JNP GROUP

CONSULTING ENGINEERS

Supplementary GI Report

Project: The Old Tannery,
224 Spen Lane,
Cleckheaton

Client: Quarters Development Ltd

Reference: B21783-JNP-XX-XX-RP-G-1003 P01

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FOR AND ON BEHALF OF JNP GROUP

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EXECUTIVE SUMMARY

Site location	The Old Tannery, 224 Spen Lane, Cleckheaton, West Yorkshire, BD19 4PJ	
Development scheme	Demolition of most of the existing buildings and construction of several residential properties with private gardens.	
NGR	SE 199 257	
Current use	On-site: Commercial	Off-site: Commercial, retail and residential.
Geology	Made ground. Pennine Lower Coal Measures	
Geology (from GI)	**Made ground** Brown to black clayey sandy gravel. Gravel matrix was noted to consist of angular to rounded brick, concrete, ash, concrete, tarmac, and sandstone. At the sample location of TP02 a grey stained brown and black clay was noted, whilst at the sample location of HP1 a grey to blue gravelly clay with a strong organic odour was noted. **Pennine Coal Measures** Underlying the made ground, a light brown slightly gravelly clay was encountered. The gravel was noted to consist of sandstone.	
Groundwater	Groundwater noted at **1.0m bgl in TP01.**	
Contamination	**Risk** to human health from metals and PAHs in the near surface made ground gravel of TP02 and HP1.	

1 INTRODUCTION

1.1 General

1.1.1 JNP Group was instructed by the client to undertake a supplementary ground investigation of:

The Old Tannery,
224 Spen Lane,
Cleckheaton,
West Yorkshire,
BD19 4PJ

hereinafter referred to as 'the site'. This report is subject to the limitations presented in Appendix A:.

1.1.2 It is understood that the site is to be redeveloped for residential end use with the former commercial building in the northern corner of the site partially retained and refurbished and the main site area redeveloped with five new three-storey residential properties with roads and areas of hardstanding for access servicing and parking. The proposed redevelopment layout is shown on external Drawing Reference P27231_01 Rev - (08/04/22) produced by Heywood (Appendix B:).

1.1.3 All comments given are based on the understanding that the proposed redevelopment will be as detailed above.

1.2 Objectives

1.2.1 The purpose of the investigation was to provide supplementary information on the geo-environmental ground conditions under the former historical buildings in the north east and central areas of the site and assess the implications of such relative to the proposed residential redevelopment. The scope of work comprised desk-based research, and a site inspection together with intrusive investigation, and laboratory testing. This report contains details of the site, the work and laboratory testing undertaken, strata encountered, chemical laboratory test results, and provides an interpretative assessment of the ground conditions with regard to contaminated land issues.

1.2.2 This report has been produced to supplement the previous JNP Group Report Reference B21783-JNP-XX-XX-RP-G-1001-P02. This report concluded that '*no geotechnical or geo environmental data has been gathered from the north-eastern half of the site, due to the presence of shallow obstructions or buildings*'.

1.2.3 Due to these data gaps the initial ground investigation report did not satisfy the requirements of planning permission reference 2021/92255 and conditions 8 and 9 were not discharged. These planning conditions are detailed in the below (Appendix C):

Condition 8

- *Where further intrusive investigation is recommended in the Preliminary Risk Assessment, Groundworks (other than those required for a site investigation report) shall not commence until a Phase II Intrusive Site Investigation Report has been submitted to and approved in writing by the Local Planning Authority.*

Condition 9

- *Where site remediation is recommended in the Phase II Intrusive Site Investigation Report approved pursuant to condition 8, further Groundworks shall not commence until a Remediation Strategy has been submitted to and approved in writing by the Local Planning Authority. The Remediation Strategy shall include a timetable for the implementation and completion of the approved remediation measures.*

1.2.4 This supplementary report aims to provide further information on the ground conditions that underlie these buildings and re-assess the recommendations made by the initial Phase II geo-environmental report undertaken by JNP Group.

1.3 Methodology

1.3.1 This report has been compiled in accordance with the on-line Land contamination: risk management (LCRM) guidance produced by the Environment Agency (June 2019). This can be found on the UK government website: https://www.gov.uk/guidance/land-contamination-how-to-manage-the-risks.

1.3.2 This report should be read in conjunction with the following JNP Group Reports:

- B21783-JNP-XX-XX-RP-G-1001. Phase II Site Investigation Report, January 2021.
- B21783-JNP-XX-XX-RP-G-1002. Options Appraisal Remediation Strategy, May 2022.
- B21783-JNP-XX-XX-RP-C-1001. Drainage Statement, March 2022.

2 SITE DESCRIPTION

2.1.1 The site is located off Spen Lane, between Cleckheaton and Gomersal, West Yorkshire, approximately 1.2km north-east of Cleckheaton town centre (see Figure 1 Key Plan). The centre of the site is located at National Grid Reference SE 199 257. The site covers an area of approximately 0.12 hectares.

2.1.2 The boundaries of the site were the building of The Old Tannery to the north-east, a brick wall to the south-east, a fence to the south-west, and Spen Lane to the north-west.

2.1.3 Adjacent land uses were an open field (beyond Spen Lane) to the north, residential properties with private gardens to the east, a cricket ground to the south, and more residential properties with gardens to the west.

2.1.4 An engineer from JNP Group visited the site on 11th November 2022, the weather was overcast with pooling noted in the excavated areas on site due to significant rainfall prior to the site visit. Photographs of the site are included within Appendix D:.

2.1.5 Excluding the old tannery building in the north eastern area of the site, the ground coverage was noted to be 100% soft standing at the time of the site works. This was noted to be mostly made ground materials of semi-crushed concrete, brick, ash and wood.

2.1.6 At the time of the additional ground investigation the only building present was noted to be the old tannery building in the northern area of the site which is to be refurbished. This was noted to have had all its internal walls removed at the time of the site works.

2.1.7 The trees described in the previous site investigation report located in the north-western and eastern areas of the site were noted to have been removed at the time of the site works.

2.1.8 Evidence of former foundations were noted in the central and southern areas of the site. The detail and locations of these historical foundations can be found in the photographs located within Appendix D.

3 SITE WORK AND MONITORING

3.1 Introduction

3.1.1 The intrusive site work was undertaken by JNP Group on 11th November 2022 and comprised two mechanically excavated pits and one hand excavated pit.

3.1.2 All site work was completed under the instruction and supervision of JNP Group with the ground investigation procedures and sample descriptions given in the following publications:

- BS 5930 (2015).Code of Practice for Site Investigations;
- BS 10175 (2001+A1:2013+A2:2017). Investigation of potentially contaminated sites - code of practice;
- BS EN ISO 14688-1. "Soil - Identification and Description;
- BS EN ISO 14688-2. Soil - Classification principles and quantification of descriptive characteristics;
- BS 18400-104:2018. Soil Quality – Sampling. Part 104: Strategies;
- BS 18400-202:2018. Soil Quality – Sampling. Part 202: Preliminary Investigations;
- BS 18400-203: 2018. Soil Quality – Sampling. Part 203: Investigation of potentially contaminated sites;
- BS 18400-205: 2018. Soil Quality – Sampling. Part 205: Guidance on the procedure for investigation of natural, near natural and cultivated sites;
- BGS Research Report RR/01/02 - Engineering in Mercia Mudstone.

3.1.3 For sites affected by asbestos impacted soils, the guidance given in the following publications has been followed:

- Industry Guidance on Interpretation for Managing & Working with Asbestos in Soil and Construction and Demolition Materials (CL:AIRE 2016);
- Asbestos in Soil and made ground: a guide to understanding and managing risks (CIRIA C733 2014).

3.1.4 The locations of the exploratory holes are shown on JNP Group Drawing No. B21783-JNP-XX-XX-DR-G-1001. The exploratory hole records including strata and groundwater encountered, in-situ testing and samples taken are presented in Appendix E:. The full details of the site work undertaken are summarised in the following sections.

3.1.5 The purpose of the intrusive sitework was to obtain data to support a planning application 2021/92255 and discharge planning conditions associated with it.

3.1.6 The site investigation strategy comprised judgemental (i.e. targeted) locations of the former buildings in the north east, and central areas of the site. Table 3.1 shows the rationale for the location of each exploratory hole.

Table 3.1 Exploratory Hole Location Rationale

Exploratory Hole Reference	Rationale
TP1	To target the ground conditions underlying the location of a former building in the north.
TP2	To target the ground conditions underlying the former building in the north eastern area of the site.
HP1	To target the ground conditions underlying the building in the central southern area of the site.

3.1.7 The general sampling strategy was to take representative soil samples from the ground to characterise the made ground underlying the former buildings. However, where visible contamination was present or suspected, targeted spot samples were taken.

3.2 Trial Pits

3.2.1 Two trial pits, designated TP1 to TP2 were excavated on the 11th November 2022, to a depth of 1.0 m bgl. The pits were excavated using a tracked excavator and logged by a ground engineering specialist by examining soil samples brought to the surface.

3.3 Hand Excavated Pits

3.3.1 Prior to the JNP Group visit earthworks were ongoing on site. A hand pit was undertaken down the edge of an open excavation. The pit was formed to a depth of 1.40m bgl.

4 LABORATORY TESTING

4.1.1 A programme of chemical laboratory testing was scheduled by JNP Group on selected soil samples taken from various depths in the made ground and natural soils recovered from the exploratory holes. Samples of any soils displaying visual or olfactory evidence of contamination were also collected and submitted for laboratory analyses. The samples were placed into suitable containers for the required chemical analyses.

4.1.2 All samples were transported, on the day of collection, to i2 Analytical Testing Services in Watford which is accredited under UKAS and MCerts. The following table summarises the contaminants scheduled:

Table 4.1 Scheduled Soil Chemical Analyses

Determinant	No
Metals and semi-metals (arsenic, beryllium, boron, cadmium, chromium, copper, lead, mercury, nickel, selenium, vanadium and zinc)	7
Asbestos Screen	5
Soil Organic Matter	3
Speciated Phenols	1
Polycyclic Aromatic Hydrocarbons (PAH) 16 USEPA Speciated	6
TPH Criteria Working Group (TPH CWG)	5
TPH Tri-Band	1
JNP Pesticide Screen	1
Volatile Organic Compounds (VOC)	1
Semi-Volatile Organic Compounds (SVOC)	1
Chromium Hexavalent	1
pH	7

5 GROUND AND GROUNDWATER CONDITIONS

5.1 Strata Encountered

5.1.1 The ground conditions encountered during the intrusive investigation were generally consistent with the published geological map and the findings of previous investigations by JNP Group. A variable thickness of made ground was found to be underlain by both granular and cohesive Pennine Lower Coal Measures.

5.1.2 A summary of the stratigraphy encountered during the investigation is presented in Table 5.1 and described in the following sections, but for full details and descriptions, reference should be made to the exploratory hole records presented in Appendix E:.

Table 5.1 Stratigraphy Encountered

Stratum	Depth to Top (m bgl)	Depth to Base (m bgl)	Thickness (m)
Made ground All exploratory holes	Ground level	0.30 – 1.20	0.30 – 1.20
Pennine Lower Coal Measures All exploratory holes	0.30 – 1.40	Unproven	Unproven

5.2 Made Ground

5.2.1 A dark brown to black slightly clayey sandy gravel was encountered as a surface covering at all the exploratory hole locations undertaken. The gravel fraction was noted to consist of brick, concrete, tarmac, ash, coal and sandstone. At the sample location of TP02 a slight hydrocarbon odour was noted.

5.2.2 At the sample location of TP02 a stained brown to black clay was noted. This is predicted to be the underlying natural soils that have been stained from the surface made ground deposits.

5.2.3 In the vicinity of HP1, four historical foundations were noted. Within these foundations underlying the dark brown to black sandy gravel surface covering was a grey to blue occasionally gravelly clay was noted with a strong organic odour.

5.3 Pennine Lower Coal Measures

5.3.1 Soils inferred to be of the Pennine Lower Coal Measures were encountered in all sample locations. This was noted to be a light brown slightly gravelly clay. The gravel was noted to consist of sandstone.

5.4 Groundwater

5.4.1 Details of groundwater entries recorded during the site work period are summarised in the table which follows.

Table 5.2 Summary of groundwater observations

Exploratory Location	Groundwater during site work	
	Strikes (m bgl)	Comments
TP1	1.0	Seepage

5.5 Ground Contamination and Deleterious Material

5.5.1 Visual and olfactory evidence of contamination was observed in the sample location of HP1 and more generally within the surface covering made ground gravel fraction at all sample locations.

5.5.2 Within the sample location of HP1 a grey to blue occasionally gravelly clay material was noted. A strong organic odour was noted at this sample location.

