

VALIDATION COMPLETION REPORT

Site:	Belle Vue Greyhound Stadium, Manchester
References:	12-123-R6-2
Date:	22 May 2025
Client:	Countryside (Vistry)





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QUALITY ASSURANCE

Report references

12-123-R6-1

REV REF	DESCRIPTION	DATE
01	First issue	09/04/2025
02	Revised	22/05/2025

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DRAWING LIST

12-123-011 – Build Phase Mitigation Plan



1. INTRODUCTION

1.1. BACKGROUND

E3P Ltd has been commissioned by Vistry Partnerships North (Manchester & Cheshire East) to produce a Completion Report in relation to the validation of the garden plots and gas membrane installations at their newly constructed site off Kirkmanshulme Lane, Manchester.

Manchester City Council confirmed their general acceptance of the remediation works and subsequent validation works for the proposed residential development, pending the following information:

- ✳ Validation of the clean cover system; and,
- ✳ Validation of the ground gas protection measures.

Interim validation letters pertaining to the above have been produced previously, however, all outstanding information is included within this report.

All acronyms used within this report are defined in the Glossary presented in APPENDIX II.

1.2. PREVIOUS REPORTS

The pertinent previous reports for the site are summarised in Table 1.1.

Table 1.1 Previous Reports

Historic Reports	✳ DB Remediation – Site Investigation, Belle Vue. Ref: R1010-2014, dated 2014
Date of E3P SI & Ref	✳ E3P – Phase I and Phase II Geo-Environmental Site Assessment. Ref: 12-123 -R1-Rev 3, dated February 2019
	✳ E3P – Ground Gas Addendum Report. Ref: 12-123-R3-1, dated April 2020
	✳ E3P – Supplementary Site Investigation. Ref: 12-123-L5-Rev 1, dated April 2021
	✳ E3P – Supplementary Site Investigation. Ref: 12-123-L6, dated October 2021
	✳ E3P – Human Health Assessment Addendum. Ref: 12-123-L8, dated May 2022
Date of Remediation Strategy & Ref	✳ E3P – Remediation & Enabling Works Strategy. Ref: 12-123-R2-Rev 4, dated June 2021
Date of Enabling Works Validation & Ref	✳ E3P – Remediation & Enabling Works Validation Report. Ref: 12-123-R5-2, dated August 2022



The Remediation and Enabling Works Strategy details the following build phase mitigation requirements:

- ✚ Provision of a 600 mm cover system using certified material with appropriate validation within proposed garden areas, comprising 450 mm subsoil (potentially site won natural drift deposits) overlain by 150 mm topsoil.
- ✚ Provision of a 300 mm cover system using certified material with appropriate validation within proposed areas of Public Open Space and soft landscaping.
- ✚ Installation of ground gas mitigation measures for affected plots.
- ✚ Construction of appropriate potable water supply infrastructure.

1.3. OBJECTIVES

E3P has been instructed to develop a detailed Validation Completion Report associated with the validation of the residential development that will incorporate the following:

- ✚ Overview of the validation works undertaken on the development site within the garden and landscaped areas;
- ✚ Chemical laboratory analysis undertaken of the site won and imported material;
- ✚ Overview of the validation works undertaken on the development site pertaining to the installation of gas protection measures to Characteristic Situation 2/Amber 1 where required; and
- ✚ Overview of the validation works undertaken pertaining to the installation of vapour resistant membranes within Apartment Block 2 (Plots 62-85), Plots 86-98 and 204-214.

1.4. LIMITATIONS

The limitations of this report are presented in APPENDIX I.

1.5. CONFIDENTIALITY

E3P has prepared this report solely for the use 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 E3P; a charge may be levied against such approval.



2. GARDEN VALIDATION

Independent validation of plots 1–247 was undertaken between 31st May 2022 and 28th February 2025. In total, 58 visits were made during which the depth of the cover system was measured to confirm the installation of 450 mm subsoil (imported) and 150 mm topsoil (imported) in rear gardens and 300 mm topsoil (imported) in landscaped areas, with photographs taken by way of validation.

All material used for the cover system was confirmed chemically suitable for use through chemical analysis, discussed further in Section 3.0. All validation works have been completed in accordance with the specification previously agreed with Manchester City Council.

Table 2.1 below shows the Garden Validation reference and date of validation for each garden and landscaped area.

Table 2.1 Summary of Garden Validations

PLOT NUMBER	DATE	REPORT REFERENCE
236-239	31st May 2022	V1
242-245	15th June 2022	V2
2-4	23rd June 2022	V3
1-3	23rd June 2022	V4
244-247	29th June 2022	V5
1 & 5	4th July 2022	V6
150	23rd August 2022	V7
148-149	25th August 2022	V8
99-103, 146-147	22nd September 2022	V9
104-105	23rd September 2022	V10
106-109	27th September 2022	V11
143-145	28th September 2022	V12
110	24th October 2022	V13
140-142	14th November 2022	V14
111-112	14th November 2022	V15
136-139	5th December 2022	V16
86-88	15th December 2022	V17
113-124	16th December 2022	V18
168-169, 193	24th January 2023	V19
125-128	30th January 2023	V20
191-192	3rd February 2023	V21
128-129, 194-203	14th February 2023	V22
167, 170	16th February 2023	V23
184-185	21st February 2023	V24
130-135	1st March 2023	V25
186-187	3rd March 2023	V26
181-182	10th March 2023	V27
178-180, 183	17th March 2023	V28
171-172, 189-190	17th April 2023	V29
89-95	18th April 2023	V30
188	20th April 2023	V31
172-177	5th May 2023	V32
165-166, 204-207	6th June 2023	V33
208-209	19th June 2023	V34
163-164, 210-211	29th June 2023	V35
212-213	27th July 2023	V36



PLOT NUMBER	DATE	REPORT REFERENCE
220	9th August 2023	V37
240-241	15th August 2023	V38
221-222	18th August 2023	V39
151-154	15th September 2023	V40
155	3rd October 2023	V41
232-233	6th October 2023	V42
230-231	11th October 2023	V43
234-235	18th October 2023	V44
156	20th October 2023	V45
157-158	15th November 2023	V46
159-160, 228	16th November 2023	V47
226, 229	22nd November 2023	V48
227	23rd November 2023	V49
225	1st December 2023	V50
223-224	7th December 2023	V51
217-219	8th December 2023	V52
161-162	11th December 2023	V53
215-216	8th February 2024	V54
214	13th February 2024	V55
96-98	8th April 2024	V56
Apartment Block 2 (Plots 62-85)	10th October 2024	V57
Apartment Block 1 (Plots 6-61)	28th February 2025	V58

The full details of the cover system depths of each plot garden area are detailed within the individual letters issued, as per the report reference listed within Table 2.1. All garden validation letter reports are available on request.



3. CHEMICAL VALIDATION

3.1. TOPSOIL AND SUBSOIL

All gardens required a 600 mm chemically suitable cover system comprising at least 450 mm subsoil and 150 mm topsoil. Landscaped areas required a 300 mm cover system comprising 150 mm topsoil and 150 mm subsoil or 300 mm topsoil.

Topsoil

Topsoil was imported from the following greenfield sources:

-  Manchester Road, Heywood – 2370 m³
-  Lomas Way, Congleton – 422 m³
-  Haslingden Road, Blackburn – 180 tonne (~150 m³)
-  Rush Green Road, Lymm – 255 m³

Subsoil

Approximately 7000 m³ of subsoil was imported from the greenfield source known as Priory Chase, Nelson.

