly clayey gravelly medium sand / sandy gravel with mudstone, brick, clinker, coal, and ceramic with less frequent inclusions of metal, shale, glass and timber/wood. Obstructions (reinforced concrete slabs and redundant services) were encountered frequently across the Site, together with visual and olfactory evidence of (hydrocarbon) contamination.
- ✿ Blackish brown pseudo fibrous PEAT was encountered beneath the Made Ground in 26 no. locations, ranging in thickness from 0.20 to 2.60 m thick (CP102), although was predominantly 1.0 m thick or less, and noted to be generally thicker towards the south and west of the Site, and absent in the east (towards the Network Rail Land).
- ✿ Drift deposits comprised alternating SAND/GRAVEL and sandy CLAY and extending to depths in excess of 60.50 m bgl (RB101). Where encountered, shallowest drift deposits were noted to be predominantly granular i.e. medium dense, slightly clayey SAND with occasional gravel, sandy GRAVEL of medium subangular to rounded mudstone and sandstone and/or stiff to very stiff medium to high strength sandy CLAY with occasional gravel of fine to coarse angular to rounded mudstone.
- ✿ Solid geology was not encountered. A nearby BGS borehole indicates a rockhead at circa 81.00 m bgl.

Chemical analysis found exceedances of heavy metals, non-volatile PAH, Naphthalene, toluene, TPH C8-C35 and Mercury in the soils at various locations across the Site (including in the POS area and stockpile in the Network Rail Land) between 0.50 m bgl and 4.90 m bgl. Asbestos in the form of chrysotile (<0.001%wt/wt) has also been identified in TP112 (Main Development Site). Visual and olfactory evidence of hydrocarbon impact was also identified at several locations across Site. A vapour risk assessment was carried out, which concluded a low overall risk from hydrocarbons and S/VOCs, except in the vicinity of WS110 (in the east of the Main Development Site).

High concentrations of Naphthalene and aromatic hydrocarbon fractions have been encountered in water samples from WS105 in the centre west of the Site. Water samples taken from surrounding boreholes to the north west (WS101 and RO223) and west (RO221) of WS105 contained elevated heavy metal concentrations (copper, nickel and zinc), but did not identify elevated volatile compounds, thus indicating no significant migration of volatile contamination. An M-BAT assessment concluded a low overall risk to surface water networks and aquatic life. Further analysis of the surface water in the peripheral (accessible) drainage ditches is recommended as groundworks progress, to ensure no future mobilisation of contaminants is caused, which may pose a risk to the nearby Roeacre Brook.

In consideration of the nature of the Site, historical land uses, and prevalence of S/VOC impacted soils (albeit generally low vapour risk), E3P consider that gas protection measures in accordance with a CS2 (NHBC Amber 1) classification should be incorporated in all residential properties constructed at the Site.

The Arley Coal seam is conjectured to subcrop beneath the north east of the site, dipping to the west (away from the Network Rail Land). A nearby BGS borehole indicates drift deposits to extend to circa 80 m bgl. Verbal consultation with the Coal Authority indicated that, due to the depth of the seam, they do not consider it likely that the seam has been worked. Two ~60.0 m deep rotary boreholes were advanced within the identified development high risk areas. Rockhead was not proven due to extensive drift and difficulties drilling at depth leading to termination of the boreholes at circa 60.0 m bgl in granular drift. No evidence of shallow coal seams or historic shallow coal workings was recorded and the resultant risks from coal



The following further works were recommended:

- ✳ Additional investigation required adjacent to the live railway along the southern boundary subject to agreement and permit from Network Rail where access was previously limited due to uneven ground and obstructions.
- ✳ Further investigation/delineation of soils impacted with volatiles or with obvious olfactory/visual evidence of potential hydrocarbon or volatile impact.
- ✳ Further assessment of Mercury in soils is also recommended on a site wide basis. This testing should be supplemented by speciation to determine the spread and level of elemental (volatile) Mercury present in the soils to fully appraise the risk to end users and potentially zone the site into discrete areas requiring further assessment/delineation.
- ✳ In addition to the above, Kellen Homes and the chosen remediation contractor requested additional investigation to understand the depth of foundations of relict platforms and structural slabs and the thickness of hardstanding and ballast blankets across the site, in order to quantify the volume of recoverable/reusable aggregate.

E3P were therefore instructed to complete supplementary ground investigation works on-site in line with the above objectives.

1.3. CURRENT AND HISTORIC LAND USE

The site is a roughly rectangular shaped parcel of land to the south of Heywood Road in Rochdale and to the west of Castleton railway station. Live railway lines are present along the southern site boundary and the site itself forms derelict railway sidings open to the adjacent active railway.

The land to the west falls within a designated area of greenbelt (now referred to as the POS Area – refer to report ref: 14-767-L3, December 2022 for specific site investigations), and the land to the east falls within an area of network rail operated land (refer to report ref: 14-767-L3, December 2022 for specific site investigations).

All former structures except for a raised railway platform in the south east of the site have been removed. A void is evident beneath the former platform. Track sidings, ballast, and relict hardstanding and concrete slabs remain across the site and self-seeded vegetation and young trees have now grown across the site and along the periphery.

Historically, the site comprise agricultural land (1851) with the railway shown to be present along the southern boundary and brick kiln/clay pits encroaching the northwest of the subject site. By 1893, the site was in use as railway sidings with an engineering stores and saw mills with chimneys located in the west (extending off-site into the designated POS area). Ancillary structures encroached the western sector together with wetlands/possible marshes encroaching the central northern sector. Tanks and a gasometer are later shown in the centre north and north east respectively, together with an earth working/embankment in the centre of the site, which moves north over time (likely associated with raising levels to create a level platform for expansion of the railway sidings). By 1956 the engineering works / sawmill had been removed and by 1970s a welding shop, travelling crane, engineering shed, electricity substation and tanks are indicated to be present on-site.



1.3.1. PROPOSED DEVELOPMENT

- Full planning application for residential development, including access, car parking, landscaping, open space and associated engineering and infrastructure including an electric substation and foul water pump station.
- Outline planning permission with all matters reserved for the principle of development to facilitate the East Lancashire Railway (ELR) extension.

FIGURE 1.1 **SNAPSHOT OF PROPOSED DEVELOPMENT**

ACCOMMODATION SCHEDULE
Castleford Millage

Category	Item	Area	Count	Area	Count	Area	Count
Total	Overall	1000	1000	1000	1000	1000	1000
	Residential	800	800	800	800	800	800
	Commercial	100	100	100	100	100	100
	Public Open Space	100	100	100	100	100	100
Residential	1 Bed	100	100	100	100	100	100
	2 Bed	200	200	200	200	200	200
	3 Bed	300	300	300	300	300	300
	4 Bed	100	100	100	100	100	100
	5 Bed	50	50	50	50	50	50
	6 Bed	20	20	20	20	20	20
	7 Bed	10	10	10	10	10	10
	8 Bed	5	5	5	5	5	5
	9 Bed	2	2	2	2	2	2
	10 Bed	1	1	1	1	1	1
Commercial	Office	50	50	50	50	50	50
	Retail	50	50	50	50	50	50
	Food & Drink	50	50	50	50	50	50
	Other	50	50	50	50	50	50
Public Open Space	Park	50	50	50	50	50	50
	Playground	50	50	50	50	50	50
	Other	50	50	50	50	50	50
	Total	1000	1000	1000	1000	1000	1000



2. SUPPLEMENTARY GROUND INVESTIGATION

2.1. GENERAL OVERVIEW

A supplementary phase of ground investigation has been designed based on the previous investigative works with exploratory hole locations advanced to further investigate the ground conditions, delineate locations of hydrocarbon and VOCs/SVOCs impact, retrieve environmental samples for mercury speciation and investigate platform bases/foundations.

2.2. LIMITATIONS

The following limitations constrained the extent and coverage of intrusive investigation:

- ✳ A live railway forms the southern boundary of the site. A 15 m easement was applied from the railway to prevent any disturbance/vibration to infrastructure.
- ✳ A degree of vegetation clearance and ground levelling/track removal was required in the south of the site to ensure the dynamic sampling rig had full unrestricted access to areas that were previously obstructed.
- ✳ Elsewhere, exploratory holes were advanced in accessible areas of clearing.

2.3. SUMMARY OF SUPPLEMENTARY GROUND INVESTIGATION

Exploratory fieldwork was completed between October 11th 2022 and October 14th 2022. The works are summarised in Table 2.1.



TABLE 2.1 SUMMARY OF FIELDWORK

POTENTIAL SOURCE/RATIONALE	LOCATION HOLE	TYPE	MAXIMUM DEPTH (m bgl)
Hotspots for Hydrocarbon and VOC impact delineation	TP211 (N, S, Ex4, W)	Mechanically Excavated Trial Pit	3.30
	WS104 (Nx2, Ex3, Wx2 and Sx2)		3.50
	WS105 (N, S, E and W)		4.20
	TP116 (N, S, E and W)		1.80
Hotspot for Naphthalene delineation	WS106b (N, S, E and W)		1.00
Trial Pit to retrieve environmental sample for Mercury Speciation at locations previously found in exceedance	TP213a	Mechanically Excavated Trial Pit	0.60
	TP207a		0.60
	TP211a		0.90
	WS112a		1.00
	WS113a		2.20
	WS114b		1.70
	TP201a		0.60
	TP116a		1.20
Investigation of Vertical and Lateral Extent of Peat Deposits	R0301–R0308	Rotary Borehole	10.00
Investigation of Platform bases and Foundations	TP301–TP309	Mechanically Excavated Trial Pit	2.70

Mechanically excavated trial pits were advanced to investigate ground conditions, complete delineation of visual/olfactory evidence of hydrocarbon and VOC/SVOCs hotspots, investigate platform bases/foundations and to retrieve environmental samples for mercury speciation where Mercury was encountered in the former ground investigations.

Additional shallow rotary boreholes with dynamic sampling were advanced to 10.00 m bgl, to assess the vertical and lateral extent of deep peat / organic deposits beneath the development area.

The sampling locations are illustrated in Drawing 14-768-105. The ground conditions encountered are indicated on the logs, which are included in Appendix III.

2.4. LABORATORY ANALYSIS

Selected soil samples were submitted for a range of chemical analysis comprising:



-  Speciated Mercury;
-  pH, total sulphate, water-soluble sulphate (2:1 extract);
-  Total and speciated polycyclic aromatic hydrocarbons (PAHs);
-  Semi volatile organic compounds (SVOC);
-  Volatile organic compounds (VOC);
-  Banded total petroleum hydrocarbon (TPH);
-  BTEX Compounds;
-  Total organic carbon (TOC);
-  Asbestos identification.

I2 Analytical undertook the analytical work and the testing results are included in Appendix VI and discussed in Section 3.

2.5. SUMMARY OF GROUND CONDITIONS

The ground investigation generally confirms the published geology and identifies the strata set out in Table 2.2.

TABLE 2.2 SUMMARY OF STRATA

HOLE	DEPTH TO STRATUM (M BGL)						
	MADE GROUND (TOPSOIL)	MADE GROUND	SAND	CLAYEY SAND	CLAY	SANDY GRAVEL	PEAT
TP116 E	0.00–0.10	0.10–1.60*	–	–	–	–	–
TP116 N	0.00–0.20	0.20–1.50*	–	–	–	–	–
TP116 S	0.00–0.30	0.20–1.30	–	1.30–1.80	–	–	–
TP116 W	0.00–0.40	0.40–1.20*	–	–	–	–	–
TP116a	0.00–0.10	0.10–1.60*	–	–	–	–	–
TP211 E		0.00–2.00	–	–	–	–	2.00–2.40*
TP211 E2	0.00–0.60	0.60–2.40*	–	–	–	–	–
TP211 E3	0.00–0.70	0.70–3.10	–	–	–	–	3.10–3.30*
TP211 E4	0.00–0.80	0.80–3.10	–	–	–	–	3.10–3.30*
TP211 N	–	0.00–2.10*	–	–	–	–	
TP211 S	–	0.00–2.30	2.30–2.60	–	–	–	–



Castleton Sidings, Rochdale (Main Development Site)

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HOLE	DEPTH TO STRATUM (M BGL)						
	MADE GROUND (TOPSOIL)	MADE GROUND	SAND	CLAYEY SAND	CLAY	SANDY GRAVEL	PEAT
TP211 W	–	0.00–2.00	2.00–2.20 (Organic matter)	–	–	–	–
WS104 E	–	0.00–3.20*	–	–	–	–	–
WS104 E2	–	0.00–2.70	–	–	–	–	2.70–3.40
WS104 E3	–	0.00–3.00	–	–	–	–	3.00–3.30
WS104 N	0.00–0.50	0.50–2.70	–	–	–	–	2.70–3.20*
WS104 N2	–	0.00–3.20*	–	–	–	–	–
WS104 S	–	0.00–3.00	–	–	–	–	3.00–3.50*
WS104 S2	0.00–0.70	0.70–2.50*	–	–	–	–	–
WS104 W	–	0.00–3.00	–	–	–	–	3.00–3.30*
WS104 W2	0.00–0.20	0.20–3.30*	–	–	–	–	–
WS105 E	0.00–0.30	0.30–4.20*	–	–	–	–	–
WS105 N	0.00–0.40	–	0.40–3.20	–	–	–	–
WS105 S	0.00–0.70	–	0.70–3.00	–	–	–	–
WS105 W	0.00–0.30	0.30–0.60	0.60–2.40	–	2.40–3.70	–	–
WS106b E	–	0.00–0.50	–	–	–	–	–
WS106b N	–	0.00–0.90	–	–	–	–	–
WS106b S	0.00–0.50	0.50–1.00	–	–	–	–	–
WS106b W	–	0.00–0.70	–	–	–	–	–
RO301	–	0.00–1.60	2.80–7.00	–	7.00–10.00	–	–
RO302	0.00–0.20	0.20–4.50	4.50–6.80	6.80–10.00	–	–	–
RO303	–	0.00–2.60	–	–	2.60–7.20	7.20–10.00	–
RO304	–	0.00–5.30	–	–	6.20–10.00	–	5.30–6.20
RO305	–	0.00–6.40	–	–	7.00–10.00	–	6.40–7.00
RO306	–	0.00–1.30	1.30–5.80	–	5.80–10.00	–	–
RO307	–	0.00–5.60	–	–	5.60–10.00	–	–
RO308	–	0.00–3.70	–	–	3.70–10.00	–	–
TP301	–	0.00–2.50*	–	–	–	–	–
TP302	–	0.00–1.70*	–	–	–	–	–



HOLE	DEPTH TO STRATUM (M BGL)						
	MADE GROUND (TOPSOIL)	MADE GROUND	SAND	CLAYEY SAND	CLAY	SANDY GRAVEL	PEAT
TP303	–	0.00–1.00*	–	–	–	–	–
TP304	–	0.00–1.20*	–	–	–	–	–
TP305	–	0.00–1.20*	–	–	–	–	–
TP306	–	0.00–1.70	–	–	1.70–2.70	–	–
TP307	–	0.00–1.20	–	–	1.20–2.30	–	–
TP308	–	0.00–1.80*	–	–	–	–	–
TP309	–	0.00–2.40*	–	–	–	–	–

Notes

*Base of strata not proven

Exploratory Hole Logs are presented in Appendix V.

2.6. MADE GROUND

MADE GROUND was encountered during this phase of investigation to proven depths of between 0.50 m and 5.60 m bgl (RO307) and remained unproven in 11 locations.

The MADE GROUND material generally comprised dark brown/black, variably clayey gravelly medium sand / sandy gravel with mudstone, brick, clinker, coal, and ceramic with less frequent inclusions of metal, shale, glass and timber/wood. Obstructions (reinforced concrete slabs and redundant services) were encountered occasionally across the Site, together with visual and olfactory evidence of (hydrocarbon) contamination and oily sheens.

The findings are generally consistent with the previous investigation(s) and prove MADE GROUND to be deepest in the east of the site, shallowing to the west.

A depth of Made Ground Plan is presented as Drawing No. 14-768-106 in Appendix III.

2.7. PEAT

Previous phases of investigation encountered blackish brown pseudo fibrous PEAT beneath the Made Ground in 26 no. locations, ranging in thickness from 0.20 to 2.60 m thick (CP102), although predominantly 1.0 m thick or less.

During this phase of investigation, PEAT was encountered beneath the MADE GROUND in an additional 10 no. locations at depths of between 2.00 m and 6.40 m bgl (RO305). The base of the PEAT was proven in only two locations (RO304 and RO305) with thicknesses of 0.90 and 0.60 m respectively.

As per the previous investigations, at each location, the peat was encountered at the base of the Made Ground, inferred to be associated with relict vegetation/organic material that was overfilled to create the railway sidings plateau.



The PEAT, where encountered, is deepest towards the southern site boundary. The thickness of the PEAT is variable across the site, and noted to be thickest in the centre south, south east and west of the site.

A Depth and Thickness of Peat Plan are presented as Drawing No. 14-768-117 in Appendix III.

2.8. DRIFT DEPOSITS

As per the previous investigations, drift deposits were encountered predominantly in the deeper dynamic sampling boreholes due to the extensive depth of MADE GROUND and PEAT deposits.

During this phase of the investigation, natural drift deposits comprised alternating SAND/GRAVEL and sandy CLAY extending to depths in excess of 10.00 m bgl. Where encountered, shallowest drift deposits were noted to be predominantly granular i.e. slightly clayey gravelly SAND, sandy GRAVEL of medium subangular to rounded mudstone and sandstone and/or stiff to very stiff medium to high strength sandy CLAY with occasional gravel of fine to coarse angular to rounded mudstone.

2.9. SOLID GEOLOGY

The solid geology was not encountered during this or previous investigations. A nearby BGS borehole indicates rockhead at circa 81.00 m bgl.

2.10. GROUNDWATER

Groundwater strikes were encountered as seepages. The depth of the seepages are shown on the exploratory hole records in Appendix V and are summarised in Table 2.3.

TABLE 2.3 SUMMARY GROUNDWATER STRIKES

LOCATION	DEPTH TO STRIKE (m)	NOTES
WS104 N	3.00	Moderate seepage in PEAT.
WS104 S	2.90	Moderate seepage in PEAT.
WS104 E2	2.70	Moderate seepage in PEAT.
WS104 N2	3.00	Slow seepage in MADE GROUND.
WS104 S2	2.40	Moderate seepage in MADE GROUND.
WS105 W	2.40	Slow seepage in SAND.
WS105 N	2.70	Moderate seepage in SAND.
WS105 S	2.80	Slow seepage in SAND.
TP211 E	2.30	Moderate seepage in PEAT.
TP211 E3	2.40	Slow seepage in MADE GROUND.



LOCATION	DEPTH TO STRIKE (m)	NOTES
TP211 E4	3.00	Slow seepage in PEAT.
TP211 N	2.00	Moderate seepage in MADE GROUND.

2.11. VISUAL AND OLFACTORY EVIDENCE OF CONTAMINATION

Visual and olfactory evidence of potential contamination has been identified during the supplementary site investigation and these are summarised in Table 2.4.

TABLE 2.4 SUMMARY VISUAL AND OLFACTORY EVIDENCE OF CONTAMINATION

LOCATION	DEPTH (m)	STRATUM	NOTES
TP116 S	1.00-1.80	Made Ground	Slight hydrocarbon odour.
TP211 E	1.60-2.00	Made Ground	Strong hydrocarbon odour and oily sheen.
TP211 E2	1.00-2.00	Made Ground	Strong hydrocarbon odour and oily sheen.
TP211 E3	2.40-3.10	Made Ground	Strong hydrocarbon odour.
TP211 S	1.50-2.00	Made Ground	Slight hydrocarbon odour.
TP211 W	1.00-2.00	Made Ground	Slight hydrocarbon odour.
TP302	1.20-1.70	Made Ground	Slight hydrocarbon odour.
WS104 E	2.40-3.00	Made Ground	Very strong hydrocarbon odour and black sheen.
WS104 E2	2.50-2.70	Made Ground	Strong hydrocarbon odour and oily sheen.
WS104 E3	2.70-3.00	Made Ground	Strong hydrocarbon odour.
WS104 N	2.50-2.70	Made Ground	Strong hydrocarbon odour and oily sheen.
WS104 N	3.00-3.20	Made Ground	Strong hydrocarbon odour and oily sheen on groundwater seepage.
WS104 S	2.20-3.00	Made Ground	Strong hydrocarbon odour and oily sheen.
WS104 S2	0.80-1.70	Made Ground	Slight hydrocarbon odour and oily sheen on groundwater seepage.
WS104 W	2.70-3.00	Made Ground	Very strong hydrocarbon odour and black sheen.
WS104 W2	1.00-3.30	Made Ground	Slight hydrocarbon odour.
RO301	1.60-3.50	Made Ground	Strong hydrocarbon odour.



2.12. SIDE STABILITY AND EASE OF EXCAVATION

The sides of the exploratory trial pit excavations appeared to be generally stable during excavation. Deeper excavations and excavations through loose granular MADE GROUND and wet granular deposits were less stable.

The presence of brick and concrete cobbles within the MADE GROUND deposits meant that in certain places, excavation was slow and, in some places, could not be fully penetrated.

2.13. PH AND SULPHATE

Chemical analysis data for pH and soluble sulphate content show that the soils at the Site generally meet Class DS-1, Aggressive Chemical Environment for Concrete Classification (ACEC) AC-1s in accordance with BRE Special Digest 1 (2005).

TABLE 2.5 SUMMARY OF pH AND SULPHATE DATA

LOCATION	DEPTH (m)	SO ₄ IN 2:1 WATER/SOIL (g/l)	pH VALUE	CLASSIFICATION
RB303	0.70	0.084	7.0	DS-1, AC-1s
RO304	2.00	0.11	7.3	DS-1, AC-1s

These results are consistent with results of previous investigations.



3. TIER I QUALITATIVE CONTAMINATED LAND RISK ASSESSMENT

E3P has undertaken a Tier 1 qualitative risk assessment to determine if any potential contaminants within the underlying soils pose an unacceptable level of risk to the identified receptors.

3.1. HUMAN HEALTH RISK ASSESSMENT

At Tier 1 stage, the long term (chronic) human health toxicity of the soil has been assessed by comparing the on-site concentrations of organic and inorganic compounds with reference values published in LQM/CIEH S4UL (S4UL3267) for a proposed **Residential End Use with Plant Uptake and Soil Organic Matter (%) of 6%**.

A SOM of 6% has been adopted on the basis that of the 30 samples analysed for Total Organic Content (TOC), the equivalent SOM (TOC x 1.72) is >6% in 18 samples, and the average SOM for all 30 samples is 8.87%. Furthermore, on initial assessment using 1% SOM, of the 18 samples with contaminant exceedances, 16 samples have an SOM >6% and the remaining two; 4% and 1.4%.

The results of this comparison have been summarised within Table 3.1.

Where Tier 1 screening values are not provided by LQM, other screening values have been used (ATRISK and US EPA) as referenced in Table 3.1.