5.5.3 More generally the gravel surface covering made ground was noted to feature glass, coal, ash and brick.

5.6 Obstructions

5.6.1 No obstructions were encountered during the site works.

5.7 Data Gaps and Uncertainties

5.7.1 There are no data gaps or uncertainties.

6 PREVIOUS CONCEPTUAL SITE MODEL AND OVERALL ENVIRONMENTAL RISK

6.1 Summary

6.1.1 Following the initial ground investigation and subsequent assessment undertaken, the conceptual site model and overall environmental risk assessment have been updated as detailed in Table 6-1 below.

Table 6-1: Updated Conceptual Model and Risk Assessment

Issue	Risk		Justification
HUMAN HEALTH	MEDIUM		Unacceptable concentration of heavy metals and PAHs are present within the made ground in the western and southern corners of the site. Remediation is required at the site to reduce the risks to acceptable levels. Elevated concentrations of carbon dioxide have been recorded across the site to a CS2 classification and hence gas protection measures are required at the site to ensure risks are acceptable to the end users.
GROUNDWATER	LOW		The contaminants present within the near surface soils are not considered particularly mobile; also, the made ground is underlain by cohesive strata, which will restrict vertical migration of contaminants to the water table.
SURFACE WATER	MEDIUM		The contaminants present within the near surface soils are not considered particularly mobile. However, surface run-off may impact watercourses.
PROPERTY & INFRASTRUCTURE	MEDIUM		Elevated concentrations of carbon dioxide have been recorded across the site to a CS2 classification and hence gas protection measures are required at the site to ensure risks are acceptable to the end users. A Design Sulphate Class of DS1, with an ACEC of AC-1, would apply for all buried concrete (NONE). There is a risk posed to the proposed plastic water pipeline by high concentrations of hydrocarbons, and hence barrier pipe or a clean service trench is required.
ECOLOGY	NONE		Based on the assumption that there are no sensitive/ protected species on site (subject to any ecological survey undertaken)

7 HUMAN HEALTH DETAILED QUANTITATIVE RISK ASSESSMENT

7.1 Introduction

7.1.1 Qualitative assessment of risks may be sufficient in many cases to eliminate the possibility of significant pollutant linkages. However, quantitative risk assessment is formally required to determine whether there is a 'significant possibility of significant harm being caused'. Part IIA of the Environmental Protection Act 1990 recommends that 'authoritative and scientifically based guideline values for concentrations of the potential pollutants in or under the land' be used to quantify the risk posed by contamination.

7.1.2 Under the Planning Regime, a quantitative risk assessment can be used to decide whether the site is suitable for the proposed use. In addition, the National Planning Policy Framework (March 2012) also indicates that after remediation, as a minimum land should not be capable of being determined as contaminated land under Part IIA.

7.2 Current UK Screening Values

7.2.1 The UK technical guidance for assessing risks to human health is issued from various UK bodies, including the Environment Agency (EA), DEFRA, Contaminated Land: Applications in Real Environment (CL:AIRE), Chartered Institute of Environmental Health (CIEH), and Land Quality Management (LQM) Ltd (part of the University of Nottingham).

7.2.2 New and updated screening values in the form of provisional Category 4 Screening Levels (C4SL) (published in 2014), and Suitable for Use Levels (S4UL), (published 2015), have been produced by DEFRA and CIEH / LQM respectively using modified versions of the EA's Contaminated Land Exposure Assessment (CLEA) software.

7.2.3 C4SL

7.2.4 Provisional C4SL have been derived by CL:AIRE (project team for DEFRA's SP1010 project) following revised statutory guidance, and as a tool to assist in applying the Part IIA Category 1- 4 classifications to a site. The purpose of the C4SL is to provide a simple test for deciding that land is suitable for use, and definitely not contaminated land under Part IIA. They describe a level of risk that is above minimal, but is still low.

7.2.5 In calculating provisional C4SL some of the exposure modelling scenarios and exposure parameters used in the CLEA software have been modified. These modifications are not discussed further, but reference should be made to the original CL:AIRE / DEFRA publications should further information or clarification be required. A list of the new publications is included in the references section at the end of this report.

7.2.6 To date, six contaminants have been assigned provisional C4SL: arsenic; benzene; benzo[a]pyrene; cadmium; chromium VI, and lead, for the standard land uses (residential with, and without plant uptake, allotments, commercial, and public open space (parks and residential).

7.2.7 The C4SL are also considered suitable to be used under the planning regime, and DEFRA have confirmed this to all local authorities.

7.2.8 S4UL

7.2.9 The LQM / CIEH S4UL represent generic assessment criteria based on minimal or tolerable risk that are intended to be protective of human health. They have been derived in

accordance with current UK legislation using a modified version of the CLEA software, and are still based on many conservative assumptions. They represent values above which further assessment of the risks or remedial actions may be needed.

7.2.10 S4UL have been derived for a comprehensive list of metals, non–metals, petroleum hydrocarbons, polycyclic aromatic hydrocarbons, chlorinated hydrocarbons, phenolic compounds, explosives, and pesticides, for the standard land uses (residential with, and without plant uptake, allotments, commercial, and public open space (residential and park)).

7.2.11 For details of the exposure parameters and scenarios used to derive the S4UL the reader is reference to the original LQM / CIEH document "The LQM/CIEH S4UL for Human Health Risk Assessment" (2015).

7.2.12 Both sets of screening values can be used to undertake a generic risk assessment by comparing the data directly to the screening value which is considered a conservative approach or statistically to the screening value. Alternatively and if a sufficient dataset is available, a statistical assessment can be undertaken following the guidance given in the joint Chartered Institute of Environmental Health (CIEH) and the Contaminated Land: Applications in Real Environment (CL:AIRE) organisation publication "Guidance On Comparing Soil Contamination Data with a Critical Concentration" (CIEH / CL:AIRE May 2008).

7.3 Petroleum Hydrocarbons

7.3.1 JNP Group have followed the guidance given in the Environment Agency publication 'The UK Approach for Evaluating Human Health Risks from Petroleum Hydrocarbons in Soils' (Environment Agency, 2005). LQM S4UL values have been published based on carbon banded hydrocarbons with aliphatic and aromatic split, corresponding to the TPH CWG bands.

7.3.2 The Society of Brownfield Risk Assessment (SoBRA) have produced some Generic Assessment Criteria for assessing chronic risks from the inhalation of vapours arising from groundwater (GAC_{gwvap}) for a short list of 66 organic contaminants (SoBRA February 2017). These are designed to a defensible screening criteria to assist in evaluating this exposure pathway. They represent concentrations below which the chronic risks from vapour migration and inhalation can be considered low / tolerable. GAC_{gwvap} have been developed in line with current UK risk assessment guidance, and CLEA v1.07 software was used for residential and commercial land use scenarios.

7.3.3 Further details of the input parameters selected for use to generate the GAC_{gwvap} can be found in the SoBRA report, and have not been reproduced here. However, it should be noted that they have been derived using some conservative assumptions:

- Impacted ground / perched water is beneath the buildings;
- An infinite source term is present;
- There is no biodegradation;
- Groundwater depth is 0.65m below ground;
- Use of a sand soil type (in line with SR3)

7.4 Water Supply Pipes

7.4.1 Where plastic water supply pipes are proposed, the Thames Water Threshold Values have been used to compare the chemical test results with a published set of guideline values for

metal, organic and inorganic contaminants found in soil, that may have a detrimental effect upon plastic water supply pipes.

8 SOIL AND GROUNDWATER ASSESSMENT RESULTS

8.1 Soil Results

8.1.1 The results of chemical testing of five samples of made ground and two samples of natural soils from beneath the former onsite structures have been compared with the C4SL and the LQM S4UL values for a 'residential with gardens end use'. These comparisons are summarised in the following tables.

8.1.2 The following determinants were recorded at concentrations less than their respective limits of laboratory detection, and hence have not been included in this assessment: phenols, mercury, selenium, monoaromatics and oxygenates, TPH aliphatic bands EC5 – EC21, TPH aromatic EC5 - EC10, VOCs, SVOCs (excluding aniline, naphthalene, 2-methylnaphthalene, phenanthrene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, pesticides.

8.1.3 Three SOM tests were undertaken on the three material types identified at the site. These were the made ground (under historical locations of buildings) and in the area of HP1 where the strong organic odour was noted. A SOM of 1% is applicable for all soils encountered at the site.

Table 8.1 Comparison of Soil Chemical Test Results with Residential with plant uptake Guideline Values

Determinant	Maximum Measured Concentration		LQM/CIEH S4UL: Residential with plant uptake (mg/kg)			Number of tests	Number of exceedances
	Made ground	Natural ground					
Arsenic	47	4.9	37			7	TP02 @ 0.10m
Beryllium	2.1	1.3	1.7			7	TP02 @ 0.10m
Boron	2.4	39	290			7	0
Cadmium	1.3	<0.2	11			7	0
Chromium (trivalent or total)*	340	73	910			7	0
Copper	130	22	2400			7	0
Lead	270	26	200**			7	TP02 @ 0.10m
Nickel	37	37	180			7	0
Vanadium	63	29	410			7	0
Zinc	110	130	3700			7	0
			1%	**2.5%**	**6%**		
Naphthalene	11	<0.05	2.3	5.6	13	6	HP1 @ 0.20m
Acenaphthylene	0.43	<0.05	170	420	920	6	0
Acenaphthene	1.7	<0.05	210	510	1100	6	0
Fluorene	1.4	<0.05	170	400	860	6	0
Phenanthrene	17	<0.05	95	220	440	6	0
Anthracene	4.4	<0.05	2400	5400	11000	6	0
Fluoranthene	35	<0.05	280	560	890	6	0
Pyrene	34	<0.05	620	1200	2000	6	0
Benzo(a)anthracene	22	<0.05	7.2	11	13	6	HP1 @ 0.20m
Chrysene	16	<0.05	15	22	27	6	HP1 @ 0.20m
Benzo(b)fluoranthene	21	<0.05	2.6	3.3	3.7	6	HP1 @ 0.20m
Benzo(k)fluoranthene	7.2	<0.05	77	93	100	6	0
Benzo(a)pyrene	19	<0.05	2.2	2.7	3.0	6	HP1 @0.20m TP02 @0.10m
Indeno(1,2,3-c,d)pyrene	9.8	<0.05	27	36	41	6	0

Determinant	Maximum Measured Concentration		LQM/CIEH S4UL: Residential with plant uptake (mg/kg)			Number of tests	Number of exceedances
	Made ground	Natural ground					
Dibenzo(a,h)anthracene	2.0	<0.05	0.24	0.28	0.3	6	HP1 @0.20m TP02 @0.10m
Benzo(g,h,i)perylene	9.1	<0.05	320	340	350	6	0
TPH Aliphatic $C_{16} – C_{35}$	77	-	65000	92000	110000	5	0
TPH Aromatic $C_{10} – C_{12}$	4.9	-	74	180	380	5	0
TPH Aromatic $C_{12} – C_{16}$	20	-	140	330	660	5	0
TPH Aromatic $C_{16} – C_{21}$	61	-	260	540	930	5	0
TPH Aromatic $C_{21} – C_{35}$	230	-	1100	1500	1700	5	0
TPH Aromatic $C_{35} – C_{44}$	310	-	1100	1500	1700	5	0
TPH C_{10}-C_{25} (TPH aromatic C_{10}-C_{12}***)	4.9	-	74	180	380	5	0
TPH C_{25}-C_{40} (TPH aromatic C_{21}-C_{35}***)	230	-	1100	1500	1700	5	0

*assumes all chromium on site is in trivalent form
** provisional C4SL
***most sensitive fraction within wider TPH band (specified)

8.2 Interpretation

8.2.1 The analyses recorded marginally elevated concentrations of some heavy metals (arsenic, beryllium, and lead) and PAHs (naphthalene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene and dibenzo(a,h)anthracene) with respect to the selected screening values. These occurrences are discussed in the following sections.

Heavy Metals

8.2.2 Elevated concentrations of arsenic, beryllium and lead were found in TP02 at 0.10m bgl. This trial pit is located at the former location of a building in the south western area of the site. The sample obtained from this location was noted to feature a black gravel of ash, coal, brick, and concrete with a hydrocarbon odour noted.

Elevated PAH

8.2.3 Elevated concentrations of naphthalene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene and dibenzo(a,h)anthracene were found within the surface covering at the sample locations of HP1 and TP02. At both these sample locations the gravel matrix was noted to feature ash, tarmac and coal. These all been potential sources of the elevated PAH concentrations encountered.