Subsoil and topsoil materials were tested prior to use within the proposed cover system to confirm their chemical suitability for use within the development.

3.2. CHEMICAL VALIDATION

Topsoil

Manchester Road, Heywood

Fifteen samples were tested which confirmed that the topsoil was chemically suitable for use within the garden areas. Chemical analysis results are included within lab reports 22-63323, 22-81563 and 22-90215.

Lomas Way, Congleton

Five samples were tested which confirmed that the topsoil was chemically suitable for use within the garden areas. Chemical analysis results are included within lab reports 24-10965 and 24-30860.

Haslingden Road, Blackburn

Three samples were tested which confirmed that the topsoil was chemically suitable for use within the garden areas. Chemical analysis results are included within lab report 24-30860.

Rush Green Road, Lymm

Three samples were tested which confirmed that the topsoil was chemically suitable for use within the garden areas. Chemical analysis results are included within lab report 25-06713.



Subsoil

Priory Chase, Nelson

Thirty-five samples were tested which confirmed that the topsoil was chemically suitable for use within the garden areas. Chemical analysis results are included within lab reports 22-63323, 22-62759, 23-52200, 24-10965 and 24-31197.

All samples were analysed in accordance with the regulatory approved Remediation Strategy.

Furthermore, E3P inspected the materials intended for topsoil and subsoil. Chemical analysis identified no contaminant exceedances, therefore it has been determined that the topsoil and subsoil is suitable for utilisation within the proposed gardens.

Sufficient samples have been obtained and analysed to meet the agreed sample frequency of 1 sample per 200 m³ topsoil and 1 sample per 200 m³ subsoil.

Laboratory certificates have been attached within the individual garden validation letters and are also included within Appendix IV of this report.



4. GAS MEMBRANE VALIDATION

4.1. SUMMARY OF GROUND GAS RISK ASSESSMENT

Ground gas monitoring classified the site as Characteristic Situation 2 / Amber 1 due to elevated concentrations of carbon dioxide and methane. Specialist mitigation measures were deemed to be required in accordance with BS8485 (2015)+A1(2019).

Due to further testing on site highlighting exceedances of naphthalene and other SVOCs, specialist vapour resistant membranes were required within Apartment Block 2 (Plots 62-85), Plots 86-98 and 204-214, as shown on Drawing 12-123-011 (Appendix III).

4.2. GAS MEMBRANE VALIDATION

The ground gas membranes were validated with the full details included within the individual letters issued. All gas membrane validation certificates are available on request.

In brief, the works included the validation of the following for each plot:

- ✳ General condition of the membrane;
- ✳ Verification of the joints;
- ✳ Verification of ventilation; and
- ✳ Verification of service entries and top hats.

Due to unforeseen circumstances, E3P did not attend site to validate the gas membrane within plots 106, 107, 169, 188, 244 and 245; representing six plots out of 233 plots requiring gas mitigation. The site manager and groundworker confirmed that the gas membrane was installed to a good standard of workmanship. Given all adjacent plots have been validated, E3P can be confident that the gas membrane has been installed to a good standard.

Drawing 12-123-011 confirms that plots 111-124 did not require a gas membrane.

Following the completion of the above, E3P can confirm that Plots 1–110, 125-247 have been installed with gas protection measures in accordance with Characteristic Situation 2 to an acceptable level of workmanship. The Visqueen Ultimate HC Blok (vapour resistant membrane) was installed within plots Apartment Block 2 (Plots 62-85), Plots 86-98 and 204-214.



5. CONCLUSIONS

On completion of the validation works undertaken in relation to the installation of a chemically suitable cover system and gas protection measures, E3P can confirm that all works were undertaken in strict accordance with the agreed Remediation Strategy and therefore would deem the site suitable for use as a residential development.

E3P does not consider that any further work is necessary.

END OF REPORT

Appendix I: Limitations





GENERAL

This report and any associated works (together comprising the "Services") were compiled and carried out by E3P for the client (as present in Section 1) under the E3P "Terms of Business" or with those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.

Unless explicitly agreed otherwise, in writing, this report has been prepared under E3P Standard Terms and Business as included within our proposal to the Client.

Project-specific appointment documents may be agreed upon at our discretion and a charge may be levied for both the time to review and finalise appointment documents and also for associated changes to the appointment terms. E3P reserves the right to amend the fee should any changes to the appointment terms create an increased risk to E3P.

The report needs to be considered in light of the proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

PHASE 1 GEOENVIRONMENTAL AND PRELIMINARY RISK ASSESSMENTS

Coverage: This section covers reports with the following titles or combination of titles: Phase 1; Desktop Study; Geoenvironmental Assessment; Development Appraisal; Preliminary Environmental Risk Assessment; Constraints Report; Due Diligence Report; Geotechnical Development Review; Environmental Statement; Environmental Chapter; Baseline Environmental Assessment; Project Scope Summary Report (PSSR), Program Environmental Impact Report (PEIR), Geotechnical Development Risk Register; Agricultural Land Assessment; Mineral Safeguarding Assessment; Desk Top Coal Mining Risk Assessment; Hydrogeological Appraisal; Construction Environmental Management Plan; and Site Water Management Plan.

The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walkover inspection of the Site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects' responses may not have been received from all parties. E3P cannot be held responsible for any disclosures that are provided post-production of our report and will not automatically update our report.

The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for 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, E3P 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 intrusive investigations of the site.

Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials, this is for indicative purposes only and does not constitute or replace full and proper surveys completed by suitably qualified and experienced specialists in these fields.

E3P does not warrant work/data undertaken/provided by others.



INTRUSIVE INVESTIGATION REPORTS

Coverage: The following report titles (or combination) may cover this category of work: Geoenvironmental Site Investigation; Geotechnical Assessment; GIR (Ground Investigation Reports); Preliminary Environmental And Geotechnical Risk Assessment; Preliminary Summary; Coal Mining Risk Assessment, Ground Gas Addendum; and, Geotechnical Risk Register.

The investigation has been undertaken to provide information concerning either:

- The type and degree of contamination present at the site in order to allow a generic quantitative risk assessment to be undertaken; or
- Information on the soil properties present at the site to allow for geotechnical development constraints to be considered.

The scope of the investigation was selected on the basis of the specific development and land use scenario proposed by the Client and may be inappropriate to another form of development or scheme. If the development layout was not known at the time of the investigation the report findings may need revisiting once the development layout is confirmed.

Unless otherwise specified in the scope of works, any site drawing(s) provided in this report is (are) not meant to be an accurate base plan but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (intrusive and sample locations etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for setting out and should be considered indicative only.

For contamination purposes, the objectives of the investigation are limited to establishing the risks associated with potential contamination sources with the potential to cause harm to human health, building materials, the environment (including adjacent land), or controlled waters.

For geotechnical investigations, the purpose is to broadly consider potential development constraints associated with the physical property of the soils underlying the site within the context of the proposed future or continued use of the site, as stated within the report.

The amount of exploratory work, soil property testing and chemical testing undertaken has necessarily been restricted by various factors which may include accessibility, the presence of services; existing buildings; current site usage or short timescales. The exploratory holes completed assess only a small percentage of the area in relation to the overall size of the Site, and as such can only provide a general indication of conditions.

