

**108 Abbey Road South, Wrexham Industrial
Estate**

STAGE 2 CONTAMINATION ASSESSMENT

For: J&M Properties

April 2023

R3117-R02-v1

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Signed for Smith Grant LLP

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CONTENTS

1. Introduction
2. Background Information
3. Investigation Methodology
4. Investigation Observations & Results
5. Revised Conceptual Site Model and Risk Assessment
6. Conclusions and Recommendations

DRAWINGS

D01 Site Investigation Location Plan
ARD-TACP-PS-00-DR-A-702 Proposed Site Plan

APPENDICES

- A Trial-Pit Logs
- B Photographic Record
- C Laboratory Results

1. Introduction

1.1. Planning permission (P/2020/0099) has been granted by Wrexham County Borough Council (WCBC) permitting the construction of three industrial / commercial units within a parcel of land at 108 Abbey Road South on Wrexham Industrial Estate. Condition 3 of the planning permission requires a phased investigation to identify the extent of contamination and any measures required to remediate the site.

1.2. To partially satisfy Condition 3, Smith Grant LLP (SGP) were instructed to produce a Stage 1 Contamination Assessment (ref. R3117-R01-v1) with recommendations made for a limited site investigation. Formal approval of the Stage 1 report was received from the WCBC Contaminated Land Officer on 28.02.23 (ref. P/2023/0034) which agreed with the findings and recommendations made for a limited intrusive investigation. SGP were duly instructed to undertake the recommended Stage 2 investigation which is detailed within this report.

1.3. This report described the work carried out by SGP including the ground conditions encountered, laboratory test results, and discusses the contamination implications with regards to the proposed development.

Table 1: Site Details

Address	108 Abbey Road South, Wrexham Industrial Estate, LL13 9RF
National Grid Reference	SJ 38674972
Local Authority	Wrexham County Borough Council
Planning Ref.	P/2020/0099
Site Area	approximately 0.2 Ha
Current Nature of Site	Car parking for the adjacent units to the north.
Proposed Use	Three commercial / industrial units with associated parking and bin storage

Figure 1. Site Location



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1.4. Condition 3 of the approved Planning Permissions (ref: P/2020/0099) relates to Contaminated Land and is worded as follows:

3	<i>No development shall take place until a phased site investigation of the nature and extent of contamination has been carried out and submitted to and approved in writing by the Local Planning Authority. If any contamination is found during the site investigation, no part of the development shall commence until a scheme specifying the measures that will be taken to remediate the site to render it suitable for the development hereby permitted has been submitted to and approved in writing by the Local Planning Authority. The site shall thereafter be remediated in accordance with the approved scheme. If during the course of development any contamination is found that has not been identified in the site investigation, no further development shall take place on those parts of the site where that contamination has been found until an additional scheme of remediation has been submitted to and approved in writing by the Local Planning Authority for those parts of the site. The relevant parts of the site shall thereafter be remediated in accordance with the additional scheme of remediation.</i>
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- 1.5. This report describes the Stage 2 Contaminated Land Assessment undertaken by SGP in accordance with the brief agreed with the client. The assessment methodology follows the framework described in the EA / DEFRA Contaminated Land Report 11: Model Procedures for the Management of Contaminated Land 2004 as amended in Land Condition Risk Management (LCRM) and has been prepared with reference to the Planning Practice Guidance provided in relation to land affected by contamination.
- 1.6. This report contains detailed observations of the ground conditions encountered during the intrusive investigation, an assessment of the site made ground, topsoil and natural soil contamination, and quantitative risk assessment with recommendations for additional work, if necessary, or likely remedial requirements to address potential ground contamination issues.

2. Background Information

- 2.1. The Phase 1 Contamination Assessment (Desk Study) was produced by SGP (ref: R3117-R01-v1, September 2022). The report consists of a Stage 1 desk study report and includes information on the site, its setting, geology, hydrogeology and history. An Envirocheck Report with accompanying historical mapping is included, and the report presents a preliminary conceptual site model and risk assessment. The findings are summarised in brief below, but references should be made to the complete report.
- 2.2. The site and immediate surrounds originally comprised agricultural land until it was incorporated within the Wrexham Royal Ordnance Factory (ROF), which according to anecdotal information was constructed from 1939 and became operational in 1941. The ROF occupied an area in excess of 1,400 acres and undertook the manufacture of cordite, a composition of nitro-glycerine and nitro-cellulose, and finely divided nitro-guanidine was added to make the product 'Flashless cordite'.
- 2.3. Operations ceased at the ROF in 1945 and the area subsequently became utilised as an industrial estate for a wide variety of operations. Following the cessation of the ROF and removal of the associated buildings and railway line, the site became part of a 'depot', then a 'works' and is currently used for parking for the adjacent industrial units to the north.
- 2.4. Part of the wider Wrexham Industrial estate was used for the manufacture of capacitors from about 1951 and widespread tipping of associated waste occurred across areas of the Estate; extensive polychlorinated biphenyl (PCB) contamination was subsequently identified, particularly within the estate drainage system.
- 2.5. WCBC provided information regarding a landfill known as the 'PCB cell' approximately 96m to the northwest of the site and occupying an area of ~4,000m². WCBC confirmed that this was formed as part of remediation works undertaken on nearby land approximately 30 years ago. Contaminated soils demonstrating PCB concentrations above 20ppm but less than 1% total volume were excavated and placed in the landfill; soils contaminated above 1% total volume were removed offsite for incineration.
- 2.6. WCBC also provided information regarding an acid drainage channel that served the former ROF. The reports state that the waste acidic liquids / waters, together with other materials from the Acids Section of the ROF were treated with lime and then discharged into a process (acid) 'drainage channel' (service duct) provided with brick sides, concrete base and concrete slabs. The drain is described as being routed in a westerly direction along Marlborough Road and across Dunster Road with the liquids ultimately being discharged to Redwither Brook following lime treatment. Trial pits undertaken within the drainage channel found it to be backfilled with clay, concrete and brick demolition material and waterlogged. This description is consistent with a trial pit undertaken as part of another investigation to the east of the site.

- 2.7. The site was developed in the late 1940's / early 1950's, long since the Acid Drain remained in use. It is possible but unknown whether this section of the drain was removed from the site as part of the development works. It is also noted in the reviewed reporting to the east and west of the site in 2007 and 2009 that entries targeted the former acid drain and recorded elevated benzo(a)pyrene (BaP) and hydrocarbons (EC21-35) to the west and elevated sulphate to the east when compared to the guideline values used at the time. When compared to the current human health criteria LQM/CIEH S4ULs for commercial areas, only the BaP exceeds.
- 2.8. Natural ground conditions are mapped as Glacial Till (Boulder Clay) underlain by bedrock of Salop Formation. It is anticipated that made ground to a limited depth is present across the parts of the site associated with the development present on site.
- 2.9. The desk-study identified that the site is located within an area where <1% of homes are above the radon action level, however since the production of this report, the BGS have updated the radon maps (December 2022). The new mapping identifies the site as being within an area where 5-10% of homes lie above the radon action level, meaning that basic radon protection measures are required in new buildings and extensions. This classification is based on the maximum classification within a 1km grid square and so it is recommended that a site-specific radon report is purchased as this may result in a lower classification for the site.
- 2.10. SGP have identified the potential for contamination to be present on the site, largely associated with its former and current industrial use with an acid drainage channel as part of Wrexham ROF and then Wrexham Industrial Estate with the industrial units to the immediate north of the site. The potential contaminants present on the site may include heavy metals, hydrocarbons, and asbestos associated with made ground soils. It was concluded that high levels of contamination are not expected and are unlikely to exceed commercial thresholds, but an intrusive investigation would be required to confirm the presence / absence and extent of any contamination on the site.

3. Investigation Methodology

3.1. Objectives and Rationale

3.1.1. The scope of works for the supplementary investigation was determined to achieve:

- confirm the general shallow ground conditions underlying the site with entries excavated on a nominal 18m spacing across the development area (5 entries) to natural strata.
- assess the presence, extent, and nature of any made ground and associated soil contamination.
- One soakaway test to assess the suitability of soakaway installation on site

3.1.2. Sample collection was designed to:

- Include representative shallow soils samples (10 no) of made ground / natural subsoil with submission for a suite of typical urban contaminants (metals, hydrocarbons, PAHs and asbestos) to characterise the site soils.
- 5 samples of shallow made ground for PCB testing to determine the presence of any windblown contamination from the nearby PCB landfill cell.
- 5 samples for pH, soluble sulphate, total sulphur and total sulphate
- Collection and submission of soil samples where contamination indicators present.

3.1.3. The investigation was undertaken in accordance with the appropriate guidance (BS10175 + A2 and LCRM).

3.2. Fieldwork

3.2.1. The site investigation works were completed in a single day. This involved the excavation of 5 trial-pits and collection of representative samples as per the proposed scope, these works were undertaken by SGP Consultant, M Jones on 29.03.23. Locations of the site investigation locations are indicated on Drawing D01.