8.3 Summary

8.3.1 On the basis of the chemical testing undertaken, JNP Group considers that a viable risk to human health exists from elevated concentrations of arsenic, beryllium, lead and PAHs in near-surface soils of HP1 and TP02. Hence, remedial actions at the site are considered necessary in these areas for the proposed development.

9 REVISED CONCEPTUAL SITE MODEL AND OVERALL ENVIRONMENTAL RISK

9.1 Summary

9.1.1 Following the initial and supplementary ground investigations and subsequent assessment undertaken, the conceptual site model and overall environmental risk assessment have been updated as detailed in the following table.

Table 9.1 Updated Conceptual Model and Risk Assessment

Issue	Risk		Justification
HUMAN HEALTH	MEDIUM		Unacceptable concentration of heavy metals and PAHs are present within the made ground in the western and southern corners of the site. Remediation is required at the site to reduce the risks to acceptable levels. Elevated concentrations of carbon dioxide have been recorded across the site to a CS2 classification and hence gas protection measures are required at the site to ensure risks are acceptable to the end users.
GROUNDWATER	LOW		The contaminants present within the near surface soils are not considered particularly mobile; also, the made ground is underlain by cohesive strata, which will restrict vertical migration of contaminants to the water table.
SURFACE WATER	MEDIUM		The contaminants present within the near surface soils are not considered particularly mobile. However, surface run-off may impact watercourses.
PROPERTY & INFRASTRUCTURE	MEDIUM		Elevated concentrations of carbon dioxide have been recorded across the site to a CS2 classification and hence gas protection measures are required at the site to ensure risks are acceptable to the end users. A Design Sulphate Class of DS1, with an ACEC of AC-1, would apply for all buried concrete. There is a risk posed to the proposed plastic water pipeline by high concentrations of hydrocarbons, and hence barrier pipe or a clean service trench is required.
ECOLOGY	NONE		Based on the assumption that there are no sensitive/ protected species on site (subject to any ecological survey undertaken)

10 CONCLUSIONS AND RECOMMENDATIONS

10.1 Conclusions

10.1.1 JNP Group has determined through desk-based research, intrusive investigation, laboratory testing, and assessment that:

- The findings and recommendations from the previous JNP Group report Reference B21783-JNP-XX-XX-RP-G-1001 P02 remain suitable for the proposed development.
- A risk to future residential end users is present from limited metal and PAH contaminants in made ground deposits.
- The conclusion of the RMS report B21783-JNP-XX-XX-RP-G-1002 Options Appraisal Remediation Strategy, May 2022 are still valid and applicable for both sites.

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FIGURES / DRAWINGS

Figure 1

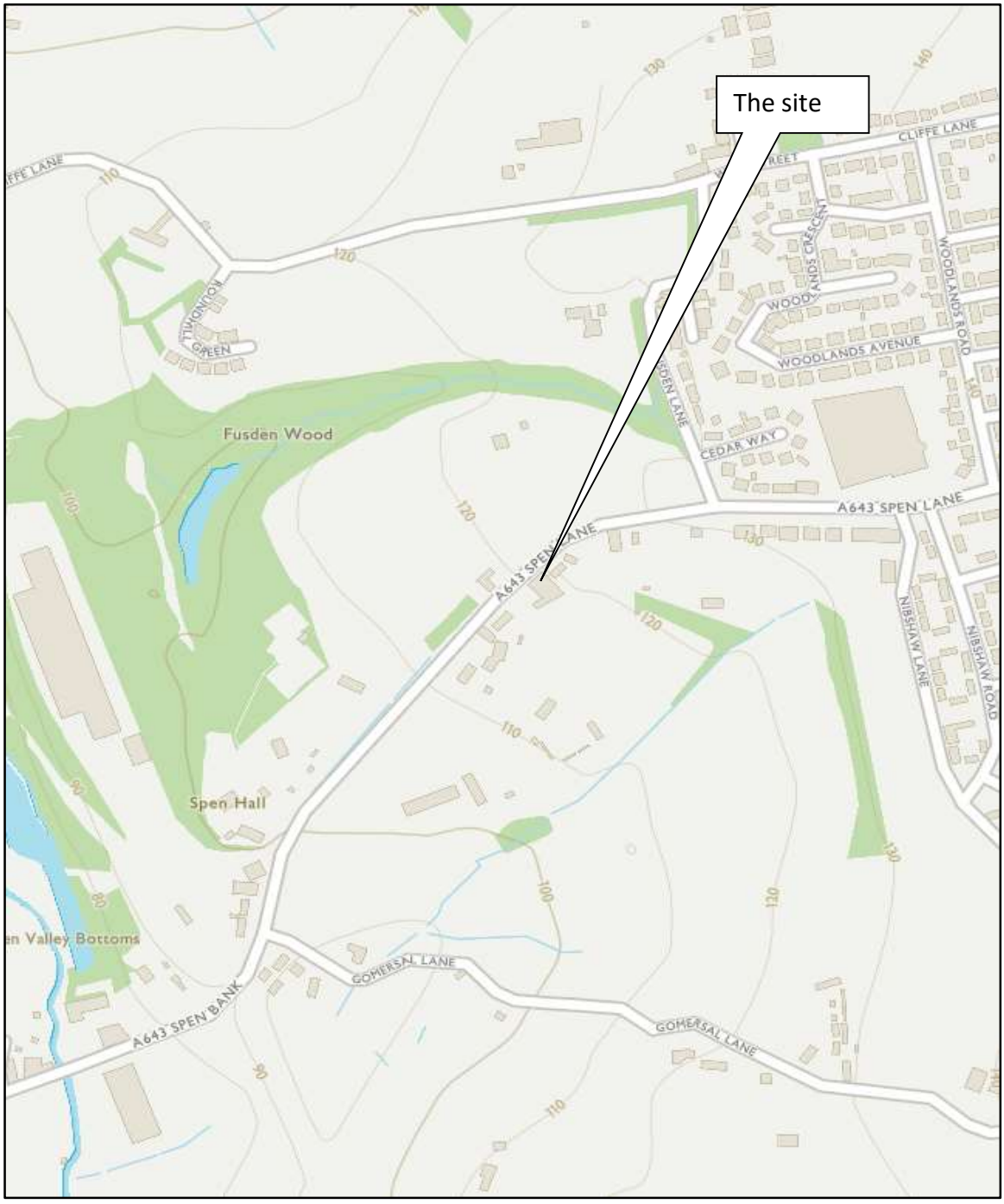
Site Location Plan

Project:

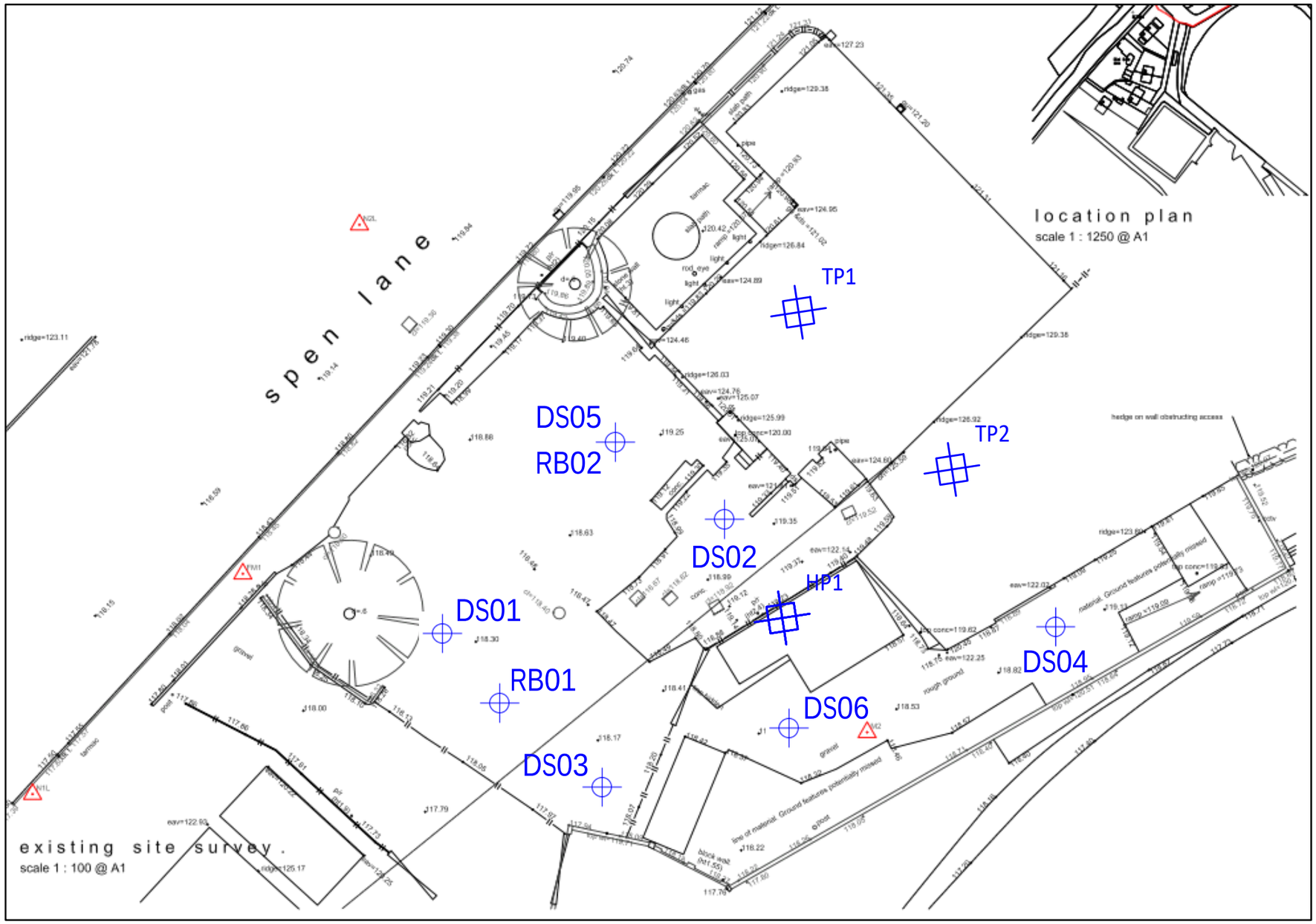
The Old Tannery, 224 Spen Lane, Cleckheaton

Project No:

B21783



jnpgroup



Health & Safety Note

The details on this drawing have been prepared on the assumption that a competent contractor will be carrying out the works. If the contractor(s) considers that there is insufficient Health and Safety information on this drawing, this should immediately be brought to the attention of the designer.

Rev.	Date	Description	Drn / Chk'd / App'd
-	11/22	Added Additional Holes	
-	12/20	First issue	

Suitability:

S2 - Suitable for Information

JNP GROUP
CONSULTING ENGINEERS

Chesham • Brighouse • Glasgow • Hartlepool
Leamington Spa • Sheffield

www.jnpgroup.co.uk

Client:

Quarters Developments

Job:

B21783 The Old Tannery, Spen Lane

Title:

Exploratory Hole Location Plan

Classification:

FI_60_20

Scale @ A3:

As Shown

Accredited Contractor

Supplier No. 000026

Project - Originator - Volume/System - Level/Location - Type - Discipline - Number

B21783-JNP-XX-XX-DR-G-1001

Document/Drawing Number

Revision:

-

Complies to ISO7200:2004 - **JNP QA Ref:** QD019 Rev F

JNP Group Internal Project Number: H77110

APPENDIX A: LIMITATIONS

Introduction

This report is confidential and has been prepared solely for the benefit of the client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from JNP Group; a charge may be levied against such approval. JNP Group accepts no responsibility or liability for the consequences of this document being used for any purpose or project other than for which it was commissioned, and: this document to any third party with whom and agreement has not been executed.

Any comments given within this report are based on the understanding that the proposed works to be undertaken will be as described in the introduction and the information referred to and provided by others and will be assumed to be correct and will not have been checked by JNP Group and JNP Group will not accept any liability or responsibility for any inaccuracy in such information.

Any deviation from the recommendations or conclusions contained in this report should be referred to JNP Group in writing for comment and JNP Group reserve the right to reconsider their recommendations and conclusions contained within. JNP Group will not accept any liability or responsibility for any changes or deviations from the recommendations noted in this report without prior consultation and our full approval.

The details contained within this report reflect the site conditions prevailing at the time of investigation. JNP Group warrants the accuracy of this report up to and including that date. Additional information, improved practice or changes in legislation may necessitate this report having to be reviewed in whole or in part after that date. If necessary, this report should be referred back to JNP Group for re-assessment and, if necessary, re-appraisal.