The number of sampling points and the methods of sampling and testing do not preclude the possible existence of contamination where concentrations may be significantly higher than those actually encountered or ground conditions that vary from those identified. In addition, there may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report

The inspection, testing and monitoring records relate specifically to the investigation points and the timeframe that the works were undertaken. They will also be limited by the techniques employed. As part of this assessment, E3P has used reasonable skill and care to extrapolate conditions between these points based on assumptions to develop our interpretation and conclusions.

The assumption made in forming our conclusions is that the ground and groundwater conditions (both chemically and physically) are the same as have been encountered during the works undertaken at the specific points of investigation and at the time of the investigation.

Conditions can change between investigation points both spatially and over time and these interpretations should therefore be considered indicative. The assessment of extreme weather events and their impact on ground conditions is not within the scope of E3P's work

The risk assessment and opinions provided are based on 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. Specific assumptions associated with the risk assessment process have been outlined within the body or associated appendix of the report.

Additional investigations may be required in order to satisfy relevant planning conditions or to resolve any engineering and environmental issues.

Where soil contamination concentrations recorded as part of this investigation are used for commentary on the potential waste classification of soils for disposal purposes, these should be classed as indicative only. Due consideration should be given to the variability of contaminant concentrations taken from targeted samples versus bulk excavated soils and the potential variability of contaminant concentrations between sampling locations. Where major waste disposal operations are considered, targeted waste classification investigations should be designed and the waste classification and any subsequent disposal option agreed upon with licenced subcontractors and/or the relevant regulators.

The results of the asbestos testing are factually reported and interpretation is given as to how this relates to the previous use of the site, the types of ground encountered and site conceptualisation. This does not however constitute a formal asbestos assessment. These results should be treated cautiously and should not be relied upon to provide detailed and representative information on the delineation, type and extent of bulk ACMs and/or trace loose asbestos fibres within the soil matrix at the site.

If costs have been included in relation to additional site works, and/or site remediation works these must be considered as indicative only and must be confirmed by a qualified quantity surveyor.

EUROCODE 7: GEOTECHNICAL DESIGN

On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design – Part 1) became the mandatory baseline standard for geotechnical ground investigations.

In terms of geotechnical design for foundations, slopes, retaining walls and earthworks, EC7 sets guidance on design procedures including specific guidance on the numbers and spacings of boreholes for geotechnical design, there are limits to methods of ground investigation and the quality of data obtained and there are also prescriptive methods of assessing soil strengths and methods of design. Unless otherwise explicitly stated, the work has not been undertaken in accordance with EC7. A standard geotechnical interpretative report will not meet the requirements of the Geotechnical Design Report (GDR) under Eurocode 7. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

DETAILED QUANTITATIVE RISK ASSESSMENTS AND REMEDIATION AND ENABLING WORK STRATEGY REPORTS

These reports build upon previous report versions and associated notes. The scope of the investigation, further testing and monitoring and associated risk assessments were selected based on the specific development and land use scenario proposed by the Client and may not be appropriate to another form of development or scheme layout. The risk assessment and opinions provided are based on currently available approaches in the generation of Site Specific Assessment Criteria relating to contamination concentrations and are not considered to represent a risk in a specific land use scenario to a specific receptor. No liability can be accepted for the retrospective effects of any future changes or amendments to these values, associated models or associated guidance.

The outputs of the Detailed Quantitative Risk Assessments are based upon the manipulation of standard risk assessment models. These are our interpretation of the risk assessment criteria.

Before adoption on-site, assessment criteria will need to be discussed and agreed upon with the Regulatory Authorities prior to adoption on site. The regulatory discussion and engagement process may result in an alternative interpretation being determined and agreed. The process and timescales



associated with the Regulatory Authority engagement are not within the control of E3P. All costs and programmes presented as a result of this process should be validated by a quantity surveyor and should be presumed to be indicative.

E3P does not accept liability for any subcontract work that has not been completed in strict accordance with an approved E3P Remediation and Enabling Works Strategy.

GEOTECHNICAL DESIGN REPORT (GDR)

The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. All the relevant information needs to be provided to allow for a GDR to be produced.

MONITORING (INCLUDING REMEDIATION MONITORING REPORTS AND BUILD PHASE MITIGATION)

These reports are factual and comprise monitoring, normally groundwater and ground gas and data provided by contractors as part of earthworks or remedial works.

The data is presented and will be compared with assessment criteria.

Appendix II: Glossary





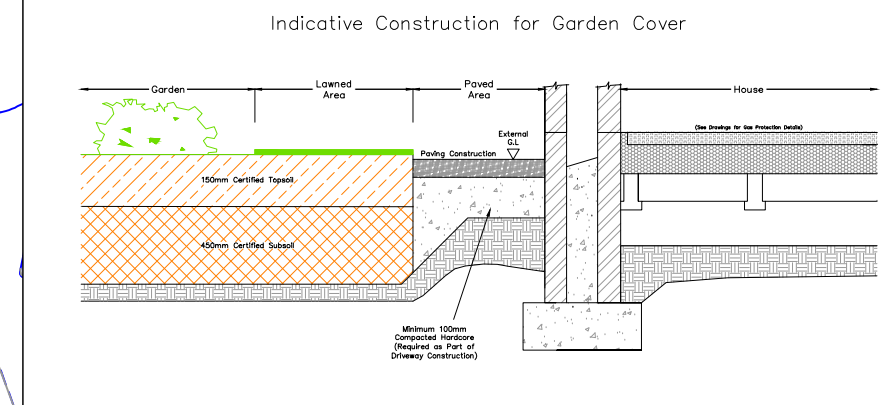
ACM	Asbestos-containing material	MMP	Materials management plan
ADS	Acoustic design statement	ND	Not detected
AST	Above-ground storage tank	NDP	Nuclear density probe
BGS	British Geological Survey	NMP	Noise Management Plan
BSI	British Standards Institute	NPSE	Noise Policy Statement For England
BTEX	Benzene,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



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

Appendix III: Drawings





Location Symbols

	Approximate Window Sample Probehole Location
	Approximate Window Sample Probehole Location with Install
	Approximate Trial Pit Location
	Approximate Cable Percussive Borehole Location
	Approximate DB Window Sample Probehole Location

Remediation Treatment

	CS2/Amber 1
	Private garden requiring 600mm certified cover comprising 450mm sub-soil and 150mm topsoil. Garden to be individually validated.
	Vapor Membrane Required
	Elevated Ground Gas
	No Ground Gas

Notes:

N.B: All areas of identified contamination impact to soil and groundwater are estimated using best endeavours from historic and current intrusive investigation. However, the contractor must satisfy themselves of the potential extent of remediation works. The identified impact must be spatially delineated in accordance with the E3P Remediation strategy. The entire development site will require a 600mm chemically suitable cover system comprising of 150mm topsoil & 450mm subsoil with underlying orange 'ho dig' geotextile membrane installed in all proposed garden areas to mitigate the elevated contaminant concentrations.