TABLE 3.1 SUMMARY OF INORGANIC AND HYDROCARBON TOXICITY ASSESSMENT FOR A RESIDENTIAL END USE WITH PLANT UPTAKE (6% SOM)

DETERMINAND	UNITS	GAC	NUMBER	MAX. CONC.	LOC. OF EXCEED-ANCE	PATH WAY	ASSESSMENT
Arsenic	mg/kg	37	2	39	RO304 2.0	1	Further Action
Cadmium	mg/kg	11	2	0.2	N/A	1	No Further Action
Chromium (VI)	mg/kg	6.1	2	1.8	N/A	1	No Further Action
Lead	mg/kg	200	2	460	RO304 2.0	1	Further Action
Elemental Mercury	mg/kg	1.2	9	2.176 5.957	WS112 1.0 RO304 2.0	2	Further Action
Nickel	mg/kg	130	2	46	N/A	1	No Further Action
Selenium	mg/kg	250	2	1	N/A	1	No Further Action
Copper	mg/kg	2400	2	260	N/A	1	No Further Action
Zinc	mg/kg	3700	2	370	N/A	1	No Further Action
Cyanide - Total	mg/kg	791	2	15	N/A	1	No Further Action
Phenols - Total.	mg/kg	210	30	24	N/A	1	No Further Action
Asbestos	Fibres	NFD	2	NFD	N/A	4	No Further Action



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DETERMINAND	UNITS	GAC	NUMBER	MAX. CONC.	LOC. OF EXCEED-ANCE	PATH WAY	ASSESSMENT
Naphthalene	mg/kg	13	30	21 490 19 53	TP211E3 1.9 TP211E3 3.1 TP116W 1.2 TP116 S 1.2	3	Further Action
Acenaphthylene	mg/kg	920	30	14	N/A	2	No Further Action
Acenaphthene	mg/kg	1100	30	290	N/A	1	No Further Action
Fluorene	mg/kg	860	30	160	N/A	1	No Further Action
Phenanthrene	mg/kg	440	30	1500	TP116S 1.2	2	Further Action
Anthracene	mg/kg	11000	30	380	N/A	2	No Further Action
Fluoranthene	mg/kg	890	30	1700	TP116S 1.2	2	Further Action
Pyrene	mg/kg	2000	30	1600	N/A	2	No Further Action
Benzo(a)Anthracene	mg/kg	13	30	23 18 84 270 29 100 150 38 18 58 1600	TP211N 1.9 TP211E3 1.9 TP211E3 3.1 WS104N 1.2 WS104N2 3.2 WS104S 1.2 WS104E2 1.4 WS106W 0.6 WS106N 0.6 WS113 2.2 TP116 S 1.2	2	Further Action
Chrysene	mg/kg	27	30	150 34 60 36 830	WS104N 1.2 WS104S 1.2 WS104E2 1.4 WS113 2.2 TP116 S 1.2	2	Further Action
Benzo(b)Fluoranthene	mg/kg	3.7	30	13 4.6 6.1 6.7 4.6 150 23 44 60 17 10 34 7.9	TP211N 1.9 TP211E3 1.9 TP211E3 3.1 TP207 0.6 WS104W 1.4 WS104N 1.2 WS104N2 3.2 WS104S 1.2 WS104E2 1.4 WS106W 0.6 WS106N 0.6 WS113 2.2 TP116N 1.2	2	Further Action



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DETERMINAND	UNITS	GAC	NUMBER	MAX. CONC.	LOC. OF EXCEED-ANCE	PATH WAY	ASSESSMENT
				710 7.7	TP116 S 1.2 RO304 2.0		
Benzo(k)Fluoranthene	mg/kg	100	30	520	TP116 S 1.2	2	Further Action
Benzo(a)Pyrene	mg/kg	3	30	15 5.3 17 5.8 3.5 180 14 38 62 20 11 34 3.1 6.4 860 6.2	TP211N 1.9 TP211E3 1.9 TP211E3 3.1 TP207 0.6 WS104W 1.4 WS104N 1.2 WS104N2 3.2 WS104S 1.2 WS104E2 1.4 WS106W 0.6 WS106N 0.6 WS113 2.2 WS114 1.7 TP116N 1.2 TP116 S 1.2 RO304 2.0	2	Further Action
Indeno(123-cd)Pyrene	mg/kg	41	30	53 330	WS104N 1.2 TP116 S 1.2	2	Further Action
Dibenzo(a,h)Anthracene	mg/kg	0.3	30	2.1 0.3 0.8 0.5 19 2.1 5.0 6.5 2.9 1.5 5.0 0.58 0.43 0.86 100 1.1	TP211N 1.9 TP211E3 1.9 TP207 0.6 WS104W 1.4 WS104N 1.2 WS104N2 3.2 WS104S 1.2 WS104E2 1.4 WS106W 0.6 WS106N 0.6 WS113 2.2 WS114 1.7 TP116W 1.2 TP116N 1.2 TP116 S 1.2 RO304 2.0	2	Further Action
Benzo(ghi)Perylene	mg/kg	350	30	390	TP116 S 1.2	2	Further Action
TPH C5-C6 (aliphatic)*	mg/kg	160	28	1.0	N/A	3	No Further Action
TPH C6-C8 (aliphatic)*	mg/kg	530	28	0.1	N/A	3	No Further Action
TPH C8-C10 (aliphatic)*	mg/kg	150	28	0.1	N/A	3	No Further Action



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DETERMINAND	UNITS	GAC	NUMBER	MAX. CONC.	LOC. OF EXCEED-ANCE	PATH WAY	ASSESSMENT
TPH C10-C12 (aromatic)*	mg/kg	380	28	250	TP116 S 1.2	3	Further Action
TPH C12-C16 (aromatic)*	mg/kg	660	28	3100	TP116 S 1.2	3	Further Action
TPH C16-C21 (aromatic)*	mg/kg	930	28	1400 990 12000	WS104N 1.2 WS104S 1.2 TP116 S 1.2	1	Further Action
TPH C21-C35 (aromatic)*	mg/kg	1700	28	2500 15000	WS104N 1.2 TP116 S 1.2	1	Further Action
Benzene	mg/kg	0.37	28	0.25	N/A	4	No Further Action
Toulene	mg/kg	660	28	3.0	N/A	4	No Further Action
Ethylbenzene	mg/kg	260	28	1.7	N/A	4	No Further Action
O-Xylene	mg/kg	330	28	0.96	N/A	4	No Further Action
M-Xylene	mg/kg	320	28	2.0	N/A	4	No Further Action
P-Xylene	mg/kg	310	28	2.0	N/A	4	No Further Action
1,3,5-trimethylbenzenex	mg/kg	810	28	0.26	N/A	4	No Further Action
1,2,4-trimethylbenzene^	mg/kg	2.02	28	0.8	N/A	4	No Further Action
2-methylNaphthalenex	mg/kg	720	28	0.24	N/A	4	No Further Action
Dibenzofuranx	mg/kg	230	28	0.11	N/A	4	No Further Action
Carbazole	mg/kg	N/A	28	0.073	TP116S ⁺	4	No Further Action ⁺
Anthraquinonex	mg/kg	380	28	0.087	N/A	4	No Further Action
Styrene^	mg/kg	11.5	28	0.052	N/A	4	No Further Action
Isopropylbenzene^	mg/kg	46.9	28	0.13	N/A	4	No Further Action
n-Propylbenzene^	mg/kg	110	28	0.054	N/A	4	No Further Action
sec-Butylbenzenex	mg/kg	23000	28	0.014	N/A	4	No Further Action
2-Methylphenol^	mg/kg	93.7	28	0.099	N/A	4	No Further Action
4-Methylphenol^	mg/kg	92.2	28	0.27	N/A	4	No Further Action
2,4-Dimethylphenol^	mg/kg	21.2	28	0.37	N/A	4	No Further Action
Butyl benzyl phthalate^	mg/kg	1540	28	0.0007	N/A	4	No Further Action
Dibutyl phthalate^	mg/kg	14.2	28	0.0007	N/A	4	No Further Action

Notes

PL1 = soil ingestion, PL2 = dermal contact and ingestion, PL3 = dust inhalation; PL4 = Vapour/Gas Inhalation; PL5 = Vertical / Lateral Migration; PL6 = Corrosion of concrete; PL7=Tainting of water supply; PL8 = Uptake by plants



Abbreviations: GAC = general assessment criteria, n = number of samples, MC = maximum concentration; Loc of Ex = location of exceedance; NFD = no fibres detected.

* The Tier 1 GAC for the hydrocarbon fraction is derived from the CIEH assessment for petroleum hydrocarbons Criteria Working Group (CWG) for both aliphatic and aromatic compounds. E3P has utilised the Tier 1 values for aliphatic compounds for the volatile and semi volatile fractions (C5-C12) and the Tier 1 values for aromatic compound for the non-volatile fractions (C12-C35). The comparison of a total (aliphatic/aromatic) compounds to an individual fraction is considered to be a conservative approach and satisfactory for the protection of human health.

^ Derived from ATRISK Soil SSVs for Residential without Plant Uptake (1% SOM)

× Derived from US EPA Risk Management Levels for Residential Soil.

† Further discussion required.

3.1.1. SUMMARY OF RESULTS

Referring to Table 3.1, the result of this direct comparison indicates that the data exceeds the screening chosen GAC values for a residential end use for the following contaminants:

 Heavy Metals:

- Arsenic

 Non-Volatile PAH:

- Phenanthrene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3cd)pyrene, Dibenz(a,h)anthracene, Benzo(ghi)perylene.

 Petroleum Hydrocarbon Fractions

- C10-C35 Aromatic (potentially volatile in C5-C16 range)

 Volatile contaminants

- Elemental Mercury[†] and Naphthalene

Asbestos was not detected in the 2 samples analysed.

The locations of contaminant exceedances are shown on Drawing no. 14-768-018 in Appendix III.



In relation to these exceedances, the following can therefore be determined:

 The main exposure pathways based on the Tier I exceedances are:

- Soil ingestion;
- Vapour inhalation (indoor);
- Dermal contact and ingestion; and,
- Consumption of homegrown vegetables

Locations of contaminant exceedances are shown on Drawing no. 14-768-118 (Appendix III).

3.1.2. DISCUSSION

HEAVY METALS, NON-VOLATILE PAH AND INORGANICS

The risk to chronic human health associated with the elevated concentrations on inorganic heavy metals and non-volatile PAH compounds can be mitigated through the installation of a suitable cover system. Given the widespread distribution of the contamination encountered during this and the previous phases of investigation, the cover system would be required in all proposed private gardens, landscaping, and public open space to remove any potential for direct exposure to impacted soils.

The specific design and installation process for the appropriate cover systems will be clearly defined within the site remediation and enabling works strategy.

Asbestos has not been encountered during this phase of works and has previously only been identified within a localised area in shallow Made Ground at TP112 (<0.001% wt/wt) located in the west of the development area. No visual signs of ACM have been encountered.

Asbestos impacted Made Ground soils should be managed in accordance with the E3P asbestos risk mitigation conceptual site model shown in Figure 3.1. In this instance, the risks can be mitigated by placing the impacted soil from TP112 beneath a 600 mm clean cover system in garden/landscaped areas or placed at 1.0 m beneath plots.



FIGURE 3.1 ASBESTOS RISK MITIGATION CONCEPTUAL SITE MODEL



Notes

ND None Detected

0.001% Soils may contain $\leq 0.001\%$ asbestos using composite testing to ensure there is no potential risk to human health. This value is present within areas where there may be a short-term low-level exposure of soils containing trace asbestos fibres by construction workers where an appropriate level of asbestos management is employed (dust suppression)

0.1% Soils at a depth of $>1.00\text{m}$ bgl may contain $<0.1\%$ asbestos using composite testing where they will not be likely to be disturbed in the future and will therefore be in an area of low sensitivity. Risk assessment completed in accordance with Asbestos JIWG risk assessment tools.

Undefined- this will be dependent upon soils encountered during earthworks, which may be placed at these depths to ensure no potential risk to human health.

SEMI / VOLATILE ORGANIC COMPOUNDS (S/VOC)

Volatile contaminants have also previously been detected at concentrations in exceedance of GAC values at numerous locations across the main development area, including Naphthalene (with a maximum concentration 10000 mg/kg in TP211 at 1.90 m bgl) and TPH C8-16 (with a maximum concentration also detected in TP211 at 1.90 m bgl). These volatile contaminants were prevalent in the north eastern sector of the site, where aerial imagery from 2000 suggests was used as a gravelled goods/maintenance yard (gravel appears black and stained, possibly from fuel spillage), and also in the south west of the site in the location of a former travelling crane, tanks and gasometer. The identified VOCs are typical derivatives of oil and petroleum products and it is thus inferred that localised spillage / leakage has occurred at these locations.

In these areas, further 'delineation' trial pitting has been undertaken to determine the extent of visual and olfactory evidence of hydrocarbon/volatile contamination. Again, chemical analysis has confirmed Naphthalene and TPH C8-C16 to be in exceedance of GAC values in a number of these additional locations, with highest concentrations recorded in TP116S at 1.20 m bgl (north east of site) and TP211E3 at 3.10 m bgl (south west of site). It is noted that concentrations of Naphthalene were higher in the sample taken from 3.10 m than 1.90 m in TP211E3 thus indicating downward migration is occurring to deeper soils. In addition, strong odours and sheens were observed in the northerly and easterly TP211 trial pits, indicating impact extends in these directions (albeit reducing based on concentrations recorded).



A previous phase of vapour monitoring conducted in the north east and south west indicated that the soils in the vicinity of WS110 (north east of the site – gravel surfaced goods/maintenance yard) posed a plausible risk from vapour emissions. Monitoring in the south west suggested a reduced risk, however, TP211 was not specifically targeted / assessed.

Additional S/VOCs were also detected above the limit of detection (LOD), as summarised in Table 3.1. ATRISK and USEPA GAC values have been adopted for comparison and no detectable concentrations have been found in exceedance. However, no value has been provided for Carbazole for comparison.

The detectable concentrations of Carbazole range from 0.0004 to 0.073 mg/kg.

Carbazole is a non-threshold substance. Carbazole is a white, crystalline solid. It has a characteristic odour. It is a product of incomplete combustion of organic matter and occurs in petroleum, coal, peat, crude oil and coal tar.

There is no toxicological data available to inform the preparation of a robust site-specific risk-based assessment criteria that would model the potential for ingress of vapour to indoor air.

The US national library for medicine confirms:

Carbazole released to air will also be in or on particles that eventually fall to the ground. It is expected to be broken down by sunlight, depending on environmental conditions. It will not move into air from moist soil and water surfaces.

If released to soil, carbazole can have high to no mobility based upon a Koc range of 114-4980, with most values suggesting low mobility to immobility. Volatilisation from moist soil surfaces is not expected to be an important fate process based upon a Henry's Law constant of 1.16×10^{-7} atm-cu m/mole. Carbazole is not expected to volatilise from dry soil surfaces based upon its vapor pressure.

It is accepted that carbazole is a non-threshold substance, however it will be encapsulated in soils with a temperature in the region of 10°C, furthermore given that it is highly unlikely to move into the ambient air via a vapour phase migratory pathway from a soil or water there cannot be a complete pollutant linkage in this instance.

Based on these low concentrations compared to the GAC values for other similar naphtha compounds, the concentrations are considered minor and unlikely to pose a significant risk to human health in isolation. Furthermore, detectable Carbazole has generally been encountered in areas of the site where other volatile contaminants (e.g. Naphthalene and light end/short chain TPH fractions) are prevalent/in exceedance, and therefore any remedial treatment required for Carbazole would likely be incorporated with treatment for these compounds.

The gross Naphthalene/TPH impact and visually and olfactorily impacted soils (refer to Drawing no. 14-768-118) will require remediation to mitigate long term potential vapour accumulation and migration, odour issues, risk to construction workers/end users and potential future risks to controlled waters. Treatment may include ex situ bioremediation, chemical oxidation and/or soil stabilisation to 'lock in' contaminants where the material remains in-situ. As a precaution, it would be prudent to also incorporate VOC resistant membranes in plots in the areas where the impacted material remains, or is re-placed, to reduce the long term risks to receptors.



ELEMENTAL MERCURY

The previous investigation encountered elevated total Mercury in 10 samples across the main development site. Speciation was completed on two samples initially (TP115 and TP121) to determine the proportion of the volatile elemental Mercury contained and found elemental Mercury in exceedance of the GAC value (1.2 mg/kg) in the sample from TP121 at 1.00 m bgl.

Due to the prevalence of elevated total Mercury (unspeciated) across the site, the other locations in which elevated Mercury was previously found were therefore re-excavated during this supplementary phase of investigation to obtain samples for speciation.

Of the 9 samples analysed, 5 have been found to have concentrations of total Mercury > 1.2 mg/kg. WS112 at 1.00 m bgl and RO304 at 2.00 m bgl were found to contain elemental Mercury > 1.2 mg/kg (2.176 and 5.957 mg/kg respectively).

TP121, WS112 and RO304 may be treated as hotspots for delineation and removal.



4. GEOTECHNICAL ASSESSMENT

4.1. EXISTING FOUNDATIONS AND SLABS

Additional investigation was undertaken to understand the depth of existing foundations of relict platforms and structural slabs, and the thickness of hardstanding across the site, in order to quantify the volume of potentially recoverable/reusable aggregate and understand the founding strata of existing and historic structures.

The extent of foundations encountered within TP301-TP309 are summarised in Table 4.1.

TABLE 4.1 FOUNDATION PITS

TRIAL PIT	NOTES	PHOTO
TP301	Reinforced concrete: GL-0.25 m bgl Sub-base: 0.25 m-0.80 m bgl (Bearing on Made Ground)	
TP302	Concrete slab: GL-0.70 m bgl Sub-base: 0.70 m-1.20 m bgl (Bearing on Made Ground)	



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TRIAL PIT	NOTES	PHOTO
TP303	Reinforced concrete: GL-0.30 m bgl Sub-base: 0.30 m-0.50 m bgl (Bearing on Made Ground)	
TP304	Concrete slab: GL-0.40 m bgl Brick Fill: 0.40 m-1.00 m bgl (Bearing on Made Ground)	
TP305	Concrete slab: GL-0.60 m bgl Concrete step: 0.60 m-1.00 m bgl (Bearing on Made Ground)	



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TRIAL PIT	NOTES	PHOTO
TP306	Concrete slab: GL-0.60 m bgl Concrete Step: 0.60 m-1.00 m bgl (Bearing on Made Ground)	
TP307	Concrete slab: GL-0.70 m bgl Concrete step: 0.70 m-1.20 m bgl (Bearing on Natural Strata)	
TP308	Concrete slab: GL-0.60 m bgl Concrete step: 0.60 m-1.00 m bgl (Bearing on Made Ground)	



TRIAL PIT	NOTES	PHOTO
TP309	Platform thickness above ground level: 1.80 m Sub-base: 0.50–1.00 m bgl (Bearing on Made Ground)	

Indicative foundation cross sections have also been presented in Drawing no. 14-768-120 (Appendix III).

It is noted that in all cases, foundations and slabs appear to be bearing on Made Ground. In some instances, in particular TP309 (exposing the foundation of the railway platform), a 1.00 m thick granular layer was encountered beneath the base of the structure, directly overlying Made Ground with no obvious signs of a subsurface footing. It is considered possible that piled foundations may be present beneath this structure.

Allowances should be made for encountering piled foundations and 'hard spots' beneath areas of former structures during the Made Ground turnover at enabling works stage. If encountered, piles/pile caps would need to be trimmed to a suitable level so not to interact with the new foundations and their locations would need to be accurately surveyed in order to design new piled foundation/stone column arrangements in a manner that does not result in any conflict with the relict piles.

4.2. TRACK BALLAST

A general assessment of the thickness of ballast across the site was also requested in order to quantify the volume of potentially recoverable/reusable aggregate.

A summary of the location and thickness of ballast blankets encountered is presented in Table 4.2.



TABLE 4.2 SUMMARY OF BALLAST THICKNESS

EXPLORATORY HOLE	THICKNESS (M)	PHOTO
TP211N	1.00	
WS104S2	1.70	
WS105E	0.60	N/A
WS106BS	1.00	



EXPLORATORY HOLE	THICKNESS (M)	PHOTO
WS114A	>0.70	
WS114B	0.30	N/A
RB101	0.60	N/A
RB102	0.50	N/A

Based on the above, a ballast thickness of c. 0.50-1.00 m can be anticipated beneath and in close proximity of rail tracks. It is anticipated all / the large majority of plots will be piled due to the presence of deep Made Ground and/or PEAT. It may therefore be possible to recover and re-use the material in the sacrificial temporary works platforms for piled plots.

However, it should be noted that chemical analysis has not been undertaken on the material. Given the nature of the site, there is a high likelihood of it being contaminated with semi/volatile contaminants (e.g. from fuel leaks from stationary rail carriages). Therefore, if used in the temporary works platform, chemical analysis of the material should be undertaken in accordance with an approved remediation strategy, and/or mitigation measures should be incorporated to prevent cross contamination of underlying soils and downward leaching to underlying soils (e.g. suitable geotextile) and to minimise surface water runoff of contaminants to surrounding soils and watercourses/drainage ditches (e.g. silt barriers and surface water management plan). Complete removal of the temporary works platform would be required on completion of the temporary works and either disposal or placement in an area of no future sensitivity (subject to suitable validation testing). If VOC resistant membranes are incorporated into new dwellings, it may be suitable for retention beneath plots.

Should ground improvement using vibro stone columns (VSC) be proposed, in addition to the likelihood of the material presenting a contamination risk by introducing a preferential migration pathway for gas/vapour migration or downward leaching, it is unlikely that the granular ballast material would meet the grading criteria required for use in the stone columns.

The material may be suitable for use in road build-up outside of road boxes and drainage and service trenches, subject to suitable design and approval (e.g. lining and specialist construction methods). Based on current ground conditions, barrier pipe potable water pipelines will be required.



5. CONCLUSION & RECOMMENDATIONS

The supplementary site investigation has helped refine the extent of PEAT across the Main Development Area. Investigations have shown PEAT, where present, to be deepening towards the southern site boundary and thickest in the centre south, south east and west of the site.

Elevated concentrations of inorganic heavy metals, non-volatile PAH compounds, and trace asbestos can be mitigated through the installation of a suitable cover system. Given the widespread distribution of the contamination encountered during this and the previous phases of investigation, the cover system would be required in all proposed private gardens, landscaping, and public open space to remove any potential for direct exposure to impacted soils. It is likely that a no-dig layer (stone or robust geotextile) may also be required at the base of the clean cover system by the local authority.

Naphthalene and TPH fractions (and other S/VOCs) have been detected at concentrations in exceedance of GAC values at numerous locations across the main development area, and are particularly prevalent in the north eastern and south western sectors of the site. Further trial pitting in these areas has aided delineation of the extent of visual, olfactory and laboratory determined hydrocarbon and volatile impact. A previous phase of vapour monitoring conducted indicated that the soils in the vicinity of WS110 (north east) posed a plausible risk from vapour emissions.

Monitoring in the south west suggested a reduced vapour risk, however, further targeted assessment in and around TP211 (extending north and east) should be carried out to fully appraise the risk.

The gross Naphthalene/TPH impact and visually and olfactorily impacted soils (refer to Drawing no. 14-768-118) will require remediation to mitigate long term potential vapour accumulation and migration, odour issues, risk to construction workers/end users and potential future risks to controlled waters. Treatment may include ex situ bioremediation, chemical oxidation and/or soil stabilisation to 'lock in' contaminants where the material remains in-situ. As a precaution, it would be prudent to also incorporate VOC resistant membranes in plots in the areas where the impacted material remains, or is re-placed, to reduce the long term risks to receptors.

In addition to the above, speciation of the Mercury previously found to be elevated during previous investigations has concluded three locations contain elemental (volatile) Mercury in exceedance of residential GAC values (TP121, WS112 and RB304).

It may be possible to treat TP121, WS112 and RB304 as localised hotspots for delineation and removal, or incorporate VOC resistant to mitigate the risks from elemental Mercury and other volatiles (particularly in the east of the site).

The potential for re-use of impacted soils (even proven not to present a volatile risk) may be limited due to potential to cross contaminate other areas of the site and facilitate downward and lateral migration of contamination to underlying soils. A suitable clean cover system (minimum 600 mm) will be required for all plots. A break layer (stone or geotextile) may be requested at the discretion of the local authority contaminated land officer.



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In respect of existing foundations and potentially recoverable aggregate, it is recommended that allowances be made for encountering piled foundations and 'hard spots' beneath areas of former structures during the Made Ground turnover at enabling works stage. Re-use of track ballast as recycled aggregate may also be limited due to potential contamination and vapour risks. Allowances should therefore be made for importing suitable materials.

Drains infrastructure
remediation

The following further works are recommended:

-  Detailed remediation and enabling works strategy.
-  Topographic and arboricultural survey.
-  Plot-specific foundation schedule (upon receipt of the final development levels).

I trust that the above information is sufficient currently, and if you require anything further, please do not hesitate to contact me

Yours sincerely,
For and on behalf of E3P Ltd

Jessica Sheridan
Senior Geo-Environmental Consultant

Enclosed:

Appendix I	Limitations
Appendix II	Glossary
Appendix III	Drawings
Appendix IV	Photographs
Appendix V	Exploratory Hole Logs
Appendix VI	Chemical Analysis Results



APPENDIX I LIMITATIONS

This report and its findings should be considered in relation to the terms of reference and objectives agreed between E3P and the client as indicated in Section 1.3.

For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the Site may be available from other sources. When using the information it has been assumed it is correct. No attempt has been made to verify the information.

This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination which are enforced by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.

During the site walkover, reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover, no attempt has been made to enter areas of the Site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not been made known or accessible.

Access considerations, the presence of services and the activities being carried out on the Site limited the locations where sampling locations could be installed and the techniques that could be used.

Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.

Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials, this is for indicative purposes only and do not constitute or replace full and proper surveys.

The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.

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New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.