3.2.2. Works involved:

- Excavation of trial pits (TP1-TP5) to a maximum depth of 2.65m bgl;
- Inspection and logging of ground conditions
- Collection of soil samples for a range of laboratory analysis, as detailed in Table 3.1.
- Soakaway test within one trial pit (TP1)

3.3. Chemical Analysis

3.3.1. Chemical analysis of soils was carried out by Eurofins Chemtest (EC), working where possible to MCERTS and / or ISO 17025 accreditation. Soil samples were stored in appropriate containers as advised by the laboratory, placed in chilled cool boxes, and delivered to the laboratory within 48 hours of collection. Chain of custody documentation was completed and is retained by SGP.

3.3.2. Summaries of the sampled strata, sample reference, depth and chemical test suite is provided below:

Table 3.1 Summary of Soil Chemical Analysis

Strata	Description	Sample ref	Depth (m bgl)	Analytical suite
Made Ground	White/grey medium-coarse angular gravel	TP5-S1	0.1	SGP Suite
	Brown sandy clayey gravel with frequent bricks, masonry pieces, and wastes	TP1-S1	0.7	SGP Suite
		TP1-PCB	0.8	PCB-WHO12
	Light brown gravelly reworked clay with brick fragments and gravel	TP2-S1	0.7	SGP Suite
		TP2-PCB	0.8	PCB-WHO12
	Grey/brown sandy gravelly clay with brick and stone fragments	TP3-S1	0.3	SGP Suite
	Stiff brown clay with frequent wastes	TP4-S1	0.3	SGP Suite
Boulder clay	Fine red gravel of brick	TP4-PCB	0.5	PCB-WHO12
	Very stiff orange/brown clay with grey streaks and cobbles of stone	TP5-PCB	0.4	PCB-WHO12
		TP1-S2	2.3	SGP Suite
		TP1-S3	2.5	Soluble sulphates
		TP2-S2	2.2	SGP Suite
		TP2-S3	2.3	Soluble sulphates
		TP3-S2	1.1	SGP Suite
		TP3-S3	1.2	Soluble sulphates
		TP4-S2	1.0	SGP Suite
		TP4-S3	1.1	Soluble sulphates
		TP5-S2	1.4	SGP Suite
		TP5-S3	1.5	Soluble sulphates

SGP Suite = pH, metals / metalloids, PAHs (16 speciated), TPH CWG + BTEX, asbestos

4. Investigation Observations & Results

4.1. Site Investigation - Physical Observation

4.1.1. SGP attended site on 29.03.23 to undertake the site investigation. Trial pit logs and photographs of the excavations are presented in Appendix A. The site investigation revealed that the general succession of strata can be represented by made ground, underlain by natural soil comprising Glacial Till (boulder clay).

Made Ground

4.1.2. Encountered in all 5 test locations from ground level to depths of 0.5m and 1.9m, generally represented by a layer of white/grey medium-coarse angular gravel between 0-0.2m bgl, then sandy gravelly reworked clay with frequent bricks, gravel, masonry pieces, and wastes (wires, glass, plastics, etc). No degradable organic materials were encountered.

4.1.3. A layer of fine red brick gravel was encountered in TP4 and TP5 at depths of 0.45-0.7m to 0.7-1.0m.

4.1.4. A fragment of suspected asbestos cement sheeting was encountered in TP2 within the made ground between 0.2-0.5m bgl. The incidence was limited to a single fragment which was placed within an appropriate container and submitted for testing to confirm site observations.

Glacial Till

4.1.5. Encountered at each test location from depths of between 0.5m and 1.9m down to the base of trial pits at depths of between 1.4m and 2.65m. Natural deposits comprised of very stiff orange/brown clay with grey streaks and occasional cobbles of stone.

4.1.6. The sidewalls were stable during the excavations.

4.2. Groundwater Conditions

4.2.1. Groundwater was encountered during the excavation works on 29.03.23 in TP1 at 2.1m, TP4 at 0.7m, and TP5 at 1.0m bgl. Ingress within TP1 was limited to a slight seep within the boulder clay which is anticipated to relate to limited perched water within pockets of granular material although no clear granular horizons were observed. Ingress within TP4 and TP5 was a slight to steady seep at the interface between the made ground and boulder, most likely attributed to perched groundwater located above the impermeable clay.

4.3. Contamination Indicators

4.3.1. No visual evidence of contamination was observed during the fieldwork with exception of the suspected ACM fragment within TP2

4.4. Results of Soil Chemical Analysis

4.4.1. The complete soil analytical data is presented in Appendix C (lab ref. 23-10828). The results of the soil analyses are compared to human health critical values (CVs) for initial screening purposes. Given the proposed development is for industrial units with hardstanding, CVs derived for commercial, primarily from the LQM / CIEH Suitable for Use Levels (S4ULs)¹, have been utilised; these are derived for a sandy loam soil. Reference is initially made to the S4ULs derived for a soil with 1% soil organic matter.

4.4.2. The DEFRA published Category 4 Screening Level (C4SL) for lead in soils under commercial use has been utilised to allow an initial screening for risks to human health. This is intended to demonstrate that land is not Contaminated Land as defined under Part IIA of the Environmental Protection Act. The adoption of the C4SL in a planning scenario has not been universally accepted, however in the absence of other generic screening criteria for lead following the withdrawal of the SGV by the EA it is considered appropriate to utilise the screening criterion.

4.4.3. Given the high sensitivity of the planned development, the presence of any asbestos above quantifiable limits (<0.001%) in shallow soils is unlikely to be acceptable so the limit of detection has been adopted as a screening value.

4.4.4. The assessment criteria are intended for use for screening purposes only. Exceedances indicate that either more specific detailed site-specific risk assessment is required to better quantify risks to human health, or that remediation or mitigation is required to reduce risks by breaking the source-pathway-target relationship between solid phase contaminants and receptors.

4.4.5. Results are summarised below:

Table 4.1. Summary of SGP Soil Results

Contaminant	Number of Samples	Range of Concentrations (mg/kg or indicated)	Screening criteria (mg/kg or indicated)	Exceedances
Asbestos screen	11	NAD – 0.002%	Visual identification / <0.001% by mass (LOD)	TP2-S1
pH	15	8.3-9.4	-	-
Arsenic	10	7.9-13	640 LQM/CIEH S4UL	None
Cadmium	10	0.1-0.8	190 LQM/CIEH S4UL	None
Chromium	10	22-51	8,600 LQM/CIEH S4UL	None
Chromium (VI)	10	<0.5	33 LQM/CIEH S4UL	None
Copper	10	16-39	68,000 S4UL	None
Lead	10	20-160	2,330 C4SL	None
Mercury (inorganic)	10	<0.05-0.1	1,100 LQM/CIEH S4UL	None
Nickel	10	20-53	980 LQM/CIEH S4UL	None

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Contaminant	Number of Samples	Range of Concentrations (mg/kg or indicated)	Screening criteria (mg/kg or indicated)	Exceedances
Zinc	10	67-260	730,000 LQM/CIEH S4UL	None
Naphthalene	10	<0.1-6.7	190 LQM/CIEH S4UL	None
Acenaphthylene	10	<0.1-3	83,000 LQM/CIEH S4UL	None
Acenaphthene	10	<0.1-1	84,000 LQM/CIEH S4UL	None
Fluorene	10	<0.1-3.3	63,000 LQM/CIEH S4UL	None
Phenanthrene	10	<0.1-13	22,000 LQM/CIEH S4UL	None
Anthracene	10	<0.1-4.5	520,000 LQM/CIEH S4UL	None
Fluoranthene	10	<0.1-14	23,000 LQM/CIEH S4UL	None
Pyrene	10	<0.1-13	54,000 LQM/CIEH S4UL	None
Benzo(a)anthracene	10	<0.1-7.2	170 LQM/CIEH S4UL	None
Chrysene	10	<0.1-9.2	350 LQM/CIEH S4UL	None
Benzo(a)pyrene	10	<0.1-8	35 LQM/CIEH S4UL	None
Indeno(123cd)pyrene	10	<0.1-6.4	500 LQM/CIEH S4UL	None
Dibenzo(ah)anthracene	10	<0.1-1.8	3.5 LQM/CIEH S4UL	None
Benzo(ghi)perylene	10	<0.1-4.9	3,900 LQM/CIEH S4UL	None
Benzo(b)fluoranthene	10	<0.1-9.1	44 LQM/CIEH S4UL	None
Benzo(k)fluoranthene	10	<0.1-3.3	1,200 LQM/CIEH S4UL	None
Benzene	10	<0.001	27 LQM/CIEH S4UL	None
Toluene	10	<0.001	56,000 LQM/CIEH S4UL	None
Ethylbenzene	10	<0.001	5,700 LQM/CIEH S4UL	None
m/p-xylene	10	<0.001	5,900 LQM/CIEH S4UL	None
o-xylene	10	<0.001	6,600 LQM/CIEH S4UL	None
Aliphatic >C5-C6	10	<1	3,200 LQM/CIEH S4UL	None
Aliphatic >C6-C8	10	<1	7,800 LQM/CIEH S4UL	None
Aliphatic >C8-C10	10	<1	2,000 LQM/CIEH S4UL	None
Aliphatic >C10-C12	10	<1	9,700 LQM/CIEH S4UL	None
Aliphatic >C12-C16	10	<1	59,000 LQM/CIEH S4UL	None
Aliphatic >C16-C21	10	<1	1,600,000 LQM/CIEH S4UL	None
Aliphatic >C21-C35	10	<1	1,600,000 LQM/CIEH S4UL	None
Aromatic >C5-C7	10	<1	26,000 LQM/CIEH S4UL	None
Aromatic >C7-C8	10	<1	56,000 LQM/CIEH S4UL	None
Aromatic >C8-C10	10	<1	3,500 LQM/CIEH S4UL	None
Aromatic >C10-C12	10	<1	16,000 LQM/CIEH S4UL	None
Aromatic >C12-C16	10	<1	36,000 LQM/CIEH S4UL	None
Aromatic >C16-C21	10	<1	28,000 LQM/CIEH S4UL	None
Aromatic >C21-C35	10	<1	28,000 LQM/CIEH S4UL	None
PCB WHO12	4	<0.01	-	None