P1	REVC	06.05.2022	LM	OJ
P1	REVB	07.05.2020	LM	SE
P1	REVA	26.02.2019	HM	SE
Phase	Issue	Date	Drawn	Checked

Client:	
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Countryside Properties

	<i>Job Title:</i>

Belle Vue Stadium

Job No:	
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12-123

Drawing No:

011

	<i>Drawing Title:</i>

Build Phase Mitigation

Date:

06.05.2022

	<i>Scale:</i>

NTS



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Appendix IV: Chemical Testing Results



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f: 01923 237404

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e: Rhorseman@e3p.co.uk

Analytical Report Number : 22-62759

Project / Site name:	Priory Chase Nelson	Samples received on:	01/06/2022
Your job number:	153737	Samples instructed on/ Analysis started on:	01/06/2022
Your order number:	001777	Analysis completed by:	10/06/2022
Report Issue Number:	1	Report issued on:	10/06/2022
Samples Analysed:	7 soil samples		

Signe

Anna Goc
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 22-62759
 Project / Site name: Priory Chase Nelson
 Your Order No: 001777

Lab Sample Number				2301484	2301485	2301486	2301487	2301488
Sample Reference				S101	S102	S103	S104	S105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				31/05/2022	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	13	19	13	16
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1.2	1.2	1.2

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.2	7.2	6.4	5.7	7.5
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	110	110	110	130	390
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.014	0.008	0.0031	0.0071	0.089
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	28	16	6.1	14	180
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	14.1	8	3.1	7.1	89.3
Sulphide	mg/kg	1	MCERTS	5.3	1.8	3.4	2.5	9.3
Total Sulphur	mg/kg	50	MCERTS	67	74	63	72	230
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.7	0.6	1	0.8	1.4

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.43
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	0.83
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Analytical Report Number: 22-62759
 Project / Site name: Priory Chase Nelson
 Your Order No: 001777

Lab Sample Number				2301484	2301485	2301486	2301487	2301488
Sample Reference				S101	S102	S103	S104	S105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				31/05/2022	31/05/2022	31/05/2022	31/05/2022	31/05/2022
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	4.7	5.8	5.7	6.9	6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	50	49	47	49	45
Copper (aqua regia extractable)	mg/kg	1	MCERTS	21	40	24	22	25
Lead (aqua regia extractable)	mg/kg	1	MCERTS	19	18	19	17	31
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	27	27	27	30	32
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	66	67	71	77	84

Petroleum Hydrocarbons

TPH (C5 - C6) HS_1D_TOTAL	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8) HS_1D_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) HS_1D_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) EH_CU_1D_TOTAL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) EH_CU_1D_TOTAL	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TPH (C16 - C21) EH_CU_1D_TOTAL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C21 - C35) EH_CU_1D_TOTAL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C35 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH Total C5 - C40 EH_CU+HS_1D_TOTAL	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

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

Analytical Report Number: 22-62759
 Project / Site name: Priory Chase Nelson
 Your Order No: 001777

Lab Sample Number				2301489	2301490
Sample Reference				S106	S107
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				31/05/2022	31/05/2022
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	20	11
Total mass of sample received	kg	0.001	NONE	0.6	1.2

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.3	8.1
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	420	650
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.13	0.19
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	260	380
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	130	190
Sulphide	mg/kg	1	MCERTS	5.8	15
Total Sulphur	mg/kg	50	MCERTS	280	290
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1	1.1

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.4
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.83
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.86
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.65
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.56
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.58
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.29
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.47
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	4.64
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Analytical Report Number: 22-62759
Project / Site name: Priory Chase Nelson
Your Order No: 001777

Lab Sample Number				2301489	2301490
Sample Reference				S106	S107
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				31/05/2022	31/05/2022
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	5.2	6.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	47	51
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	24
Lead (aqua regia extractable)	mg/kg	1	MCERTS	25	29
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	31
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	91	87

Petroleum Hydrocarbons

TPH (C5 - C6) <small>HS_1D_TOTAL</small>	mg/kg	1	NONE	< 1.0	< 1.0
TPH (C6 - C8) <small>HS_1D_TOTAL</small>	mg/kg	0.1	MCERTS	< 0.1	< 0.1
TPH (C8 - C10) <small>HS_1D_TOTAL</small>	mg/kg	0.1	MCERTS	< 0.1	< 0.1
TPH (C10 - C12) <small>EH_CU_1D_TOTAL</small>	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH (C12 - C16) <small>EH_CU_1D_TOTAL</small>	mg/kg	4	MCERTS	< 4.0	< 4.0
TPH (C16 - C21) <small>EH_CU_1D_TOTAL</small>	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH (C21 - C35) <small>EH_CU_1D_TOTAL</small>	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH (C35 - C40) <small>EH_CU_1D_TOTAL</small>	mg/kg	10	MCERTS	< 10	< 10
TPH Total C5 - C40 <small>EH_CU+HS_1D_TOTAL</small>	mg/kg	10	MCERTS	< 10	< 10

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

Analytical Report Number : 22-62759
Project / Site name: Priory Chase Nelson

* 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 *
2301484	S101	None Supplied	None Supplied	Brown clay and sand with gravel.
2301485	S102	None Supplied	None Supplied	Brown clay and sand with gravel.
2301486	S103	None Supplied	None Supplied	Brown clay and sand.
2301487	S104	None Supplied	None Supplied	Brown clay and sand.
2301488	S105	None Supplied	None Supplied	Brown clay and sand with gravel.
2301489	S106	None Supplied	None Supplied	Brown clay and sand with gravel and vegetation.
2301490	S107	None Supplied	None Supplied	Brown clay and sand with gravel and vegetation.

Analytical Report Number : 22-62759
Project / Site name: Priory Chase Nelson

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
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
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
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

Analytical Report Number : 22-62759
Project / Site name: Priory Chase Nelson

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
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For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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Analytical Report Number : 23-52200

Replaces Analytical Report Number: 23-52200, issue no. 1

Client sampling date amended.

Sample date added to all samples as per clients request

Project / Site name:	Belle Vue	Samples received on:	21/08/2023
Your job number:	12123	Samples instructed on/ Analysis started on:	21/08/2023
Your order number:		Analysis completed by:	25/08/2023
Report Issue Number:	2	Report issued on:	10/04/2024
Samples Analysed:	20 soil samples		

Signed: _____

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

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

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

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

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

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

Analytical Report Number: 23-52200
Project / Site name: Belle Vue

Lab Sample Number				2787640	2787641	2787642	2787643	2787644
Sample Reference				SS101	SS102	SS103	SS104	SS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				18/08/2023	18/08/2023	18/08/2023	18/08/2023	18/08/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	13	14	14	12
Total mass of sample received	kg	0.001	NONE	0.2	0.4	0.3	0.4	0.4

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.1	6.3	6	6.2	6.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	120	110	130	150	93
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.018	0.019	0.023	0.021	0.013
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	35	38	46	42	25
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	17.5	18.9	23	21	12.6
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	1.3
Total Sulphur	mg/kg	50	MCERTS	83	84	88	94	68
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.4	0.5	0.4	0.4	0.4

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
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Analytical Report Number: 23-52200
Project / Site name: Belle Vue

Lab Sample Number	2787640	2787641	2787642	2787643	2787644
Sample Reference	SS101	SS102	SS103	SS104	SS105
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	18/08/2023	18/08/2023	18/08/2023	18/08/2023	18/08/2023
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	2.1	2.8	2.7	2.2	2.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	29	29	29	32	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	21	20	20	21	18
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11	12	11	12	9.4
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	25	24	24	25	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	40	38	39	41	37

Petroleum Hydrocarbons

TPH (C5 - C6) HS 1D TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C6 - C8) HS 1D TOTAL	mg/kg	1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) HS 1D TOTAL	mg/kg	1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) EH CU 1D TOTAL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) EH CU 1D TOTAL	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TPH (C16 - C21) EH CU 1D TOTAL	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH (C21 - C35) EH CU 1D TOTAL	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH (C35 - C40) EH CU 1D TOTAL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH Total C5 - C40 EH CU+HS 1D TOTAL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