APPENDIX II

GLOSSARY

TERMS

ACM	Asbestos-containing material	MMP	Materials management plan
ADS	Acoustic design statement	ND	Not detected
AST	Above-ground storage tank	NDP	Nuclear density probe
BGS	British Geological Survey	NMP	Noise management plan
BSI	British Standards Institute	NPSE	Noise policy statement for England
BTEX	Benzene, toluene, ethylbenzene, xylenes	NR	Not recorded
CA	Coal Authority	PAH	Polycyclic aromatic hydrocarbon
CBR	California bearing ratio	PCB	Polychlorinated biphenyl
CIEH	Chartered Institute of Environmental Health	PI	Plasticity index
CIRIA	Construction Industry Research Association	PID	Photo ionisation detector
CLEA	Contaminated land exposure assessment	POS	Public open space
CML	Council of Mortgage Lenders	PPE	Personnel protective equipment
CoC	Contaminants of concern	ProPG	Professional practice guidance
CSM	Conceptual site model	QA	Quality assurance
DNAPL	Dense non-aqueous phase liquid (chlorinated solvents, PCB)	SGV	Soil guideline value
DWS	Drinking water standard	SPH	Separate-phase hydrocarbon
EA	Environment Agency	SPT	Standard penetration test
EQS	Environmental quality standard	SVOC	Semi-volatile organic compound
FFL	Finished floor level	TPH	Total and speciated petroleum hydrocarbon
GAC	General assessment criteria	TPH CWG	Total Petroleum Hydrocarbon (Criteria Working Group)
GL	Ground level	UKWIR	United Kingdom Water Infrastructure Risk
GSV	Gas screening value	UST	Underground storage tank
HCV	Health criteria value	VCC	Vibro-concrete column
ICSM	Initial conceptual site model	VOC	Volatile organic compound
LEL	Lower explosive limit	VRSC	Vibro-replacement stone columns
LMRL	Lower method reporting limit	VSC	Vibro-stone columns
LNAPL	Light non-aqueous phase liquid (petrol, diesel, kerosene)	WHO	World Health Organisation
MCV	Moisture condition value	WRAP	Waste and Resources Action Programme



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MIBK	Methyl isobutyl ketone	WTE	Water table elevation
m	Metres	ppm	Parts per million
km	Kilometres	mg/m³	Milligram per metre cubed
% v/v	Percent volume in air	m bgl bgl	Metres below ground level
mb	Millibars (atmospheric pressure)	m bcl	Metre below cover level
l/hr	Litres per hour	mAOD	Metres above ordnance datum (sea level)
µg/l	Micrograms per litre (parts per billion)	kN/m²	Kilonewtons per metre squared
ppb	Parts per billion	µm	Micrometre
mg/kg	Milligrams per kilogram (parts per million)	SSRT	Site Specific Remediation Target
PSD	Particle Size Distribution	DD	Dry Density
CL:AIRE	Contaminated Land: Applications in Real Environments	Mc	Moisture Content
ρ	Bulk Density	GPR	Ground Penetrating Radar
NDP	Nuclear Density Probe	FFL	Finished Floor Level
LEL	Lower Explosive Limit	UKWIR	UK Water Industry Research
CIRIA	Construction Industry Research and Information Association	LOD	Limit of Detection



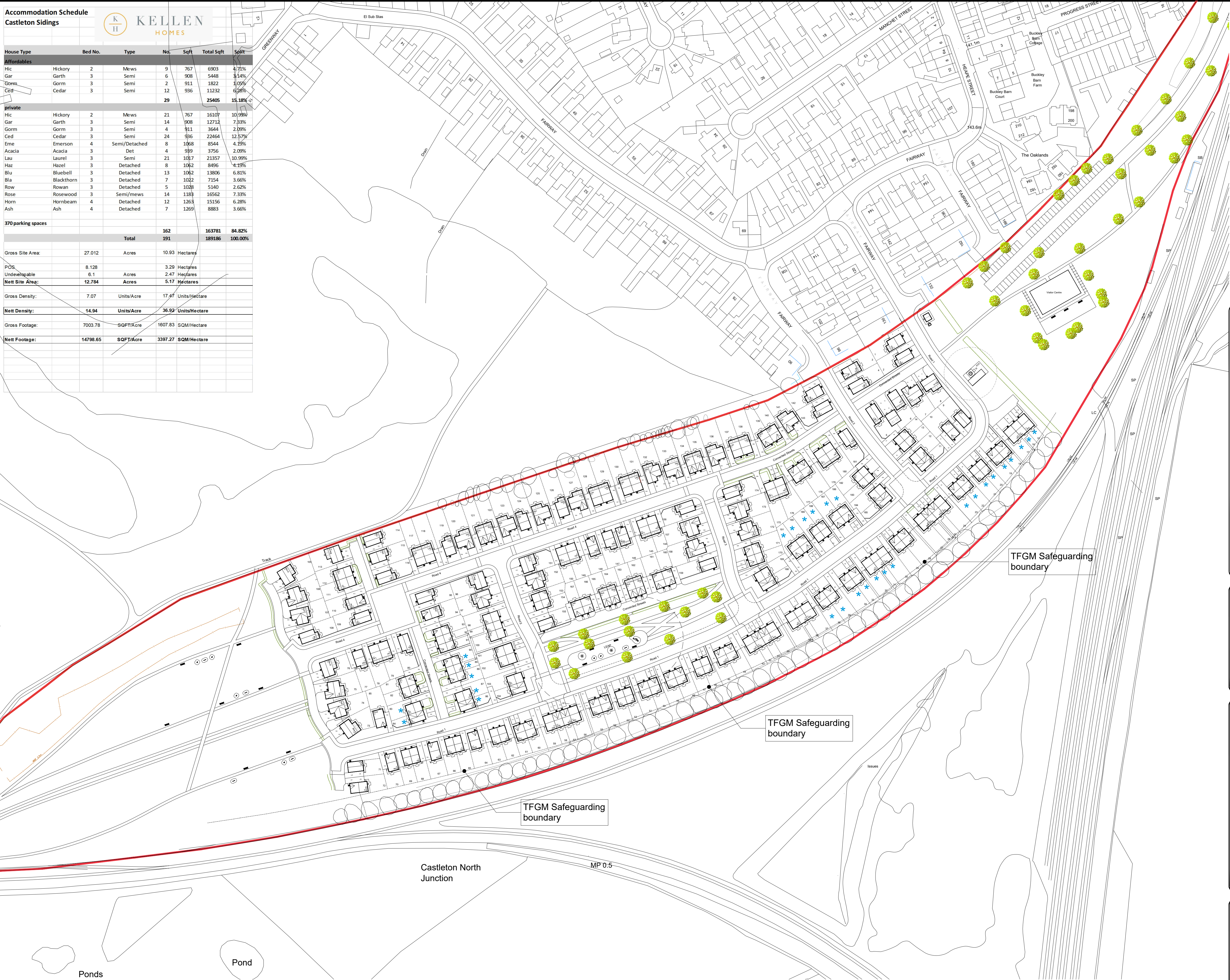
APPENDIX III

DRAWINGS

DRAWING 14-768-001 – SITE LOCATION PLAN



Accommodation Schedule						
Castleton Sidings						
K H KELLEN HOMES						
House Type	Bed No.	Type	No.	Sqft	Total Sqft	Split
Affordables						
Hic	Hickory	2	Mews	9	767	6903
Gar	Garth	3	Semi	6	908	5448
Gorm	Gorm	3	Semi	2	911	1822
Ced	Cedar	3	Semi	12	936	11232
			29		25405	15,18%
private						
Hic	Hickory	2	Mews	21	767	16107
Gar	Garth	3	Semi	14	908	12712
Gorm	Gorm	3	Semi	4	911	3644
Ced	Cedar	3	Semi	24	936	22464
Erne	Emerson	4	Semi/Detached	8	1068	8544
Acacia	Acacia	3	Det	4	999	3756
Laurel	Laurel	3	Semi	21	1017	21357
Haz	Hazel	3	Detached	8	1062	8496
Blu	Bluebell	3	Detached	13	1042	13806
Bla	Blackthorn	3	Detached	7	1022	7154
Row	Rowan	3	Detached	5	1028	5140
Rose	Rosewood	3	Semi/mews	14	1183	16562
Horn	Hornbeam	4	Detached	12	1263	15156
Ash	Ash	4	Detached	7	1269	8883
370 parking spaces						
			162		163781	84.82%
Total			191		189186	100.00%
Gross Site Area:	27.012	Acres	10.93	Hectares		
PCS	8.128		3.29	Hectares		
Undevelopable	6.1	Acres	2.47	Hectares		
Net Site Area:	12.784	Acres	5.17	Hectares		
Gross Density:	7.07	Units/Acre	17.47	Units/Hectare		
Net Density:	14.94	Units/Acre	36.92	Units/Hectare		
Gross Footage:	7003.78	SQFT/Acre	1607.83	SQM/Hectare		
Net Footage:	14798.65	SQFT/Acre	3397.27	SQM/Hectare		



Legend	
	Indicates 1.8m high brick wall with piers
	Indicates 1.8m high plot divisional screen fence.
	Indicates 1.8m high closed boarded fence.
	Indicates proposed tree planting subject to a landscape design and specification.
	Indicates bin collection points.
	Indicates principle entrance door to dwelling.
	Indicates secondary entrance door to dwelling.
	Indicates application site boundary.
	Indicates parcel of land allocated to East Lancashire Railway.
	Indicates affordable units

Rev	Date	Amend	Initials

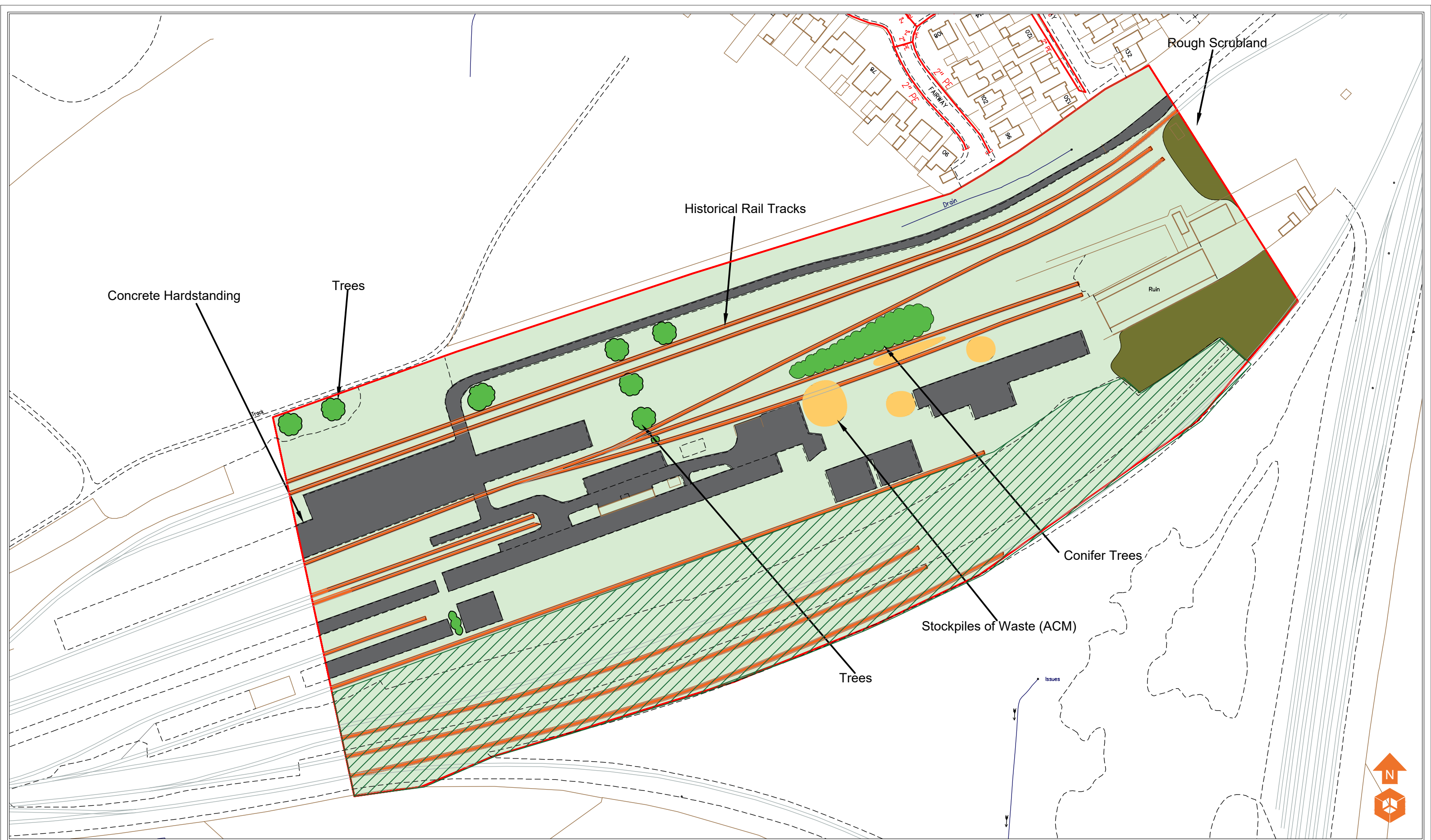
Development	
CASTLETON SIDINGS	
Location	
ROCHDALE	
Drawing Title	
CAD Site Layout Opt 1	
Job Number	Drawing Number
KH003	KH003-A-100
Revision	Scale
-	1:1000 - A1
Drawn By	Date
BP	13.01.22
Checked by	Date Checked
RC	-

1st Floor, 103 Dalton Avenue, Birchwood Park,
Warrington WA3 6YE
T: 01925 363108 W: www.kellenhomes.com

K

H

KELLEN
HOMES



- Site Features
- Overgrown Trees
 - Concrete Hardstanding
 - Rough Scrubland
 - Trees
 - Stockpiles of Waste (Possible ACM)
 - Historical Rail Tracks

Notes:				
P1	REVC	12.12.2022	HM	EC
P1	REVB	11.03.2022	HM	JS
P1	REVA	15.04.2021	EB	EF
Phase	Issue	Date	Drawn	Checked

Client:	Kellen Homes
Job Title:	Heywood Road, Castleton

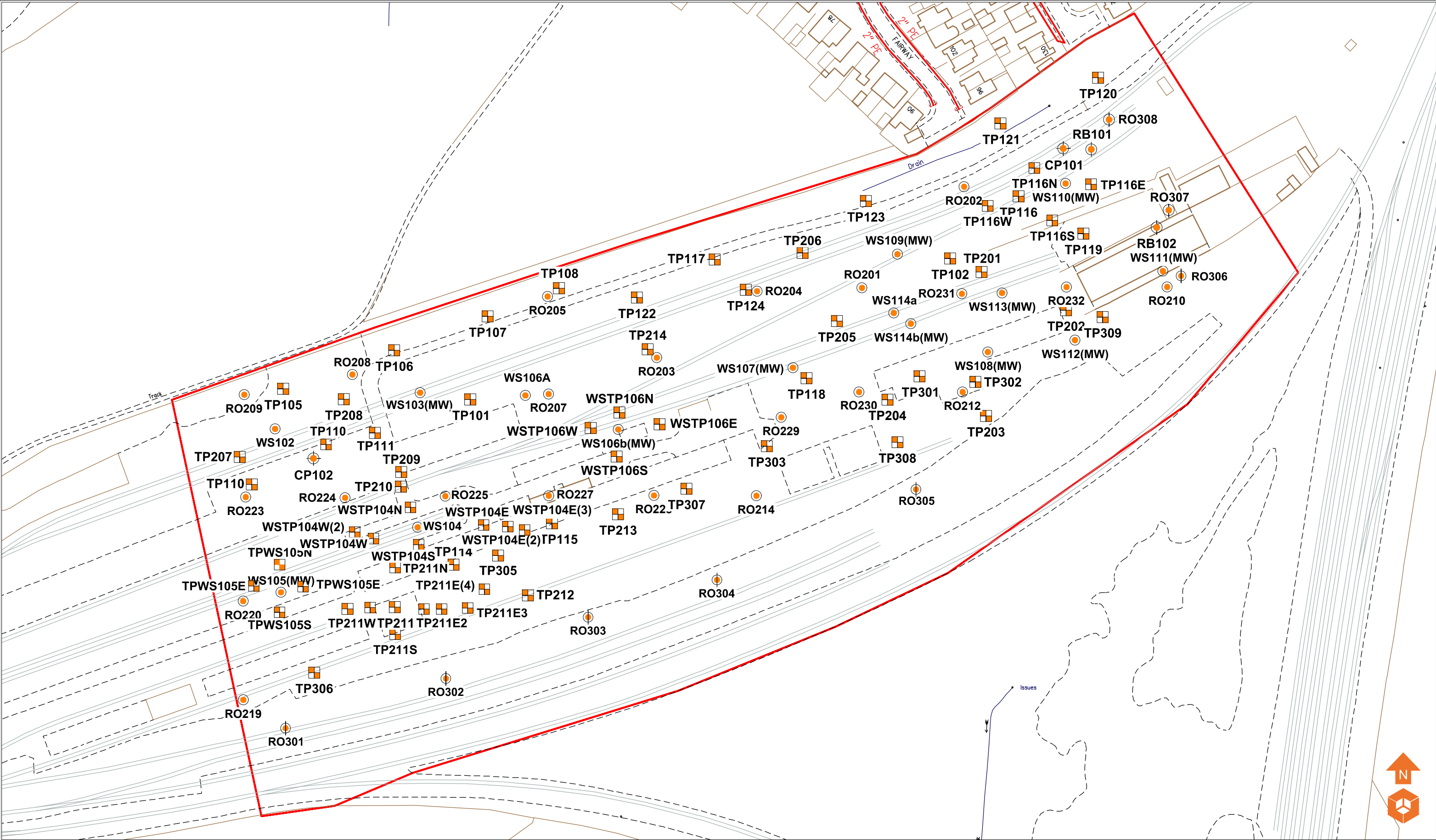
Job No:	14-768
Drawing No:	104

Date:	12.12.2022
Scale:	NTS @ A3



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Taylor Road, Trafford Park
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Location Symbols	
	Approximate Window Sample Probehole Location (March 2021)
	Approximate Window Sample Probehole Location with Install (March 2021)
	Approximate Trial Pit Location (March 2021)
	Approximate Rotary Borehole Location (March 2021)
	Approximate Trial Pit Location (June 2021)
	Approximate Rotary Borehole Location (July 2021)
	Approximate Hand Dug Pit Location (July 2021)
	Approximate Stockpile Sample Location (July 2021)
	Approximate Location of Rotary Borehole

Notes:				
P1	REVG	30.01.2023	EB	JS
P1	REVF	16.01.2023	HM	JS
P1	REVE	12.12.2022	HM	EC
P1	REVD	19.10.2022	HM	EC
P1	REVB	30.03.2022	EB	JS
P1	REVB	11.03.2022	HM	JS
P1	REVA	25.03.2021	EB	EF
Phase	Issue	Date	Drawn	Checked

Client:
Kellen Homes
Job Title:
Heywood Road, Castleton

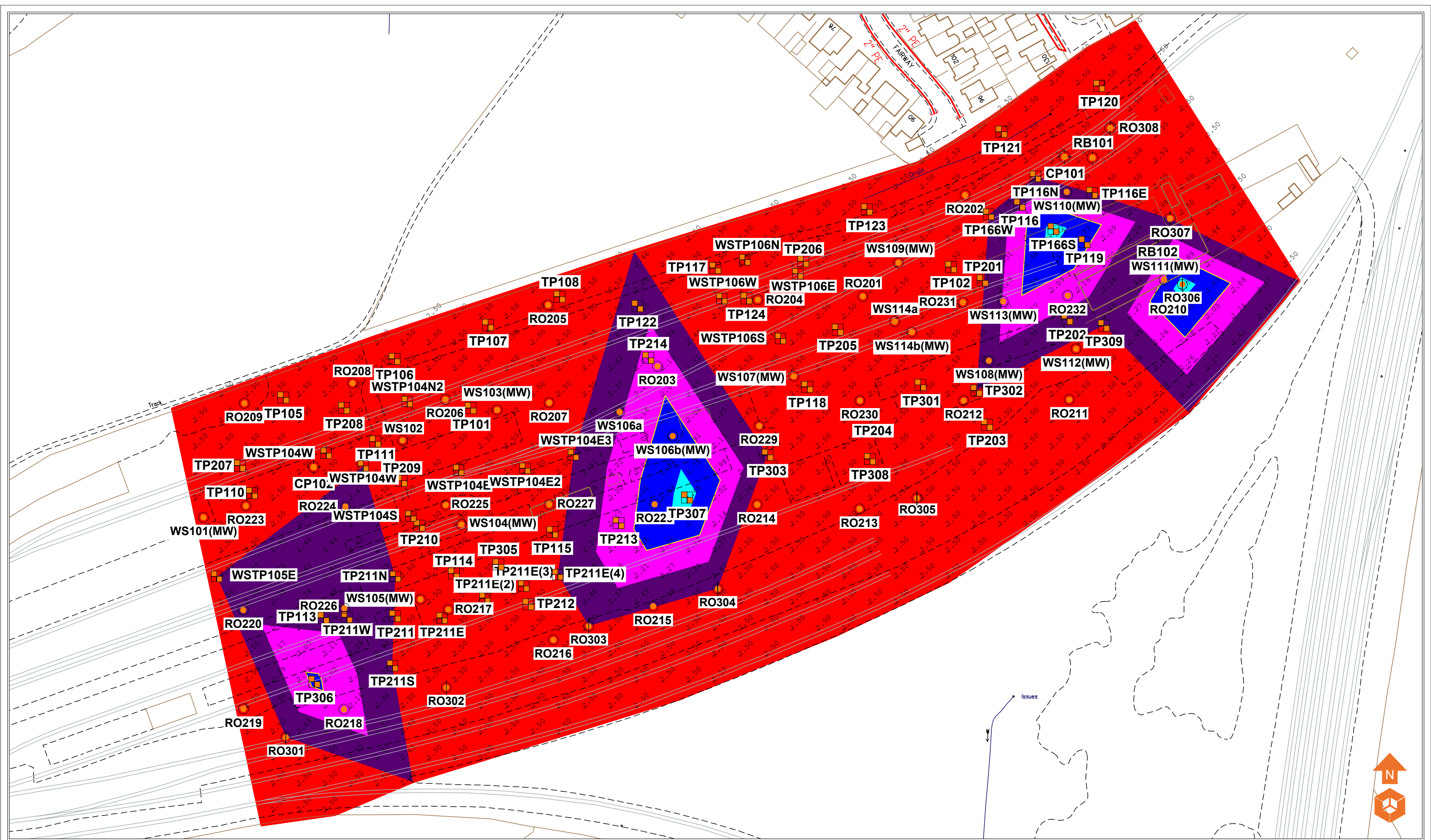
Job No:
14-768
Drawing No:
105

Date:
30.01.2023
Scale:
NTS @ A3

Drawing Title:
Exploratory Hole Location Plan

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- Location Symbols**
- WS101: Approximate Window Sample Probehole Location (March 2021)
 - WS101(MW): Approximate Window Sample Probehole Location with Install (March 2021)
 - TP101: Approximate Trial Pit Location (March 2021)
 - RO101: Approximate Rotary Borehole Location (March 2021)
 - TP101J: Approximate Trial Pit Location (June 2021)
 - RO101J: Approximate Rotary Borehole Location (July 2021)
 - HP101: Approximate Hand Dug Pit Location (July 2021)
 - SP101: Approximate Stockpile Sample Location (July 2021)
 - RO101A: Approximate Location of Attempted Rotary Borehole (July 2021 - Not Completed Due to Access Limitations)

- Shallow Spread Footings**
- Depth to Founding Strata 0.00 - 1.24m
 - Depth to Founding Strata 1.25 - 1.49m
- Mass Trench Fill Footings**
- Depth to Founding Strata 1.50 - 1.74m
 - Depth to Founding Strata 1.75 - 1.99m
 - Depth to Founding Strata 2.00 - 2.24m
- Engineered Footings**
- Depth to Founding Strata 2.25 - 2.49m
 - Depth to Founding Strata >2.50m

Notes:				
P1	REVA	16.01.2023	HM	JS
Phase	Issue	Date	Drawn	Checked

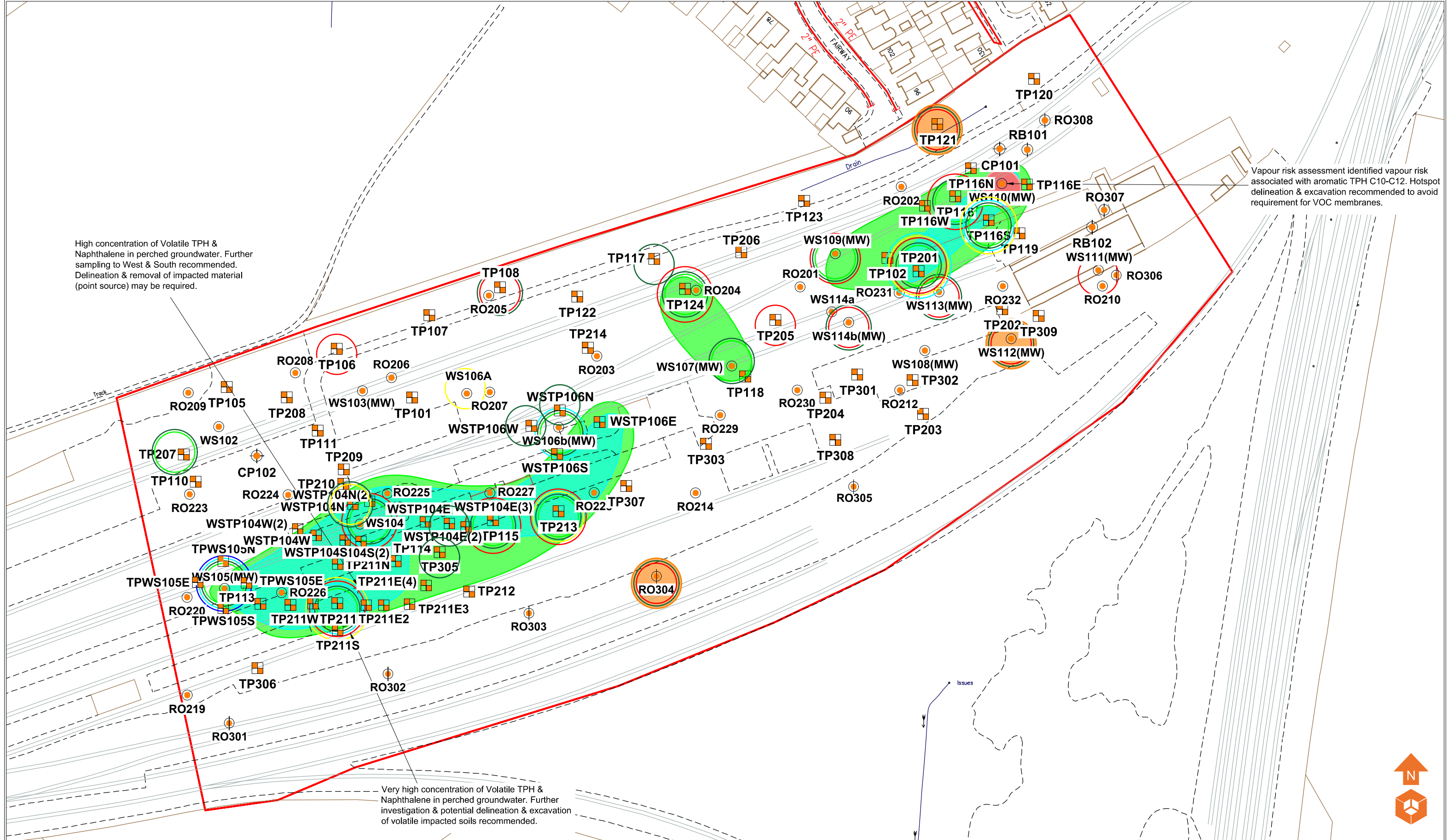
Client:	Kellen Homes
Job Title:	Heywood Road, Castleton