This report is only valid when used in its entirety. Any information or advice included in the report should not be relied upon until considered in the context of the whole report. Whilst this report and the opinion made herein are correct to the best of JNP Group' belief, JNP Group cannot guarantee the accuracy or completeness of any information provided by third parties.

The report represents the finding and opinions of experience geotechnical and geo-environmental engineers. JNP Group does not provide legal advice and the advice of lawyers may also be required.

It should be noted that the following were not included as part of the agreed scope of works with the client: detailed ecological surveys and assessment; groundwater monitoring and sampling; geotechnical requirements.

JNP Group has provided advice and made recommendations based on the findings of the work undertaken, however this is subject to the approval / acceptance by the relevant Regulatory Authorities.

Objectives

The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the site. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, JNP Group reserves the right to review such information and, if warranted, to modify the opinions accordingly. It should be noted

that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

Phase II Intrusive Investigations

The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, and ground and groundwater conditions to allow a reasonable risk assessment to be made.

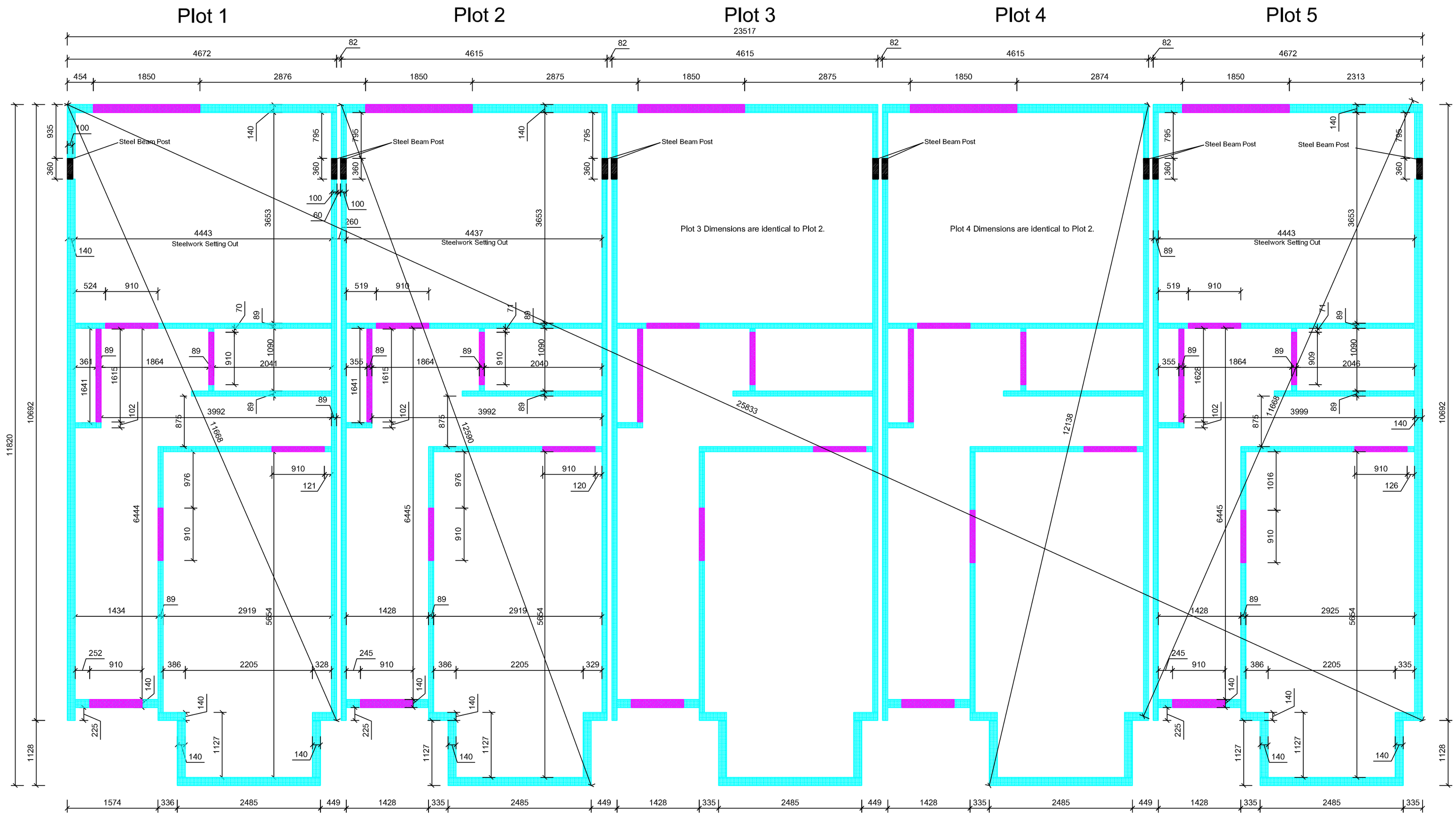
Where intrusive investigations have been undertaken, they have been designed to provide a reasonable level of assurance on the conditions. Given the discrete nature sampling, no investigation technique is capable of identifying all conditions present in all areas. The number of sampling points and the methods of sampling and testing do not preclude the existence of localised “hotspots” of contamination where concentrations may be significantly higher than those actually encountered. The risk assessment and opinions provided, inter alia, take into consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

The objectives of the investigation have been linked to establishing the risks associated with potential human targets, building materials, the environment (including adjacent land), and to surface and ground water. The amount of exploratory work and chemical testing undertaken has necessarily been restricted by the short timescale available, and the locations of exploratory holes have been restricted to areas unoccupied by the building(s) on the site and by buried services.

Groundwater levels may vary from those reported due to seasonal, or other effects.

APPENDIX B: THIRD PARTY DRAWINGS

Ref. Description Rev. Date

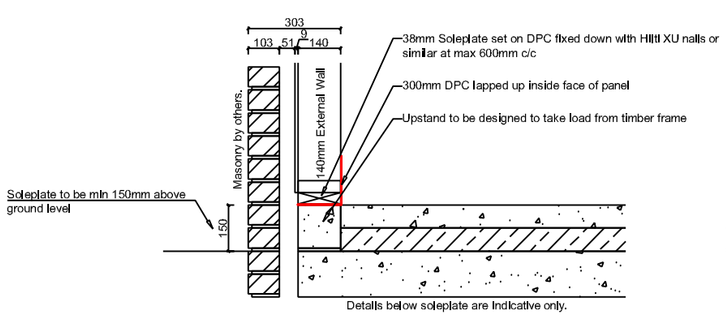


Soleplate Layout

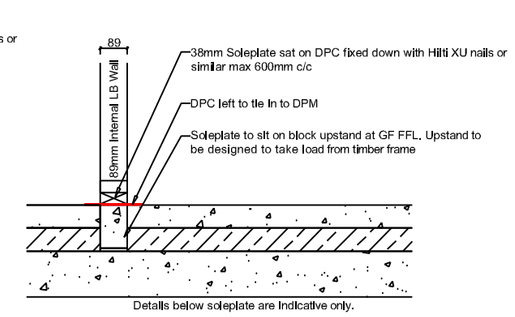
All dimensions are to timber frame studs.
All external walls are load-bearing.
Internal LB and wind are marked.
Door Openings are shown solid hatched.
P3 & P4 Dimensions are identical to P2.

Notes:

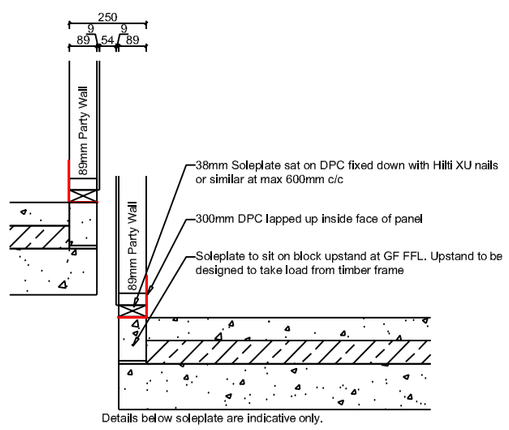
- Timber frame erection is only to be undertaken by experienced erectors approved by Heywood Timber Engineering
- Block upstands are to be flat and level. Any gaps under soleplate (up to 10mm) will be packed by Heywoods' erectors locally under studs. Gaps Larger than 10mm are to be reported to Heywood.
- All other gaps are to be filled with mortar by others so soleplate is fully supported.
- Soleplates are allowed to hang over their support by up to 10mm. any overhangs larger than 10mm must be reported to Heywood.

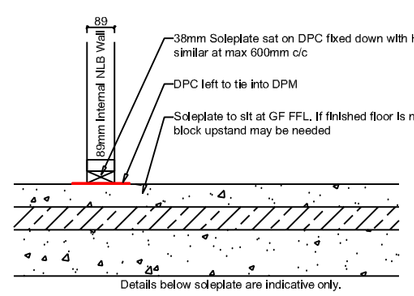


External Soleplate Details

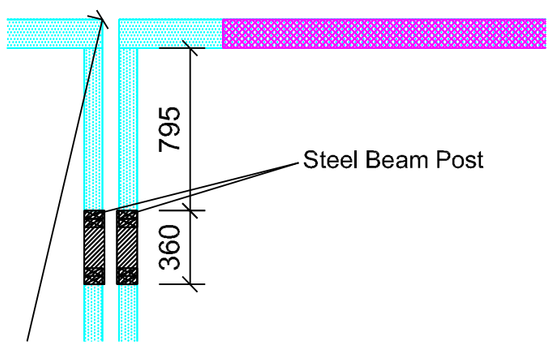


Internal Load Bearing Soleplate Details





Internal Non Load Bearing Soleplate Details



REVISION	BY	DATE	DESCRIPTION
.	...	.....	.....

CLIENT:	Quarters Development				
PROJECT:	224 Spen Lane, Cleckheaton, BD19 4PJ				
TITLE:	Soleplate Layout				
STATUS:	APPROVAL				
DRAWN BY:	CA	SCALE:	1:50@A2	DATE:	08/04/21
DRG. No.	P27231_01			REV:	-

Heywood
TIMBER ENGINEERING
Alumex Works, Water Lane, Halifax, HX3 9HG
Tel: 01422 331104
Email: info@heywoodrooftruss.com
Website www.heywoodrooftruss.com

APPENDIX C: REGULATORY CORRESPONDENCE

Town and Country Planning Act 1990

Town and Country Planning (Development Management Procedure) (England) Order 2015

PLANNING PERMISSION FOR DEVELOPMENT

Application Number: 2022/62/91550/E

To: **Nigel Jacques,**
nj-ARCHITECTS
10, Castle Yard
Ilkley
LS29 9DT

For: Jason Clay, J26@M62

In pursuance of its powers under the above-mentioned Act and Order the KIRKLEES COUNCIL (hereinafter called "The Council") as Local Planning Authority hereby permits:-

CHANGE OF USE AND ALTERATIONS TO CONVERT REDUNDANT BUILDING FROM COMMERCIAL TO RESIDENTIAL USE TO FORM 3 NO. APARTMENTS WITH ASSOCIATED EXTERNAL WORKS AND PARKING

At: THE OLD TANNERY, 224, SPEN LANE, GOMERSAL, CLECKHEATON, BD19 4PJ

In accordance with the plan(s) and applications submitted to the Council on 05-May-2022, subject to the condition(s) specified hereunder:-

1. The development shall be begun not later than the expiration of three years beginning with the date on which permission is granted.
Reason: Pursuant to the requirements of Section 91 of the Town and Country Planning Act 1990.

2. The development hereby permitted shall be carried out in complete accordance with the plans (including the 'Schedule of Materials') and specifications schedule listed in this decision notice, except as may be specified in the conditions attached to this permission, which shall in all cases take precedence.
Reason: For the avoidance of doubt as to what is being permitted and so as to ensure the satisfactory appearance of the development on completion, and to accord with Policies LP21, LP22 and LP24 of the Kirklees Local Plan, and the aims of the National Planning Policy Framework.

3. The boundary treatment to the site frontage shall be set back to the rear of the proposed visibility splays as shown on approved plan number 22.184-106 and shall be cleared of all obstructions to visibility exceeding 1m in height before development commences and these shall thereafter be retained free of any such obstruction.
Reason: To ensure adequate visibility in the interests of highway safety and to comply with policies LP21 and LP24 of the Kirklees Local Plan and chapter 12 of the National Planning Policy Framework.

4. Prior to the development being brought into use, the approved vehicle parking areas shall be surfaced and drained in accordance with the Communities and Local Government; and Environment Agency's 'Guidance on the permeable surfacing of front gardens (parking areas)' published 13th May 2009 (ISBN 9781409804864) as amended or superseded; and thereafter retained.
Reason: In the interests of highway safety, to achieve a satisfactory layout and to comply with policies LP22 and LP24 of the Kirklees Local Plan and chapter 12 of the National Planning Policy Framework.