Notes to table:

S4UL: Suitable for Use Levels published by Chartered Institute of Environmental Health and Land Quality Management Ltd, 'Commercial (1% SOM)'; copyright Land Quality Management Ltd reproduced with permission publication number S4UL3102. All rights reserved.
C4SL: Category 4 Screening Levels published by CL:AIRE (C4SLs); 'Commercial' (1% SOM)

4.4.6. Laboratory testing confirmed that the suspected ACM encountered within TP2 (TP2-S1) was a fragment with asbestos cement sheeting, no further visible fragments were observed.

4.4.7. A sample of the soil matrix from where the ACM was identified was also submitted for testing to establish whether loose fibres associated with the degradation of the ACM were present. Testing confirmed the presence of free fibres of chrysotile, following which quantification was scheduled to confirm the concentration of fibres. Quantification confirmed a mass of 0.002% which exceeds the limit of detection threshold of <0.001%.

4.4.8. No exceedances of the commercial land use criteria were reported.

4.4.9. Concentrations of PCBs (WHO12 congeners) were below analytical detection limits.

4.5. Results of Soluble Sulphate Analysis and Concrete Classification

4.5.1. An assessment of the potential for aggressive conditions for concrete in accordance with BRE Special Digest 1 (2009) has been based on soluble sulphate concentrations within the foundation bearing strata of the site. The results are summarised in the table below:

Table 4.2: Aggressive Chemical Environment for Concrete (ACEC) classification

Sample	Soluble Sulphate (mg/l)	pH	Design Sulphate Class	ACEC Class
BH1-S3 (1.9-2.65m bgl)	130	8.6	DS-1	AC-1
BH2-S3 (2.0-2.4m bgl)	68	8.4	DS-1	AC-1
BH3-S3 (0.5-1.7m bgl)	10	8.8	DS-1	AC-1
BH4-S3 (0.7-1.4m bgl)	10	8.7	DS-1	AC-1
BH5-S3 (1.0-1.8m bgl)	10	8.6	DS-1	AC-1

4.5.2. Concrete classification risk assessment based on concentrations of soluble sulphate within the natural ground at foundation bearing strata depth indicate a worst-case design sulphate class (DC) of DS-1 and an aggressive Chemical Environment for Concrete (ACEC) classification of AC-1^d assuming static groundwater. Total sulphur analysis was carried out to determine the Total Potential Sulphate (TPS) concentrations.

4.5.3. TPS is derived through the stoichiometric equation ($\text{TPS\% SO}_4 = 3.0 \times \text{TS\% S}$). Results of the total sulphur analysis are summarised in the table below with the determined TPS:

Table 4.3 Total Potential Sulphate

Sample	Soluble Sulphate (mg/l)	pH	Total Sulphur (%)	Total Potential Sulphate (%)	Corrected Design Sulphate Class	Corrected ACEC Class
BH1-S3 (1.9-2.65m bgl)	130	8.6	0.026	0.078	DS-1	AC-1
BH2-S3 (2.0-2.4m bgl)	68	8.4	0.074	0.222	DS-1	AC-1
BH3-S3 (0.5-1.7m bgl)	10	8.8	0.032	0.095	DS-1	AC-1
BH4-S3 (0.7-1.4m bgl)	10	8.7	0.014	0.028	DS-1	AC-1
BH5-S3 (1.0-1.8m bgl)	10	8.6	0.054	0.162	DS-1	AC-1

4.5.4. The TPS within all 5 samples of proposed foundation bearing soils are below the 0.3% threshold at which pyrite is likely to be present. Due to the TPS values, it is considered unlikely that pyritic conditions could exist, and the design recommendation is retained at the Design Sulphate class of DS1 and Aggressive Chemical Environment for Concrete of AC-1.

4.6. Results of soil infiltration test

4.6.1. SGP were instructed to carry out soakaway testing on site to determine soil infiltration rates across the site and assist in the determination of the feasibility of soakaways. The work was carried out in accordance with the principles of BRE 365².

4.6.2. In accord to the abovementioned specifications, one run of the soakaway test was carried out within one trial pit (TP1). The trial pit was excavated to 2.65m bgl which was then filled with water via an IBC to a depth of 2.17m bgl. Periodic measurements were taken with the test completed after a 2.5-hour period. Water levels over this period had not fallen with water levels remaining at 2.17m at the end of the test.

4.6.3. Given the absence in any change in water height the test demonstrates that the boulder clay is impermeable and so could not be repeated and so soil infiltration rates have not been calculated.

² Building Research Establishment; Soakaway Design. Digest 365

5. Revised Conceptual Site Model and Risk Assessment

5.1. Methodology

5.1.1. Information from the previous and current site investigation has been used to refine the likely source-pathway-target relationships identified in the preliminary Conceptual Site Model (CSM). Tier 1 risk assessment has been undertaken by comparison of contaminant concentrations in soils to generic screening criteria. These are values appropriate to the intended residential end-use of the site (residential properties with garden areas) and indicate whether potentially unacceptable risks to receptors are likely to exist requiring either more detailed site-specific risk assessment or remediation to break the potential contaminant linkage.

5.2. Sources

5.2.1. Shallow ground conditions consisted of made ground, however no ash, clinker or slag was observed. Made ground was underlain by natural superficial deposits of boulder clay within all entries.

5.2.2. A fragment of asbestos cement sheeting was observed in TP2 at a depth of 0.2-0.5m bg. Whilst this appears to have been a limited incidence with no further observations noted, it is reasonable to assume that similar rare incidences may be present. Sampling of the soil matrix within which the ACM was present also confirmed the presence of chrysotile fibres with quantification confirming a fibre mass of 0.002%

5.2.3. No potential contamination sources such as stained soils or odours were observed.

5.2.4. No other exceedances have been reported in the samples when compared to the commercial use criteria. Similarly, no evidence of the former acid drainage channel or elevated sulphate conditions were reported. It is anticipated that either the channel exists outside the planning area or was removed as part of the existing development.

5.3. Potential Targets

5.3.1. The principal vulnerable receptors during the construction and operational phases of residential development of the site will be:

- construction workforce;
- future site users (employees);
- on-site building structures and infrastructure (i.e. buildings, services);

5.4. Human Health Risk Assessment

5.4.1. A rare incidence of ACM has been confirmed within the soils around TP2 with low level (0.002%) loose fibres present within the made ground at this location. This appears to be a localised incidence with no observations or fibres reported within the made ground within the other entries. It is noted that TP2 is located within an area of proposed car park which will be surfaced by tarmac

hardstanding and where no excavations are proposed. Entries TP1, TP3-4 were all located in the south within the footprint of the proposed commercial units where ground disturbance / excavation works are proposed. The presence of hardstanding will provide a physical barrier to the underlying made ground and prevent exposure of the underlying made ground soils to future site users. Ground excavation works within the area of TP2 are not proposed based on current proposals and providing normal occupational hygiene during construction is maintained, site operatives have appropriate basic asbestos training and that dust suppression methods are employed during ground disturbance works then the potential risk can be safely mitigated.

5.4.2. Updated radon mapping identifies that the site is located within a 1km grid square where the maximum radon potential is 5-10% meaning that basic radon protection measures are required in new buildings and extensions. It is recommended that a site-specific report is obtained which may downgrade this classification, however in the absence of obtaining such a report it is considered that basic radon measures will be required.

5.5. Property Risk Assessment

5.5.1. No organic contaminants with the potential to permeate through plastic water supply pipes have been encountered.

5.5.2. No sources with the potential for the generation and accumulation of ground gases have been identified.

5.5.3. The proposed development of the site will include 3 industrial units, a bin store, car parking, drainage infrastructure, utility services, and a small area of soft landscaping. Concrete classification risk assessment based on concentrations of soluble sulphate within the natural soils indicated design sulphate class (DC) of DS-1 and an Aggressive Chemical Environment for Concrete (ACEC) classification of AC-1.

5.6. Controlled Waters Risk Assessment

5.6.1. No mobile or soluble diffuse sources of soil contamination were present, no point sources of groundwater pollution are anticipated.