Job No:	14-768
Drawing No:	008
Date:	16.01.2023
Scale:	NTS @ A3
Drawing Title:	Depth Of Founding Strata Plan



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Location Symbols

WS101

Approximate Window Sample Probehole Location (March 2021)

WS101(Inst)

Approximate Window Sample Probehole Location with Install (March 2021)

TP101

Approximate Trial Pit Location (March 2021)

RB101

Approximate Rotary Borehole Location (March 2021)

TP201

Approximate Trial Pit Location (June 2021)

RB201

Approximate Rotary Borehole Location (July 2021)

HP101

Approximate Hand Dug Pit Location (July 2021)

SP101

Approximate Stockpile Sample Location (July 2021)

RO101

Approximate Location of Rotary Borehole

Approximate Cable Percussive Borehole Location

Soil Contaminants

Heavy metals

Mercury (volatile)

Asbestos (chrysotile <0.001% wt/wt)

Napathalene (volatile)

Non-volatile PAH

TPH C10-C16 (volatile)

TPH C16-C21 (non-volatile)

Groundwater Contaminants

Volatile TPH & Naphthalene in Groundwater Sample

Vapour Risk (TPH C10-C12 Aromatic)

Napathalene Impacted Soils

TPH Impacted Soils

Volatile Mercury

Notes:

P1	REVG	31.02.2023	EB	JS
P1	REVF	17.01.2023	HM	JS
P1	REVE	13.12.2022	HM	EC
P1	REVD	30.03.2022	EB	JS
P1	REVC	24.02.2022	LM	JS
P1	REVB	30.04.2021	EB	EF
P1	REVA	15.04.2021	EB	EF
Phase	Issue	Date	Drawn	Checked

Client:

Kellen Homes

Job Title:

Heywood Road, Castleton

Job No:

14-768

Drawing No:

118

Drawing Title:

Contamination Issues Plan

Date:

31.01.2023

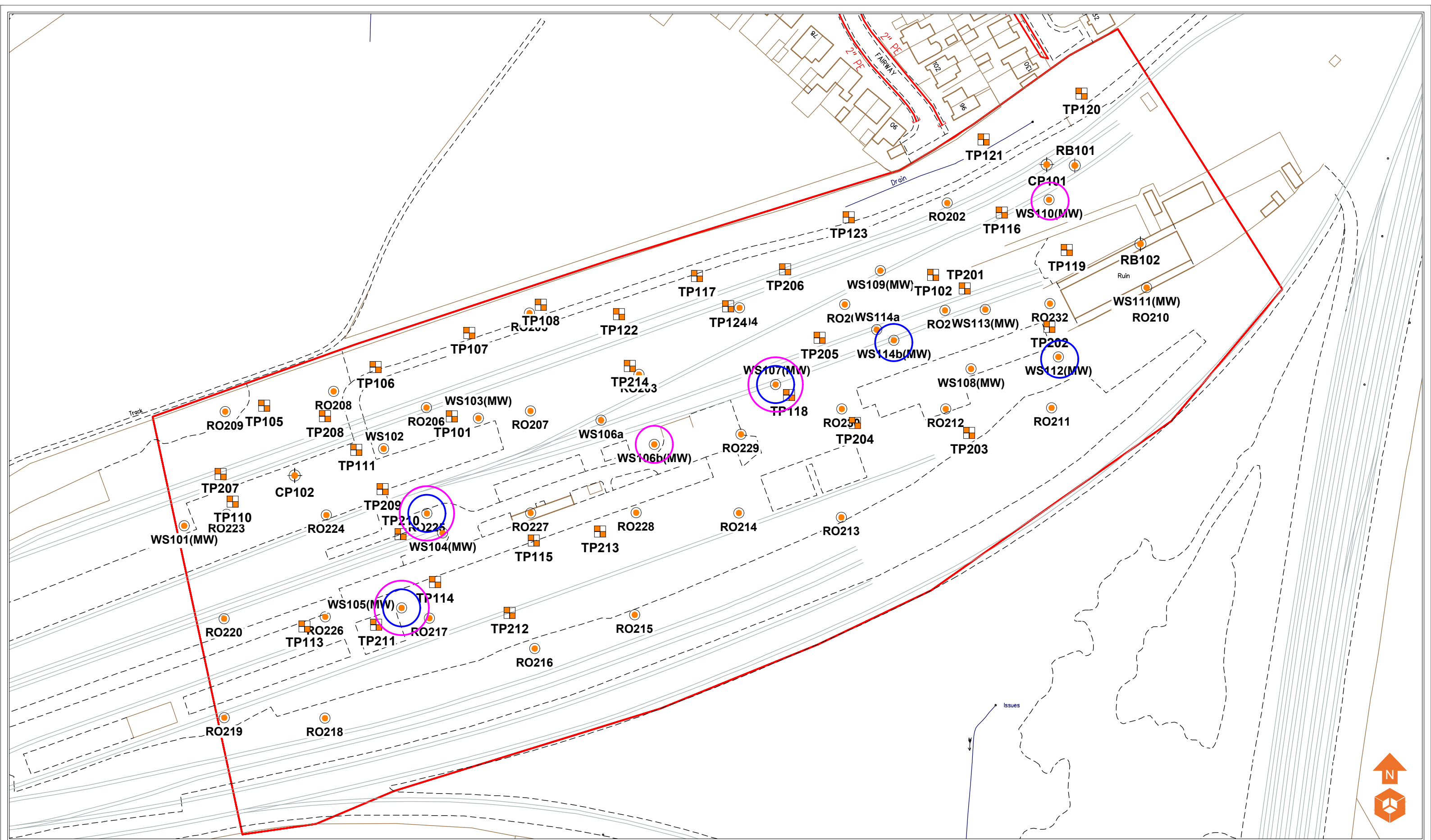
Scale:

NTS @ A3

e3p

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Location Symbols		Vapour Monitoring	
	Approximate Window Sample Probehole Location (March 2021)		Approximate Cable Percussive Borehole Location
	Approximate Window Sample Probehole Location with Install (March 2021)		ADT Tube Vapour Monitoring (TPH and S/VOCs)
	Approximate Trial Pit Location (March 2021)		Passive Sampler (Mercury)
	Approximate Rotary Borehole Location (March 2021)		
	Approximate Trial Pit Location (June 2021)		
	Approximate Rotary Borehole Location (July 2021)		
	Approximate Hand Dug Pit Location (July 2021)		
	Approximate Stockpile Sample Location (July 2021)		
	Approximate Location of Rotary Borehole		

Notes:				
P1	REVB	13.12.2022	HM	EC
P1	REVA	08.04.2022	CB	JS
Phase	Issue	Date	Drawn	Checked

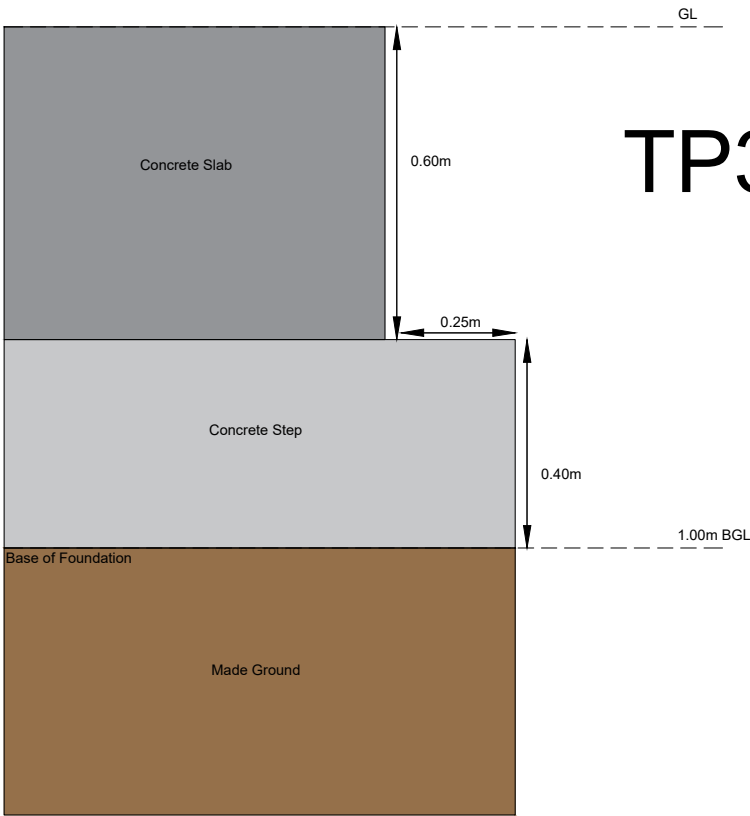
Client:
Kellen Homes
Job Title:
Heywood Road, Castleton

Job No:
14-768
Drawing No:
119

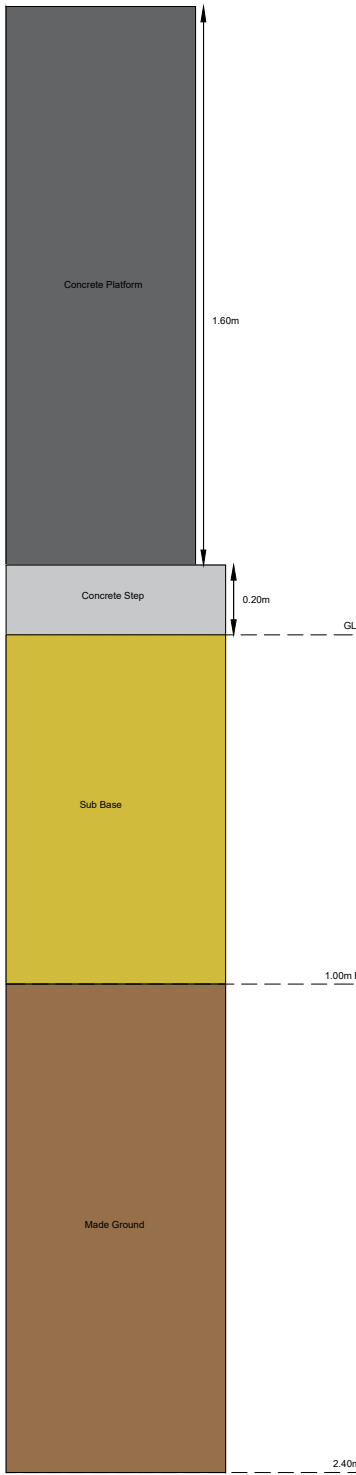
Date:
13.12.2022
Scale:
NTS @ A3

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Website: www.e3p.co.uk

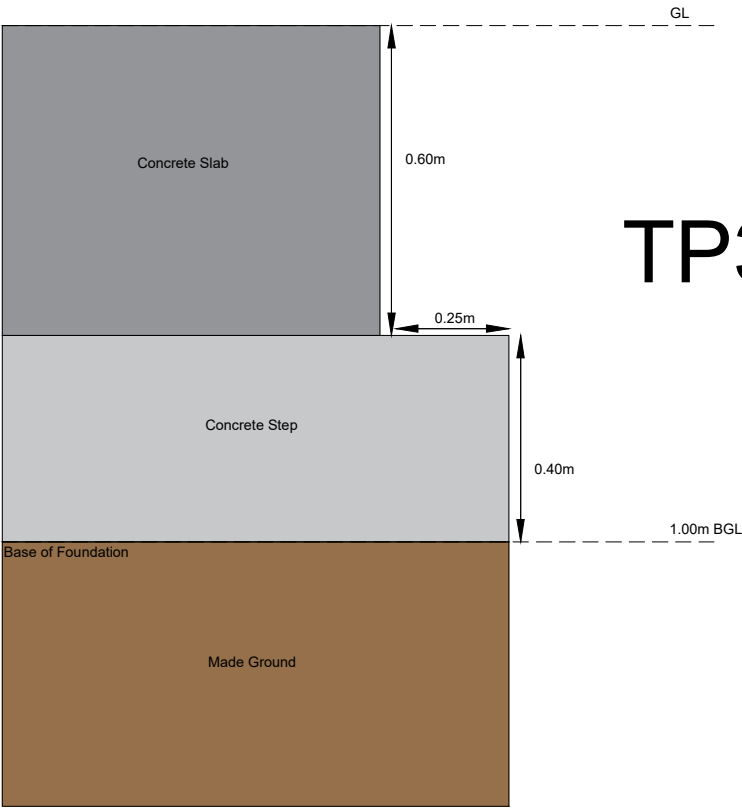
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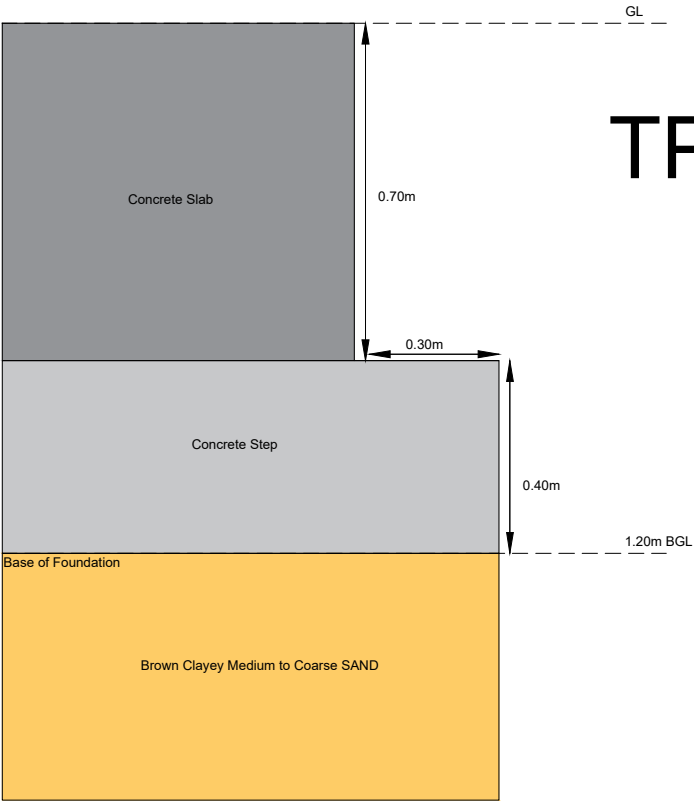
TP305



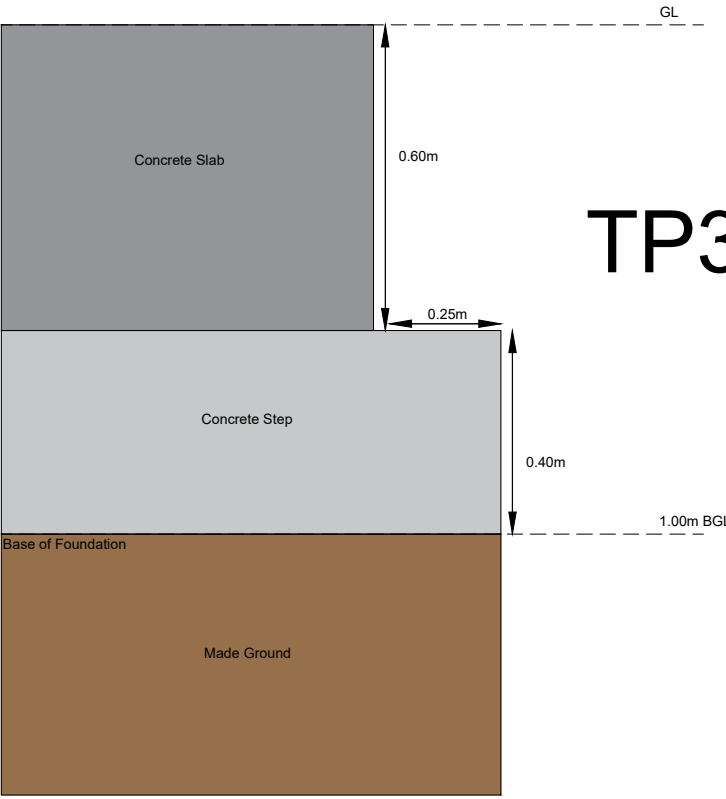
TP309



TP306



TP307



TP308

- Geology Key
- Concrete Slab
 - Concrete Step
 - SAND
 - Made Ground
 - Sub Base

Notes:				
P1	REVA	20.01.2023	EB	EC
Phase	Issue	Date	Drawn	Checked

Client:	
Kellen Homes	
Job Title:	
Heywood Road, Castleton	

Job No:	14-768	Date:	20.01.2023
Drawing No:	020	Scale:	NTS @ A3
Drawing Title:		Foundation Pit Plan	



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APPENDIX IV PHOTOGRAPHS

PLATE 1

SLAB – TP302



PLATE 2

EXPOSED FOUNDATION – TP307



PLATE 3

BASE OF RAIL PLATFORM – TP309



PLATE 4

WS202 ARISINGS

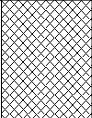
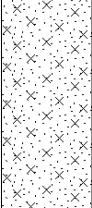
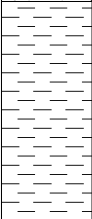


PLATE 5 TRACK BALLAST



APPENDIX V

E3P EXPLORATORY HOLE LOGS

				Borehole Log				Borehole No. RO301 Sheet 1 of 1	
Project Name: Castleton Sidings				Project No. 14768		Co-ords:		Hole Type RO	
Location: Heywood Road, Rochdale				Level:		Scale 1:100			
Client: Kellen Homes				Dates: 12/10/2022		Logged By E. Canham			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					1.60			MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, subangular to subrounded of brick and ash.	1
					2.80			MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, subangular to subrounded of brick and ash. (Strong hydrocarbon odour)	2
					5.80			Blackish brown silty fine to coarse SAND. (Strong hydrocarbon odour)	3
					7.00			Brown very gravelly silty SAND. Gravel is fine to coarse, subangular to subrounded of mudstone and sandstone.	6
					10.00			Brown CLAY.	7
							End of Borehole at 10.00m		10
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20
Remarks 1. Complete. 2. No PEAT encountered. 3. Hydrocarbon odour 1.60-3.50m bgl.									

Borehole Log

Borehole No.

RO302

Sheet 1 of 1

Project Name: Castleton Sidings

Project No.
14768

Co-ords:

Hole Type
RO

Location: Heywood Road, Rochdale

Level:

Scale
1:100

Client: Kellen Homes

Dates: 12/10/2022

Logged By
E. Canham

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			MADE GROUND: Dark brown sandy very gravelly clay. Gravel is fine to coarse, subangular to subrounded of brick and ash. (Topsoil) MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, subangular to subrounded of brick and ash.	1
									2
									3
									4
					4.50			Brown fine to medium SAND.	5
									6
									7
					6.80			Brown gravelly clayey SAND. Gravel is fine to coarse, subangular to subrounded of mudstone and sandstone.	8
									9
									10
					10.00			End of Borehole at 10.00m	11
									12
									13
									14
									15
									16
									17
									18
									19
									20

Remarks

1. Complete. 2. No PEAT encountered.

Borehole Log

Borehole No.

RO303

Sheet 1 of 1

Project Name: Castleton Sidings

Project No.
14768

Co-ords:

Hole Type
RO

Location: Heywood Road, Rochdale

Level:

Scale
1:100

Client: Kellen Homes

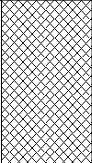
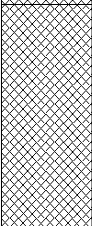
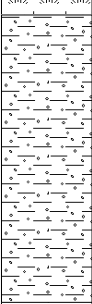
Dates: 13/10/2022

Logged By
E. Canham

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					1.90			MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, subangular to subrounded of brick and ash.	1
					2.60			MADE GROUND: Blackish brown silty gravelly clay. Gravel is fine to coarse, subangular to subrounded of brick and ash.	2
								Brown CLAY.	3
									4
									5
									6
					7.20				7
								Brown very sandy GRAVEL. Gravel is fine to coarse, subangular to subrounded of mudstone and sandstone.	8
									9
					10.00			End of Borehole at 10.00m	10
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20

Remarks

1. Complete. 2. No PEAT encountered.

				Borehole Log				Borehole No. RO304 Sheet 1 of 1	
Project Name: Castleton Sidings				Project No. 14768		Co-ords:		Hole Type RO	
Location: Heywood Road, Rochdale				Level:		Scale 1:100			
Client: Kellen Homes				Dates: 13/10/2022		Logged By E. Canham			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					2.20			MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, subangular to subrounded of brick and ash.	1
								MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, subangular to subrounded of brick, ash, coal, and	2
					5.30			Brown pseudo-fibrous PEAT.	3
								Greyish brown sandy gravelly CLAY. Gravel is fine to coarse, subangular to subrounded of mudstone and sandstone.	4
					10.00			End of Borehole at 10.00m	5
									6
									7
									8
									9
									10
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20
Remarks 1. Complete. 2. PEAT encountered at 5.30-6.20m BGL.									

Borehole Log

Borehole No.

RO305

Sheet 1 of 1

Project Name: Castleton Sidings

Project No.
14768

Co-ords:

Hole Type
RO

Location: Heywood Road, Rochdale

Level:

Scale
1:100

Client: Kellen Homes

Dates: 13/10/2022

Logged By
E. Canham

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					2.60			MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, subangular to subrounded of brick and ash.	1
								MADE GROUND: Greyish brown silty very gravelly CLAY. Gravel is fine to coarse, subangular to subrounded of brick and ash.	2
									3
									4
									5
					6.40				6
					7.00			Brown pseudo-fibrous PEAT.	7
								Greyish brown sandy gravelly CLAY. Gravel is fine to coarse, subangular to subrounded of mudstone and sandstone.	8
									9
									10
					10.00			End of Borehole at 10.00m	11
									12
									13
									14
									15
									16
									17
									18
									19
									20

Remarks

1. Complete. 2. PEAT encountered 6.40-7.00m bgl.

Borehole Log

Borehole No.

RO306

Sheet 1 of 1

Project Name: Castleton Sidings

Project No.
14768

Co-ords:

Hole Type
RO

Location: Heywood Road, Rochdale

Level:

Scale
1:100

Client: Kellen Homes

Dates: 13/10/2022

Logged By
E. Canham

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					1.30			MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, subangular to subrounded of brick and ash.	1
					5.80			Brown very gravelly fine to medium SAND. Gravel is fine to coarse, subangular to subrounded of mudstone and sandstone.	2
					10.00			Brown sandy gravelly CLAY. Gravel is fine to coarse, subangular to subrounded of mudstone and sandstone.	3
									4
									5
									6
									7
									8
									9
								End of Borehole at 10.00m	10
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20

Remarks

1. Complete. 2. No PEAT encountered.

Borehole Log

Borehole No.

RO307

Sheet 1 of 1

Project Name: Castleton Sidings

Project No.
14768

Co-ords:

Hole Type
RO

Location: Heywood Road, Rochdale

Level:

Scale
1:100

Client: Kellen Homes

Dates: 14/10/2022

Logged By
E. Canham

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					1.60			MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, subangular to subrounded of mudstone and sandstone.	1
					2.00			MADE GROUND: Concrete.	2
					2.90			MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, subangular to subrounded of mudstone, ash and sandstone.	3
								MADE GROUND: Black gravelly silty CLAY. Gravel is fine to coarse, subangular to subrounded of brick, ash, and concrete.	4
					5.60				5
								Brown silty gravelly CLAY. Gravel is fine to coarse, subangular to subrounded of sandstone and mudstone.	6
									7
									8
									9
					10.00				10
								End of Borehole at 10.00m	11
									12
									13
									14
									15
									16
									17
									18
									19
									20

Remarks

1. Complete. 2. No PEAT encountered.

Borehole Log

Borehole No.