5. Before the electrical system is installed a scheme detailing the dedicated facilities that will be provided for charging electric vehicles and other ultra-low emission vehicles shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall meet at least the following minimum standard for numbers and power output:-

- A Standard Electric Vehicle Charging point (of a minimum output of 16A/3.5kW) for each residential unit that has a dedicated parking space

Buildings and parking spaces that are to be provided with charging points shall not be brought into use until the charging points are installed and operational. Charging points
installed shall be retained thereafter.
Reason: In the interest of environmental sustainability and to comply with policies LP24 and LP52 of the Kirklees Local Plan and chapter 12 of the National Planning Policy Framework.

6. Groundworks (other than those required for a site investigation report) shall not commence until a Phase II Intrusive Site Investigation Report has been submitted to and approved in writing by the Local Planning Authority.
Reason: In the interest of protecting the amenity of occupants of the site and surrounding from land contamination and stability issues and to comply with policy LP53 of the Kirklees Local Plan and chapter 12 of the National Planning Policy Framework.

7. Where site remediation is recommended in the Phase II Intrusive Site Investigation Report approved pursuant to condition 6, groundworks shall not commence until a Remediation Strategy has been submitted to and approved in writing by the Local Planning Authority. The Remediation Strategy shall include a timetable for the implementation and completion of the approved remediation measures.
Reason: In the interest of protecting the amenity of occupants of the site and surrounding from land contamination and stability issues and to comply with policy LP53 of the Kirklees Local Plan and chapter 12 of the National Planning Policy Framework.

8. Remediation of the site shall be carried out and completed in accordance with the Remediation Strategy approved pursuant to condition 7. In the event that remediation is unable to proceed in accordance with the approved Remediation Strategy or contamination not previously considered [in either the Preliminary Risk Assessment or the Phase II Intrusive Site Investigation Report] is identified or encountered on site, all groundworks in the affected area (except for site investigation works) shall cease immediately and the Local Planning Authority shall be notified in writing within 2 working days. Works shall not recommence until proposed revisions to the Remediation Strategy have been submitted to and approved in writing by the Local Planning Authority. Remediation of the site shall thereafter be carried out in accordance with the approved revised Remediation Strategy.
Reason: In the interest of protecting the amenity of occupants of the site and surrounding from land contamination and stability issues and to comply with policy LP53 of the Kirklees Local Plan and chapter 12 of the National Planning Policy Framework.

9. Following completion of any measures identified in the approved Remediation Strategy, or any approved revised Remediation Strategy a Validation Report shall be submitted to the Local Planning Authority. No part of the site shall be brought into use until such time as the remediation measures have been completed for (that part of) the site in accordance with the approved Remediation Strategy or the approved revised Remediation Strategy and a Validation Report in respect of those remediation measures has been approved in writing by the Local Planning Authority. Where validation has been submitted and approved in stages for different areas of the whole site, a Final Validation Summary Report shall be submitted to and approved in writing by the Local Planning Authority.
Reason: In the interest of protecting the amenity of occupants of the site and surrounding from land contamination and stability issues and to comply with policy LP53 of the Kirklees Local Plan and chapter 12 of the National Planning Policy Framework.

10. A ventilation scheme to show how bedrooms facing Spen Lane (A643) in all plots shall be ventilated without the need to open windows shall be submitted to and approved in writing by the Local Planning Authority before development commences. All works which form part of the approved scheme shall be completed prior to occupation of the aforementioned plots and thereafter retained.
Reason: In the interest of protecting the amenity of future occupants and to comply with policies LP24 and LP52 of the Kirklees Local Plan and chapter 12 of the National Planning Policy Framework.

11. No clearance works shall take place between 1st March and 31st August inclusive, unless a competent ecologist has undertaken a careful, detailed check of the site for active birds' nests immediately before the site is cleared and provided written confirmation that no birds will be harmed and/or that there are appropriate measures in place to protect nesting bird interest on site. Any such written confirmation should be submitted to the local planning authority.
Reason: To prevent significant ecological harm in respect of direct impacts to birds, their eggs, nests and young and to accord with policy LP 30 (as modified) and the requirements of section 15 of the National Planning Policy Framework.

12. No development or site clearance shall take place in any circumstances unless the Local Planning Authority has been provided with a written confirmation of Site Registration under the Bat Mitigation Class Licence.
Reason: This is a pre-commencement condition to ensure the proposed works do not result in a criminal offence under the Conservation of Habitats and Species Regulations 2017 and to conserve biodiversity in accordance with the aims of the National Planning Policy Framework.

13. Details of the management and maintenance of communal refuse storage areas by a designated private management company shall be submitted to and approved by the Local Planning Authority before development commences. The approved details shall be provided before first occupation and shall be so retained thereafter
Reason: In the interests of highway safety, to achieve a satisfactory layout and to comply with policies LP21, LP22, LP24 and LP43 of the Kirklees Local Plan and chapter 12 of the NPPF.

14. Notwithstanding the submitted plans and information, the panel at the north facing side of the first floor balcony hereby approved shall be permanently glazed to a minimum of level 3 on the Pilkington scale of obscuration or industry equivalent. Note that the application of translucent film to transparent glass does not satisfy the requirements of this condition.
Reason: To protect the residential amenity of occupants and of no. 226 Spen Lane to comply with policy LP24 of the Kirklees Local Plan and chapter 12 of the NPPF.

15. Notwithstanding the submitted plans and information, full details, comprising of the position, height and materials, for all boundary treatments shall be submitted to and approved in writing by the Local Planning Authority before any boundary treatment is first erected. The development shall thereafter be completed in accordance with the approved details before the development is first brought into use and thereafter retained.
Reason: In the interest of visual amenity and to accord with the aims of Policy LP24 of the Kirklees Local Plan as well as the aims of the National Planning Policy Framework.

NOTE Noisy construction related activities shall not take place outside the hours of:
07.30 to 18.30 hours Mondays to Fridays
08.00 to 13.00hours, Saturdays
With no noisy activities on Sundays or Public Holidays

NOTE Kirklees Council has powers under Section 60 of the Control of Pollution Act 1974 to control noise from construction sites and may serve a notice imposing requirements on the way in which construction works are to be carried out. It has additional powers under Sections 80 of the Environmental Protection Act 1990 to prevent statutory nuisance including noise, dust, smoke and artificial light and must serve an abatement notice when it is satisfied that a statutory nuisance exists or is likely to occur or recur. Failure to comply with a notice served using the above-mentioned legislation would be an offence for which the maximum fine on summary conviction is unlimited.
NOTE The granting of planning permission does not authorise the carrying out of works within the highway, for which the written permission of the Council as Highway Authority is required.

You are required to consult the Design Engineer (Kirklees Street Scene: 01484 221000) regarding obtaining this permission and approval of the construction specification. Please also note that the construction of vehicle crossings within the highway is deemed to be major works for the purposes of the New Roads and Street Works Act 1991 (Section 84 and 85). Interference with the highway without such permission is an offence which could lead to prosecution.

NOTE The proposed development lies within an area that has been defined by the Coal Authority as containing potential hazards arising from former coal mining activity at the surface or shallow depth. These hazards can include: mine entries (shafts and adits); shallow coal workings; geological features (fissures and break lines); mine gas and former surface mining sites. Although such hazards are seldom readily visible, they can often be present and problems can occur in the future, particularly as a result of new development taking place. It is recommended that information outlining how former mining activities may affect the proposed development, along with any mitigation measures required (for example the need for gas protection measures), is submitted alongside any subsequent application for Building Regulations approval.

NOTE Any intrusive activities which disturb or enter any coal seams, coal mine workings or coal mine entries (shafts and adits) requires a Coal Authority Permit. Such activities could include site investigation boreholes, excavations for foundations, piling activities, other ground works and any subsequent treatment of coal mine workings and coal mine entries for ground stability purposes. Failure to obtain a Coal Authority Permit for such activities is trespass, with the potential for court action. If any coal mining feature is unexpectedly encountered during development, this should be reported immediately to the Coal Authority on 0800 288 4242. Further information is available on the Coal Authority website at: www.gov.uk/government/organisations/the-coal-authority

NOTE All contamination reports shall be prepared in accordance with Model Procedures for the Management of Land Contamination – Contaminated Land report 11 (CLR11), National Planning Policy Framework (NPPF) and the Council's Advice for Development documents or any subsequent revisions of those documents.

NOTE
A Standard electric vehicle charging point is one which is capable of providing a continuous supply of at least 16A (3.5kW). A 32A (7kW) is however more likely to be futureproof
Standard charging points for single residential properties that meet the requirements specified in the latest version of "Minimum technical specification - Electric Vehicle Homecharge Scheme (EVHS)" by the Office for Low Emission Vehicles will be acceptable. Basically, charging points that provide Mode 3 charging with a continuous output of least 16A (3.5kW) and have Type 2 sockets would be acceptable.
The electrical supply of the final installation should allow the charging equipment to operate at full rated capacity.
The installation must comply with all applicable electrical requirements in force at the time of installation.

Plans and Specifications:

Plan Type	Reference	Version	Date Received
Location Plan	101		06/MAY/2022
Proposed Floor Plans	107		06/MAY/2022
Proposed Site Plan	106		06/MAY/2022
Proposed North and East Facing Elevations	109		06/MAY/2022
Proposed South and West Facing Elevations	108		06/MAY/2022
Design & Access Statement	NJ-A Architects		06/MAY/2022
Ecology Report	SF2750		09/MAY/2022
Phase II Site Investigation Report	B21783-JNP-XX-XX-RP-G-1001 P02		09/MAY/2022
Bat Survey	909063		06/MAY/2022

Pursuant to article 35 (2) of the Town and Country Planning (Development Management Procedure) Order 2015 and guidance in the National Planning Policy Framework, the Local Authority has, where possible, made a pre-application advice service available, complied with the Kirklees Development Management Charter 2015 and otherwise actively engaged with the applicant in dealing with the application. A recommendation of approval has been put forward as soon as practicable to facilitate sustainable development in this regard.

Digital Infrastructure: Fibre To The Property (FTTP)

Access to affordable and reliable broadband is necessary for Kirklees' residents, businesses, and visitors to take advantage of the growing digital economy and 'digital by default' services. Fibre optic cables direct to a property (FTTP) is the most reliable way of delivering high speed broadband connectivity and allows for gigabit internet speeds. Access to high quality digital infrastructure provides the foundations for, amongst other things:

- **Economic prosperity – workforces that are digitally-literate enables business to thrive.**
- **Digital literacy – digital literacy and skills increase employability and people can exploit the internet for transactional, social, entertainment and learning purposes.**
- **New services – digital delivery can lower costs and provide innovative public and health services more conveniently.**

It is therefore advised that digital infrastructure, including FTTP, and its benefits for the development be considered from the earliest feasible stage. Methods include working with Internet Service Providers to install digital infrastructure alongside other utilities or providing pre-infrastructure allowing for speeder installation at a later date.

To discuss the benefits that FTTP may have for your development, please contact Carl Tinson in Kirklees Council's Digital Team at carl.tinson@kirklees.gov.uk

Note: The provision of fibre infrastructure is often available from certain telecommunications providers free of charge for development over a certain scale, provided that sufficient notice is given. Notice periods are typically at least 12 months prior to first occupation. In some cases, providers may request a contribution from the developer.

Note: Where no telecommunications provider has been secured to provide fibre infrastructure by the time of highway construction, it is advised that additional dedicated telecommunications ducting is incorporated alongside other utilities to enable the efficient and cost effective provision of fibre infrastructure in the future.

Building Regulations Approval is required for most work involving building operations and/or structural alterations. It is the applicant's responsibility to find out if the work permitted by this planning permission needs approval under the Building Regulations, and if necessary to submit an application. If you are not the applicant can you please ensure the applicant is aware of this requirement. Contact Building Control on Tel No: (01484) 221550 for more information.

It is the applicant's responsibility to find out whether any works approved by this planning permission, which involve excavating or working near public highway and any highway structures including retaining walls, will require written approval from the Council's Highways Structures Section. Please contact the Highways Structures Section on Tel No. 01484-221000 Ext 74199 for further advice on this matter.