5.7. Conceptual Site Model

5.7.1. The revised CSM is summarised below:

Table 6. Revised Conceptual Site Model

Receptor	Source / Contaminant	Pathway / Exposure	Pollutant Linkage (in absence of mitigation)	Further Works
1. humans – construction workers / future maintenance workers	metals / metalloids / asbestos / PAHs / hydrocarbons	dermal contact / ingestion / inhalation – short term exposure	Low likelihood – One incidence of asbestos fibres and ACM has been reported in the northeast corner of the site (TP2) where excavation works will not be undertaken, and hardstanding will be placed to form a car parking area. No incidences of asbestos reported within entries TP1, TP3-TP4 where excavation works for building construction will take place.	Construction workers to remain vigilant on ACM identification during construction works. Good occupational hygiene to be maintained and dust suppression methods in accordance with best practice to be implemented during ground disturbance works.
2. humans – future site visitors / workers	metals / metalloids / asbestos / PAHs / heavy hydrocarbons	dermal contact / ingestion / inhalation	Unlikely – Development proposals are for widespread hardstanding (car park) or buildings which will provide a physical barrier to the underlying made ground.	No action required
3. humans – adjacent site users	metals / metalloids / asbestos / PAHs / hydrocarbons	windblown / dermal contact / ingestion / inhalation	Low likelihood - One incidence of asbestos fibres and ACM has been reported in the northeast corner of the site (TP2) where excavation works will not be undertaken, and hardstanding will be placed to form a car parking area. No incidences of asbestos reported within entries TP1, TP3-TP4 where excavation works for building construction will take place.	Dust suppression methods in accordance with best practice to be implemented during ground disturbance works.
4. property / services	pH, sulphate	chemical attack of buried concrete and plastic materials	Unlikely - No organic contaminants with the potential to permeate plastic pipelines has been encountered. High sulphate conditions (e.g., acid mine drain) not present.	No action required
4. vegetation / landscaping	leachable metals / metalloids may be present within shallow soils	plant uptake	Unlikely – No elevated concentrations of phytotoxic metals recorded / no landscaping areas proposed.	No action required

Receptor	Source / Contaminant	Pathway / Exposure	Pollutant Linkage (in absence of mitigation)	Further Works
5. ecosystems / protected species & habitats				
n/a – no ecosystems / protected habitats in immediate vicinity				
6. surface waters	leachable metals / metalloids / PAHs / hydrocarbons	migration via shallow groundwater / surface water run- off.	Unlikely – No viable contamination sources identified, no mobile or free phase contamination encountered.	No Action Required
7. groundwater – Secondary undifferentiated (superficial aquifer) Secondary A (bedrock aquifer)	leachable metals / metalloids / PAHs / hydrocarbons	migration via saturated zone	Unlikely – No viable contamination sources identified, no mobile or free phase contamination encountered. In any case the overlying superficial deposits (boulder clay) are highly impermeable.	No Action Required

6. Conclusions and Recommendations

6.1. Conclusions

- 6.1.1. The site investigation revealed that the general succession of strata can be represented by made ground, underlain by natural superficial strata of Glacial Till.
- 6.1.2. Made ground was encountered in all five test locations from ground level to depths of between 0.5m and 2.0m, represented by brown sandy gravelly clay with frequent bricks, gravel and anthropogenic wastes (wires, glass, plastic, etc). No organic or degradable materials were encountered.
- 6.1.3. Very stiff orange/brown clay (Till) with grey streaks and occasional cobbles was present immediately beneath made ground deposits to the base of the trial-pits.
- 6.1.4. No visual or olfactory evidence of contamination was encountered with soils with exception of a rare fragment of ACM within the made ground of TP2 at 0.2-0.5m. Laboratory testing confirmed site observations of asbestos cement sheeting.
- 6.1.5. Concentrations of all determinants were below the respective assessment criteria based on a commercial land use which is considered applicable to the end use of the site. Trace (0.002%) chrysotile fibres were reported within the soil matrix in TP2 at 0.2-0.5m bgl, suggesting the degradation of the observed ACM.
- 6.1.6. The incidence of asbestos was limited to a single entry (TP2) in the northeast of the site which will be surfaced with hardstanding to form a car parking area. As such ground disturbance /excavation works within this area will be limited. No incidences of asbestos were reported within the remaining entries which were all located within the area of the proposed units and where more significant ground disturbance / excavation works are likely to take place.
- 6.1.7. The soil infiltration testing was undertaken within the Glacial Till in TP1. The test was completed over a 2.5hr period, during which time the water level did not fall. As such it was not possible to reproduce the test or calculate a soil infiltration rate. It is concluded that the Glacial Till is highly impermeable and unlikely to be suitable for soakaways.
- 6.1.8. Since the production of the Stage 1 report, the radon maps for the UK have been updated, with mapping showing the site to be located within a 1km grid square where the maximum radon potential is 5-10%, meaning that basic protection measures are required. It is considered that purchasing of a site-specific radon report may allow reclassification for the site, however on the basis of this updated information, basic radon measures would be required within the proposed units.

6.2. Recommendations

6.2.1. No specific remedial measures are required, however standard construction measures should be employed during construction works. This should entail briefing to all groundworkers on basic asbestos awareness and if suspected ACM is identified and appropriately trained sub-contractor should be employed to hand-pick and remove any visible fragments from site with disposal at a suitable waste accepting facility. Standard dust-suppression methods should be employed during ground disturbance / excavation works to reduce the likelihood of dust generation.

6.2.2. It is recommended that a site-specific radon report is obtained to provide more detailed classification of the site's risk from radon so that appropriate mitigation measures can be installed. In the absence of a site-specific report, it should be assumed that basic radon protection measures will be required within all buildings.

6.2.3. A copy of this report should be formally submitted to WCBC under an application to discharge Condition 3 (Land Contamination).

6.3. Limitations

Stratigraphy

6.3.1. The evidence of stratigraphy is taken from discrete trial pit locations and from information provided by other parties. Whilst it is usually reasonable to infer those similar conditions may extend between these locations; caution should be exercised.

Contamination

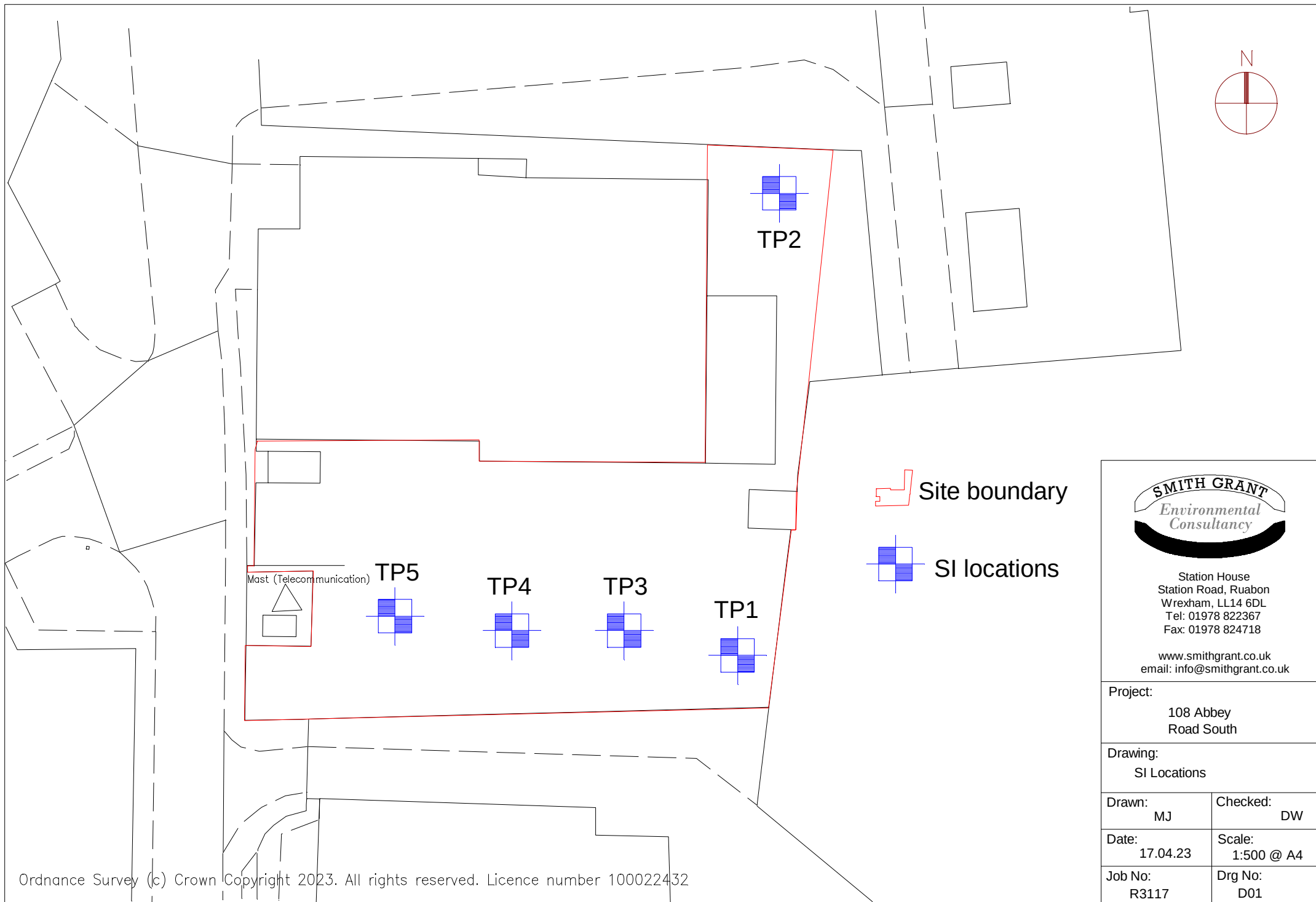
6.3.2. The site investigation involved sampling at discrete locations, and it should be recognised that further areas or types of contamination may exist between investigation positions. The analyses performed are drawn from a typical suite of tests used to screen potentially contaminated land and specified to fall within the available budget. It is always possible that other substances may be present that have not been included within the standard range of tests.