RO308

Sheet 1 of 1

Project Name: Castleton Sidings

Project No.
14768

Co-ords:

Hole Type
RO

Location: Heywood Road, Rochdale

Level:

Scale
1:100

Client: Kellen Homes

Dates: 14/10/2022

Logged By
E. Canham

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			MADE GROUND: Greyish brown gravel. Gravel is fine to coarse, subangular to subrounded of concrete. MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, subangular to subrounded of brick and ash.	1
					2.70			MADE GROUND: Black silty clay. Gravel is fine to coarse, subangular to subrounded of brick and ash.	2
					3.70			Brown sandy gravelly CLAY. Gravel is fine to coarse, subangular to subrounded of mudstone and sandstone.	3
					5.20			Brown sandy gravelly CLAY. Gravel is fine to coarse, subangular to subrounded of mudstone and sandstone.	4
					10.00			End of Borehole at 10.00m	5
									6
									7
									8
									9
									10
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20

Remarks

1. Complete. 2. No PEAT encountered.



e3p

Trial Pit Log

TrialPit No
TP116 East
Sheet 1 of 1

Project Name: Castleton Sidings

Project No.
14768Co-ords: 388050.00 - 410225.00
Level:Date
14/10/2022

Location: Heywood Road, Rochdale

Dimensions (m): 3.60

Scale
1:45

Client: Kellen Homes

Depth
1.60Logged
E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.10			MADE GROUND: Brown gravelly clayey medium to coarse sand with frequent rootlets. Gravel is medium to coarse subangular to subrounded of brick, mudstone and concrete. (Topsoil)	
				0.80			MADE GROUND: Black gravelly fine to medium sand with band of yellowish brown clayey medium to coarse sand from 0.30m to 0.80m bgl. Gravel is fine to coarse subangular to angular of concrete, brick and clinker.	1
	1.20	ES		1.60			MADE GROUND: Dark brown slightly silty clayey gravelly fine to medium sand. Gravel is fine to coarse subangular to angular of brick, ash, mudstone and glass.	
							End of Pit at 1.60m	2
								3
								4
								5
								6

Trial Pit Photographs



TP116 East



TP116 East spoil

Remarks: 1. Complete 2. Brick fill encountered in north eastern corner of trial pit from 0.50m to 1.40m bgl. 3. Disused plastic pipe encountered at 0.60m bgl.

Stability: Stable.



Project Name: Castleton Sidings	Project No. 14768	Co-ords: 388032.00 - 410222.00 Level:	Date 14/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 2.80 Depth 1.50	Scale 1:45 Logged E.Canham
Client: Kellen Homes			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	1.20	ES		0.20			MADE GROUND: Brown gravelly clayey medium to coarse sand with frequent rootlets. Gravel is medium to coarse subangular to subrounded of brick, mudstone and concrete. (Topsoil) MADE GROUND: Light brown silty slightly gravelly medium to coarse sand with brick fill encountered in northern wall to 0.80m bgl. Gravel is medium to coarse subrounded sandstone.	1
				1.50			End of Pit at 1.50m	2
								3
								4
								5
								6

Trial Pit Photographs



TP116 North

TP116 North spoil

Remarks: 1. Complete 2. Brick fill encountered in northern wall of trial pit between 0.20m and 0.80m bgl.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 388044.00 - 410213.00 Level:	Date 14/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): Depth 1.80	Scale 1:45
Client: Kellen Homes			Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	1.20	ES		0.30			MADE GROUND: Brown gravelly clayey medium to coarse sand with frequent rootlets. Gravel is medium to coarse subangular to subrounded of brick, mudstone and concrete. (Topsoil)	1
				1.30			MADE GROUND: Dark brown clayey gravelly medium sand with occasional cobbles. Gravel is fine to coarse subangular to angular of concrete, clinker and sandstone. Cobbles are subangular of brick, mudstone and clinker.	
				1.80			Brown slightly clayey medium to coarse SAND.	2
							End of Pit at 1.80m	3
								4
								5
								6

Trial Pit Photographs



TP116 South

TP116 South spoil

Remarks: 1. Complete 2. Slight hydrocarbon odour encountered between 1.00m and 1.80m bgl.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 388007.00 - 410213.00 Level:	Date 14/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 2.70 Depth 1.50	Scale 1:45 Logged E.Canham
Client: Kellen Homes			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	1.20	ES		0.40			MADE GROUND: Brown gravelly clayey medium to coarse sand with frequent rootlets. Gravel is medium to coarse subangular to subrounded of brick, mudstone, and concrete with rare plastic pipe. (Topsoil)	
				1.00			MADE GROUND: Orangish brown gravelly reworked clay. Gravel is fine to medium subangular to angular of ash, brick and clinker.	1
				1.50			MADE GROUND: Black clayey gravelly fine to medium sand. Gravel is medium to coarse subangular to angular of concrete, brick, sandstone and mudstone.	2
							End of Pit at 1.50m	3
								4
								5
								6

Trial Pit Photographs



Remarks: 1. Complete

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 388025.00 - 410213.00 Level:	Date 14/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 1.80 2.20	Scale 1:45
Client: Kellen Homes		Depth 1.60	Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.10			MADE GROUND: Brown gravelly clayey medium to coarse sand with frequent rootlets. Gravel is medium to coarse subangular to subrounded of brick, mudstone and concrete. (Topsoil)	
	1.20	ES		1.20			MADE GROUND: Black clayey gravelly fine to medium sand. Gravel is fine to coarse subangular to angular of concrete, ash, sandstone and mudstone.	1
				1.60			MADE GROUND: Yellowish brown clayey gravelly medium to coarse sand. Gravel is fine to coarse subangular to angular of sandstone, clinker and ash.	
							End of Pit at 1.60m	2
								3
								4
								5
								6

Trial Pit Photographs



TP116a



TP116a spoil

Remarks: 1. Complete

Stability: Stable.

Project Name: Castleton Sidings

Project No.
14768

Co-ords: 387763.00 - 410049.00
Level:

Date
12/10/2022

Location: Heywood Road, Rochdale

Dimensions (m): 3.00

Scale
1:45

Client: Kellen Homes

Depth
2.40

2.30

Logged
E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
 2.30	1.90	ES		0.25			MADE GROUND: Concrete slab.	
							MADE GROUND: Brown slightly gravelly clayey medium to coarse sand with bands of yellow and grey medium to coarse. Brick land drain encountered at 1.00m bgl and metal pipe encountered at 1.40m bgl.	1
				1.60			MADE GROUND: Black clayey gravel. Gravel is medium to coarse subrounded mudstone. (Strong hydrocarbon and oily sheen encountered)	
				2.00			Brown pseudo-fibrous PEAT.	2
				2.40			End of Pit at 2.40m	3
								4
								5
								6

Trial Pit Photographs



TP211 East



TP211 East spoil

Remarks: 1. Complete 2. Strong hydrocarbon odour and oily sheen encountered between 1.60m and 2.00m bgl. 3. Water strike encountered at 2.30m bgl- moderate seepage.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387784.00 - 410058.00 Level:	Date 12/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 2.20 3.00 Depth 2.40	Scale 1:45
Client: Kellen Homes			Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.60			MADE GROUND: Brown gravelly clayey medium to coarse sand with occasional cobbles. Gravel is medium to coarse subangular to subrounded of brick, mudstone, ballast and concrete. Cobbles are intact bricks and concrete. (Topsoil)	
	1.90	ES		2.00			MADE GROUND: Brown clayey gravelly medium to coarse sand with band of grey clayey fine to medium sand.	1
				2.40			MADE GROUND: Orange and grey sandy gravel. Gravel is subangular of sandstone.	2
							End of Pit at 2.40m	3
								4
								5
								6

Trial Pit Photographs



TP211 east (2)



TP211 east (2) spoil

Remarks: 1. Complete 2. Strong hydrocarbon odour and oily sheen encountered between 1.00m and 2.00m bgl.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387797.00 - 410061.00 Level:	Date 13/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 4.00 Depth 3.30	Scale 1:45
Client: Kellen Homes			Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
 2.40				0.70			MADE GROUND: Brown gravelly clayey medium to coarse sand with frequent rootlets. Gravel is medium to coarse subangular to subrounded of brick, mudstone and concrete. (Topsoil)	
				1.40			MADE GROUND: Black clayey gravelly medium to coarse sand. Gravel is fine to medium subangular of ash and concrete.	1
	1.90	ES					MADE GROUND: Sandstone fill.	2
				2.40			MADE GROUND: Black clayey gravel with occasional cobbles. Gravel is medium to coarse subangular of concrete, ash and mudstone.	
	3.20	ES		3.10			Brown fibrous PEAT.	3
				3.30			End of Pit at 3.30m	4
								5
								6

Trial Pit Photographs



TP211 east (3)

TP211 east (3) spoils

Remarks: 1. Complete 2. Strong hydrocarbon odour encountered between 2.40m and 3.10m bgl. 3. Water strike encountered at 2.40m bgl.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387827.00 - 410067.00 Level:	Date 13/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 4.00 2.20	Scale 1:45
Client: Kellen Homes		Depth 3.30	Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
 3.00	1.90	ES		0.80			MADE GROUND: Brown gravelly clayey medium to coarse sand with frequent rootlets. Gravel is medium to coarse subangular to subrounded of brick, mudstone and concrete. (Topsoil)	1
				1.50			MADE GROUND: Black gravelly medium to coarse sand. Gravel is fine to coarse subangular to angular of brick, mudstone and sandstone.	
				2.00			MADE GROUND:	2
				3.10			MADE GROUND: Blackish brown gravel with occasional wood fragments. Gravel is fine to coarse subangular of mudstone.	
				3.30			Brown fibrous PEAT.	3
							End of Pit at 3.30m	4
								5
								6

Trial Pit Photographs



TP211 east (4)

TP211 east (4) spoil

Remarks: 1. Complete 2. Strong organic odour encountered from 3.00m bgl. 3. Water strike encountered at 3.00m bgl- slow seepage.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387757.00 - 410055.00 Level:	Date 12/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 3.70 Depth 2.10	Scale 1:45 Logged E.Canham
Client: Kellen Homes			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
 2.00	1.90	ES		0.20			MADE GROUND: Dark brown gravelly clayey medium to coarse sand. Gravel is fine to coarse subangular to subrounded of concrete and brick.	1
				1.20			MADE GROUND: Pink and grey gravel (ballast) underlain by felt cloth. Plastic and metal pipe encountered at 1.00m bgl.	
				2.10			MADE GROUND: Black and orange gravelly reworked clay with occasional cobbles. Gravel is medium to coarse subangular to angular of sandstone, slag and clinker. Cobbles are subangular of slag. (Black oily sheen encountered)	2
							End of Pit at 2.10m	3
								4
								5
								6

Trial Pit Photographs



TP211 North



TP211 North spoil

Remarks: 1. Complete 2. Black sheen encountered between 1.80m and 2.10m bgl. 3. Water strike encountered at 2.00m bgl- moderate seepage.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387758.00 - 410043.00 Level:	Date 12/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 3.30 Depth 2.60	Scale 1:45 Logged E.Canham
Client: Kellen Homes			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	1.00	ES		0.90			MADE GROUND: Concrete.	
				1.50			MADE GROUND: Black gravelly medium to coarse sand. Gravel is fine to coarse subangular to angular of brick, concrete, clinker and slag.	1
				2.00			MADE GROUND: Brown clayey medium to sand with occasional black streaks.	2
				2.30			MADE GROUND: Black slightly silty clay with occasional cobbles. Cobbles are subangular of slag and large wood branches.	
				2.60			Yellowish brown gravelly medium to coarse SAND. Gravel is fine to coarse subrounded of mudstone. End of Pit at 2.60m	3
								4
								5
								6

Trial Pit Photographs



TP211 South



TP211 South spoil

Remarks: 1. Complete 2. Unstable between 1.50m and 2.00m bgl due to sand collapse. 3. Slight hydrocarbon odour encountered between 1.50m and 2.00m bgl.

Stability: Unstable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387742.00 - 410046.00 Level:	Date 12/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 2.00 2.10	Scale 1:45
Client: Kellen Homes		Depth 2.20	Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.90 1.00			MADE GROUND: Concrete.	
	1.90	ES		2.00 2.20			MADE GROUND: Orangish brown clayey medium to coarse sand. MADE GROUND: Blackish brown slightly sandy clay with occasional cobbles. Brick land drain at encountered at 1.00m bgl. Cobbles are slag and large wooden branches.	1
							Greyish brown slightly silty SAND with organic matter.	2
							End of Pit at 2.20m	3
								4
								5
								6

Trial Pit Photographs



TP211 West

Remarks: 1. Complete 2. Slight hydrocarbon odour encountered between 1.00m and 2.00m bgl. 3. Concrete slab encountered to 0.60m and concrete step encountered to 0.90m bgl.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387986.00 - 410156.00 Level:	Date 12/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 4.00 Depth 2.50	Scale 1:45
Client: Kellen Homes			Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.25			MADE GROUND: Concrete and rebar with blue plastic sheeting encountered at base.	
				0.80			MADE GROUND: Greyish brown sandy gravel. Gravel is medium to coarse subangular of concrete. (Sub-base)	1
				1.30			MADE GROUND: Dark brown gravelly coarse sand. Gravel is fine to coarse subangular to subrounded of concrete, ceramic, brick and mudstone.	
				1.70			MADE GROUND: Brown medium to coarse sand.	
				2.50			MADE GROUND: Black slightly gravelly slightly clayey medium to coarse sand. Gravel is fine to coarse subangular to angular of glass, brick, concrete and ash.	2
							End of Pit at 2.50m	3
								4
								5
								6

Trial Pit Photographs



TP301



TP301 spoil

Remarks: 1. Complete.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 388007.00 - 410147.00 Level:	Date 12/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): Depth 1.70	Scale 1:45
Client: Kellen Homes		2.00 3.60	Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.70			MADE GROUND: Concrete slab.	
				1.20			MADE GROUND: Greyish brown sandy gravel. Gravel is medium to coarse subangular of concrete. (Sub-base)	1
				1.70			MADE GROUND: Blackish brown gravelly sandy reworked clay. Gravel is fine to coarse subangular to angular of brick, ash, concrete, sandstone and plastic sheeting.	
							End of Pit at 1.70m	2
								3
								4
								5
								6

Trial Pit Photographs



TP302



TP302 spoil

Remarks: 1. Complete. 2. Slight hydrocarbon odour encountered from 1.20m bgl in eastern wall.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387929.00 - 410111.00 Level:	Date 13/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 1.70 1.80	Scale 1:45
Client: Kellen Homes		Depth 1.00	Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.30			MADE GROUND: Concrete and rebar.	
				0.50			MADE GROUND: Grey sandy gravel. Gravel is medium to coarse subangular of concrete. (Sub-base)	
				1.00			MADE GROUND: Black gravelly fine to medium sand. Gravel is fine to coarse subangular to angular of concrete, brick, clinker, plastic and metal.	
							End of Pit at 1.00m	1
								2
								3
								4
								5
								6

Trial Pit Photographs



TP303

Remarks: 1. Complete 2. Deeper concrete encountered in northern wall at 0.80m bgl.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387586.00 - 410049.00 Level:	Date 13/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 2.10 3.20	Scale 1:45
Client: Kellen Homes		Depth 1.20	Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.25 0.40			MADE GROUND: Brown gravelly clayey medium to coarse sand. Gravel is medium to coarse subangular to subrounded of brick, mudstone and concrete. (Topsoil)	
				1.00 1.20			MADE GROUND: Yellowish brown clayey gravel. Gravel is fine to coarse subangular of concrete. MADE GROUND: Brick fill.	1
							MADE GROUND: Dark brown gravelly clayey medium to coarse sand. Gravel is fine to coarse subangular to angular of ballast, ceramic and glass. End of Pit at 1.20m	2
								3
								4
								5
								6

Trial Pit Photographs



TP304

Remarks: 1. Complete

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387815.00 - 410082.00 Level:	Date 13/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 2.10 3.20	Scale 1:45
Client: Kellen Homes		Depth 1.20	Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.60			MADE GROUND: Brown gravelly clayey medium to coarse sand with frequent cobbles. Gravel is medium to coarse subangular to subrounded of brick, mudstone and concrete. Cobbles are intact bricks. (Topsoil)	
				1.00			MADE GROUND: Concrete.	1
				1.20			MADE GROUND: Dark brown silty clayey fine to medium sand.	
							End of Pit at 1.20m	
								2
								3
								4
								5
								6

Trial Pit Photographs

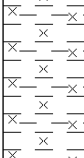


TP305

Remarks: 1. Complete 2. Plastic redundant services encountered running east to west at circa 0.80m bgl.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387727.00 - 410031.00 Level:	Date 13/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 2.10 x 3.20	Scale 1:45
Client: Kellen Homes		Depth 2.70	Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.40			MADE GROUND: Brown gravelly clayey medium to coarse sand with frequent rootlets. Gravel is medium to coarse subangular to subrounded of brick, mudstone and concrete. (Topsoil)	1
				1.70			MADE GROUND: Dark brown clayey sand with occasional rootlets. Brick land drain encountered between 0.60m and 1.00m bgl.	
				2.70			Greyish black slightly silty CLAY.	2
							End of Pit at 2.70m	3
								4
								5
								6

Trial Pit Photographs

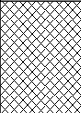
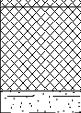
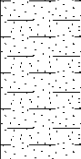


TP306

Remarks: 1. Complete. 2. Concrete slab encountered in northern wall from GL to 0.60m bgl. Concrete step in northern wall from 0.60m to 1.00m bgl.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387896.00 - 410111.00 Level:	Date 14/10/2022
Location: Heywood Road, Rochdale	Dimensions (m): 4.20 Depth 2.30		Scale 1:45
Client: Kellen Homes			Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.70			MADE GROUND: Brown gravelly clayey medium to coarse sand with frequent rootlets. Gravel is medium to coarse subangular to subrounded of brick, mudstone and concrete. (Topsoil)	
				1.20			MADE GROUND: Blackish brown gravelly clayey medium to coarse sand with frequent bricks, glass, slag and concrete cobbles (fill).	1
				2.30			Brown clayey medium to coarse SAND.	2
							End of Pit at 2.30m	3
								4
								5
								6

Trial Pit Photographs



TP307



TP307 spoil

Remarks: 1. Complete 2. Concrete slab encountered to 0.70m and concrete step to 1.20m.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387962.00 - 410126.00 Level:	Date 14/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 4.20 Depth 1.80	Scale 1:45 Logged E.Canham
Client: Kellen Homes			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.20			MADE GROUND: Concrete.	
				0.50			MADE GROUND: Black clayey gravelly fine to medium sand. Gravel is fine to coarse subangular to angular of concrete, ash and mudstone.	
				1.00			MADE GROUND: Brick and sandstone fill.	1
				1.80			MADE GROUND: Black clayey gravelly fine to medium sand. Gravel is fine to coarse subangular to angular of concrete, ash, sandstone and mudstone.	
							End of Pit at 1.80m	2
								3
								4
								5
								6

Trial Pit Photographs



TP308



TP308 spoil

Remarks: 1. Complete. 2. Concrete slab encountered in northern wall from GL to 0.60m bgl. Concrete step in northern wall from 0.60m to 1.00m bgl.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 388066.00 - 410183.00 Level:	Date 14/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): Depth 2.40	Scale 1:45
Client: Kellen Homes		2.80	Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.50			MADE GROUND: Concrete.	
				1.00			MADE GROUND: Brownish grey gravel. Gravel is medium to coarse subangular of concrete. (Sub-base)	1
				1.50			MADE GROUND: Black clayey gravelly fine to medium sand. Gravel is fine to coarse subangular to angular of concrete, ash, sandstone and mudstone.	
				2.40			MADE GROUND: Greenish grey clayey gravelly medium to coarse sand with occasional cobbles and band of black silty fine to medium sand encountered at 1.70m to 1.80m bgl. Gravel is fine to coarse subangular to angular of concrete, ash, sandstone and mudstone. Cobbles are intact bricks, concrete and sandstone.	2
							End of Pit at 2.40m	3
								4
								5
								6

Trial Pit Photographs



TP309

Remarks: 1. Complete.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: - Level:	Date 12/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 2.10 3.00	Scale 1:45
Client: Kellen Homes		Depth 3.20	Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.10			MADE GROUND: Asphalt.	
				0.40			MADE GROUND: Black sandy gravel. Gravel is ash and concrete.	
				0.50			MADE GROUND: Red slightly clayey fine to medium sand.	
	1.40	ES					MADE GROUND: Black sandy gravel with occasional cobbles. Gravel is ash, concrete, brick, clinker and metal. Cobbles are intact bricks and slag.	1
				2.40			MADE GROUND: Very soft blackish brown gravelly clay with occasional metal fragments and wooden beams. (Very strong hydrocarbon odour and black sheen between 2.40m and 3.00m.	2
	3.20	ES		3.20			End of Pit at 3.20m	3
								4
								5
								6

Trial Pit Photographs



WS104 East

Remarks: 1. Complete 2. Very strong hydrocarbon odour and black sheen between 2.40m and 3.00m bgl.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387827.00 - 410103.00 Level:	Date 12/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 3.30 2.10	Scale 1:45
Client: Kellen Homes		Depth 3.40	Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
 2.70	0.10			0.10			MADE GROUND: Asphalt.	
				0.50			MADE GROUND: Greyish yellow sandy gravel. Gravel is fine to coarse subangular to subrounded of concrete. (Sub-base)	
	1.40	ES					MADE GROUND: Black sandy gravel with occasional cobbles and occasional roots and rootlets. Gravel is ash, concrete, brick, clinker and metal. Cobbles are angular of slag.	1
				2.00			MADE GROUND: Black and orange gravelly clay with metal fragments.	2
				2.50			MADE GROUND: Black clayey gravel. Gravel is medium to coarse subangular to angular of ash, mudstone and clinker.	
	3.20	ES		2.70			Brown fibrous PEAT.	3
				3.40			End of Pit at 3.40m	4
								5
								6

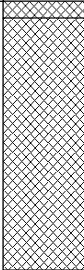
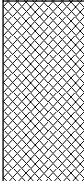
Trial Pit Photographs



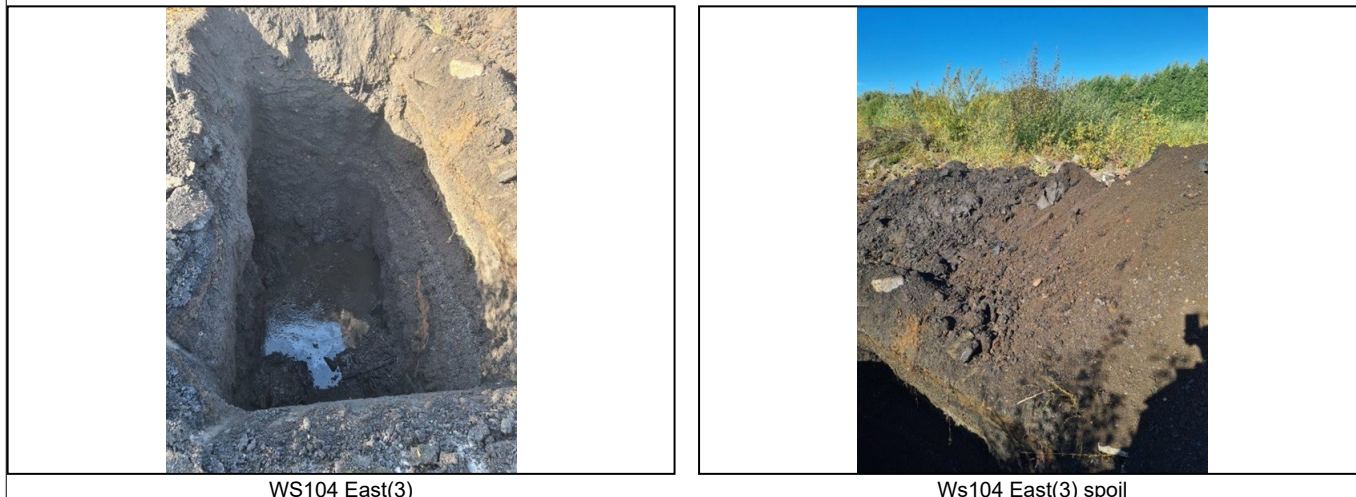
Remarks: 1. Complete. 2. Strong hydrocarbon odour and oily sheen encountered between 2.50m and 2.70m bgl. 3. Water strike encountered at 2.70m bgl - seepage.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387836.00 - 410108.00 Level:	Date 13/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): Depth 3.30	Scale 1:45
Client: Kellen Homes		2.20 	Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.10			MADE GROUND: Asphalt. MADE GROUND: Brown gravelly medium to coarse sand. Gravel is fine to coarse subangular to angular of concrete, sandstone and ash.	1
	1.40	ES		1.60			MADE GROUND: Dark brown silty gravelly medium to coarse sand with lens of orange medium to coarse sand in northern wall.	2
				2.70			MADE GROUND: Black gravel with wood fragments.	
	3.20	ES		3.00			Brown pseudo fibrous PEAT.	3
				3.30			End of Pit at 3.30m	4
								5
								6

Trial Pit Photographs



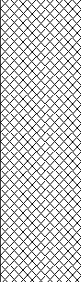
WS104 East(3)

Ws104 East(3) spoils

Remarks: 1. Complete 2. Strong Hydrocarbon odour encountered between 2.70m and 3.00m bgl.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387803.00 - 410109.00 Level:	Date 12/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 3.10 Depth 3.20	Scale 1:45 Logged E.Canham
Client: Kellen Homes			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
 3.00	1.20	ES		0.50 0.70		    	MADE GROUND: Brown gravelly clayey medium to coarse sand. Gravel is medium to coarse subangular to subrounded of brick, mudstone and concrete. (Topsoil) MADE GROUND: Blackish brown and orange reworked clay. MADE GROUND: Black sandy clayey gravel with band of white clayey medium to coarse sand and occasional cobbles and wood fragments. Cobbles are subangular to angular of clinker, slag and concrete.	1
				2.50 2.70		 	MADE GROUND: Black and orange gravelly clay. Gravel is fine to coarse subangular to angular of clinker, brick and glass (Oily sheen encountered). Dark brown clayey pseudo fibrous PEAT.	2
	3.20	ES		3.20		 	End of Pit at 3.20m	3
								4
								5
								6

Trial Pit Photographs



WS104 North

Remarks: 1. Complete. 2. Strong hydrocarbon odour and oily sheen encountered between 2.50m and 2.70m bgl. 3. Water strike encountered at 3.00m bgl - moderate seepage.