Details Reserved by Condition

- **This permission has been granted subject to conditions. Some of the conditions may require you to submit further details. These conditions normally contain the wording "*submitted to and approved in writing by the Local Planning Authority*".**

- **You can apply online for approval of these details at the Planning Portals website at www.planningportal.gov.uk. Alternatively the forms and supporting guidance for submitting an application can be found online at www.kirklees.gov.uk/planning.**

- **This Authority recognises the need to ensure that you are able to develop the site as effectively and flexibly as possible. However, at the same time it must ensure that development is in accordance with the terms of the planning conditions and legal agreement and the expectations of elected members and local residents set through the decision process.**

- **You should note the triggers for compliance with the conditions of this**

planning permission. This Authority is committed to processing applications to discharge conditions in a timely manner. It is important to ensure that submissions are made as far in advance of the trigger to allow time for adequate consultation, discussion and in some circumstances publicity.

- It is important that applications to discharge conditions are accompanied by sufficient information to enable this Authority and its consultees to fully consider and determine the proposals. Whilst officers will endeavour to negotiate solutions, failure to provide a comprehensive submission may result in delay and refusal of the application.

- If you commence work without discharging conditions you are at risk of enforcement action and invalidating your permission if the planning condition is a pre commencement condition.

Development within a Coal Mining Area

The proposed development lies within a coal mining area which may contain unrecorded coal mining related hazards. If any coal mining feature is encountered during development, this should be reported immediately to the Coal Authority on 0345 762 6848.

Further information is also available on the Coal Authority website at:
www.gov.uk/government/organisations/the-coal-authority

If this application has been publicised by notice(s) in the vicinity of the site, please would you now remove the notice(s) and dispose of it/them responsibly to avoid harm to the appearance of the local area.

Appeals to the Secretary of State

- If you are aggrieved by the decision of your Local Planning Authority to grant it subject to conditions, then you can appeal to the Secretary of State under section 78 of the Town and Country Planning Act 1990.
- If an enforcement notice is served relating to the same or substantially the same land and development as in your application and if you want to appeal against your Local Planning Authority's decision on your application, then you must do so within:

  i) 28 days of the date of service of the enforcement notice, or
  ii) within the specified period, starting on the date of this notice,

  whichever period expires earlier.

- **If you want to appeal against your Local Planning Authority's decision then you must do so within the specified period, starting on the date of this notice.**

- **The "specified period" is 12 weeks where the development relates to a "minor commercial application" as defined within the Town and Country Planning (Development Management Procedure) Order 2010 (as amended), or 6 months in any other case.**

- **Appeals must be made using a form which you can get from the Secretary of State at Temple Quay House, 2 The Square, Temple Quay, Bristol BS1 6PN (Tel: 0303 444 5000) or online at https://www.gov.uk/appeal-planning-decision. Further information on the Planning Appeal process can be found online at the Planning Inspectorates website https://www.gov.uk/government/organisations/planning-inspectorate.**
- **You must use the correct Planning Appeal Form when making your appeal. If requesting forms from the Planning Inspectorate, please state the type of application that the appeal relates to so they can send you the appeal form you require.**
- **The Secretary of State can allow a longer period for giving notice of an appeal, but he will not normally be prepared to use this power unless there are special circumstances which excuse the delay in giving notice of appeal.**
- **The Secretary of State need not consider an appeal if it seems to him that the Local Planning Authority could not have granted planning permission for the proposed development or could not have granted it without the conditions they imposed, having regard to the statutory requirements, to the provisions of any development order and to any directions given under a development order.**
- **In practice, the Secretary of State does not refuse to consider appeals solely because the Local Planning Authority based their decision on a direction given by him.**

Please note, only the applicant possesses the right of appeal.

Purchase Notices

- **If either the Local Planning Authority or the Secretary of State refuses permission to develop land or grants it subject to conditions, the owner may claim that he can neither put the land to a reasonably beneficial use in its existing state nor render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted.**

In these circumstances, the owner may serve a purchase notice on the Council. This notice will require the Council to purchase his interest in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990.

An important part of improving our service is to review your feedback on the way that we have dealt with your planning application(s). Please take a couple of minutes to email your comments to dc.admin@kirklees.gov.uk so that we can work on continually improving our customer service. Thank you.

Dated: **04-Nov-2022**

Signed: 

David Shepherd
Strategic Director Growth and Regeneration

Decision Documents

The decision notice indicates which documents relate to the decision. These documents can be viewed online at the Planning Services website at www.kirklees.gov.uk/planning, and by clicking on the 'search planning applications and decisions' and by searching for application number 2022/62/91550/E .

If a paper copy of the decision notice or decided plans are required please email dc.admin@kirklees.gov.uk or telephone 01484 414746 with the application number. There may be a charge for this service.

All communications should be sent to one of the following address:

E-mail: **dc.admin@kirklees.gov.uk**

Write to: Kirklees Council
Planning and Development Service
PO Box 1720
Huddersfield
HD1 9EL

APPENDIX D: PHOTO DOCUMENT

Photograph 1 Showing Site conditions in western area of the site.

Photograph 2 Ground Conditions in TP01

Photograph 3 Ground Conditions in TP02

APPENDIX E: EXPLORATORY HOLE RECORDS

Trial Pit Log

JNP GROUP
CONSULTING ENGINEERS

Trialpit No
HP1
Sheet 1 of 1

Project Name: Spen Lane, Cleckheaton	Project No. B21783	Co-ords: 419945.00 - 425769.00 Level:	Date 11/11/2022
Location: The Old Tannery, Spen Lane, Cleckheaton, BD19 4PJ		Dimensions (m): Depth 1.40	Scale 1:25
Client: Quarters Developments Ltd.			Logged SP

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Dark brown to black clayey sandy GRAVEL. Gravel is fine to coarse, angular to rounded of brick, concrete, tarmac, ash and sandstone. MADE GROUND
				0.80			Grey to blue occasionally gravelly CLAY. Gravel is of brick and sandstone. (strong organic and phenol smell noted) MADE GROUND
	1.00	ES					
	1.20	ES		1.20			Light brown slightly gravelly CLAY. Gravel is fine, angular to rounded of sandstone. PENNINE LOWER COAL MEASURES
				1.40			End of pit at 1.40 m

Remarks: Logged footing

Stability: y

JNP GROUP
CONSULTING ENGINEERS

Trial Pit Log

JNP GROUP
CONSULTING ENGINEERS

Trialpit No
TP01
Sheet 1 of 1

Project Name: Spen Lane, Cleckheaton	Project No. B21783	Co-ords: 419946.00 - 425787.00 Level:	Date 11/11/2022
Location: The Old Tannery, Spen Lane, Cleckheaton, BD19 4PJ		Dimensions (m): Depth 1.00 — 1.2 × 0.4	Scale 1:25
Client: Quarters Developments Ltd.			Logged SP

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.30			Dark Brown to black GRAVEL. Gravel is fine to coarse, angular to subangular of brick, concrete, ash, coal and sandstone. MADE GROUND
	0.40	ES					Light brown slightly gravelly CLAY. Gravel is fine, angular to rounded of sandstone. PENNINE LOWER COAL MEASURES
				1.00			End of pit at 1.00 m

1
2
3
4
5

Remarks: Hole unstable within made ground gravel. Groundwater encountered at 1.00m bgl.

Stability: Y

JNP GROUP
CONSULTING ENGINEERS

Trial Pit Log

JNP GROUP
CONSULTING ENGINEERS

Trialpit No
TP02
Sheet 1 of 1

Project Name: Spen Lane, Cleckheaton	Project No. B21783	Co-ords: 419953.00 - 425778.00 Level:	Date 11/11/2022
Location: The Old Tannery, Spen Lane, Cleckheaton, BD19 4PJ		Dimensions (m): Depth 1.00 — 1.2 × 0.4	Scale 1:25
Client: Quarters Developments Ltd.			Logged SP

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Dark Brown to black GRAVEL. Gravel is fine to coarse, angular to subangular of brick, concrete, ash, coal and sandstone. (slight hydrocarbon odour) MADE GROUND
	0.50	ES		0.40			Grey stained brown and black CLAY. MADE GROUND
	0.80	ES		0.70			Light brown slightly gravelly CLAY. Gravel is fine, angular to rounded of sandstone. PENNINE LOWER COAL MEASURES
				1.00			End of pit at 1.00 m

1
2
3
4
5

Remarks: Hole unstable within made ground gravel.

Stability: y

JNP GROUP
CONSULTING ENGINEERS

APPENDIX F: CHEMICAL TEST RESULTS

Sam Pyott
JNP Midlands LLP
No.1 Meadowhall
Riverside
Sheffield

e: Samuel.Pyott@jnpgroup.co.uk

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

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 22-96636

Project / Site name:	The Old Tannery, 224 Spen Lane, Cleckheaton	**Samples received on:**	14/11/2022
Your job number:	B21783	**Samples instructed on/ Analysis started on:**	15/11/2022
Your order number:	G1779	**Analysis completed by:**	26/11/2022
Report Issue Number:	1	**Report issued on:**	28/11/2022
Samples Analysed:	7 soil samples		

Signed:

Dominika Warjan
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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: 22-96636
Project / Site name: The Old Tannery, 224 Spen Lane, Cleckheaton
Your Order No: G1779

Lab Sample Number				2499314	2499315	2499316	2499317	2499318
Sample Reference				TP01	TP01	TP02	TP02	HP1
Sample Number				1	2	3	4	6
Depth (m)				0.20	0.40	0.10	0.50	0.20
Date Sampled				11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022
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	30	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	24	25	24	13
Total mass of sample received	kg	0.001	NONE	0.3	0.4	0.3	0.3	0.3
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MJN	N/A	MJN	MJN	MJN
General Inorganics								
pH - Manual	pH Units	N/A	MCERTS	-	-	-	-	-
pH - Automated	pH Units	N/A	MCERTS	7.6	8.4	7.3	7.3	7.9
Organic Matter (automated)	%	0.1	MCERTS	2	-	5.2	-	-
Phenols by GC-MS								
Phenol	mg/kg	0.2	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Total Phenols								
Total Phenols (GC-MS)	mg/kg	1	NONE	-	-	-	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	NONE	< 0.05	-	0.82	0.12	11
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	-	0.23	< 0.05	0.43
Acenaphthene	mg/kg	0.05	NONE	< 0.05	-	0.38	< 0.05	1.7
Fluorene	mg/kg	0.05	NONE	< 0.05	-	0.68	0.21	1.4
Phenanthrene	mg/kg	0.05	NONE	0.05	-	5	1.1	17
Anthracene	mg/kg	0.05	NONE	< 0.05	-	0.86	0.3	4.4
Fluoranthene	mg/kg	0.05	NONE	0.1	-	7.5	2	35
Pyrene	mg/kg	0.05	NONE	0.08	-	6.7	1.8	34
Benzo(a)anthracene	mg/kg	0.05	NONE	0.05	-	3.6	0.95	22
Chrysene	mg/kg	0.05	NONE	< 0.05	-	3.7	1	16
Benzo(b)fluoranthene	mg/kg	0.05	NONE	< 0.05	-	2.4	0.62	21
Benzo(k)fluoranthene	mg/kg	0.05	NONE	< 0.05	-	1.4	0.39	7.2
Benzo(a)pyrene	mg/kg	0.05	NONE	< 0.05	-	2.3	0.55	19
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	< 0.05	-	0.78	0.25	9.8
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	-	0.26	< 0.05	2
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05	-	0.83	0.27	9.1
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	< 0.80	-	37.4	9.62	212

Analytical Report Number: 22-96636
Project / Site name: The Old Tannery, 224 Spen Lane, Cleckheaton
Your Order No: G1779

Lab Sample Number				2499314	2499315	2499316	2499317	2499318
Sample Reference				TP01	TP01	TP02	TP02	HP1
Sample Number				1	2	3	4	6
Depth (m)				0.20	0.40	0.10	0.50	0.20
Date Sampled				11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.3	7.3	47	11	28
Barium (aqua regia extractable)	mg/kg	1	MCERTS	28	64	190	70	170
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.35	0.92	2.1	1.1	1.4
Boron (water soluble)	mg/kg	0.2	MCERTS	1.1	39	2.4	1.2	1.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	-	-	-
Chromium (III)	mg/kg	1	NONE	-	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	12	73	340	27	250
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13	22	130	26	110
Lead (aqua regia extractable)	mg/kg	1	MCERTS	18	26	270	36	140
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.6	21	37	23	36
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	18	29	63	32	45
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	38	80	110	79	110
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	NONE	< 1.0	-	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	NONE	< 1.0	-	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	NONE	< 1.0	-	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	NONE	< 1.0	-	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	NONE	< 1.0	-	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	< 1.0	-	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	mg/kg	0.1	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	< 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
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	< 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
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	NONE	< 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
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	NONE	< 8.0	-	< 8.0	< 8.0	77
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	-	< 10	< 10	80
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	NONE	< 1.0	-	3.8	< 1.0	4.9
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	NONE	< 2.0	-	2.4	< 2.0	20
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	NONE	< 10	-	20	< 10	61
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	NONE	< 10	-	26	< 10	230
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	-	52	11	310
TPH (C10 - C25) EH_CU_1D_TOTAL	mg/kg	10	NONE	-	-	-	-	-
TPH (C25 - C40) EH_CU_1D_TOTAL	mg/kg	10	NONE	-	-	-	-	-