General

6.3.3. This report has been prepared by SGP for the sole and exclusive use of J&M Properties. Reasonable skill, care and diligence has been exercised within the budget available, and in accordance with the technical requirements of the brief. Notwithstanding the efforts made by the professional team in undertaking the assessment and preparing this report, it is possible that other ground conditions and contamination as yet undetected may exist. Reliance on the findings of this report must therefore be limited accordingly. Such reliance must be based on the whole report and not on extracts which may lead to incomplete or incorrect conclusions when taken out of context.

6.3.4. SGP reserves the right to alter any of the foregoing information in the event of new information being disclosed or provided and in the light of changes to legislation, guidelines and responses by the statutory and regulatory authorities.

DRAWING



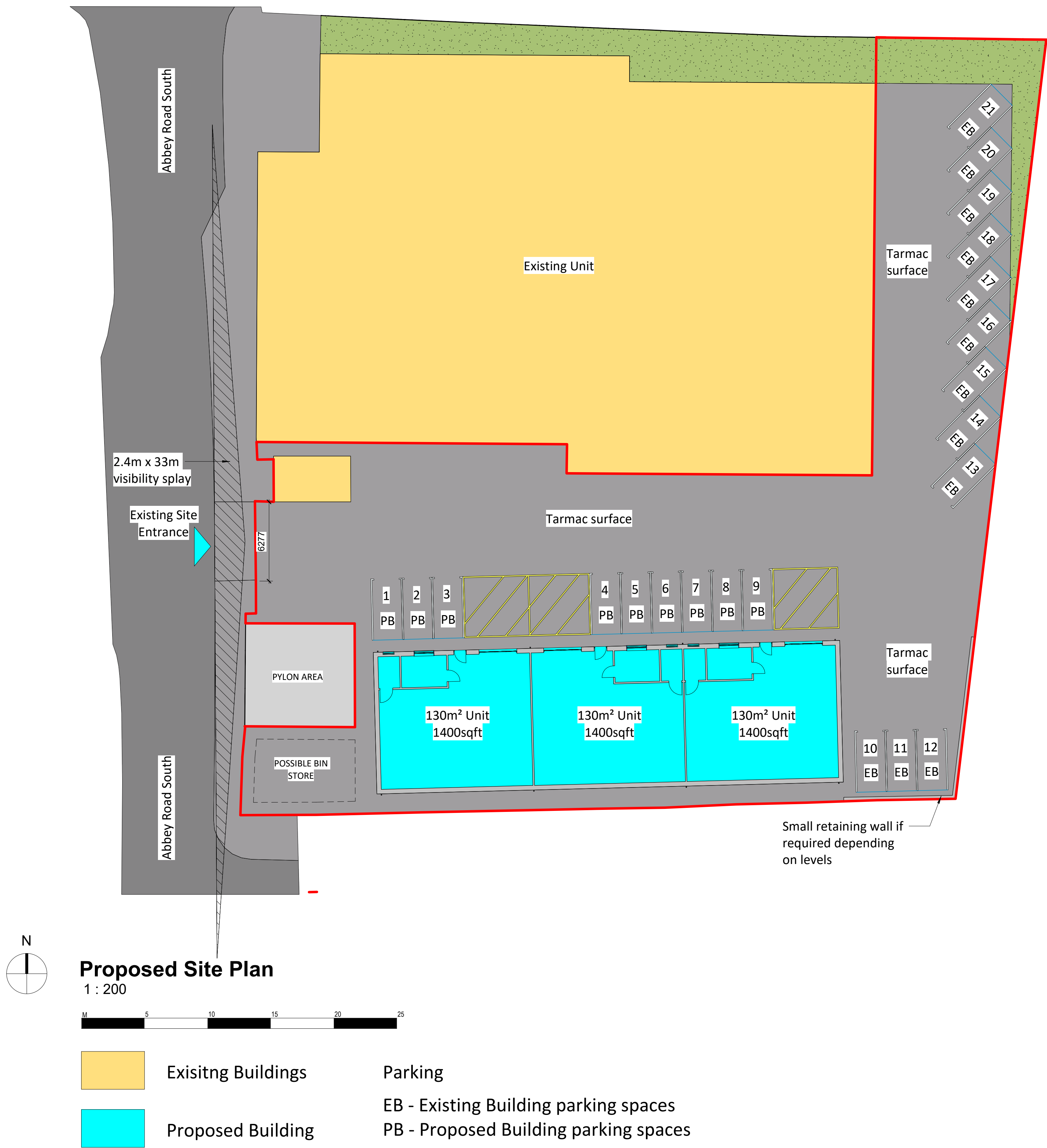
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Tel: 01978 822367
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www.smithgrant.co.uk
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Project:	
108 Abbey Road South	
Drawing: SI Locations	
Drawn: MJ	Checked: DW
Date: 17.04.23	Scale: 1:500 @ A4
Job No: R3117	Drg No: D01



- General Notes
1. Contractor to verify all dimensions and check level datums on site
 2. All of the designs are the sole property of TACP Architects Ltd and may not be used without their written agreement
 3. All prints, specifications and their copyright are the property of TACP Architects Ltd
 4. Do not scale off drawings
 5. All dimensions shall be checked on site before commencement of shop drawings, manufacture and all discrepancies must be reported to TACP Architects Ltd

Revisions					
Rev	Date	Description	By	Check	
P01	27/04/20	Visibility splay indicated and parking spaces indicated for each building	ACR	MG	

Consultants

Client
J & M Properties

Project Title
Industrial Unit, Abbey Road South

Drawing Title
Proposed Site Plan

Scale	Date	Drawn By	Checked By	Office
1 : 200@A1	29/01/20	ACR	MG	Wrexham

Job Number	Project•Originator•Zone•Level•Type•Role•Number	Revision
19064	ARD -TACP- PS- 00-DR- A- 702	P01

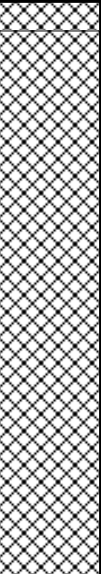
TACP Architects Ltd
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Ellice Way, Wrexham Technology Park,
Wrexham, LL13 7YT
01978 291161
admin@tacparchitects.co.uk
www.tacparchitects.co.uk

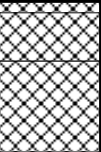
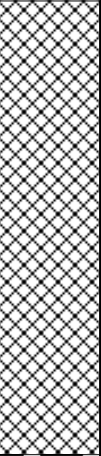
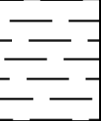
Architecture • Interior Design • Healthcare Planning • Conservation • Masterplanning • Sustainable Design

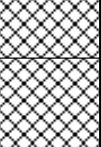
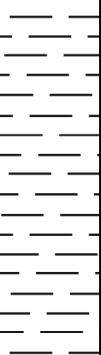


APPENDIX A

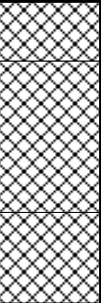
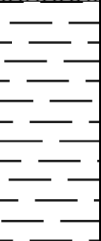
Trial-Pit Logs

SHEET: 1 of 1	LOCATION:	PROJECT: 108 Abbey Road South	ENGINEER: MJ		JOB NO. R3117	TRIAL PIT NO. TP1
		EXCAVATED BY: Excavator	CLIENT: J&M Properties		DATE: 29.03.23	
DEPTH (m)	SAMPLES/ TESTING	FIELD RECORDS	DEPTH (m)	DESCRIPTION OF STRATA		LEGEND
0.7 0.8	TP1-S1 TP1-PCB	No odours	0.00	0.1 White/grey medium-coarse angular gravel overlaying a thin textile sheet (MADE GROUND) Brown sandy clayey gravel (MADE GROUND) with frequent bricks, masonry pieces, and waste (plastic, glass, wires, rebar, fibreglass)		
			1.00			
			1.9			
2.3	TP1-S2		2.00	Very stiff orange/brown CLAY with grey streaks		
2.5	TP1-S3		2.65	Trial pit terminated @ 2.65m bgl in natural		
			3.00			
			4.00			
			5.00			
 Smith Grant LLP Bryn Estyn Business Centre, Bryn Estyn Road, Wrexham, LL13 9TY Tel: 01978822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk		GROUND WATER: Groundwater seep at 2.10m				
		REMARKS:				
		SCALE: 1:250	LOGGED BY: MJ		FIGURE NO. 1	