Stability: Stable.



e3p

Trial Pit Log

TrialPit No
WS104
North (2)
Sheet 1 of 1

Project Name: Castleton Sidings

Project No.
14768Co-ords: 387803.00 - 410118.00
Level:Date
13/10/2022

Location: Heywood Road, Rochdale

Dimensions (m): 3.30

Scale
1:45

Client: Kellen Homes

Depth
3.20

2.10

Logged
E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.70			MADE GROUND: Brown silty clayey gravelly fine to medium sand with frequent rootlets. Gravel is fine to coarse subangular to angular of brick and concrete.	
	1.40	ES					MADE GROUND: Dark brown gravelly clayey fine to medium sand with occasional cobbles. Gravel is fine to coarse subangular to subrounded of mudstone, ash, brick, metal and concrete.	1
				2.00			MAD GROUND: Yellowish brown medium to coarse sand with brick and concrete fill.	2
				3.00			MADE GROUND: Black clayey gravel with frequent cobbles. Cobbles are angular concrete and intact bricks.	3
▼ 3.00	3.20	ES		3.20			End of Pit at 3.20m	4
								5
								6

Trial Pit Photographs



WS104 North(2)

Remarks: 1. Complete 2. Strong hydrocarbon odour encountered between 3.00m and 3.20m bgl 3. Oily sheen visible on water within trial pit. 4. Water strike encountered at 3.00m bgl - slow seepage.

Stability: Stable.



Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387809.00 - 410094.00 Level:	Date 12/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 3.80 Depth 3.50	Scale 1:45 Logged E.Canham
Client: Kellen Homes			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
 2.90	0.10			0.10			MADE GROUND: Asphalt.	
	0.40			0.40			MADE GROUND: Greyish yellow sandy gravel. Gravel is fine to coarse subangular to subrounded of concrete. (Sub-base)	
	1.20	ES		1.50			MADE GROUND: Black sandy clayey gravel with band of white clayey medium to coarse sand and occasional cobbles and wood fragments. Cobbles are subangular to angular of clinker, slag and concrete.	1
				2.50			MADE GROUND: Greyish brown slightly silty clay. Gravel is fine to medium subangular of clinker.	2
				3.00			MADE GROUND: Black slightly gravelly clay with occasional roots and wood fragments. (Oily sheen encountered)	3
	3.40	ES		3.50			Orangish brown clayey fibrous PEAT.	4
							End of Pit at 3.50m	5
								6

Trial Pit Photographs



WS104 South



WS104 South spoil

Remarks: 1. Complete. 2. Strong hydrocarbon odour and oily sheen encountered between 2.20m and 3.00m bgl. 3. Water strike encountered at 2.90m bgl - moderate seepage.

Stability: Stable.



e3p

Trial Pit Log

TrialPit No
WS104
South (2)
Sheet 1 of 1

Project Name: Castleton Sidings

Project No.
14768Co-ords: 387809.00 - 410070.00
Level:Date
13/10/2022

Location: Heywood Road, Rochdale

Dimensions (m): 3.40

Scale
1:45

Client: Kellen Homes

Depth
2.50

2.10

Logged
E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
 2.40				0.70			MADE GROUND: Brown gravelly clayey medium to coarse sand. Gravel is medium to coarse subangular to subrounded of ballast. (Topsoil)	
	1.40	ES					MADE GROUND: Brown gravelly clayey medium to coarse sand. Gravel is fine to medium subangular to angular of brick and ash.	1
	2.50	ES		2.50			End of Pit at 2.50m	3
								4
								5
								6

Trial Pit Photographs



WS104 South(2)



WS104 South(2) spoil

Remarks: 1. Complete 2. Slight hydrocarbon odour encountered at 0.80m to 1.70m bgl. 3. Oily sheen visible on water within trial pit. 4. Ballast encountered to 1.70m bgl in northern wall of trial pit. 5. Water strike encountered at 2.40m bgl - moderate seepage.

Stability: Stable.



Project Name: Castleton Sidings	Project No. 14768	Co-ords: - Level:	Date 12/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 3.00	Scale 1:45
Client: Kellen Homes		Depth 3.30	Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.10			MADE GROUND: Asphalt.	
				0.30			MADE GROUND: Yellowish grey clayey gravel. Gravel is fine to coarse subangular to angular of concrete. (Sub-base)	
	1.40	ES		1.50			MADE GROUND: Blackish brown sandy gravel with occasional cobbles. Gravel is fine to coarse subangular to angular of ash, brick, clinker and glass. Cobbles are intact bricks.	1
							MADE GROUND: Brown slightly gravelly clay with pockets of white clayey medium to coarse sand and occasional wood fragments. (Black sheen encountered between 2.70m and 3.00m bgl)	2
	3.00	ES		3.00			Brown fibrous PEAT.	3
				3.30			End of Pit at 3.30m	4
								5
								6

Remarks: 1. Complete 2. Very strong hydrocarbon odour and black sheen encountered between 2.70m and 3.00m bgl.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387794.00 - 410103.00 Level:	Date 13/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 3.70 2.10 Depth 3.30	Scale 1:45 Logged E.Canham
Client: Kellen Homes			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.20			MADE GROUND: Brown gravelly clayey medium to coarse sand. Gravel is medium to coarse subangular to subrounded of brick, mudstone and concrete. (Topsoil)	
	1.40	ES		1.00			MADE GROUND: Brown clayey gravelly fine to medium sand with band of orange medium to coarse sand at 0.70m and 0.80m bgl.	1
							MADE GROUND: Very soft brownish grey clay interbedded with light brown medium to coarse sand. Large wooden branches encountered at 1.80m bgl. Brick wall/drain encountered in south western corner of trial pit from 1.80m and 3.20m bgl.	2
	3.20	ES		3.30			End of Pit at 3.30m	3
								4
								5
								6

Trial Pit Photographs



WS104 West(2)

WS104 West(2) spoil

Remarks: 1. Complete 2. Slight hydrocarbon odour encountered from 1.00m bgl , however, no black/oily sheen encountered.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: - Level:	Date 13/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 4.80 Depth 4.20	Scale 1:45 Logged E.Canham
Client: Kellen Homes			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.30			MADE GROUND: Brown gravelly clayey medium to coarse sand. Gravel is medium to coarse subangular to subrounded of ballast. (Topsoil) MADE GROUND: Ballast.	
				0.90			MADE GROUND: Orangish brown medium to coarse slightly gravelly sand. Gravel is medium to coarse subrounded mudstone.	1
								2
								3
	4.00	ES		4.20			End of Pit at 4.20m	4
								5
								6

Trial Pit Photographs



WS105 East



WS105 East spoil

Remarks: 1. Terminated at 4.20m bgl due to sand collapse.

Stability: Unstable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387706.00 - 410070.00 Level:	Date 13/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 3.90 Depth 3.20	Scale 1:45 Logged E.Canham
Client: Kellen Homes			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
 2.70	0.40						MADE GROUND: Brown gravelly clayey medium to coarse sand with frequent rootlets. Gravel is medium to coarse subangular to subrounded of brick, mudstone and concrete. (Topsoil)	1
	2.50	ES		3.20			Orangish brown slightly gravelly SAND with pocket of black slightly silty medium to coarse SAND encountered between 2.40m and 2.50m bgl within eastern wall.	2
							End of Pit at 3.20m	3
								4
								5
								6

Trial Pit Photographs



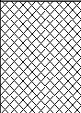
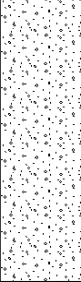
WS105 North

WS105 North spoil

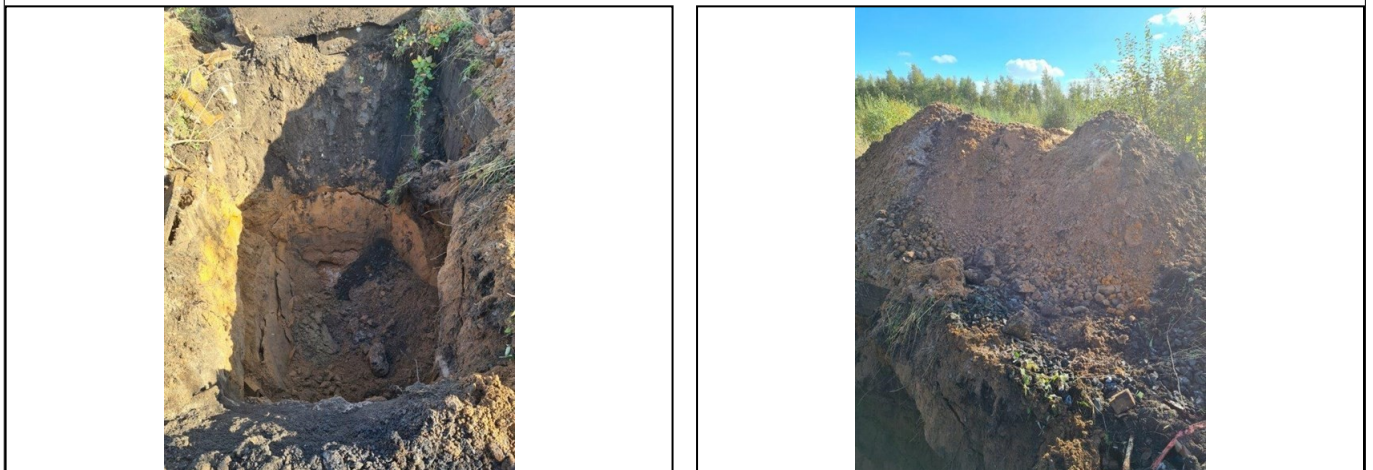
Remarks: 1. Terminated at 3.20m bgl due to sand collapse. 2. Water strike encountered at 2.70m bgl- moderate seepage. 3. Redundant plastic service encountered running east to west at 1.00m bgl.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387718.00 - 410046.00 Level:	Date 13/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 4.00 Depth 3.00	Scale 1:45 Logged E.Canham
Client: Kellen Homes			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
 2.80	3.00	ES		0.70			MADE GROUND: Brown gravelly clayey medium to coarse sand with occasional cobbles. Gravel is medium to coarse subangular to subrounded of brick, mudstone, ballast and concrete. Cobbles are intact bricks and concrete. (Topsoil)	1
				1.30			Light grey slightly silty medium to coarse SAND with occasional rootlets.	2
				3.00			Orange slightly gravelly medium to coarse SAND. Gravel is medium to coarse subrounded of mudstone and sandstone.	3
							End of Pit at 3.00m	4
								5
								6

Trial Pit Photographs



WS105 South

WS105 South spoil

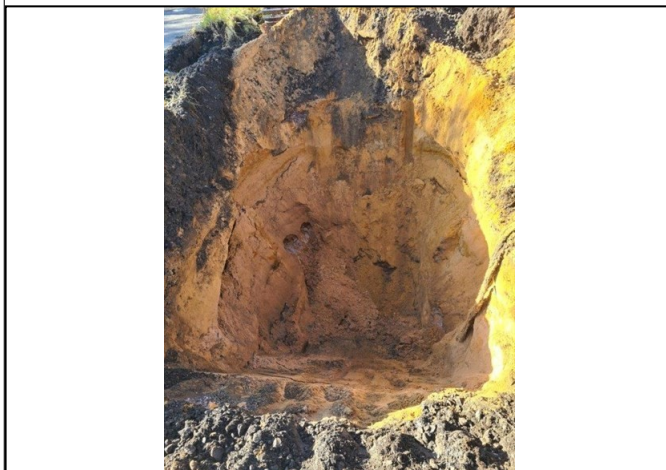
Remarks: 1. Terminated at 3.00m bgl due to sand collapse. 2. Water strike encountered at 2.80m bgl- Slow seepage. 3. Large concrete block encountered from GL to 0.90m.

Stability: Unstable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: - Level:	Date 13/10/2022
Location: Heywood Road, Rochdale	Dimensions (m):	4.00	Scale 1:45
Client: Kellen Homes	Depth 3.70	2.80	Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
 2.40				0.30			MADE GROUND: Brown gravelly clayey medium to coarse sand. Gravel is medium to coarse subangular to subrounded of brick, mudstone, ballast and concrete. (Topsoil)	
				0.60			MADE GROUND: Black sandy gravel. Gravel is medium to coarse subangular ballast with cloth and concrete slab.	
							Orange slightly gravelly medium to coarse SAND. Ceramic land drain encountered at 1.20m bgl.	1
				2.40			Firm grey slightly sandy CLAY.	2
	3.70	ES		3.70			End of Pit at 3.70m	3
								4
								5
								6

Trial Pit Photographs



WS105 West



WS105 West spoil

Remarks: 1. Terminated at 3.70m bgl due to sand collapse. 2. Water strike encountered at 2.40m bgl- Slow seepage.

Stability: Unstable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387854.00 - 410117.00 Level:	Date 14/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 2.90 Depth 0.50	Scale 1:45 Logged E.Canham
Client: Kellen Homes			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.50	ES		0.05 0.20 0.50		MADE GROUND: Asphalt. MADE GROUND: Greyish brown sandy gravel. Gravel is medium to coarse subangular of concrete. (Sub-base) MADE GROUND: Orangish brown clayey medium to coarse sand.	End of Pit at 0.50m 1 2 3 4 5 6

Trial Pit Photographs



WS106b east

Remarks: 1. Terminated due to sewer manhole exposed at 0.50m bgl.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387836.00 - 410129.00 Level:	Date 14/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 2.80 2.20	Scale 1:45
Client: Kellen Homes		Depth 0.90	Logged E.Canham

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.60	ES		0.30			MADE GROUND: Brown gravelly clayey medium to coarse sand with frequent rootlets. Gravel is medium to coarse subangular to subrounded of brick, mudstone and concrete. (Topsoil)	1 </

Trial Pit Photographs



WS106b North

WS106b north spoil

Remarks: 1. Complete

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387854.00 - 410093.00 Level:	Date 14/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 2.70 Depth 1.00	Scale 1:45 Logged E.Canham
Client: Kellen Homes			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.60	ES		0.50			MADE GROUND: Brown gravelly clayey medium to coarse sand with frequent rootlets. Gravel is medium to coarse subangular to subrounded of brick, mudstone and concrete. (Topsoil)	
				1.00			MADE GROUND: Reddish brown clayey gravelly medium to coarse sand.	
							End of Pit at 1.00m	1
								2
								3
								4
								5
								6

Trial Pit Photographs



Remarks: 1. Complete. 2. Concrete slab encountered at 1.00m bgl. 3. Ballast encountered in southern wall to 1.00m bgl.

Stability: Stable.

Project Name: Castleton Sidings	Project No. 14768	Co-ords: 387842.00 - 410111.00 Level:	Date 14/10/2022
Location: Heywood Road, Rochdale		Dimensions (m): 2.80 Depth 0.70	Scale 1:45 Logged E.Canham
Client: Kellen Homes			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.60	ES		0.05			MADE GROUND: Asphalt.	
				0.10			MADE GROUND: Yellowish brown clayey gravel. Gravel is fine to coarse subangular of concrete.	
				0.70			MADE GROUND: Brown clayey gravelly sand. Gravel is fine to coarse subangular to angular of concrete, mudstone, metal and ash.	
							End of Pit at 0.70m	
								1
								2
								3
								4
								5
								6

Trial Pit Photographs



WS106b west

Remarks: 1. Complete

Stability: Stable.

APPENDIX VI CHEMICAL TESTING RESULTS

Eleanor Canham
e3p
Taylor Road
Urmston
Manchester
M41 7JQ

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t: 01923 225404
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e: reception@i2analytical.com

e: ecanham@e3p.co.uk

Analytical Report Number : 22-91276

Replaces Analytical Report Number: 22-91276, issue no. 2
Additional analysis undertaken.

Project / Site name:	Heywood Road	Samples received on:	17/10/2022
Your job number:	14 768	Samples instructed on/ Analysis started on:	20/10/2022
Your order number:	003198	Analysis completed by:	24/01/2023
Report Issue Number:	3	Report issued on:	26/01/2023
Samples Analysed:	34 soil samples		


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

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.

Analytical Report Number: 22-91276
Project / Site name: Heywood Road
Your Order No: 003198

Lab Sample Number				2468195	2468196	2468197	2468198	2468199
Sample Reference				TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				TP211 North	TP211 West	TP211 South	TP211 East (3)	TP211 East (3)
Depth (m)				1.90	1.90	1.00	1.90	3.10
Date Sampled				12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
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	22	33	19	23	73
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3	0.3

Asbestos in Soil	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	-	-	-	-
Total Cyanide	mg/kg	1	MCERTS	-	-	-	-	-
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	-	-	-	-	-
Sulphide	mg/kg	1	MCERTS	-	-	-	-	-
Total Sulphur	mg/kg	50	MCERTS	-	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	7.2	3.2	5.7	-
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	16	-	-	-	16

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	-	-	-	-	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-

Analytical Report Number: 22-91276
Project / Site name: Heywood Road
Your Order No: 003198

Lab Sample Number				2468195	2468196	2468197	2468198	2468199
Sample Reference				TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				TP211 North	TP211 West	TP211 South	TP211 East (3)	TP211 East (3)
Depth (m)				1.90	1.90	1.00	1.90	3.10
Date Sampled				12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-

Speciated Mercury (Dry Weight)

Inorganic Mercury	mg/kg	0.005	NONE	-	-	-	-	-
Organo-Mercury Species (including Methyl Hg)	mg/kg	0.005	NONE	-	-	-	-	-
Elemental Mercury	mg/kg	0.005	NONE	-	-	-	-	-

Speciated Mercury (Dry Weight)

F1 - Water soluble	mg/kg	0.005	NONE	-	-	-	-	-
F2 - Weak acid	mg/kg	0.005	NONE	-	-	-	-	-
F3 - Organo- complexed	mg/kg	0.005	NONE	-	-	-	-	-
F4 - Strongly complexed	mg/kg	0.005	NONE	-	-	-	-	-
F5 - Mineral bound	mg/kg	0.005	NONE	-	-	-	-	-

Monoaromatics & Oxygenates

Benzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	250
Toluene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	3000
Ethylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	1700
p & m-xylene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	2000
o-xylene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	960
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_ID_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_ID_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_ID_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_ID_AL	mg/kg	1	NONE	2.1	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_ID_AL	mg/kg	2	NONE	26	< 2.0	< 2.0	11	3.4
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_ID_AL	mg/kg	8	NONE	17	< 8.0	< 8.0	16	13
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_ID_AL	mg/kg	8	NONE	14	< 8.0	< 8.0	21	60
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_ID_AL	mg/kg	10	NONE	59	< 10	< 10	47	76

TPH-CWG - Aromatic >EC5 - EC7 HS_ID_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	0.25
TPH-CWG - Aromatic >EC7 - EC8 HS_ID_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	3
TPH-CWG - Aromatic >EC8 - EC10 HS_ID_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	6
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_ID_AR	mg/kg	1	NONE	2.6	2.8	< 1.0	14	72
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_ID_AR	mg/kg	2	NONE	38	11	< 2.0	82	160
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_ID_AR	mg/kg	10	NONE	130	14	< 10	260	270
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_ID_AR	mg/kg	10	NONE	120	43	25	230	160
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_ID_AR	mg/kg	10	NONE	290	71	30	580	670

TPH (C5 - C6) HS_ID_TOTAL	mg/kg	1	NONE	-	-	-	-	-
TPH (C6 - C8) HS_ID_TOTAL	mg/kg	0.1	NONE	-	-	-	-	-
TPH (C8 - C10) HS_ID_TOTAL	mg/kg	0.1	NONE	-	-	-	-	-
TPH (C10 - C12) EH_CU_ID_TOTAL	mg/kg	2	NONE	-	-	-	-	-
TPH (C12 - C16) EH_CU_ID_TOTAL	mg/kg	4	NONE	-	-	-	-	-
TPH (C16 - C21) EH_CU_ID_TOTAL	mg/kg	1	NONE	-	-	-	-	-
TPH (C21 - C35) EH_CU_ID_TOTAL	mg/kg	1	NONE	-	-	-	-	-
TPH (C35 - C40) EH_CU_ID_TOTAL	mg/kg	10	NONE	-	-	-	-	-

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Project / Site name: Heywood Road
Your Order No: 003198

Lab Sample Number				2468195	2468196	2468197	2468198	2468199
Sample Reference				TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				TP211 North	TP211 West	TP211 South	TP211 East (3)	TP211 East (3)
Depth (m)				1.90	1.90	1.00	1.90	3.10
Date Sampled				12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
TPH Total C5 - C40 EH_CU+HS_ID_TOTAL	mg/kg	10	NONE	-	-	-	-	-

VOCs

Chloromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	250
Tetrachloromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	3000
1,1,2-Trichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	1700
p & m-Xylene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	2000
Styrene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	52
Tribromomethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	960
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	130
Bromobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	54
2-Chlorotoluene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	260
tert-Butylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	800
sec-Butylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	14
1,3-Dichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Analytical Report Number: 22-91276
Project / Site name: Heywood Road
Your Order No: 003198

Lab Sample Number				2468195	2468196	2468197	2468198	2468199
Sample Reference				TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				TP211 North	TP211 West	TP211 South	TP211 East (3)	TP211 East (3)
Depth (m)				1.90	1.90	1.00	1.90	3.10
Date Sampled				12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,4-Dichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	24
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	99
Hexachloroethane	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	270
Isophorone	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	370
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	NONE	9.3	0.9	0.42	21	490
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	9.1	0.4	0.3	12	240
2-Chloronaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	NONE	0.73	< 0.05	< 0.05	0.53	< 0.05
Acenaphthene	mg/kg	0.05	NONE	3.9	0.26	0.15	11	130
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	NONE	3.9	< 0.2	< 0.2	11	110
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.05	NONE	3.3	0.17	0.11	12	130
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	NONE	25	0.49	0.71	34	350
Anthracene	mg/kg	0.05	NONE	3.7	0.1	0.2	14	94
Carbazole	mg/kg	0.3	NONE	0.6	< 0.3	< 0.3	2.1	26
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	0.7
Anthraquinone	mg/kg	0.3	NONE	1.5	< 0.3	< 0.3	1.2	5.4
Fluoranthene	mg/kg	0.05	NONE	24	0.45	0.95	28	120

Analytical Report Number: 22-91276
Project / Site name: Heywood Road
Your Order No: 003198

Lab Sample Number				2468195	2468196	2468197	2468198	2468199
Sample Reference				TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				TP211 North	TP211 West	TP211 South	TP211 East (3)	TP211 East (3)
Depth (m)				1.90	1.90	1.00	1.90	3.10
Date Sampled				12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Pyrene	mg/kg	0.05	NONE	23	0.44	1.1	18	84
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	0.4	0.7
Benzo(a)anthracene	mg/kg	0.05	NONE	15	0.26	0.62	5.3	17
Chrysene	mg/kg	0.05	NONE	13	0.26	0.64	5.4	13
Benzo(b)fluoranthene	mg/kg	0.05	NONE	13	0.4	0.72	4.6	6.1
Benzo(k)fluoranthene	mg/kg	0.05	NONE	5.5	0.15	0.24	1.3	2.8
Benzo(a)pyrene	mg/kg	0.05	NONE	11	0.4	0.53	3.2	4.9
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	5.5	0.25	0.3	1.1	1.7
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	2.1	< 0.05	0.11	0.3	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	6.3	0.31	0.33	1.1	1.5

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 22-91276
Project / Site name: Heywood Road
Your Order No: 003198

Lab Sample Number				2468200	2468201	2468202	2468203	2468204
Sample Reference				Mercury for Speciation	Mercury for Speciation	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				TP213a	TP207a	WS104 West	WS104 West	WS104 North
Depth (m)				0.60	0.60	1.40	3.20	1.20
Date Sampled				12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
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	34	30	< 0.1	6.4	< 0.1
Moisture Content	%	0.01	NONE	17	20	9.4	14	23
Total mass of sample received	kg	0.001	NONE	0.4	0.3	0.3	0.3	0.3

Asbestos in Soil	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	-	-	-	-
Total Cyanide	mg/kg	1	MCERTS	-	-	-	-	-
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	-	-	-	-	-
Sulphide	mg/kg	1	MCERTS	-	-	-	-	-
Total Sulphur	mg/kg	50	MCERTS	-	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	4.9	2.3	1.2	-
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	-	-	-	7.1

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	-	-	-	-	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-