Analytical Report Number: 22-96636
Project / Site name: The Old Tannery, 224 Spen Lane, Cleckheaton
Your Order No: G1779

Lab Sample Number				2499314	2499315	2499316	2499317	2499318
Sample Reference				TP01	TP01	TP02	TP02	HP1
Sample Number				1	2	3	4	6
Depth (m)				0.20	0.40	0.10	0.50	0.20
Date Sampled				11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	NONE	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	NONE	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	NONE	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	NONE	-	-	-	-	-
2,2-Dichloropropane	µg/kg	1	NONE	-	-	-	-	-
Trichloromethane	µg/kg	1	NONE	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	NONE	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	NONE	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	NONE	-	-	-	-	-
Tetrachloromethane	µg/kg	1	NONE	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	NONE	-	-	-	-	-
Trichloroethene	µg/kg	1	NONE	-	-	-	-	-
Dibromomethane	µg/kg	1	NONE	-	-	-	-	-
Bromodichloromethane	µg/kg	1	NONE	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	NONE	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	NONE	-	-	-	-	-
Toluene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	NONE	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	NONE	-	-	-	-	-
Dibromochloromethane	µg/kg	1	NONE	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	NONE	-	-	-	-	-
Chlorobenzene	µg/kg	1	NONE	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	-	-	-	-	-
Ethylbenzene	µg/kg	1	NONE	-	-	-	-	-
p & m-Xylene	µg/kg	1	NONE	-	-	-	-	-
Styrene	µg/kg	1	NONE	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	NONE	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	NONE	-	-	-	-	-
Isopropylbenzene	µg/kg	1	NONE	-	-	-	-	-
Bromobenzene	µg/kg	1	NONE	-	-	-	-	-
n-Propylbenzene	µg/kg	1	NONE	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	NONE	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	NONE	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	NONE	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	NONE	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	NONE	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	NONE	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
Butylbenzene	µg/kg	1	NONE	-	-	-	-	-

Analytical Report Number: 22-96636
Project / Site name: The Old Tannery, 224 Spen Lane, Cleckheaton
Your Order No: G1779

Lab Sample Number				2499314	2499315	2499316	2499317	2499318
Sample Reference				TP01	TP01	TP02	TP02	HP1
Sample Number				1	2	3	4	6
Depth (m)				0.20	0.40	0.10	0.50	0.20
Date Sampled				11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
1,2-Dibromo-3-chloropropane	µg/kg	1	NONE	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	NONE	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	NONE	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	NONE	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Naphthalene	mg/kg	0.05	NONE	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	NONE	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	NONE	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Carbazole	mg/kg	0.3	NONE	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-

Analytical Report Number: 22-96636
Project / Site name: The Old Tannery, 224 Spen Lane, Cleckheaton
Your Order No: G1779

Lab Sample Number				2499314	2499315	2499316	2499317	2499318
Sample Reference				TP01	TP01	TP02	TP02	HP1
Sample Number				1	2	3	4	6
Depth (m)				0.20	0.40	0.10	0.50	0.20
Date Sampled				11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
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	-	-	-	-	-
Pesticides								
Alachlor	µg/kg	10	NONE	-	-	-	-	-
Aldrin	µg/kg	10	NONE	-	-	-	-	-
Azinphos-ethyl	µg/kg	10	NONE	-	-	-	-	-
Azinphos-methyl	µg/kg	10	NONE	-	-	-	-	-
BHC-alpha (benzene hexachloride)	µg/kg	10	NONE	-	-	-	-	-
BHC-beta	µg/kg	10	NONE	-	-	-	-	-
BHC-delta	µg/kg	10	NONE	-	-	-	-	-
BHC-gamma (Lindane, gamma HCH)	µg/kg	10	NONE	-	-	-	-	-
Bifenthrin	µg/kg	10	NONE	-	-	-	-	-
Carbophenothion	µg/kg	10	NONE	-	-	-	-	-
Chlordane-cis	µg/kg	10	NONE	-	-	-	-	-
Chlordane-trans	µg/kg	10	NONE	-	-	-	-	-
Chlorfenvinphos	µg/kg	10	NONE	-	-	-	-	-
Chlorothalonil	µg/kg	20	NONE	-	-	-	-	-
Chlorpyrifos	µg/kg	10	NONE	-	-	-	-	-
Cyfluthrin (Sum)	µg/kg	10	NONE	-	-	-	-	-
Cyhalothrin (Lambda)	µg/kg	10	NONE	-	-	-	-	-
Cypermethrin (Sum)	µg/kg	10	NONE	-	-	-	-	-
DDD-o,p'	µg/kg	10	NONE	-	-	-	-	-
DDD-p,p'	µg/kg	10	NONE	-	-	-	-	-
DDE-o,p'	µg/kg	10	NONE	-	-	-	-	-
DDE-p,p'	µg/kg	10	NONE	-	-	-	-	-
DDT-o,p'	µg/kg	10	NONE	-	-	-	-	-
DDT-p,p'	µg/kg	10	NONE	-	-	-	-	-
Deltamethrin	µg/kg	10	NONE	-	-	-	-	-
Demeton-O	µg/kg	10	NONE	-	-	-	-	-
Demeton-S	µg/kg	10	NONE	-	-	-	-	-
Diazinon	µg/kg	10	NONE	-	-	-	-	-
Dichlorobenzonitrile, 2,6-	µg/kg	10	NONE	-	-	-	-	-
Dichlorvos	µg/kg	10	NONE	-	-	-	-	-
Dieldrin	µg/kg	10	NONE	-	-	-	-	-
Dimethoate	µg/kg	10	NONE	-	-	-	-	-
Dimethylvinphos	µg/kg	10	NONE	-	-	-	-	-
Endosulfan I (alpha isomer)	µg/kg	10	NONE	-	-	-	-	-
Endosulfan II (beta isomer)	µg/kg	10	NONE	-	-	-	-	-
Endosulfan sulfate	µg/kg	10	NONE	-	-	-	-	-
Endrin	µg/kg	20	NONE	-	-	-	-	-
Endrin aldehyde	µg/kg	10	NONE	-	-	-	-	-
Endrin ketone	µg/kg	10	NONE	-	-	-	-	-
Ethion	µg/kg	10	NONE	-	-	-	-	-
Etrimfos	µg/kg	10	NONE	-	-	-	-	-
Fenitrothion	µg/kg	10	NONE	-	-	-	-	-
Fenthion	µg/kg	10	NONE	-	-	-	-	-

Analytical Report Number: 22-96636
Project / Site name: The Old Tannery, 224 Spen Lane, Cleckheaton
Your Order No: G1779

Lab Sample Number				2499314	2499315	2499316	2499317	2499318
Sample Reference				TP01	TP01	TP02	TP02	HP1
Sample Number				1	2	3	4	6
Depth (m)				0.20	0.40	0.10	0.50	0.20
Date Sampled				11/11/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Fenvalerate (Sum)	µg/kg	10	NONE	-	-	-	-	-
Heptachlor	µg/kg	10	NONE	-	-	-	-	-
Heptachlor exo-epoxide	µg/kg	10	NONE	-	-	-	-	-
Hexachlorobenzene	µg/kg	10	NONE	-	-	-	-	-
Hexachlorobutadiene	µg/kg	10	NONE	-	-	-	-	-
Isodrin	µg/kg	20	NONE	-	-	-	-	-
Malathion	µg/kg	10	NONE	-	-	-	-	-
Methacrifos	µg/kg	10	NONE	-	-	-	-	-
Methoxychlor, p,p'-	µg/kg	20	NONE	-	-	-	-	-
Mevinphos, E+Z	µg/kg	10	NONE	-	-	-	-	-
Omethoate	µg/kg	20	NONE	-	-	-	-	-
Parathion	µg/kg	10	NONE	-	-	-	-	-
Parathion-methyl	µg/kg	10	NONE	-	-	-	-	-
Pendimethalin	µg/kg	10	NONE	-	-	-	-	-
Pentachlorobenzene	µg/kg	10	NONE	-	-	-	-	-
Permethrin, Cis-	µg/kg	10	NONE	-	-	-	-	-
Permethrin, Trans-	µg/kg	10	NONE	-	-	-	-	-
Phorate	µg/kg	10	NONE	-	-	-	-	-
Phosalone	µg/kg	10	NONE	-	-	-	-	-
Phosphamidon (Sum)	µg/kg	10	NONE	-	-	-	-	-
Pirimiphos-ethyl	µg/kg	10	NONE	-	-	-	-	-
Pirimiphos-methyl	µg/kg	10	NONE	-	-	-	-	-
Propetamphos	µg/kg	10	NONE	-	-	-	-	-
Propyzamide	µg/kg	10	NONE	-	-	-	-	-
Tecnazene	µg/kg	10	NONE	-	-	-	-	-
Tetrachlorobenzene, 1,2,4,5-	µg/kg	10	NONE	-	-	-	-	-
Trichlorobenzene, 1,2,3-	µg/kg	10	NONE	-	-	-	-	-
Trichlorobenzene, 1,3,5-	µg/kg	10	NONE	-	-	-	-	-
Trifluralin	µg/kg	10	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-96636
Project / Site name: The Old Tannery, 224 Spen Lane, Cleckheaton
Your Order No: G1779

Lab Sample Number				2499319	2499320
Sample Reference				HP1	HP1
Sample Number				7	8
Depth (m)				1.00	1.20
Date Sampled				11/11/2022	11/11/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	40	15
Total mass of sample received	kg	0.001	NONE	0.3	0.4
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	MJN	N/A
General Inorganics					
pH - Manual	pH Units	N/A	MCERTS	12.2	-
pH - Automated	pH Units	N/A	MCERTS	-	8.7
Organic Matter (automated)	%	0.1	MCERTS	0.9	-
Phenols by GC-MS					
Phenol	mg/kg	0.2	NONE	< 0.2	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3	-
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1	-
2-Methylphenol	mg/kg	0.3	NONE	< 0.3	-
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-
Total Phenols					
Total Phenols (GC-MS)	mg/kg	1	NONE	< 1.0	-
Speciated PAHs					
Naphthalene	mg/kg	0.05	NONE	0.45	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	NONE	< 0.05	< 0.05
Fluorene	mg/kg	0.05	NONE	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	NONE	0.54	< 0.05
Anthracene	mg/kg	0.05	NONE	0.17	< 0.05
Fluoranthene	mg/kg	0.05	NONE	0.34	< 0.05
Pyrene	mg/kg	0.05	NONE	0.31	< 0.05
Benzo(a)anthracene	mg/kg	0.05	NONE	0.15	< 0.05
Chrysene	mg/kg	0.05	NONE	0.11	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	NONE	0.17	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.07	< 0.05
Benzo(a)pyrene	mg/kg	0.05	NONE	0.13	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	0.07	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	0.06	< 0.05
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	2.57	< 0.80

Analytical Report Number: 22-96636
Project / Site name: The Old Tannery, 224 Spen Lane, Cleckheaton
Your Order No: G1779

Lab Sample Number				2499319	2499320
Sample Reference				HP1	HP1
Sample Number				7	8
Depth (m)				1.00	1.20
Date Sampled				11/11/2022	11/11/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.5	4.9
Barium (aqua regia extractable)	mg/kg	1	MCERTS	8.4	54
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.11	1.3
Boron (water soluble)	mg/kg	0.2	MCERTS	1.1	2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.3	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	-
Chromium (III)	mg/kg	1	NONE	13	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	16	35
Lead (aqua regia extractable)	mg/kg	1	MCERTS	5.1	39
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	4.2	37
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	6.5	23
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	76	130
Monoaromatics & Oxygenates					
Benzene	µg/kg	1	NONE	< 1.0	-
Toluene	µg/kg	1	NONE	< 1.0	-
Ethylbenzene	µg/kg	1	NONE	< 1.0	-
p & m-xylene	µg/kg	1	NONE	< 1.0	-
o-xylene	µg/kg	1	NONE	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	< 1.0	-
Petroleum Hydrocarbons					
Petroleum Range Organics (C6 - C10) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	NONE	< 0.1	-
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	NONE	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	NONE	< 2.0	-
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	NONE	< 8.0	-
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	NONE	< 8.0	-
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	-
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	NONE	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	NONE	< 2.0	-
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	NONE	< 10	-
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	NONE	< 10	-
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	-
TPH (C10 - C25) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	NONE	< 10	-
TPH (C25 - C40) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	NONE	< 10	-