SHEET: 1 of 1	LOCATION:	PROJECT: 108 Abbey Road South	ENGINEER: MJ	JOB NO. R3117	TRIAL PIT NO. TP2	
		EXCAVATED BY: Excavator	CLIENT: J&M Properties	DATE: 29.03.23		
DEPTH (m)	SAMPLES/ TESTING	FIELD RECORDS	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND	
0.3	TP2-ASB	No odours	0.00 0.04	Black clayey medium-fine gravel (MADE GROUND)		
			0.2	White/grey medium-fine angular gravel overlaying a thin textile sheet (MADE GROUND)		
				Light brown sandy gravel with frequent bricks, stones, and an asbestos piece (MADE GROUND)		
0.7	TP2-S1			0.5	Light brown gravelly reworked clay with brick fragments and white/grey angular gravel of stone and frequent large cobbles (MADE GROUND)	
0.8	TP2-PCB			1.00		
				2.00 2	Very stiff light brown CLAY with rare cobbles of stone	
2.2	TP2-S2					
2.3	TP2-S3		2.4	Trial pit terminated @ 2.4m bgl in natural		
			3.00			
			4.00			
			5.00			
 SMITH GRANT Environmental Consultancy LLP Smith Grant LLP Bryn Estyn Business Centre, Bryn Estyn Road, Wrexham, LL13 9TY Tel: 01978822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk		GROUND WATER: None encountered				
		REMARKS:				
		SCALE: 1:250		LOGGED BY: MJ		FIGURE NO. 1

SHEET: 1 of 1	LOCATION:	PROJECT: 108 Abbey Road South	ENGINEER: MJ	JOB NO. R3117	TRIAL PIT NO. TP3
		EXCAVATED BY: Excavator	CLIENT: J&M Properties	DATE: 29.03.23	
DEPTH (m)	SAMPLES/ TESTING	FIELD RECORDS	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
0.3	TP3-S1		0.00	White/grey medium-coarse angular gravel overlaying a thin textile sheet (MADE GROUND)	
			0.2	Grey brown sandy gravelly clay with brick and stone fragments with rare cobbles (MADE GROUND)	
			0.5	Very stiff reddish brown CLAY with streaks of grey	
		No odours	1.00		
1.1	TP3-S2				
1.2	TP3-S3				
			1.7	Trial pit terminated @ 1.7m bgl in natural	
			2.00		
			3.00		
			4.00		
			5.00		
 Smith Grant LLP Bryn Estyn Business Centre, Bryn Estyn Road, Wrexham, LL13 9TY Tel: 01978822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk		GROUND WATER: None encountered			
		REMARKS:			
		SCALE: 1:250	LOGGED BY: MJ	FIGURE NO. 1	

SHEET: 1 of 1	LOCATION:	PROJECT: 108 Abbey Road South	ENGINEER: MJ	JOB NO. R3117	TRIAL PIT NO. TP4
		EXCAVATED BY: Excavator	CLIENT: J&M Properties	DATE: 29.03.23	
DEPTH (m)	SAMPLES/ TESTING	FIELD RECORDS	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
			0.00	White/grey medium-coarse angular gravel overlaying a thin textile sheet (MADE GROUND)	
			0.2	Stiff brown clay with frequent waste (wires, glass, and bricks) (MADE GROUND)	
0.3	TP4-S1	No odours	0.45	Fine red gravel of brick (MADE GROUND)	
0.5	TP4-PCB		0.7	Light brown/orange very stiff CLAY	
			1.00		
1	TP4-S2		1.4	Trial pit terminated @ 1.4m bgl in natural	
1.1	TP4-S3				
			2.00		
			3.00		
			4.00		
			5.00		
 Smith Grant LLP Bryn Estyn Business Centre, Bryn Estyn Road, Wrexham, LL13 9TY Tel: 01978822367 www.smithgrant.co.uk email: consult@smithgrant.co.uk		GROUND WATER: Encountered perched groundwater at 0.7m within the made ground REMARKS: SCALE: 1:250 LOGGED BY: MJ FIGURE NO. 1			

SHEET: 1 of 1	LOCATION:	PROJECT: 108 Abbey Road South	ENGINEER: MJ	JOB NO. R3117	TRIAL PIT NO. TP5
		EXCAVATED BY: Excavator	CLIENT: J&M Properties	DATE: 29.03.23	
DEPTH DEPTH (m)	SAMPLES/ TESTING	FIELD RECORDS	DEPTH DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
0.1	TP5-S1	No odours	0.00	White/grey medium-coarse angular gravel overlaying a thin textile sheet (MADE GROUND)	
0.2	TP5-PCB		0.2	Greyish brown reworked clay with frequent brick fragments (MADE GROUND)	
0.4			0.7	Fine red gravel of brick (MADE GROUND)	
1.4	TP5-S2 TP5-S3		1.00	Very stiff light brown CLAY	
1.5			1.8	Trial pit terminated @ 1.8m bgl in natural	
			2.00		
		3.00			
		4.00			
		5.00			



Smith Grant LLP
Bryn Estyn Business Centre,
Bryn Estyn Road, Wrexham, LL13 9TY
Tel: 01978822367

www.smithgrant.co.uk
email: consult@smithgrant.co.uk

GROUND WATER:
Encountered perched groundwater at 1m within the made ground

REMARKS:

SCALE:
1:250

LOGGED BY:
MJ

FIGURE NO.
1

APPENDIX B

Photographic Record

Site investigation photographic record. 108 Abbey Road South, Wrexham Industrial Estate –
29.03.23.

TRIAL PITS

TP1	
 Location	 Excavation hole
 Arisings: Made ground 0.2-1.9m	

TP2



Location



Excavation hole



Arisings: Asbestos fragment 0.2-0.5m



Arisings: Reworked clay (made ground) 0.5-2m with pieces of boulder clay (natural) 2-2.4m

TP3



Location



Excavation hole



Arisings: Made ground (0.2-0.5m)



Arisings: Boulder clay 0.5-1.7m

TP4	
 Location	
 Arisings: Brick dust (Made ground) 0. 5-0.7m	 Excavation hole

TP5



Location



Arisings: Made ground 0.2-0.7m



Excavation hole

APPENDIX C

Laboratory Test Results



Amended Report

Report No.:	23-10828-2		
Initial Date of Issue:	12-Apr-2023	Date of Re-Issue:	25-Apr-2023
Client	Smith Grant LLP		
Client Address:	Bryn Estyn Business Centre Bryn Estyn Road Wrexham LL13 9TY		
Contact(s):	Megan Jones		
Project	R3117 108 ABBEY ROAD SOUTH		
Quotation No.:		Date Received:	31-Mar-2023
Order No.:		Date Instructed:	31-Mar-2023
No. of Samples:	20		
Turnaround (Wkdays):	20	Results Due:	02-May-2023
Date Approved:	25-Apr-2023		
Approved By:			
Details:	Stuart Henderson, Technical Manager		

Bulk Identification Certificate

Client: Smith Grant LLP

Site Address:

Date Sampled: 29-Mar-2023

Date Received: 31-Mar-2023

Your Ref.:

Project: R3117 108 ABBEY ROAD
SOUTH

Job Number: 23-10828

No Samples:

Date Reported: 12-Apr-2023

Sample No.	Sample ID	Sample Ref.	Description	Top (m)	Bottom (m)	SOP	Accred.	Laboratory	Material	Result
1616825	S1	ASB	TP2	0.2	0.5	2185	U	NEW-ASB	Cement	Chrysotile

The in-house procedure SOP2185 is in accordance with the requirements of Appendix 2 of the Analyst Guide (HSG 248).
The results relate only to items tested as supplied by the client.
Comments and interpretations are beyond the scope of UKAS accreditation.
Samples associated with asbestos in building surveys are retained for six months (HSG 264 refers)