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Lab Sample Number				2468200	2468201	2468202	2468203	2468204
Sample Reference				Mercury for Speciation	Mercury for Speciation	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				TP213a	TP207a	WS104 West	WS104 West	WS104 North
Depth (m)				0.60	0.60	1.40	3.20	1.20
Date Sampled				12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	5.2	0.9	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-

Speciated Mercury (Dry Weight)

Inorganic Mercury	mg/kg	0.005	NONE	4.081	-	-	-	-
Organo-Mercury Species (including Methyl Hg)	mg/kg	0.005	NONE	0.217	-	-	-	-
Elemental Mercury	mg/kg	0.005	NONE	0.878	-	-	-	-

Speciated Mercury (Dry Weight)

F1 - Water soluble	mg/kg	0.005	NONE	0.072	-	-	-	-
F2 - Weak acid	mg/kg	0.005	NONE	0.085	-	-	-	-
F3 - Organo- complexed	mg/kg	0.005	NONE	0.217	-	-	-	-
F4 - Strongly complexed	mg/kg	0.005	NONE	0.878	-	-	-	-
F5 - Mineral bound	mg/kg	0.005	NONE	3.923	-	-	-	-

Monoaromatics & Oxygenates

Benzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_ID_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_ID_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_ID_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_ID_AL	mg/kg	1	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_ID_AL	mg/kg	2	NONE	-	< 2.0	< 2.0	< 2.0	11
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_ID_AL	mg/kg	8	NONE	-	13	8.5	< 8.0	74
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_ID_AL	mg/kg	8	NONE	-	120	49	< 8.0	200
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_ID_AL	mg/kg	10	NONE	-	130	59	< 10	290

TPH-CWG - Aromatic >EC5 - EC7 HS_ID_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_ID_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_ID_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_ID_AR	mg/kg	1	NONE	-	4	3.9	1.2	18
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_ID_AR	mg/kg	2	NONE	-	11	9.5	< 2.0	100
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_ID_AR	mg/kg	10	NONE	-	34	58	< 10	1400
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_ID_AR	mg/kg	10	NONE	-	51	110	25	2500
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_ID_AR	mg/kg	10	NONE	-	100	180	36	4100

TPH (C5 - C6) HS_ID_TOTAL	mg/kg	1	NONE	-	-	-	-	-
TPH (C6 - C8) HS_ID_TOTAL	mg/kg	0.1	NONE	-	-	-	-	-
TPH (C8 - C10) HS_ID_TOTAL	mg/kg	0.1	NONE	-	-	-	-	-
TPH (C10 - C12) EH_CU_ID_TOTAL	mg/kg	2	NONE	-	-	-	-	-
TPH (C12 - C16) EH_CU_ID_TOTAL	mg/kg	4	NONE	-	-	-	-	-
TPH (C16 - C21) EH_CU_ID_TOTAL	mg/kg	1	NONE	-	-	-	-	-
TPH (C21 - C35) EH_CU_ID_TOTAL	mg/kg	1	NONE	-	-	-	-	-
TPH (C35 - C40) EH_CU_ID_TOTAL	mg/kg	10	NONE	-	-	-	-	-

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Lab Sample Number				2468200	2468201	2468202	2468203	2468204
Sample Reference				Mercury for Speciation	Mercury for Speciation	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				TP213a	TP207a	WS104 West	WS104 West	WS104 North
Depth (m)				0.60	0.60	1.40	3.20	1.20
Date Sampled				12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
TPH Total C5 - C40 _{EH} CU+HS 1D_TOTAL	mg/kg	10	NONE	-	-	-	-	-

VOCs

Chloromethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0

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Project / Site name: Heywood Road
Your Order No: 003198

Lab Sample Number				2468200	2468201	2468202	2468203	2468204
Sample Reference				Mercury for Speciation	Mercury for Speciation	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				TP213a	TP207a	WS104 West	WS104 West	WS104 North
Depth (m)				0.60	0.60	1.40	3.20	1.20
Date Sampled				12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,4-Dichlorobenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	NONE	-	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	NONE	-	0.57	0.67	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	0.8	0.9	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	NONE	-	0.15	0.12	< 0.05	14
Acenaphthene	mg/kg	0.05	NONE	-	0.67	0.64	< 0.05	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	NONE	-	0.4	0.5	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.05	NONE	-	0.5	0.56	< 0.05	2.9
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	NONE	-	4.6	3.9	< 0.05	15
Anthracene	mg/kg	0.05	NONE	-	1.3	0.98	< 0.05	26
Carbazole	mg/kg	0.3	NONE	-	0.4	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	0.7	0.4	< 0.3	< 0.3
Fluoranthene	mg/kg	0.05	NONE	-	9	6.7	0.87	260

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Lab Sample Number				2468200	2468201	2468202	2468203	2468204
Sample Reference				Mercury for Speciation	Mercury for Speciation	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				TP213a	TP207a	WS104 West	WS104 West	WS104 North
Depth (m)				0.60	0.60	1.40	3.20	1.20
Date Sampled				12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Pyrene	mg/kg	0.05	NONE	-	8.6	6.4	0.87	270
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	NONE	-	5.8	3.5	0.51	180
Chrysene	mg/kg	0.05	NONE	-	4.5	3	0.51	150
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	6.7	4.6	0.53	150
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	2.3	1.1	0.22	63
Benzo(a)pyrene	mg/kg	0.05	NONE	-	4.9	3.2	0.45	140
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	2.6	1.7	0.2	53
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	0.8	0.5	0.06	19
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	2.7	1.9	0.22	55

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Lab Sample Number				2468205	2468206	2468207	2468208	2468209
Sample Reference				TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				WS104 North	WS104 South	WS104 South	WS104 East (2)	WS104 East (2)
Depth (m)				3.20	1.20	3.20	1.40	3.20
Date Sampled				12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
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	45	< 0.1
Moisture Content	%	0.01	NONE	61	30	82	14	79
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3	0.3

Asbestos in Soil	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	-	-	-	-
Total Cyanide	mg/kg	1	MCERTS	-	-	-	-	-
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	-	-	-	-	-
Sulphide	mg/kg	1	MCERTS	-	-	-	-	-
Total Sulphur	mg/kg	50	MCERTS	-	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	-	-	4.7	-
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	16	10	15	-	17

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	-	-	-	-	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-

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Lab Sample Number				2468205	2468206	2468207	2468208	2468209
Sample Reference				TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				WS104 North	WS104 South	WS104 South	WS104 East (2)	WS104 East (2)
Depth (m)				3.20	1.20	3.20	1.40	3.20
Date Sampled				12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-

Speciated Mercury (Dry Weight)

Inorganic Mercury	mg/kg	0.005	NONE	-	-	-	-	-
Organo-Mercury Species (including Methyl Hg)	mg/kg	0.005	NONE	-	-	-	-	-
Elemental Mercury	mg/kg	0.005	NONE	-	-	-	-	-

Speciated Mercury (Dry Weight)

F1 - Water soluble	mg/kg	0.005	NONE	-	-	-	-	-
F2 - Weak acid	mg/kg	0.005	NONE	-	-	-	-	-
F3 - Organo- complexed	mg/kg	0.005	NONE	-	-	-	-	-
F4 - Strongly complexed	mg/kg	0.005	NONE	-	-	-	-	-
F5 - Mineral bound	mg/kg	0.005	NONE	-	-	-	-	-

Monoaromatics & Oxygenates

Benzene	µg/kg	5	NONE	< 1.0	< 1.0	19	< 1.0	< 1.0
Toluene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS, ID, AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS, ID, AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS, ID, AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH, CU, ID, AL}	mg/kg	1	NONE	< 1.0	8.8	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH, CU, ID, AL}	mg/kg	2	NONE	29	140	< 2.0	< 2.0	5.6
TPH-CWG - Aliphatic >EC16 - EC21 _{EH, CU, ID, AL}	mg/kg	8	NONE	150	380	14	22	15
TPH-CWG - Aliphatic >EC21 - EC35 _{EH, CU, ID, AL}	mg/kg	8	NONE	290	400	120	96	120
TPH-CWG - Aliphatic (EC5 - EC35) _{EH, CU+HS, ID, AL}	mg/kg	10	NONE	470	930	140	120	140

TPH-CWG - Aromatic >EC5 - EC7 _{HS, ID, AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	0.019	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS, ID, AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 _{HS, ID, AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 _{EH, CU, ID, AR}	mg/kg	1	NONE	4.3	11	6.1	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH, CU, ID, AR}	mg/kg	2	NONE	43	130	34	18	7.1
TPH-CWG - Aromatic >EC16 - EC21 _{EH, CU, ID, AR}	mg/kg	10	NONE	280	990	81	530	25
TPH-CWG - Aromatic >EC21 - EC35 _{EH, CU, ID, AR}	mg/kg	10	NONE	610	1500	410	770	120
TPH-CWG - Aromatic (EC5 - EC35) _{EH, CU+HS, ID, AR}	mg/kg	10	NONE	930	2600	530	1300	150

TPH (C5 - C6) _{HS, ID, TOTAL}	mg/kg	1	NONE	-	-	-	-	-
TPH (C6 - C8) _{HS, ID, TOTAL}	mg/kg	0.1	NONE	-	-	-	-	-
TPH (C8 - C10) _{HS, ID, TOTAL}	mg/kg	0.1	NONE	-	-	-	-	-
TPH (C10 - C12) _{EH, CU, ID, TOTAL}	mg/kg	2	NONE	-	-	-	-	-
TPH (C12 - C16) _{EH, CU, ID, TOTAL}	mg/kg	4	NONE	-	-	-	-	-
TPH (C16 - C21) _{EH, CU, ID, TOTAL}	mg/kg	1	NONE	-	-	-	-	-
TPH (C21 - C35) _{EH, CU, ID, TOTAL}	mg/kg	1	NONE	-	-	-	-	-
TPH (C35 - C40) _{EH, CU, ID, TOTAL}	mg/kg	10	NONE	-	-	-	-	-

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Lab Sample Number				2468205	2468206	2468207	2468208	2468209
Sample Reference				TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				WS104 North	WS104 South	WS104 South	WS104 East (2)	WS104 East (2)
Depth (m)				3.20	1.20	3.20	1.40	3.20
Date Sampled				12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
TPH Total C5 - C40 EH CU+HS 1D_TOTAL	mg/kg	10	NONE	-	-	-	-	-

VOCs

Chloromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	5	NONE	< 1.0	< 1.0	19	< 1.0	< 1.0
Tetrachloromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Lab Sample Number				2468205	2468206	2468207	2468208	2468209
Sample Reference				TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				WS104 North	WS104 South	WS104 South	WS104 East (2)	WS104 East (2)
Depth (m)				3.20	1.20	3.20	1.40	3.20
Date Sampled				12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,4-Dichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	0.7	< 0.1
Phenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	NONE	0.6	< 0.3	1.3	< 0.3	12
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	NONE	1.7	19	3.2	0.58	0.77
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	1.3	7.4	2.1	0.7	0.3
2-Chloronaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	NONE	0.94	9.4	0.43	1.3	0.08
Acenaphthene	mg/kg	0.05	NONE	3.6	4.6	5.1	2.1	1.6
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	NONE	1.4	4.8	4.6	0.6	1.3
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.05	NONE	1.7	5.4	5.9	1.7	1.6
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	NONE	15	26	19	22	4.8
Anthracene	mg/kg	0.05	NONE	7.6	38	9.4	14	1
Carbazole	mg/kg	0.3	NONE	1.5	4.3	1.1	1.4	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	4.2	9	0.7	4.5	< 0.3
Fluoranthene	mg/kg	0.05	NONE	30	81	6.9	140	2.6

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Lab Sample Number				2468205	2468206	2468207	2468208	2468209
Sample Reference				TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				WS104 North	WS104 South	WS104 South	WS104 East (2)	WS104 East (2)
Depth (m)				3.20	1.20	3.20	1.40	3.20
Date Sampled				12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Pyrene	mg/kg	0.05	NONE	29	100	6.4	150	2.1
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	NONE	14	38	1.7	62	0.73
Chrysene	mg/kg	0.05	NONE	12	34	1.9	60	0.6
Benzo(b)fluoranthene	mg/kg	0.05	NONE	23	44	3	60	0.7
Benzo(k)fluoranthene	mg/kg	0.05	NONE	4.5	16	0.59	29	0.27
Benzo(a)pyrene	mg/kg	0.05	NONE	16	31	1.7	56	0.59
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	7.5	14	< 0.05	24	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	2.1	5	< 0.05	6.5	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	8.8	15	< 0.05	25	< 0.05

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Lab Sample Number				2468210	2468211	2468212	2468213	2468214
Sample Reference				TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	Naphtalene
Sample Number				WS105 East	WS105 West	WS105 South	WS105 North	WS106b East
Depth (m)				4.00	3.70	3.00	2.50	0.50
Date Sampled				13/10/2022	13/10/2022	13/10/2022	13/10/2022	14/10/2022
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	43
Moisture Content	%	0.01	NONE	7.9	18	15	16	12
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3	0.3

Asbestos in Soil	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	-	-	-	-
Total Cyanide	mg/kg	1	MCERTS	-	-	-	-	-
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	-	-	-	-	-
Sulphide	mg/kg	1	MCERTS	-	-	-	-	-
Total Sulphur	mg/kg	50	MCERTS	-	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.2	0.8	< 0.1	0.2	1.1
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	-	-	-	-	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-

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Lab Sample Number				2468210	2468211	2468212	2468213	2468214
Sample Reference				TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	Naphtalene
Sample Number				WS105 East	WS105 West	WS105 South	WS105 North	WS106b East
Depth (m)				4.00	3.70	3.00	2.50	0.50
Date Sampled				13/10/2022	13/10/2022	13/10/2022	13/10/2022	14/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-

Speciated Mercury (Dry Weight)

Inorganic Mercury	mg/kg	0.005	NONE	-	-	-	-	-
Organo-Mercury Species (including Methyl Hg)	mg/kg	0.005	NONE	-	-	-	-	-
Elemental Mercury	mg/kg	0.005	NONE	-	-	-	-	-

Speciated Mercury (Dry Weight)

F1 - Water soluble	mg/kg	0.005	NONE	-	-	-	-	-
F2 - Weak acid	mg/kg	0.005	NONE	-	-	-	-	-
F3 - Organo- complexed	mg/kg	0.005	NONE	-	-	-	-	-
F4 - Strongly complexed	mg/kg	0.005	NONE	-	-	-	-	-
F5 - Mineral bound	mg/kg	0.005	NONE	-	-	-	-	-

Monoaromatics & Oxygenates

Benzene	µg/kg	5	NONE	< 1.0	150	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	5	NONE	< 1.0	4.5	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	5	NONE	< 1.0	19	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	5	NONE	< 1.0	33	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	5	NONE	< 1.0	16	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS, 1D, AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS, 1D, AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS, 1D, AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH, CU, 1D, AL}	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH, CU, 1D, AL}	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH, CU, 1D, AL}	mg/kg	8	NONE	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH, CU, 1D, AL}	mg/kg	8	NONE	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) _{EH, CU+HS, 1D, AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7 _{HS, 1D, AR}	mg/kg	0.001	NONE	< 0.001	0.15	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS, 1D, AR}	mg/kg	0.001	NONE	< 0.001	0.004	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 _{HS, 1D, AR}	mg/kg	0.001	NONE	< 0.001	0.068	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 _{EH, CU, 1D, AR}	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH, CU, 1D, AR}	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH, CU, 1D, AR}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	25
TPH-CWG - Aromatic >EC21 - EC35 _{EH, CU, 1D, AR}	mg/kg	10	NONE	< 10	< 10	< 10	15	90
TPH-CWG - Aromatic (EC5 - EC35) _{EH, CU+HS, 1D, AR}	mg/kg	10	NONE	< 10	< 10	< 10	21	110

TPH (C5 - C6) _{HS, 1D, TOTAL}	mg/kg	1	NONE	-	-	-	-	-
TPH (C6 - C8) _{HS, 1D, TOTAL}	mg/kg	0.1	NONE	-	-	-	-	-
TPH (C8 - C10) _{HS, 1D, TOTAL}	mg/kg	0.1	NONE	-	-	-	-	-
TPH (C10 - C12) _{EH, CU, 1D, TOTAL}	mg/kg	2	NONE	-	-	-	-	-
TPH (C12 - C16) _{EH, CU, 1D, TOTAL}	mg/kg	4	NONE	-	-	-	-	-
TPH (C16 - C21) _{EH, CU, 1D, TOTAL}	mg/kg	1	NONE	-	-	-	-	-
TPH (C21 - C35) _{EH, CU, 1D, TOTAL}	mg/kg	1	NONE	-	-	-	-	-
TPH (C35 - C40) _{EH, CU, 1D, TOTAL}	mg/kg	10	NONE	-	-	-	-	-

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Lab Sample Number				2468210	2468211	2468212	2468213	2468214
Sample Reference				TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	Naphtalene
Sample Number				WS105 East	WS105 West	WS105 South	WS105 North	WS106b East
Depth (m)				4.00	3.70	3.00	2.50	0.50
Date Sampled				13/10/2022	13/10/2022	13/10/2022	13/10/2022	14/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
TPH Total C5 - C40 _{EH} CU+HS 1D_TOTAL	mg/kg	10	NONE	-	-	-	-	-

VOCs

Chloromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	5	NONE	< 1.0	150	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	5	NONE	< 1.0	4.5	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	5	NONE	< 1.0	19	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	5	NONE	< 1.0	33	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	5	NONE	< 1.0	16	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Lab Sample Number				2468210	2468211	2468212	2468213	2468214
Sample Reference				TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	Naphtalene
Sample Number				WS105 East	WS105 West	WS105 South	WS105 North	WS106b East
Depth (m)				4.00	3.70	3.00	2.50	0.50
Date Sampled				13/10/2022	13/10/2022	13/10/2022	13/10/2022	14/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,4-Dichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	NONE	< 0.05	2.2	< 0.05	0.11	0.13
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	NONE	0.07	< 0.05	< 0.05	< 0.05	0.16
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	0.05	0.11
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	NONE	0.35	< 0.05	< 0.05	0.06	1.1
Anthracene	mg/kg	0.05	NONE	0.07	< 0.05	< 0.05	< 0.05	0.4
Carbazole	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.05	NONE	0.54	< 0.05	< 0.05	0.17	4.6

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Lab Sample Number				2468210	2468211	2468212	2468213	2468214
Sample Reference				TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact	Naphtalene
Sample Number				WS105 East	WS105 West	WS105 South	WS105 North	WS106b East
Depth (m)				4.00	3.70	3.00	2.50	0.50
Date Sampled				13/10/2022	13/10/2022	13/10/2022	13/10/2022	14/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Pyrene	mg/kg	0.05	NONE	0.49	< 0.05	< 0.05	0.14	4.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	NONE	0.31	< 0.05	< 0.05	< 0.05	2
Chrysene	mg/kg	0.05	NONE	0.24	< 0.05	< 0.05	< 0.05	1.7
Benzo(b)fluoranthene	mg/kg	0.05	NONE	0.28	< 0.05	< 0.05	< 0.05	1.8
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.13	< 0.05	< 0.05	< 0.05	0.93
Benzo(a)pyrene	mg/kg	0.05	NONE	0.24	< 0.05	< 0.05	< 0.05	1.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	0.73
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	0.21
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	0.8

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Lab Sample Number				2468215	2468216	2468218	2468219	2468220
Sample Reference				Naphtalene	Naphtalene	Mercury for Speciation	Mercury for Speciation	Mercury for Speciation
Sample Number				WS106b West	WS106b North	WS112a	WS113a	WS114a
Depth (m)				0.60	0.60	1.00	2.20	1.70
Date Sampled				14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
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	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	11	15	20	25	17
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.4	0.4	0.4

Asbestos in Soil	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	-	-	-	-
Total Cyanide	mg/kg	1	MCERTS	-	-	-	-	-
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	-	-	-	-	-
Sulphide	mg/kg	1	MCERTS	-	-	-	-	-
Total Sulphur	mg/kg	50	MCERTS	-	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	4	6	-	5.7	-
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	-	-	-	7.3

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	-	-	-	-	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-

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Lab Sample Number				2468215	2468216	2468218	2468219	2468220
Sample Reference				Naphtalene	Naphtalene	Mercury for Speciation	Mercury for Speciation	Mercury for Speciation
Sample Number				WS106b West	WS106b North	WS112a	WS113a	WS114a
Depth (m)				0.60	0.60	1.00	2.20	1.70
Date Sampled				14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	7.9	45	1.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-

Speciated Mercury (Dry Weight)

Inorganic Mercury	mg/kg	0.005	NONE	-	-	3.992	41.62	0.934
Organo-Mercury Species (including Methyl Hg)	mg/kg	0.005	NONE	-	-	1.335	0.319	0.09
Elemental Mercury	mg/kg	0.005	NONE	-	-	2.176	0.458	0.231

Speciated Mercury (Dry Weight)

F1 - Water soluble	mg/kg	0.005	NONE	-	-	0.404	0.076	0.068
F2 - Weak acid	mg/kg	0.005	NONE	-	-	0.113	0.098	0.065
F3 - Organo- complexed	mg/kg	0.005	NONE	-	-	1.335	0.319	0.09
F4 - Strongly complexed	mg/kg	0.005	NONE	-	-	2.176	0.458	0.231
F5 - Mineral bound	mg/kg	0.005	NONE	-	-	3.475	41.44	0.801

Monoaromatics & Oxygenates

Benzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Toluene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Ethylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
p & m-xylene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
o-xylene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_ID_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_ID_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_ID_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_ID_AL	mg/kg	1	NONE	< 1.0	< 1.0	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_ID_AL	mg/kg	2	NONE	6.7	< 2.0	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_ID_AL	mg/kg	8	NONE	24	29	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_ID_AL	mg/kg	8	NONE	130	280	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_ID_AL	mg/kg	10	NONE	160	310	-	-	-

TPH-CWG - Aromatic >EC5 - EC7 HS_ID_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_ID_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_ID_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_ID_AR	mg/kg	1	NONE	< 1.0	3	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_ID_AR	mg/kg	2	NONE	22	20	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_ID_AR	mg/kg	10	NONE	420	120	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_ID_AR	mg/kg	10	NONE	640	350	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_ID_AR	mg/kg	10	NONE	1100	500	-	-	-

TPH (C5 - C6) HS_ID_TOTAL	mg/kg	1	NONE	-	-	-	-	-
TPH (C6 - C8) HS_ID_TOTAL	mg/kg	0.1	NONE	-	-	-	-	-
TPH (C8 - C10) HS_ID_TOTAL	mg/kg	0.1	NONE	-	-	-	-	-
TPH (C10 - C12) EH_CU_ID_TOTAL	mg/kg	2	NONE	-	-	-	-	-
TPH (C12 - C16) EH_CU_ID_TOTAL	mg/kg	4	NONE	-	-	-	-	-
TPH (C16 - C21) EH_CU_ID_TOTAL	mg/kg	1	NONE	-	-	-	-	-
TPH (C21 - C35) EH_CU_ID_TOTAL	mg/kg	1	NONE	-	-	-	-	-
TPH (C35 - C40) EH_CU_ID_TOTAL	mg/kg	10	NONE	-	-	-	-	-

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Lab Sample Number				2468215	2468216	2468218	2468219	2468220
Sample Reference				Naphtalene	Naphtalene	Mercury for Speciation	Mercury for Speciation	Mercury for Speciation
Sample Number				WS106b West	WS106b North	WS112a	WS113a	WS114a
Depth (m)				0.60	0.60	1.00	2.20	1.70
Date Sampled				14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
TPH Total C5 - C40 EH CU+HS 1D_TOTAL	mg/kg	10	NONE	-	-	-	-	-

VOCs

Chloromethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Chloroethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Bromomethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Vinyl Chloride	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,1-Dichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Trichloromethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,1,1-Trichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,2-Dichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,1-Dichloropropene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Benzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Tetrachloromethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,2-Dichloropropane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Trichloroethene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Dibromomethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Bromodichloromethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Trans-1,3-dichloropropene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Toluene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,1,2-Trichloroethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,3-Dichloropropane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Dibromochloromethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Tetrachloroethene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,2-Dibromoethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Chlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Ethylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
p & m-Xylene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Styrene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Tribromomethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
o-Xylene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Isopropylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Bromobenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
n-Propylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
2-Chlorotoluene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
4-Chlorotoluene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
tert-Butylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
sec-Butylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,3-Dichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
p-Isopropyltoluene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,2-Dichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-

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Lab Sample Number				2468215	2468216	2468218	2468219	2468220
Sample Reference				Naphtalene	Naphtalene	Mercury for Speciation	Mercury for Speciation	Mercury for Speciation
Sample Number				WS106b West	WS106b North	WS112a	WS113a	WS114a
Depth (m)				0.60	0.60	1.00	2.20	1.70
Date Sampled				14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,4-Dichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Butylbenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	NONE	< 1.0	< 1.0	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	< 0.1
Phenol	mg/kg	0.2	NONE	< 0.2	< 0.2	-	0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	NONE	< 0.05	< 0.05	-	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	-	0.6	< 0.2
Isophorone	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3	< 0.3	-	0.4	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	NONE	0.4	3	-	12	2
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	0.7	2.6	-	4.9	2.2
2-Chloronaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	NONE	0.44	0.22	-	0.25	0.14
Acenaphthene	mg/kg	0.05	NONE	1.4	2	-	8.4	0.46
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	NONE	0.4	1.4	-	4.6	0.8
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	< 0.2
Fluorene	mg/kg	0.05	NONE	1.2	1.4	-	5.8	0.35
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	NONE	11	13	-	50	4
Anthracene	mg/kg	0.05	NONE	6	2.8	-	9.7	0.7
Carbazole	mg/kg	0.3	NONE	0.5	1	-	3.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	1.4	1.4	-	3.7	0.3
Fluoranthene	mg/kg	0.05	NONE	39	19	-	61	4.9