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

Analytical Report Number: 23-52200
Project / Site name: Belle Vue

Lab Sample Number				2787645	2787646	2787647	2787648	2787649
Sample Reference				SS106	SS107	SS108	SS109	SS110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				18/08/2023	18/08/2023	18/08/2023	18/08/2023	18/08/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	11	13	12	12
Total mass of sample received	kg	0.001	NONE	0.3	0.4	0.4	0.4	0.3

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.7	7.6	6.2	6.6	6.5
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	110	90	110	100	130
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.015	0.0069	0.016	0.0088	0.018
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	30	14	32	18	36
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	14.8	6.9	16	8.8	17.9
Sulphide	mg/kg	1	MCERTS	2.7	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphur	mg/kg	50	MCERTS	81	71	88	66	76
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.4	0.3	0.4	0.2	0.4

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
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Analytical Report Number: 23-52200
Project / Site name: Belle Vue

Lab Sample Number				2787645	2787646	2787647	2787648	2787649
Sample Reference				SS106	SS107	SS108	SS109	SS110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				18/08/2023	18/08/2023	18/08/2023	18/08/2023	18/08/2023
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	2.7	6.6	2.8	3.5	3.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30	27	28	24	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	20	18	17	13	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11	11	11	8.6	9.2
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	25	15	24	21	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	40	28	39	33	34
Petroleum Hydrocarbons								
TPH (C5 - C6) <small>HS 1D TOTAL</small>	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C6 - C8) <small>HS 1D TOTAL</small>	mg/kg	1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) <small>HS 1D TOTAL</small>	mg/kg	1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) <small>EH, CU, 1D TOTAL</small>	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) <small>EH, CU, 1D TOTAL</small>	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TPH (C16 - C21) <small>EH, CU, 1D TOTAL</small>	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH (C21 - C35) <small>EH, CU, 1D TOTAL</small>	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH (C35 - C40) <small>EH, CU, 1D TOTAL</small>	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH Total C5 - C40 <small>EH, CU+HS 1D TOTAL</small>	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

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

Analytical Report Number: 23-52200
Project / Site name: Belle Vue

Lab Sample Number				2787650	2787651	2787652	2787653	2787654
Sample Reference				SS111	SS112	SS113	SS114	SS115
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				18/08/2023	18/08/2023	18/08/2023	18/08/2023	18/08/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	14	13	14	12
Total mass of sample received	kg	0.001	NONE	0.2	0.2	0.3	0.3	0.3

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.4	7.5	7.5	7.5	6.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	80	54	77	54	120
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.0029	0.0029	0.0034	0.0032	0.02
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	5.7	5.8	6.8	6.3	40
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	2.9	2.9	3.4	3.2	20.2
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	1.7	1.1	< 1.0
Total Sulphur	mg/kg	50	MCERTS	59	< 50	62	53	76
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.3	0.2	0.4	0.3	0.3

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
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Analytical Report Number: 23-52200
Project / Site name: Belle Vue

Lab Sample Number				2787650	2787651	2787652	2787653	2787654
Sample Reference				SS111	SS112	SS113	SS114	SS115
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				18/08/2023	18/08/2023	18/08/2023	18/08/2023	18/08/2023
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	6.1	5.9	7.3	9	3.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	26	26	25	28	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	13	11	13	20
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11	9	9.7	9.9	10
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	14	14	13	14	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	26	24	23	24	40
Petroleum Hydrocarbons								
TPH (C5 - C6) <small>HS 1D TOTAL</small>	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C6 - C8) <small>HS 1D TOTAL</small>	mg/kg	1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) <small>HS 1D TOTAL</small>	mg/kg	1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) <small>EH, CU, 1D TOTAL</small>	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) <small>EH, CU, 1D TOTAL</small>	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TPH (C16 - C21) <small>EH, CU, 1D TOTAL</small>	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH (C21 - C35) <small>EH, CU, 1D TOTAL</small>	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH (C35 - C40) <small>EH, CU, 1D TOTAL</small>	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH Total C5 - C40 <small>EH, CU+HS 1D TOTAL</small>	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

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

Analytical Report Number: 23-52200
Project / Site name: Belle Vue

Lab Sample Number				2787655	2787656	2787657	2787658	2787659
Sample Reference				SS116	SS117	SS118	SS119	SS120
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				18/08/2023	18/08/2023	18/08/2023	18/08/2023	18/08/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	14	14	14	12
Total mass of sample received	kg	0.001	NONE	0.4	0.4	0.3	0.2	0.3

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.6	7.7	7.6	7.7	7.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	62	83	96	75	150
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.004	0.0046	0.0064	0.0067	0.036
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	7.9	9.1	13	13	73
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	4	4.6	6.4	6.7	36.4
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphur	mg/kg	50	MCERTS	60	62	79	64	110
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.3	0.2	0.4	0.2	0.3

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
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Analytical Report Number: 23-52200
Project / Site name: Belle Vue

Lab Sample Number				2787655	2787656	2787657	2787658	2787659
Sample Reference				SS116	SS117	SS118	SS119	SS120
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				18/08/2023	18/08/2023	18/08/2023	18/08/2023	18/08/2023
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	5.2	6.8	10	6.9	3.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	27	26	32	31
Copper (aqua regia extractable)	mg/kg	1	MCERTS	12	12	13	15	19
Lead (aqua regia extractable)	mg/kg	1	MCERTS	9.8	10	11	11	12
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	14	14	16	16	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	24	23	27	27	42
Petroleum Hydrocarbons								
TPH (C5 - C6) <small>HS 1D TOTAL</small>	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C6 - C8) <small>HS 1D TOTAL</small>	mg/kg	1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) <small>HS 1D TOTAL</small>	mg/kg	1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) <small>EH, CU, 1D TOTAL</small>	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) <small>EH, CU, 1D TOTAL</small>	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TPH (C16 - C21) <small>EH, CU, 1D TOTAL</small>	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH (C21 - C35) <small>EH, CU, 1D TOTAL</small>	mg/kg	10	MCERTS	< 10	< 10	21	< 10	< 10
TPH (C35 - C40) <small>EH, CU, 1D TOTAL</small>	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH Total C5 - C40 <small>EH, CU+HS 1D TOTAL</small>	mg/kg	10	NONE	< 10	< 10	25	< 10	< 10

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

Analytical Report Number : 23-52200
Project / Site name: Belle Vue

* 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 *
2787640	SS101	None Supplied	None Supplied	Brown clay and sand with vegetation.
2787641	SS102	None Supplied	None Supplied	Brown clay and sand.
2787642	SS103	None Supplied	None Supplied	Brown clay and sand.
2787643	SS104	None Supplied	None Supplied	Brown clay and sand.
2787644	SS105	None Supplied	None Supplied	Brown clay and sand.
2787645	SS106	None Supplied	None Supplied	Brown clay and sand.
2787646	SS107	None Supplied	None Supplied	Brown clay and sand.
2787647	SS108	None Supplied	None Supplied	Brown clay and sand.
2787648	SS109	None Supplied	None Supplied	Brown clay and sand.
2787649	SS110	None Supplied	None Supplied	Brown clay and sand.
2787650	SS111	None Supplied	None Supplied	Brown clay and sand.
2787651	SS112	None Supplied	None Supplied	Brown clay and sand.
2787652	SS113	None Supplied	None Supplied	Brown clay and sand.
2787653	SS114	None Supplied	None Supplied	Brown clay and sand.
2787654	SS115	None Supplied	None Supplied	Brown clay and sand.
2787655	SS116	None Supplied	None Supplied	Brown clay and sand.
2787656	SS117	None Supplied	None Supplied	Brown clay and sand.
2787657	SS118	None Supplied	None Supplied	Brown clay and sand.
2787658	SS119	None Supplied	None Supplied	Brown clay and sand with gravel.
2787659	SS120	None Supplied	None Supplied	Brown clay and sand.