Results - Soil

Project: R3117 108 ABBEY ROAD SOUTH

Client: Smith Grant LLP	Chemtest Job No.:				23-10828	23-10828	23-10828	23-10828	23-10828	23-10828	23-10828	23-10828	23-10828
Quotation No.:	Chemtest Sample ID.:				1616818	1616819	1616820	1616821	1616822	1616823	1616824	1616826	1616827
Order No.:	Client Sample Ref.:				S1	S2	S3	PCB	S1	S2	S3	PCB	S1
	Client Sample ID.:							S1				S1	
	Sample Location:				TP1	TP1	TP1	TP1	TP2	TP2	TP2	TP2	TP3
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.0	1.9	1.9	0.0	0.5	2.0	2.0	0.2	0.2
	Bottom Depth (m):				1.0	2.65	2.65	1.0	1.1	2.4	2.4	0.5	0.5
	Date Sampled:				29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023
	Asbestos Lab:				NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	Accred.	SOP	Units	LOD									
ACM Type	U	2192		N/A	-	-			Free Fibres	-			-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected			Chrysotile	No Asbestos Detected			No Asbestos Detected
Asbestos by Gravimetry	U	2192	%	0.001					0.002				
Total Asbestos	U	2192	%	0.001					0.002				
Moisture	N	2030	%	0.020	24	15	14	16	15	17	18	9.8	11
pH	M	2010		4.0	8.4	8.4	8.6		8.3	8.6	8.4		8.4
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010			0.13				0.068		
Total Sulphur	M	2175	%	0.010			0.026				0.074		
Sulphate (Total)	U	2430	%	0.010			0.057						
Sulphate (Total)	U	2430	mg/kg	100			570				1600		
Arsenic	M	2455	mg/kg	0.5	10	13			12	12			12
Cadmium	M	2455	mg/kg	0.10	0.71	0.20			0.25	0.12			0.26
Chromium	M	2455	mg/kg	0.5	37	49			42	49			41
Copper	M	2455	mg/kg	0.50	35	26			39	25			39
Mercury	M	2455	mg/kg	0.05	0.10	< 0.05			0.09	< 0.05			0.09
Nickel	M	2455	mg/kg	0.50	28	49			45	49			43
Lead	M	2455	mg/kg	0.50	160	28			46	22			44
Selenium	M	2455	mg/kg	0.25	0.81	1.0			1.0	1.0			0.99
Zinc	M	2455	mg/kg	0.50	260	84			120	82			120
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50			< 0.50	< 0.50			< 0.50
Organic Matter	M	2625	%	0.40	6.7	0.51			1.3	0.41			3.7
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0	< 1.0			< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0	< 1.0			< 1.0
Aliphatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0	< 1.0			< 1.0
Aliphatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0	< 1.0			< 1.0
Aliphatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0	< 1.0			< 1.0
Aliphatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0	< 1.0			< 1.0
Aliphatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0	< 1.0			< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0	< 1.0			< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0			< 5.0	< 5.0			< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0	< 1.0			< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0	< 1.0			< 1.0
Aromatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0	< 1.0			< 1.0
Aromatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0	< 1.0			< 1.0
Aromatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0	< 1.0			< 1.0

Results - Soil

Project: R3117 108 ABBEY ROAD SOUTH

Client: Smith Grant LLP	Chemtest Job No.:		23-10828	23-10828	23-10828	23-10828	23-10828	23-10828	23-10828	23-10828	23-10828
Quotation No.:	Chemtest Sample ID.:		1616818	1616819	1616820	1616821	1616822	1616823	1616824	1616826	1616827
Order No.:	Client Sample Ref.:		S1	S2	S3	PCB	S1	S2	S3	PCB	S1
	Client Sample ID.:					S1				S1	
	Sample Location:		TP1	TP1	TP1	TP1	TP2	TP2	TP2	TP2	TP3
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.0	1.9	1.9	0.0	0.5	2.0	2.0	0.2	0.2
	Bottom Depth (m):		1.0	2.65	2.65	1.0	1.1	2.4	2.4	0.5	0.5
	Date Sampled:		29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023
	Asbestos Lab:		NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	Accred.	SOP	Units	LOD							
Aromatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0	< 1.0		< 1.0	< 1.0		< 1.0
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0	< 1.0		< 1.0	< 1.0		< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0		< 1.0	< 1.0		< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0		< 5.0	< 5.0		< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	< 10		< 10	< 10		< 10
Naphthalene	M	2700	mg/kg	0.10	6.7	< 0.10		< 0.10	< 0.10		< 0.10
Acenaphthylene	M	2700	mg/kg	0.10	3.0	< 0.10		< 0.10	< 0.10		< 0.10
Acenaphthene	M	2700	mg/kg	0.10	1.0	< 0.10		< 0.10	< 0.10		< 0.10
Fluorene	M	2700	mg/kg	0.10	3.3	< 0.10		< 0.10	< 0.10		< 0.10
Phenanthrene	M	2700	mg/kg	0.10	13	< 0.10		0.78	0.75		< 0.10
Anthracene	M	2700	mg/kg	0.10	4.5	< 0.10		0.22	0.16		< 0.10
Fluoranthene	M	2700	mg/kg	0.10	14	0.49		1.3	0.44		0.35
Pyrene	M	2700	mg/kg	0.10	13	0.58		1.4	0.66		0.48
Benzo[a]anthracene	M	2700	mg/kg	0.10	7.2	< 0.10		0.71	< 0.10		< 0.10
Chrysene	M	2700	mg/kg	0.10	9.2	< 0.10		0.78	< 0.10		< 0.10
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	9.1	< 0.10		1.1	< 0.10		< 0.10
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	3.3	< 0.10		0.30	< 0.10		< 0.10
Benzo[a]pyrene	M	2700	mg/kg	0.10	8.0	< 0.10		0.94	< 0.10		< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	6.4	< 0.10		< 0.10	< 0.10		< 0.10
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	1.8	< 0.10		< 0.10	< 0.10		< 0.10
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	4.9	< 0.10		< 0.10	< 0.10		< 0.10
Total Of 16 PAH's	M	2700	mg/kg	2.0	110	< 2.0		7.5	2.0		< 2.0
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0		< 1.0	< 1.0		< 1.0
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0		< 1.0	< 1.0		< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0		< 1.0	< 1.0		< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0		< 1.0	< 1.0		< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0		< 1.0	< 1.0		< 1.0
PCB 28	U	2815	mg/kg	0.010			< 0.010			< 0.010	
PCB 52	U	2815	mg/kg	0.010			< 0.010			< 0.010	
PCB 90+101	U	2815	mg/kg	0.010			< 0.010			< 0.010	
PCB 118	U	2815	mg/kg	0.010			< 0.010			< 0.010	
PCB 153	U	2815	mg/kg	0.010			< 0.010			< 0.010	
PCB 138	U	2815	mg/kg	0.010			< 0.010			< 0.010	
PCB 180	U	2815	mg/kg	0.010			< 0.010			< 0.010	
Total PCBs (7 Congeners)	U	2815	mg/kg	0.10			< 0.10			< 0.10	

Results - Soil

Project: R3117 108 ABBEY ROAD SOUTH

Client: Smith Grant LLP	Chemtest Job No.:				23-10828	23-10828	23-10828	23-10828	23-10828	23-10828	23-10828	23-10828	23-10828
Quotation No.:	Chemtest Sample ID.:				1616828	1616829	1616830	1616831	1616832	1616833	1616834	1616835	1616836
Order No.:	Client Sample Ref.:				S2	S3	S1	S2	S3	PCB	S1	S2	S3
	Client Sample ID.:									S1			
	Sample Location:				TP3	TP3	TP4	TP4	TP4	TP4	TP5	TP5	TP5
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.5	0.5	0.2	0.7	0.7	0.2	0.0	1.0	1.0
	Bottom Depth (m):				1.7	1.7	0.45	1.4	1.4	0.9	0.2	1.8	1.8
	Date Sampled:				29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023
	Asbestos Lab:				NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	Accred.	SOP	Units	LOD									
ACM Type	U	2192		N/A	-		-	-			-	-	
Asbestos Identification	U	2192		N/A	No Asbestos Detected		No Asbestos Detected	No Asbestos Detected			No Asbestos Detected	No Asbestos Detected	
Asbestos by Gravimetry	U	2192	%	0.001									
Total Asbestos	U	2192	%	0.001									
Moisture	N	2030	%	0.020	15	16	14	14	15	22	3.1	15	16
pH	M	2010		4.0	8.6	8.8	8.5	8.9	8.7		9.4	8.5	8.6
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010		< 0.010			< 0.010				< 0.010
Total Sulphur	M	2175	%	0.010		0.032			0.014				0.054
Sulphate (Total)	U	2430	%	0.010									
Sulphate (Total)	U	2430	mg/kg	100		500			400				700
Arsenic	M	2455	mg/kg	0.5	7.9		10	12			13	12	
Cadmium	M	2455	mg/kg	0.10	0.78		0.18	0.10			0.11	0.23	
Chromium	M	2455	mg/kg	0.5	22		36	44			51	40	
Copper	M	2455	mg/kg	0.50	16		23	24			27	30	
Mercury	M	2455	mg/kg	0.05	0.05		< 0.05	< 0.05			< 0.05	< 0.05	
Nickel	M	2455	mg/kg	0.50	20		37	47			53	41	
Lead	M	2455	mg/kg	0.50	130		140	20			20	50	
Selenium	M	2455	mg/kg	0.25	0.63		0.85	0.84			0.94	0.88	
Zinc	M	2455	mg/kg	0.50	140		87	67			80	100	
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50		< 0.50	< 0.50			< 0.50	< 0.50	
Organic Matter	M	2625	%	0.40	< 0.40		0.69	< 0.40			0.65	2.1	
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0		< 1.0	< 1.0			< 1.0	< 1.0	
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0		< 1.0	< 1.0			< 1.0	< 1.0	
Aliphatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0		< 1.0	< 1.0			< 1.0	< 1.0	
Aliphatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0		< 1.0	< 1.0			< 1.0	< 1.0	
Aliphatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0		< 1.0	< 1.0			< 1.0	< 1.0	
Aliphatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0		< 1.0	< 1.0			< 1.0	< 1.0	
Aliphatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0		< 1.0	< 1.0			< 1.0	< 1.0	
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0		< 1.0	< 1.0			< 1.0	< 1.0	
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0		< 5.0	< 5.0			< 5.0	< 5.0	
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0		< 1.0	< 1.0			< 1.0	< 1.0	
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0		< 1.0	< 1.0			< 1.0	< 1.0	
Aromatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0		< 1.0	< 1.0			< 1.0	< 1.0	
Aromatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0		< 1.0	< 1.0			< 1.0	< 1.0	
Aromatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0		< 1.0	< 1.0			< 1.0	< 1.0	