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Lab Sample Number				2468215	2468216	2468218	2468219	2468220
Sample Reference				Naphtalene	Naphtalene	Mercury for Speciation	Mercury for Speciation	Mercury for Speciation
Sample Number				WS106b West	WS106b North	WS112a	WS113a	WS114a
Depth (m)				0.60	0.60	1.00	2.20	1.70
Date Sampled				14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Pyrene	mg/kg	0.05	NONE	38	18	-	58	5.5
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3	-	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	NONE	20	11	-	34	3.1
Chrysene	mg/kg	0.05	NONE	19	9.7	-	36	3
Benzo(b)fluoranthene	mg/kg	0.05	NONE	17	10	-	34	3.2
Benzo(k)fluoranthene	mg/kg	0.05	NONE	9	4.9	-	17	1.6
Benzo(a)pyrene	mg/kg	0.05	NONE	16	9.1	-	33	3.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	11	4.7	-	16	1.8
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	2.9	1.5	-	5	0.58
Benzo(ghi)perylene	mg/kg	0.05	NONE	11	5.2	-	20	2.4

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Lab Sample Number				2468221	2468222	2468223	2468224	2468225
Sample Reference				Mercury for Speciation	Mercury for Speciation/TPH	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				TP201a	TP116a	TP116 West	TP116 North	TP116 South
Depth (m)				0.60	1.20	1.20	1.20	1.20
Date Sampled				14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
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	17	15	17	19	13
Total mass of sample received	kg	0.001	NONE	0.4	0.3	0.3	0.3	0.3

Asbestos in Soil	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	-	-	-	-
Total Cyanide	mg/kg	1	MCERTS	-	-	-	-	-
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	-	-	-	-	-
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	-	-	-	-	-
Sulphide	mg/kg	1	MCERTS	-	-	-	-	-
Total Sulphur	mg/kg	50	MCERTS	-	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	3.3	3.8	0.8	-
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	-	-	-	10

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	-	-
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Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	-	-	-	-	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-

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Lab Sample Number				2468221	2468222	2468223	2468224	2468225
Sample Reference				Mercury for Speciation	Mercury for Speciation/TPH	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				TP201a	TP116a	TP116 West	TP116 North	TP116 South
Depth (m)				0.60	1.20	1.20	1.20	1.20
Date Sampled				14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-

Speciated Mercury (Dry Weight)

Inorganic Mercury	mg/kg	0.005	NONE	-	-	-	-	-
Organo-Mercury Species (including Methyl Hg)	mg/kg	0.005	NONE	-	-	-	-	-
Elemental Mercury	mg/kg	0.005	NONE	-	-	-	-	-

Speciated Mercury (Dry Weight)

F1 - Water soluble	mg/kg	0.005	NONE	-	-	-	-	-
F2 - Weak acid	mg/kg	0.005	NONE	-	-	-	-	-
F3 - Organo- complexed	mg/kg	0.005	NONE	-	-	-	-	-
F4 - Strongly complexed	mg/kg	0.005	NONE	-	-	-	-	-
F5 - Mineral bound	mg/kg	0.005	NONE	-	-	-	-	-

Monoaromatics & Oxygenates

Benzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_ID_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_ID_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_ID_AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_ID_AL	mg/kg	1	NONE	-	< 1.0	< 1.0	< 1.0	96
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_ID_AL	mg/kg	2	NONE	-	< 2.0	14	< 2.0	480
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_ID_AL	mg/kg	8	NONE	-	< 8.0	41	< 8.0	660
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_ID_AL	mg/kg	8	NONE	-	< 8.0	210	< 8.0	1700
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_ID_AL	mg/kg	10	NONE	-	< 10	270	< 10	3000

TPH-CWG - Aromatic >EC5 - EC7 HS_ID_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_ID_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_ID_AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_ID_AR	mg/kg	1	NONE	-	< 1.0	3.2	2.9	250
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_ID_AR	mg/kg	2	NONE	-	< 2.0	10	19	3100
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_ID_AR	mg/kg	10	NONE	-	< 10	44	69	12000
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_ID_AR	mg/kg	10	NONE	-	< 10	120	89	15000
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_ID_AR	mg/kg	10	NONE	-	< 10	180	180	30000

TPH (C5 - C6) HS_ID_TOTAL	mg/kg	1	NONE	-	-	-	-	-
TPH (C6 - C8) HS_ID_TOTAL	mg/kg	0.1	NONE	-	-	-	-	-
TPH (C8 - C10) HS_ID_TOTAL	mg/kg	0.1	NONE	-	-	-	-	-
TPH (C10 - C12) EH_CU_ID_TOTAL	mg/kg	2	NONE	-	-	-	-	-
TPH (C12 - C16) EH_CU_ID_TOTAL	mg/kg	4	NONE	-	-	-	-	-
TPH (C16 - C21) EH_CU_ID_TOTAL	mg/kg	1	NONE	-	-	-	-	-
TPH (C21 - C35) EH_CU_ID_TOTAL	mg/kg	1	NONE	-	-	-	-	-
TPH (C35 - C40) EH_CU_ID_TOTAL	mg/kg	10	NONE	-	-	-	-	-

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Lab Sample Number				2468221	2468222	2468223	2468224	2468225
Sample Reference				Mercury for Speciation	Mercury for Speciation/TPH	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				TP201a	TP116a	TP116 West	TP116 North	TP116 South
Depth (m)				0.60	1.20	1.20	1.20	1.20
Date Sampled				14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
TPH Total C5 - C40 EH CU+HS 1D_TOTAL	mg/kg	10	NONE	-	-	-	-	-

VOCs

Chloromethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0

Analytical Report Number: 22-91276
Project / Site name: Heywood Road
Your Order No: 003198

Lab Sample Number				2468221	2468222	2468223	2468224	2468225
Sample Reference				Mercury for Speciation	Mercury for Speciation/TPH	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				TP201a	TP116a	TP116 West	TP116 North	TP116 South
Depth (m)				0.60	1.20	1.20	1.20	1.20
Date Sampled				14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,4-Dichlorobenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	5	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	NONE	-	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	NONE	-	0.39	2.8	0.37	53
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	0.4	2.3	0.6	81
2-Chloronaphthalene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	NONE	-	< 0.05	0.12	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	NONE	-	< 0.05	0.91	2.3	290
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	NONE	-	< 0.2	0.8	0.9	97
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.05	NONE	-	< 0.05	0.68	1.1	160
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	NONE	-	0.31	5.6	10	1500
Anthracene	mg/kg	0.05	NONE	-	< 0.05	1.3	2.3	380
Carbazole	mg/kg	0.3	NONE	-	< 0.3	0.4	0.3	73
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	< 0.3	0.6	0.5	87
Fluoranthene	mg/kg	0.05	NONE	-	0.33	7	14	1700

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Lab Sample Number				2468221	2468222	2468223	2468224	2468225
Sample Reference				Mercury for Speciation	Mercury for Speciation/TPH	TPH/VOC impact	TPH/VOC impact	TPH/VOC impact
Sample Number				TP201a	TP116a	TP116 West	TP116 North	TP116 South
Depth (m)				0.60	1.20	1.20	1.20	1.20
Date Sampled				14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Pyrene	mg/kg	0.05	NONE	-	0.31	6.6	12	1600
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	NONE	-	0.21	2.7	6.4	860
Chrysene	mg/kg	0.05	NONE	-	0.21	3.3	6.7	830
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	0.17	2.8	7.9	710
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	0.06	1.1	2.6	520
Benzo(a)pyrene	mg/kg	0.05	NONE	-	0.13	2.2	6.1	740
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	0.07	1.1	3.3	330
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	< 0.05	0.43	0.86	100
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	0.11	1.3	3.9	390

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Lab Sample Number				2468226	2468227	2468228
Sample Reference				TPH/VOC impact	MG	MG
Sample Number				TP116 East	RB303	RB304
Depth (m)				1.20	0.70	2.00
Date Sampled				14/10/2022	17/10/2022	17/10/2022
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	15	17	19
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3

Asbestos in Soil	Type	N/A	ISO 17025	-	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	N/A	MJN	JSW

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	7	7.3
Total Cyanide	mg/kg	1	MCERTS	-	15	1.3
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	870	3300
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	-	0.084	0.11
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	-	170	220
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	-	84.2	108
Sulphide	mg/kg	1	MCERTS	-	17	6.8
Total Sulphur	mg/kg	50	MCERTS	-	950	3000
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.7	1.6	7.3
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	-	0.76	11
Acenaphthylene	mg/kg	0.05	NONE	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	NONE	-	0.18	2.9
Fluorene	mg/kg	0.05	NONE	-	0.2	2.4
Phenanthrene	mg/kg	0.05	NONE	-	1.3	16
Anthracene	mg/kg	0.05	NONE	-	0.22	2.7
Fluoranthene	mg/kg	0.05	NONE	-	1.1	13
Pyrene	mg/kg	0.05	NONE	-	0.98	12
Benzo(a)anthracene	mg/kg	0.05	NONE	-	0.56	7.5
Chrysene	mg/kg	0.05	NONE	-	0.67	6.9
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	0.64	7.7
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	0.23	1.8
Benzo(a)pyrene	mg/kg	0.05	NONE	-	0.55	6.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	0.34	3.2
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	0.11	1.1
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	0.47	4.2

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	-	8.28	98.2
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	12	39
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 (aqua regia extractable)	mg/kg	1	MCERTS	-	30	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	69	260
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	62	460

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Lab Sample Number				2468226	2468227	2468228
Sample Reference				TPH/VOC impact	MG	MG
Sample Number				TP116 East	RB303	RB304
Depth (m)				1.20	0.70	2.00
Date Sampled				14/10/2022	17/10/2022	17/10/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	< 0.3	16
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	46	40
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	97	370

Speciated Mercury (Dry Weight)

Inorganic Mercury	mg/kg	0.005	NONE	-	-	8.985
Organo-Mercury Species (including Methyl Hg)	mg/kg	0.005	NONE	-	-	0.116
Elemental Mercury	mg/kg	0.005	NONE	-	-	5.957

Speciated Mercury (Dry Weight)

F1 - Water soluble	mg/kg	0.005	NONE	-	-	0.196
F2 - Weak acid	mg/kg	0.005	NONE	-	-	0.17
F3 - Organo- complexed	mg/kg	0.005	NONE	-	-	0.116
F4 - Strongly complexed	mg/kg	0.005	NONE	-	-	5.957
F5 - Mineral bound	mg/kg	0.005	NONE	-	-	8.62

Monoaromatics & Oxygenates

Benzene	µg/kg	5	NONE	< 1.0	-	-
Toluene	µg/kg	5	NONE	< 1.0	-	-
Ethylbenzene	µg/kg	5	NONE	< 1.0	-	-
p & m-xylene	µg/kg	5	NONE	< 1.0	-	-
o-xylene	µg/kg	5	NONE	< 1.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 1.0	-	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_ID_AL	mg/kg	0.001	NONE	< 0.001	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_ID_AL	mg/kg	0.001	NONE	< 0.001	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_ID_AL	mg/kg	0.001	NONE	< 0.001	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_ID_AL	mg/kg	1	NONE	< 1.0	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_ID_AL	mg/kg	2	NONE	< 2.0	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_ID_AL	mg/kg	8	NONE	18	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_ID_AL	mg/kg	8	NONE	120	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_ID_AL	mg/kg	10	NONE	140	-	-

TPH-CWG - Aromatic >EC5 - EC7 HS_ID_AR	mg/kg	0.001	NONE	< 0.001	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_ID_AR	mg/kg	0.001	NONE	< 0.001	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_ID_AR	mg/kg	0.001	NONE	< 0.001	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_ID_AR	mg/kg	1	NONE	3	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_ID_AR	mg/kg	2	NONE	4.2	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_ID_AR	mg/kg	10	NONE	19	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_ID_AR	mg/kg	10	NONE	59	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_ID_AR	mg/kg	10	NONE	85	-	-

TPH (C5 - C6) HS_ID_TOTAL	mg/kg	1	NONE	-	< 1.0	< 1.0
TPH (C6 - C8) HS_ID_TOTAL	mg/kg	0.1	NONE	-	< 0.1	< 0.1
TPH (C8 - C10) HS_ID_TOTAL	mg/kg	0.1	NONE	-	< 0.1	< 0.1
TPH (C10 - C12) EH_CU_ID_TOTAL	mg/kg	2	NONE	-	< 2.0	6.2
TPH (C12 - C16) EH_CU_ID_TOTAL	mg/kg	4	NONE	-	5.5	20
TPH (C16 - C21) EH_CU_ID_TOTAL	mg/kg	1	NONE	-	14	55
TPH (C21 - C35) EH_CU_ID_TOTAL	mg/kg	1	NONE	-	17	73
TPH (C35 - C40) EH_CU_ID_TOTAL	mg/kg	10	NONE	-	< 10	< 10

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Lab Sample Number				2468226	2468227	2468228
Sample Reference				TPH/VOC impact	MG	MG
Sample Number				TP116 East	RB303	RB304
Depth (m)				1.20	0.70	2.00
Date Sampled				14/10/2022	17/10/2022	17/10/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
TPH Total C5 - C40 _{EH} CU+HS 1D_TOTAL	mg/kg	10	NONE	-	37	150

VOCs

Chloromethane	µg/kg	5	NONE	< 1.0	-	-
Chloroethane	µg/kg	5	NONE	< 1.0	-	-
Bromomethane	µg/kg	5	NONE	< 1.0	-	-
Vinyl Chloride	µg/kg	5	NONE	< 1.0	-	-
Trichlorofluoromethane	µg/kg	5	NONE	< 1.0	-	-
1,1-Dichloroethene	µg/kg	5	NONE	< 1.0	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 1.0	-	-
Cis-1,2-dichloroethene	µg/kg	5	NONE	< 1.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 1.0	-	-
1,1-Dichloroethane	µg/kg	5	NONE	< 1.0	-	-
2,2-Dichloropropane	µg/kg	5	NONE	< 1.0	-	-
Trichloromethane	µg/kg	5	NONE	< 1.0	-	-
1,1,1-Trichloroethane	µg/kg	5	NONE	< 1.0	-	-
1,2-Dichloroethane	µg/kg	5	NONE	< 1.0	-	-
1,1-Dichloropropene	µg/kg	5	NONE	< 1.0	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	< 1.0	-	-
Benzene	µg/kg	5	NONE	< 1.0	-	-
Tetrachloromethane	µg/kg	5	NONE	< 1.0	-	-
1,2-Dichloropropane	µg/kg	5	NONE	< 1.0	-	-
Trichloroethene	µg/kg	5	NONE	< 1.0	-	-
Dibromomethane	µg/kg	5	NONE	< 1.0	-	-
Bromodichloromethane	µg/kg	5	NONE	< 1.0	-	-
Cis-1,3-dichloropropene	µg/kg	5	NONE	< 1.0	-	-
Trans-1,3-dichloropropene	µg/kg	5	NONE	< 1.0	-	-
Toluene	µg/kg	5	NONE	< 1.0	-	-
1,1,2-Trichloroethane	µg/kg	5	NONE	< 1.0	-	-
1,3-Dichloropropane	µg/kg	5	NONE	< 1.0	-	-
Dibromochloromethane	µg/kg	5	NONE	< 1.0	-	-
Tetrachloroethene	µg/kg	5	NONE	< 1.0	-	-
1,2-Dibromoethane	µg/kg	5	NONE	< 1.0	-	-
Chlorobenzene	µg/kg	5	NONE	< 1.0	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	< 1.0	-	-
Ethylbenzene	µg/kg	5	NONE	< 1.0	-	-
p & m-Xylene	µg/kg	5	NONE	< 1.0	-	-
Styrene	µg/kg	5	NONE	< 1.0	-	-
Tribromomethane	µg/kg	5	NONE	< 1.0	-	-
o-Xylene	µg/kg	5	NONE	< 1.0	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 1.0	-	-
Isopropylbenzene	µg/kg	5	NONE	< 1.0	-	-
Bromobenzene	µg/kg	5	NONE	< 1.0	-	-
n-Propylbenzene	µg/kg	5	NONE	< 1.0	-	-
2-Chlorotoluene	µg/kg	5	NONE	< 1.0	-	-
4-Chlorotoluene	µg/kg	5	NONE	< 1.0	-	-
1,3,5-Trimethylbenzene	µg/kg	5	NONE	< 1.0	-	-
tert-Butylbenzene	µg/kg	5	NONE	< 1.0	-	-
1,2,4-Trimethylbenzene	µg/kg	5	NONE	< 1.0	-	-
sec-Butylbenzene	µg/kg	5	NONE	< 1.0	-	-
1,3-Dichlorobenzene	µg/kg	5	NONE	< 1.0	-	-
p-Isopropyltoluene	µg/kg	5	NONE	< 1.0	-	-
1,2-Dichlorobenzene	µg/kg	5	NONE	< 1.0	-	-

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Lab Sample Number				2468226	2468227	2468228
Sample Reference				TPH/VOC impact	MG	MG
Sample Number				TP116 East	RB303	RB304
Depth (m)				1.20	0.70	2.00
Date Sampled				14/10/2022	17/10/2022	17/10/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
1,4-Dichlorobenzene	µg/kg	5	NONE	< 1.0	-	-
Butylbenzene	µg/kg	5	NONE	< 1.0	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	< 1.0	-	-
1,2,4-Trichlorobenzene	µg/kg	5	NONE	< 1.0	-	-
Hexachlorobutadiene	µg/kg	5	NONE	< 1.0	-	-
1,2,3-Trichlorobenzene	µg/kg	5	NONE	< 1.0	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	-	-
Phenol	mg/kg	0.2	NONE	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	NONE	< 0.3	-	-
Hexachloroethane	mg/kg	0.05	NONE	< 0.05	-	-
Nitrobenzene	mg/kg	0.3	NONE	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-	-
Isophorone	mg/kg	0.2	NONE	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	< 0.3	-	-
Naphthalene	mg/kg	0.05	NONE	1	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	< 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	1.4	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	NONE	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	-	-
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	-	-
Acenaphthene	mg/kg	0.05	NONE	< 0.05	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	-	-
Dibenzofuran	mg/kg	0.2	NONE	0.4	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	NONE	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	-	-
Fluorene	mg/kg	0.05	NONE	0.14	-	-
Azobenzene	mg/kg	0.3	NONE	< 0.3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	< 0.2	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	< 0.3	-	-
Phenanthrene	mg/kg	0.05	NONE	1.9	-	-
Anthracene	mg/kg	0.05	NONE	0.33	-	-
Carbazole	mg/kg	0.3	NONE	< 0.3	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	-	-
Anthraquinone	mg/kg	0.3	NONE	< 0.3	-	-
Fluoranthene	mg/kg	0.05	NONE	2.9	-	-

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Project / Site name: Heywood Road
Your Order No: 003198

Lab Sample Number				2468226	2468227	2468228
Sample Reference				TPH/VOC impact	MG	MG
Sample Number				TP116 East	RB303	RB304
Depth (m)				1.20	0.70	2.00
Date Sampled				14/10/2022	17/10/2022	17/10/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Pyrene	mg/kg	0.05	NONE	2.6	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	1.6	-	-
Chrysene	mg/kg	0.05	NONE	1.7	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	1.9	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.49	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	1.4	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	0.73	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	0.2	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	0.99	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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* 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 *
2468195	TPH/VOC impac	TP211 North	1.9	Brown clay and sand with gravel and tar.
2468196	TPH/VOC impac	TP211 West	1.9	Brown clay and loam with gravel and vegetation.
2468197	TPH/VOC impac	TP211 South	1	Brown clay and loam with gravel.
2468198	TPH/VOC impac	TP211 East (3)	1.9	Brown loam and sand with gravel and vegetation.
2468199	TPH/VOC impac	TP211 East (3)	3.1	Brown loam and vegetation with peat.
2468200	rcury for Special	TP213a	0.6	Brown loam and sand with gravel and stones.
2468201	rcury for Special	TP207a	0.6	Brown loam and sand with gravel and stones.
2468202	TPH/VOC impac	WS104 West	1.4	Brown sand with gravel and vegetation.
2468203	TPH/VOC impac	WS104 West	3.2	Brown sand with gravel and stones.
2468204	TPH/VOC impac	WS104 North	1.2	Brown sandy gravel with vegetation.**
2468205	TPH/VOC impac	WS104 North	3.2	Brown clay and loam with vegetation and gravel
2468206	TPH/VOC impac	WS104 South	1.2	Brown sandy gravel.**
2468207	TPH/VOC impac	WS104 South	3.2	Brown clay and loam with vegetation.
2468208	TPH/VOC impac	WS104 East (2)	1.4	Brown sandy gravel with stones.**
2468209	TPH/VOC impac	WS104 East (2)	3.2	Brown clay and loam with vegetation and gravel
2468210	TPH/VOC impac	WS105 East	4	Brown sand.
2468211	TPH/VOC impac	WS105 West	3.7	Brown clay and sand.
2468212	TPH/VOC impac	WS105 South	3	Brown sand with gravel.
2468213	TPH/VOC impac	WS105 North	2.5	Brown sand with gravel.
2468214	Naphtalene	WS106b East	0.5	Brown sandy gravel with vegetation and stones.**
2468215	Naphtalene	WS106b West	0.6	Brown sandy gravel.**
2468216	Naphtalene	WS106b North	0.6	Brown sandy gravel with stones.**
2468218	rcury for Special	WS112a	1	Brown sandy gravel with vegetation.**
2468219	rcury for Special	WS113a	2.2	Brown sandy gravel with vegetation.**
2468220	rcury for Special	WS114a	1.7	Brown sandy gravel.**
2468221	rcury for Special	TP201a	0.6	Brown sandy gravel with glass and vegetation.**
2468222	rcury for Special	TP116a	1.2	Grey sand with clinker.
2468223	TPH/VOC impac	TP116 West	1.2	Brown sand with clinker.
2468224	TPH/VOC impac	TP116 North	1.2	Light brown sandy clay.
2468225	TPH/VOC impac	TP116 South	1.2	Grey sand and clinker with vegetation.
2468226	TPH/VOC impac	TP116 East	1.2	Brown clay and sand with brick and clinker.
2468227	MG	RB303	0.7	Grey clay with vegetation.
2468228	MG	RB304	2	Grey clay and sand with gravel and vegetation.

Analytical Report Number : 22-91276

Project / Site name: Heywood Road

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
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	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.	L038-PL	D	MCERTS
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	A001-PL	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	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 (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	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.	L038-PL	D	MCERTS
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.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	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 (Skalar)	L080-PL	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.	In house method.	L009-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

Analytical Report Number : 22-91276

Project / Site name: Heywood Road

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
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Speciated Mercury in soil by Millennium Merlin Ana	Determination of Speciated Mercury in soil by Millennium Merlin Analyzer	In-house method	L085-PL	Dry	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS
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-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	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

APPENDIX VII

ORIGIN OF TIER I GENERIC ASSESSMENT CRITERIA

Castleton Sidings, Rochdale (Main Development Site)

Supplementary Site Investigation

February 2023

CONSTITUENT	ORIGIN OF RISK ASSESSMENT VALUE
Arsenic	2014 LQM/CIEH S4ULs
Cadmium	2014 LQM/CIEH S4ULs
Chromium	2014 LQM/CIEH S4ULs
Lead	2014 LQM/CIEH S4ULs
Mercury	2014 LQM/CIEH S4ULs – methylmercury
Nickel	2014 LQM/CIEH S4ULs
Selenium	2014 LQM/CIEH S4ULs
Copper	2014 LQM/CIEH S4ULs
Zinc	2014 LQM/CIEH S4ULs
Cyanide – Total	2014 LQM/CIEH S4ULs
Phenols – Total	2014 LQM/CIEH S4ULs
Naphthalene	General assessment criteria (GAC) developed by CIEH/LQM Suitable 4 Use Levels with supporting data from SR3, SR7 and existing Tox report where applicable. 1% SOM.
Acenaphthylene	
Acenaphthene	
Fluorene	
Phenanthrene	
Anthracene	
Fluoranthene	
Pyrene	
Benzo(a)Anthracene	
Chrysene	
Benzo(b/k)Fluoranthene ⁽ⁱⁱⁱ⁾	
Benzo(a)Pyrene	
Indeno(123-cd)Pyrene	
Dibenzo(a,h)Anthracene	
Benzo(ghi)Perylene	
TPH C₅-C₆ (aliphatic)	
TPH C₆-C₈ (aliphatic)	
TPH C₈-C₁₀ (aliphatic)	
TPH C₁₀-C₁₂ (aliphatic)	
TPH C₁₂-C₁₆ (aromatic)	