Analytical Report Number : 23-52200

Project / Site name: Belle Vue

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 °C)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards. Refer to CoA for analyte specific accreditation.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphénylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

Analytical Report Number : 23-52200
Project / Site name: Belle Vue

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
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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



Final Report

Report No.: 24-31197-1

Initial Date of Issue: 03-Oct-2024

Re-Issue Details:

Client E3P

Client Address: Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contact(s):



Project 12-123 Belle Vue

Quotation No.: Q23-31421

Date Received: 27-Sep-2024

Order No.: 9560

Date Instructed: 27-Sep-2024

No. of Samples: 2

Turnaround (Wkdays): 4

Results Due: 02-Oct-2024

Date Approved: 03-Oct-2024

Approved By:



mith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 12-123 Belle Vue

Client: E3P		Chemtest Job No.:				24-31197	24-31197
Quotation No.: Q23-31421		Chemtest Sample ID.:				1872853	1872854
		Client Sample ID.:				SS101	SS102
		Sample Type:				SOIL	SOIL
		Date Sampled:				25-Sep-2024	25-Sep-2024
		Time Sampled:				0:00	0:00
		Asbestos Lab:				NEW-ASB	NEW-ASB
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
ACM Type		U	2192		N/A	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	23	17
Soil Colour		N	2040		N/A	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones and Roots
Soil Texture		N	2040		N/A	Clay	Clay
pH at 20C		M	2010		4.0	8.2	9.4
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.16	0.26
Total Sulphur		U	2175	%	0.010	0.060	0.060
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50
Sulphide (Easily Liberatable)		N	2325	mg/kg	0.50	3.6	3.4
Sulphate (Total)		U	2430	%	0.010	0.19	0.12
Arsenic		M	2455	mg/kg	0.5	16	7.2
Cadmium		M	2455	mg/kg	0.10	0.20	0.30
Chromium		M	2455	mg/kg	0.5	40	27
Copper		M	2455	mg/kg	0.50	57	28
Mercury		M	2455	mg/kg	0.05	0.23	0.12
Nickel		M	2455	mg/kg	0.50	34	22
Lead		M	2455	mg/kg	0.50	73	44
Selenium		M	2455	mg/kg	0.25	1.3	0.80
Zinc		M	2455	mg/kg	0.50	93	60
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50
Organic Matter		M	2625	%	0.40	5.0	3.8
Total Organic Carbon		M	2625	%	0.20	2.9	2.2
TPH >C6-C8	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0
TPH >C8-C10	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0
TPH >C10-C12	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0
TPH >C12-C16	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0
TPH >C16-C21	EH_1D_Total	N	2670	mg/kg	1.0	4.1	8.4
TPH >C21-C25	EH_1D_Total	N	2670	mg/kg	1.0	11	18
TPH >C25-C35	EH_1D_Total	N	2670	mg/kg	1.0	24	26
TPH >C35-C40	EH_1D_Total	N	2670	mg/kg	1.0	3.3	1.5
Total TPH >C6-C40	EH_1D_Total	U	2670	mg/kg	10	42	53
Naphthalene		M	2800	mg/kg	0.10	0.18	0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10

Results - Soil

Project: 12-123 Belle Vue

Client: E3P		Chemtest Job No.:				24-31197	24-31197
Quotation No.: Q23-31421		Chemtest Sample ID.:				1872853	1872854
		Client Sample ID.:				SS101	SS102
		Sample Type:				SOIL	SOIL
		Date Sampled:				25-Sep-2024	25-Sep-2024
		Time Sampled:				0:00	0:00
		Asbestos Lab:				NEW-ASB	NEW-ASB
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
Phenanthrene		M	2800	mg/kg	0.10	1.8	0.49
Anthracene		M	2800	mg/kg	0.10	0.40	< 0.10
Fluoranthene		M	2800	mg/kg	0.10	3.0	0.70
Pyrene		M	2800	mg/kg	0.10	2.5	0.66
Benzo[a]anthracene		M	2800	mg/kg	0.10	1.2	0.33
Chrysene		M	2800	mg/kg	0.10	1.3	0.29
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	1.5	0.42
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	0.49	0.14
Benzo[a]pyrene		M	2800	mg/kg	0.10	1.2	0.37
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	0.76	0.27
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	0.21	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	0.76	0.23
Total Of 16 PAH's		N	2800	mg/kg	2.0	15	4.0
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID	
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

Report Information

Key

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

This report shall not be reproduced except in full, and only with the prior approval of the laboratory.

Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

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

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

All Asbestos testing is performed at the indicated laboratory .

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

Sample Deviation Codes

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

Sample Retention and Disposal

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

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

Charges may apply to extended sample storage.

Water Sample Category Key for Accreditation

- DW - Drinking Water
- GW - Ground Water
- LE - Land Leachate
- NA - Not Applicable

Report Information

PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

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e: reception@i2analytical.com

Analytical Report Number : 22-63323

Project / Site name:	Belle Vue	Samples received on:	07/06/2022
Your job number:	12 123	Samples instructed on/ Analysis started on:	08/06/2022
Your order number:	001821	Analysis completed by:	15/06/2022
Report Issue Number:	1	Report issued on:	15/06/2022
Samples Analysed:	6 soil samples		

Sign

Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 22-63323
 Project / Site name: Belle Vue
 Your Order No: 001821

Lab Sample Number				2304896	2304897	2304898	2304899	2304900
Sample Reference				TS101	TS102	TS103	SS101	SS102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	27	16	22	23	21
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3	0.3

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.8	7.3	7.1	7.4	7.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	740	610	890	580	510
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.093	0.12	0.14	0.091	0.086
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	190	240	270	180	170
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	93.1	120	137	91.1	85.6
Sulphide	mg/kg	1	MCERTS	2.1	1.3	12	4.5	4.2
Total Sulphur	mg/kg	50	MCERTS	590	550	530	320	360
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	3.3	2	2.7	1.4	1.6

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.21	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.44	0.5	1	0.75	0.51
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.23	0.2	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.51	0.6	1	0.78	0.86
Pyrene	mg/kg	0.05	MCERTS	0.42	0.54	0.82	0.64	0.76
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.26	0.3	0.45	0.38	0.53
Chrysene	mg/kg	0.05	MCERTS	0.2	0.27	0.39	0.29	0.37
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.35	0.27	0.38
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.2	0.15	0.21
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.39	0.29	0.34
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.2	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.21	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	1.83	2.21	5.47	3.75	3.96
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Analytical Report Number: 22-63323
Project / Site name: Belle Vue
Your Order No: 001821

Lab Sample Number				2304896	2304897	2304898	2304899	2304900
Sample Reference				TS101	TS102	TS103	SS101	SS102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
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	9.4	8.8	9.8	7.4	6.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	35	32	36	45	47
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	20	23	28	26
Lead (aqua regia extractable)	mg/kg	1	MCERTS	26	23	27	32	36
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	22	21	24	29	31
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	52	46	57	85	92