Results - Soil

Project: R3117 108 ABBEY ROAD SOUTH

Client: Smith Grant LLP	Chemtest Job No.:		23-10828	23-10828	23-10828	23-10828	23-10828	23-10828	23-10828	23-10828	23-10828
Quotation No.:	Chemtest Sample ID.:		1616828	1616829	1616830	1616831	1616832	1616833	1616834	1616835	1616836
Order No.:	Client Sample Ref.:		S2	S3	S1	S2	S3	PCB	S1	S2	S3
	Client Sample ID.:							S1			
	Sample Location:		TP3	TP3	TP4	TP4	TP4	TP4	TP5	TP5	TP5
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.5	0.5	0.2	0.7	0.7	0.2	0.0	1.0	1.0
	Bottom Depth (m):		1.7	1.7	0.45	1.4	1.4	0.9	0.2	1.8	1.8
	Date Sampled:		29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023	29-Mar-2023
	Asbestos Lab:		NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	Accred.	SOP	Units	LOD							
Aromatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0		< 5.0		< 5.0	< 5.0	
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10		< 10		< 10	< 10	
Naphthalene	M	2700	mg/kg	0.10	< 0.10		< 0.10		1.0	< 0.10	
Acenaphthylene	M	2700	mg/kg	0.10	< 0.10		< 0.10		0.76	< 0.10	
Acenaphthene	M	2700	mg/kg	0.10	< 0.10		< 0.10		0.16	< 0.10	
Fluorene	M	2700	mg/kg	0.10	< 0.10		< 0.10		0.58	< 0.10	
Phenanthrene	M	2700	mg/kg	0.10	0.45		< 0.10		1.6	0.41	
Anthracene	M	2700	mg/kg	0.10	0.15		< 0.10		0.60	0.16	
Fluoranthene	M	2700	mg/kg	0.10	0.34		< 0.10		0.95	0.71	
Pyrene	M	2700	mg/kg	0.10	0.35		< 0.10		0.80	0.85	
Benzo[a]anthracene	M	2700	mg/kg	0.10	< 0.10		< 0.10		0.43	0.64	
Chrysene	M	2700	mg/kg	0.10	< 0.10		< 0.10		0.43	0.42	
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	< 0.10		< 0.10		< 0.10	< 0.10	
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	< 0.10		< 0.10		< 0.10	< 0.10	
Benzo[a]pyrene	M	2700	mg/kg	0.10	< 0.10		< 0.10		< 0.10	< 0.10	
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	< 0.10		< 0.10		< 0.10	< 0.10	
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	< 0.10		< 0.10		< 0.10	< 0.10	
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	< 0.10		< 0.10		< 0.10	< 0.10	
Total Of 16 PAH's	M	2700	mg/kg	2.0	< 2.0		< 2.0		7.3	3.2	
Benzene	M	2760	µg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	
Toluene	M	2760	µg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	
o-Xylene	M	2760	µg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	
PCB 28	U	2815	mg/kg	0.010				< 0.010			
PCB 52	U	2815	mg/kg	0.010				< 0.010			
PCB 90+101	U	2815	mg/kg	0.010				< 0.010			
PCB 118	U	2815	mg/kg	0.010				< 0.010			
PCB 153	U	2815	mg/kg	0.010				< 0.010			
PCB 138	U	2815	mg/kg	0.010				< 0.010			
PCB 180	U	2815	mg/kg	0.010				< 0.010			
Total PCBs (7 Congeners)	U	2815	mg/kg	0.10				< 0.10			

Results - Soil

Project: R3117 108 ABBEY ROAD SOUTH

Client: Smith Grant LLP	Chemtest Job No.:		23-10828		
Quotation No.:	Chemtest Sample ID.:		1616837		
Order No.:	Client Sample Ref.:		PCB		
	Client Sample ID.:		S1		
	Sample Location:		TP5		
	Sample Type:		SOIL		
	Top Depth (m):		0.2		
	Bottom Depth (m):		0.7		
	Date Sampled:		29-Mar-2023		
	Asbestos Lab:		NEW-ASB		
Determinand	Accred.	SOP	Units	LOD	
ACM Type	U	2192		N/A	
Asbestos Identification	U	2192		N/A	
Asbestos by Gravimetry	U	2192	%	0.001	
Total Asbestos	U	2192	%	0.001	
Moisture	N	2030	%	0.020	18
pH	M	2010		4.0	
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	
Total Sulphur	M	2175	%	0.010	
Sulphate (Total)	U	2430	%	0.010	
Sulphate (Total)	U	2430	mg/kg	100	
Arsenic	M	2455	mg/kg	0.5	
Cadmium	M	2455	mg/kg	0.10	
Chromium	M	2455	mg/kg	0.5	
Copper	M	2455	mg/kg	0.50	
Mercury	M	2455	mg/kg	0.05	
Nickel	M	2455	mg/kg	0.50	
Lead	M	2455	mg/kg	0.50	
Selenium	M	2455	mg/kg	0.25	
Zinc	M	2455	mg/kg	0.50	
Chromium (Hexavalent)	N	2490	mg/kg	0.50	
Organic Matter	M	2625	%	0.40	
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	
Aliphatic TPH >C8-C10	N	2680	mg/kg	1.0	
Aliphatic TPH >C10-C12	N	2680	mg/kg	1.0	
Aliphatic TPH >C12-C16	N	2680	mg/kg	1.0	
Aliphatic TPH >C16-C21	N	2680	mg/kg	1.0	
Aliphatic TPH >C21-C35	N	2680	mg/kg	1.0	
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	
Aromatic TPH >C8-C10	N	2680	mg/kg	1.0	
Aromatic TPH >C10-C12	N	2680	mg/kg	1.0	
Aromatic TPH >C12-C16	N	2680	mg/kg	1.0	

Results - Soil

Project: R3117 108 ABBEY ROAD SOUTH

Client: Smith Grant LLP	Chemtest Job No.:				23-10828
Quotation No.:	Chemtest Sample ID.:				1616837
Order No.:	Client Sample Ref.:				PCB
	Client Sample ID.:				S1
	Sample Location:				TP5
	Sample Type:				SOIL
	Top Depth (m):				0.2
	Bottom Depth (m):				0.7
	Date Sampled:				29-Mar-2023
	Asbestos Lab:				NEW-ASB
Determinand	Accred.	SOP	Units	LOD	
Aromatic TPH >C16-C21	N	2680	mg/kg	1.0	
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0	
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	
Naphthalene	M	2700	mg/kg	0.10	
Acenaphthylene	M	2700	mg/kg	0.10	
Acenaphthene	M	2700	mg/kg	0.10	
Fluorene	M	2700	mg/kg	0.10	
Phenanthrene	M	2700	mg/kg	0.10	
Anthracene	M	2700	mg/kg	0.10	
Fluoranthene	M	2700	mg/kg	0.10	
Pyrene	M	2700	mg/kg	0.10	
Benzo[a]anthracene	M	2700	mg/kg	0.10	
Chrysene	M	2700	mg/kg	0.10	
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	
Benzo[a]pyrene	M	2700	mg/kg	0.10	
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	
Total Of 16 PAH's	M	2700	mg/kg	2.0	
Benzene	M	2760	µg/kg	1.0	
Toluene	M	2760	µg/kg	1.0	
Ethylbenzene	M	2760	µg/kg	1.0	
m & p-Xylene	M	2760	µg/kg	1.0	
o-Xylene	M	2760	µg/kg	1.0	
PCB 28	U	2815	mg/kg	0.010	< 0.010
PCB 52	U	2815	mg/kg	0.010	< 0.010
PCB 90+101	U	2815	mg/kg	0.010	< 0.010
PCB 118	U	2815	mg/kg	0.010	< 0.010
PCB 153	U	2815	mg/kg	0.010	< 0.010
PCB 138	U	2815	mg/kg	0.010	< 0.010
PCB 180	U	2815	mg/kg	0.010	< 0.010
Total PCBs (7 Congeners)	U	2815	mg/kg	0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2185	Asbestos	Asbestos	Polarised light microscopy
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com