Analytical Report Number: 22-96636
Project / Site name: The Old Tannery, 224 Spen Lane, Cleckheaton
Your Order No: G1779

Lab Sample Number				2499319	2499320
Sample Reference				HP1	HP1
Sample Number				7	8
Depth (m)				1.00	1.20
Date Sampled				11/11/2022	11/11/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
VOCs					
Chloromethane	µg/kg	1	NONE	< 1.0	-
Chloroethane	µg/kg	1	NONE	< 1.0	-
Bromomethane	µg/kg	1	NONE	< 1.0	-
Vinyl Chloride	µg/kg	1	NONE	< 1.0	-
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0	-
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	NONE	< 1.0	-
Cis-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	< 1.0	-
1,1-Dichloroethane	µg/kg	1	NONE	< 1.0	-
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	-
Trichloromethane	µg/kg	1	NONE	< 1.0	-
1,1,1-Trichloroethane	µg/kg	1	NONE	< 1.0	-
1,2-Dichloroethane	µg/kg	1	NONE	< 1.0	-
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	-
Benzene	µg/kg	1	NONE	< 1.0	-
Tetrachloromethane	µg/kg	1	NONE	< 1.0	-
1,2-Dichloropropane	µg/kg	1	NONE	< 1.0	-
Trichloroethene	µg/kg	1	NONE	< 1.0	-
Dibromomethane	µg/kg	1	NONE	< 1.0	-
Bromodichloromethane	µg/kg	1	NONE	< 1.0	-
Cis-1,3-dichloropropene	µg/kg	1	NONE	< 1.0	-
Trans-1,3-dichloropropene	µg/kg	1	NONE	< 1.0	-
Toluene	µg/kg	1	NONE	< 1.0	-
1,1,2-Trichloroethane	µg/kg	1	NONE	< 1.0	-
1,3-Dichloropropane	µg/kg	1	NONE	< 1.0	-
Dibromochloromethane	µg/kg	1	NONE	< 1.0	-
Tetrachloroethene	µg/kg	1	NONE	< 1.0	-
1,2-Dibromoethane	µg/kg	1	NONE	< 1.0	-
Chlorobenzene	µg/kg	1	NONE	< 1.0	-
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	-
Ethylbenzene	µg/kg	1	NONE	< 1.0	-
p & m-Xylene	µg/kg	1	NONE	< 1.0	-
Styrene	µg/kg	1	NONE	< 1.0	-
Tribromomethane	µg/kg	1	NONE	< 1.0	-
o-Xylene	µg/kg	1	NONE	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	-
Isopropylbenzene	µg/kg	1	NONE	< 1.0	-
Bromobenzene	µg/kg	1	NONE	< 1.0	-
n-Propylbenzene	µg/kg	1	NONE	< 1.0	-
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	-
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	-
1,3,5-Trimethylbenzene	µg/kg	1	NONE	< 1.0	-
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	-
1,2,4-Trimethylbenzene	µg/kg	1	NONE	< 1.0	-
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	-
1,3-Dichlorobenzene	µg/kg	1	NONE	< 1.0	-
p-Isopropyltoluene	µg/kg	1	NONE	< 1.0	-
1,2-Dichlorobenzene	µg/kg	1	NONE	< 1.0	-
1,4-Dichlorobenzene	µg/kg	1	NONE	< 1.0	-
Butylbenzene	µg/kg	1	NONE	< 1.0	-

Analytical Report Number: 22-96636
Project / Site name: The Old Tannery, 224 Spen Lane, Cleckheaton
Your Order No: G1779

Lab Sample Number				2499319	2499320
Sample Reference				HP1	HP1
Sample Number				7	8
Depth (m)				1.00	1.20
Date Sampled				11/11/2022	11/11/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
1,2-Dibromo-3-chloropropane	µg/kg	1	NONE	< 1.0	-
1,2,4-Trichlorobenzene	µg/kg	1	NONE	< 1.0	-
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	-
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	-

SVOCs

Aniline	mg/kg	0.1	NONE	0.3	-
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	0.45	-
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	0.3	-
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	< 0.2	-
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	< 0.05	-
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	0.54	-
Anthracene	mg/kg	0.05	NONE	0.17	-
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	0.34	-
Pyrene	mg/kg	0.05	NONE	0.31	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	-

Analytical Report Number: 22-96636
Project / Site name: The Old Tannery, 224 Spen Lane, Cleckheaton
Your Order No: G1779

Lab Sample Number				2499319	2499320
Sample Reference				HP1	HP1
Sample Number				7	8
Depth (m)				1.00	1.20
Date Sampled				11/11/2022	11/11/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Benzo(a)anthracene	mg/kg	0.05	NONE	0.15	-
Chrysene	mg/kg	0.05	NONE	0.11	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	0.17	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.07	-
Benzo(a)pyrene	mg/kg	0.05	NONE	0.13	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	0.07	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	0.06	-
Pesticides					
Alachlor	µg/kg	10	NONE	< 10	-
Aldrin	µg/kg	10	NONE	< 10	-
Azinphos-ethyl	µg/kg	10	NONE	< 10	-
Azinphos-methyl	µg/kg	10	NONE	< 10	-
BHC-alpha (benzene hexachloride)	µg/kg	10	NONE	< 10	-
BHC-beta	µg/kg	10	NONE	< 10	-
BHC-delta	µg/kg	10	NONE	< 10	-
BHC-gamma (Lindane, gamma HCH)	µg/kg	10	NONE	< 10	-
Bifenthrin	µg/kg	10	NONE	< 10	-
Carbophenothion	µg/kg	10	NONE	< 10	-
Chlordane-cis	µg/kg	10	NONE	< 10	-
Chlordane-trans	µg/kg	10	NONE	< 10	-
Chlorfenvinphos	µg/kg	10	NONE	< 10	-
Chlorothalonil	µg/kg	20	NONE	< 20	-
Chlorpyrifos	µg/kg	10	NONE	< 10	-
Cyfluthrin (Sum)	µg/kg	10	NONE	< 10	-
Cyhalothrin (Lambda)	µg/kg	10	NONE	< 10	-
Cypermethrin (Sum)	µg/kg	10	NONE	< 10	-
DDD-o,p'	µg/kg	10	NONE	< 10	-
DDD-p,p'	µg/kg	10	NONE	< 10	-
DDE-o,p'	µg/kg	10	NONE	< 10	-
DDE-p,p'	µg/kg	10	NONE	< 10	-
DDT-o,p'	µg/kg	10	NONE	< 10	-
DDT-p,p'	µg/kg	10	NONE	< 10	-
Deltamethrin	µg/kg	10	NONE	< 10	-
Demeton-O	µg/kg	10	NONE	< 10	-
Demeton-S	µg/kg	10	NONE	< 10	-
Diazinon	µg/kg	10	NONE	< 10	-
Dichlorobenzonitrile, 2,6-	µg/kg	10	NONE	< 10	-
Dichlorvos	µg/kg	10	NONE	< 10	-
Dieldrin	µg/kg	10	NONE	< 10	-
Dimethoate	µg/kg	10	NONE	< 10	-
Dimethylvinphos	µg/kg	10	NONE	< 10	-
Endosulfan I (alpha isomer)	µg/kg	10	NONE	< 10	-
Endosulfan II (beta isomer)	µg/kg	10	NONE	< 10	-
Endosulfan sulfate	µg/kg	10	NONE	< 10	-
Endrin	µg/kg	20	NONE	< 20	-
Endrin aldehyde	µg/kg	10	NONE	< 10	-
Endrin ketone	µg/kg	10	NONE	< 10	-
Ethion	µg/kg	10	NONE	< 10	-
Etrimfos	µg/kg	10	NONE	< 10	-
Fenitrothion	µg/kg	10	NONE	< 10	-
Fenthion	µg/kg	10	NONE	< 10	-

Analytical Report Number: 22-96636
Project / Site name: The Old Tannery, 224 Spen Lane, Cleckheaton
Your Order No: G1779

Lab Sample Number				2499319	2499320
Sample Reference				HP1	HP1
Sample Number				7	8
Depth (m)				1.00	1.20
Date Sampled				11/11/2022	11/11/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Fenvalerate (Sum)	µg/kg	10	NONE	< 10	-
Heptachlor	µg/kg	10	NONE	< 10	-
Heptachlor exo-epoxide	µg/kg	10	NONE	< 10	-
Hexachlorobenzene	µg/kg	10	NONE	< 10	-
Hexachlorobutadiene	µg/kg	10	NONE	< 10	-
Isodrin	µg/kg	20	NONE	< 20	-
Malathion	µg/kg	10	NONE	< 10	-
Methacrifos	µg/kg	10	NONE	< 10	-
Methoxychlor, p,p'-	µg/kg	20	NONE	< 20	-
Mevinphos, E+Z	µg/kg	10	NONE	< 10	-
Omethoate	µg/kg	20	NONE	< 20	-
Parathion	µg/kg	10	NONE	< 10	-
Parathion-methyl	µg/kg	10	NONE	< 10	-
Pendimethalin	µg/kg	10	NONE	< 10	-
Pentachlorobenzene	µg/kg	10	NONE	< 10	-
Permethrin, Cis-	µg/kg	10	NONE	< 10	-
Permethrin, Trans-	µg/kg	10	NONE	< 10	-
Phorate	µg/kg	10	NONE	< 10	-
Phosalone	µg/kg	10	NONE	< 10	-
Phosphamidon (Sum)	µg/kg	10	NONE	< 10	-
Pirimiphos-ethyl	µg/kg	10	NONE	< 10	-
Pirimiphos-methyl	µg/kg	10	NONE	< 10	-
Propetamphos	µg/kg	10	NONE	< 10	-
Propyzamide	µg/kg	10	NONE	< 10	-
Tecnazene	µg/kg	10	NONE	< 10	-
Tetrachlorobenzene, 1,2,4,5-	µg/kg	10	NONE	< 10	-
Trichlorobenzene, 1,2,3-	µg/kg	10	NONE	< 10	-
Trichlorobenzene, 1,3,5-	µg/kg	10	NONE	< 10	-
Trifluralin	µg/kg	10	NONE	< 10	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Project / Site name: The Old Tannery, 224 Spen Lane, Cleckheaton

* 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 *
2499314	TP01	1	0.2	Brown loam and sand with gravel and stones.
2499315	TP01	2	0.4	Brown clay and sand with gravel.
2499316	TP02	3	0.1	Brown loam and clay with gravel and brick.
2499317	TP02	4	0.5	Brown clay and loam.
2499318	HP1	6	0.2	Brown loam and clay with gravel.
2499319	HP1	7	1	Blue clay and sand.
2499320	HP1	8	1.2	Brown clay and sand.

Analytical Report Number : 22-96636
Project / Site name: The Old Tannery, 224 Spen Lane, Cleckheaton

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in 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
Phenols, speciated, in soil, by GCMS	Determination of speciated phenols in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
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
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
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	NONE
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
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
PRO (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
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	NONE
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	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	NONE
TPH Oils (Soils)	Determination of extractable hydrocarbons in soil by GC-MS/FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
DRO (Soil)	Determination of extractable hydrocarbons in soil by GC-MS/FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
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	NONE

Analytical Report Number : 22-96636
Project / Site name: The Old Tannery, 224 Spen Lane, Cleckheaton

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

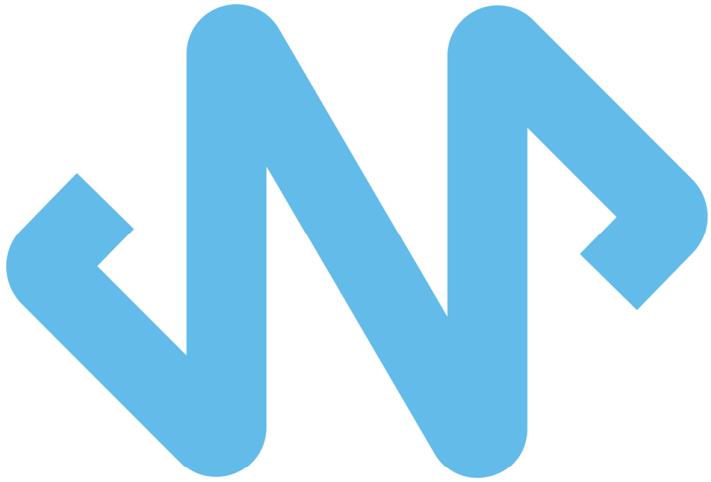
Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Pesticides by GC-MS/MS	Detemination of Pesticides in soil by GC MS/MS	In-house method	L055B-PL	W	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
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

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total



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