Petroleum Hydrocarbons

TPH (C5 - C6) <small>HS_1D_TOTAL</small>	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8) <small>HS_1D_TOTAL</small>	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) <small>HS_1D_TOTAL</small>	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) <small>EH_CU_1D_TOTAL</small>	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) <small>EH_CU_1D_TOTAL</small>	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TPH (C16 - C21) <small>EH_CU_1D_TOTAL</small>	mg/kg	1	MCERTS	< 1.0	< 1.0	8.1	< 1.0	< 1.0
TPH (C21 - C35) <small>EH_CU_1D_TOTAL</small>	mg/kg	1	MCERTS	< 1.0	< 1.0	22	< 1.0	< 1.0
TPH (C35 - C40) <small>EH_CU_1D_TOTAL</small>	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH Total C5 - C40 <small>EH_CU+HS_1D_TOTAL</small>	mg/kg	10	MCERTS	< 10	< 10	30	< 10	< 10

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

Analytical Report Number: 22-63323

Project / Site name: Belle Vue

Your Order No: 001821

Lab Sample Number				2304901
Sample Reference				SS103
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				06/06/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	18
Total mass of sample received	kg	0.001	NONE	0.3

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	320
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.088
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	180
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	88
Sulphide	mg/kg	1	MCERTS	1.9
Total Sulphur	mg/kg	50	MCERTS	280
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.2

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.82
Anthracene	mg/kg	0.05	MCERTS	0.21
Fluoranthene	mg/kg	0.05	MCERTS	0.92
Pyrene	mg/kg	0.05	MCERTS	0.79
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.37
Chrysene	mg/kg	0.05	MCERTS	0.42
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.44
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.13
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.33
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	4.43
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Analytical Report Number: 22-63323

Project / Site name: Belle Vue

Your Order No: 001821

Lab Sample Number				2304901
Sample Reference				SS103
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				06/06/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	50
Copper (aqua regia extractable)	mg/kg	1	MCERTS	29
Lead (aqua regia extractable)	mg/kg	1	MCERTS	28
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	34
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	91

Petroleum Hydrocarbons

TPH (C5 - C6) <small>HS_1D_TOTAL</small>	mg/kg	1	NONE	< 1.0
TPH (C6 - C8) <small>HS_1D_TOTAL</small>	mg/kg	0.1	MCERTS	< 0.1
TPH (C8 - C10) <small>HS_1D_TOTAL</small>	mg/kg	0.1	MCERTS	< 0.1
TPH (C10 - C12) <small>EH_CU_1D_TOTAL</small>	mg/kg	2	MCERTS	< 2.0
TPH (C12 - C16) <small>EH_CU_1D_TOTAL</small>	mg/kg	4	MCERTS	< 4.0
TPH (C16 - C21) <small>EH_CU_1D_TOTAL</small>	mg/kg	1	MCERTS	< 1.0
TPH (C21 - C35) <small>EH_CU_1D_TOTAL</small>	mg/kg	1	MCERTS	< 1.0
TPH (C35 - C40) <small>EH_CU_1D_TOTAL</small>	mg/kg	10	MCERTS	< 10
TPH Total C5 - C40 <small>EH_CU+HS_1D_TOTAL</small>	mg/kg	10	MCERTS	< 10

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

Analytical Report Number : 22-63323

Project / Site name: Belle Vue

* 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 *
2304896	TS101	None Supplied	None Supplied	Brown clay and loam with gravel and vegetation.
2304897	TS102	None Supplied	None Supplied	Brown clay and sand with gravel and vegetation.
2304898	TS103	None Supplied	None Supplied	Brown clay and sand with gravel and vegetation.
2304899	SS101	None Supplied	None Supplied	Brown clay and sand with gravel and vegetation.
2304900	SS102	None Supplied	None Supplied	Brown clay and sand with gravel.
2304901	SS103	None Supplied	None Supplied	Brown clay and sand with gravel and vegetation.

Analytical Report Number : 22-63323

Project / Site name: Belle Vue

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

Analytical Report Number : 22-63323

Project / Site name: Belle Vue

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
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For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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Analytical Report Number : 22-81563-2A

Replaces Analytical Report Number: 22-81563, issue no. 1
Report format change.

Project / Site name: Belle vue

Samples received on: 01/09/2022

Your job number: 12 123

**Samples instructed on/
Analysis started on:** 01/09/2022

Your order number: 2776

Analysis completed by: 09/09/2022

Report Issue Number: 2

Report issued on: 27/01/2023

Samples Analysed: 6 soil samples



Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 22-81563
Project / Site name: Belle vue
Your Order No: 2776

Lab Sample Number				2410085	2410086	2410087	2410088	2410089
Sample Reference				TS101	TS102	TS103	TS104	TS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				01/09/2022	01/09/2022	01/09/2022	01/09/2022	01/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	20	21	18	16
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3	0.3

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.5	7.5	7	6.9	7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	880	980	800	910	940
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.042	0.044	0.037	0.027	0.077
Sulphide	mg/kg	1	MCERTS	2.6	2.7	2.2	4.6	3.3
Total Sulphur	mg/kg	50	MCERTS	720	470	470	420	460

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.21	0.39	0.21	0.34	0.35
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.38	0.63	0.38	0.54	0.69
Pyrene	mg/kg	0.05	MCERTS	0.38	0.61	0.38	0.51	0.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.38	0.51	0.28	0.3	0.39
Chrysene	mg/kg	0.05	MCERTS	0.28	0.39	0.31	0.41	0.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.41	0.5	0.4	0.33	0.42
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.14	0.25	0.14	0.22	0.22
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.33	0.46	0.32	0.36	0.45
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.27	< 0.05	< 0.05	0.22
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.36	< 0.05	< 0.05	0.29

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	2.51	4.37	2.42	3.01	4.23
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	20	16	13	15	15
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	U/S	U/S	U/S	U/S	U/S
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	12	11	11	13
Copper (aqua regia extractable)	mg/kg	1	MCERTS	61	46	38	45	45
Lead (aqua regia extractable)	mg/kg	1	MCERTS	91	66	54	63	70
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	20	13	13	12	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	84	60	51	59	110

Petroleum Hydrocarbons

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Analytical Report Number: 22-81563
 Project / Site name: Belle vue
 Your Order No: 2776

Lab Sample Number				2410085	2410086	2410087	2410088	2410089
Sample Reference				TS101	TS102	TS103	TS104	TS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				01/09/2022	01/09/2022	01/09/2022	01/09/2022	01/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
TPH (C5 - C6) <small>HS_ID_TOTAL</small>	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8) <small>HS_ID_TOTAL</small>	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) <small>HS_ID_TOTAL</small>	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) <small>EH_CU_ID_TOTAL</small>	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) <small>EH_CU_ID_TOTAL</small>	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TPH (C16 - C21) <small>EH_CU_ID_TOTAL</small>	mg/kg	1	MCERTS	3.9	7.7	< 1.0	< 1.0	< 1.0
TPH (C21 - C35) <small>EH_CU_ID_TOTAL</small>	mg/kg	1	MCERTS	7.1	13	< 1.0	< 1.0	< 1.0
TPH (C35 - C40) <small>EH_CU_ID_TOTAL</small>	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH Total C5 - C40 <small>EH_CU+HS_ID_TOTAL</small>	mg/kg	10	MCERTS	11	20	< 10	< 10	< 10

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

Analytical Report Number: 22-81563
Project / Site name: Belle vue
Your Order No: 2776

Lab Sample Number				2410090
Sample Reference				TS106
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				01/09/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	17
Total mass of sample received	kg	0.001	NONE	0.3

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.9
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	570
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.026
Sulphide	mg/kg	1	MCERTS	1.4
Total Sulphur	mg/kg	50	MCERTS	440

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.23
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.46
Pyrene	mg/kg	0.05	MCERTS	0.46
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.27
Chrysene	mg/kg	0.05	MCERTS	0.35
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.43
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.11
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.35
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	2.66
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	U/S
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13
Copper (aqua regia extractable)	mg/kg	1	MCERTS	45
Lead (aqua regia extractable)	mg/kg	1	MCERTS	62
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	55

Petroleum Hydrocarbons

Analytical Report Number: 22-81563
 Project / Site name: Belle vue
 Your Order No: 2776

Lab Sample Number				2410090
Sample Reference				TS106
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				01/09/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
TPH (C5 - C6) <small>HS_ID_TOTAL</small>	mg/kg	1	NONE	< 1.0
TPH (C6 - C8) <small>HS_ID_TOTAL</small>	mg/kg	0.1	MCERTS	< 0.1
TPH (C8 - C10) <small>HS_ID_TOTAL</small>	mg/kg	0.1	MCERTS	< 0.1
TPH (C10 - C12) <small>EH_CU_ID_TOTAL</small>	mg/kg	2	MCERTS	< 2.0
TPH (C12 - C16) <small>EH_CU_ID_TOTAL</small>	mg/kg	4	MCERTS	< 4.0
TPH (C16 - C21) <small>EH_CU_ID_TOTAL</small>	mg/kg	1	MCERTS	< 1.0
TPH (C21 - C35) <small>EH_CU_ID_TOTAL</small>	mg/kg	1	MCERTS	< 1.0
TPH (C35 - C40) <small>EH_CU_ID_TOTAL</small>	mg/kg	10	MCERTS	< 10
TPH Total C5 - C40 <small>EH_CU+HS_ID_TOTAL</small>	mg/kg	10	MCERTS	< 10

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

Analytical Report Number : 22-81563

Project / Site name: Belle vue

* 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 *
2410085	TS101	None Supplied	None Supplied	Brown loam with gravel and vegetation.
2410086	TS102	None Supplied	None Supplied	Brown loam with gravel and vegetation.
2410087	TS103	None Supplied	None Supplied	Brown loam with gravel and vegetation.
2410088	TS104	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
2410089	TS105	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
2410090	TS106	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.

Analytical Report Number : 22-81563

Project / Site name: Belle vue

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
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

Analytical Report Number : 22-81563

Project / Site name: Belle vue

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
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For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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Analytical Report Number : 22-90215

Project / Site name: Manchester Road

Samples received on: 13/10/2022

Your job number: 11443

**Samples instructed on/
Analysis started on:** 13/10/2022

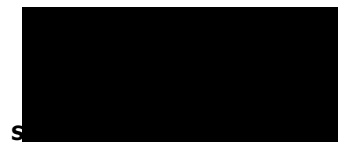
Your order number: 003162

Analysis completed by: 21/10/2022

Report Issue Number: 1

Report issued on: 21/10/2022

Samples Analysed: 6 soil samples



Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 22-90215
Project / Site name: Manchester Road
Your Order No: 003162

Lab Sample Number				2461376	2461377	2461378	2461379	2461380
Sample Reference				TS101	TS102	TS103	TS104	TS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	23	19	22	12	14
Total mass of sample received	kg	0.001	NONE	0.5	0.5	0.5	0.5	0.5

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	GF1	GF1	GF1	GF1	GF1

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.4	7.2	6.9	8.5	7.1
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	710	940	700	480	300
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.047	0.12	0.027	0.099	0.046
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	94	240	54	200	92
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	47.2	122	27.2	98.7	45.8
Sulphide	mg/kg	1	MCERTS	5.1	5.1	8.6	2	3.7
Total Sulphur	mg/kg	50	MCERTS	530	490	520	320	270
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	6	4.4	5.9	1.1	1.7

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.74	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.52	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.32	4.1	0.32	0.33	0.22
Anthracene	mg/kg	0.05	MCERTS	< 0.05	1.1	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.78	4.2	0.68	0.5	0.45
Pyrene	mg/kg	0.05	MCERTS	0.71	3.8	0.63	0.47	0.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.39	1.5	0.34	0.25	0.22
Chrysene	mg/kg	0.05	MCERTS	0.52	1.7	0.42	0.2	0.2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.52	1.4	0.43	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.25	0.64	0.19	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.35	1.2	0.29	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.26	0.73	0.22	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.24	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.31	0.79	0.23	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	4.41	22.6	3.75	1.75	1.49
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Analytical Report Number: 22-90215
Project / Site name: Manchester Road
Your Order No: 003162

Lab Sample Number	2461376	2461377	2461378	2461379	2461380
Sample Reference	TS101	TS102	TS103	TS104	TS105
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
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	13	13	13	7.4	9.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	2.9	< 1.8	1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	12	13	12	16	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	37	37	37	21	25
Lead (aqua regia extractable)	mg/kg	1	MCERTS	54	59	57	19	26
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	13	15	15	18	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	52	56	49	39	45

Petroleum Hydrocarbons

TPH (C5 - C6) HS_ID_TOTAL	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8) HS_ID_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) HS_ID_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) EH_CU_ID_TOTAL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) EH_CU_ID_TOTAL	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TPH (C16 - C21) EH_CU_ID_TOTAL	mg/kg	1	MCERTS	8.5	8.6	< 1.0	< 1.0	< 1.0
TPH (C21 - C35) EH_CU_ID_TOTAL	mg/kg	1	MCERTS	21	19	< 1.0	< 1.0	< 1.0
TPH (C35 - C40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH Total C5 - C40 EH_CU+HS_ID_TOTAL	mg/kg	10	MCERTS	30	28	< 10	< 10	< 10

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

Analytical Report Number: 22-90215
Project / Site name: Manchester Road
Your Order No: 003162

Lab Sample Number				2461381
Sample Reference				TS106
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				13/10/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	15
Total mass of sample received	kg	0.001	NONE	0.5

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	360
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.053
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	100
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	52.5
Sulphide	mg/kg	1	MCERTS	1.9
Total Sulphur	mg/kg	50	MCERTS	330
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.3

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.19
Phenanthrene	mg/kg	0.05	MCERTS	1.8
Anthracene	mg/kg	0.05	MCERTS	0.47
Fluoranthene	mg/kg	0.05	MCERTS	2.2
Pyrene	mg/kg	0.05	MCERTS	1.9
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.8
Chrysene	mg/kg	0.05	MCERTS	0.77
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.75
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.34
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.38
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	10.6
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Analytical Report Number: 22-90215
Project / Site name: Manchester Road
Your Order No: 003162

Lab Sample Number				2461381
Sample Reference				TS106
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				13/10/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	2.7
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	34
Lead (aqua regia extractable)	mg/kg	1	MCERTS	44
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	55

Petroleum Hydrocarbons

TPH (C5 - C6) HS_ID_TOTAL	mg/kg	1	NONE	< 1.0
TPH (C6 - C8) HS_ID_TOTAL	mg/kg	0.1	MCERTS	< 0.1
TPH (C8 - C10) HS_ID_TOTAL	mg/kg	0.1	MCERTS	< 0.1
TPH (C10 - C12) EH_CU_ID_TOTAL	mg/kg	2	MCERTS	< 2.0
TPH (C12 - C16) EH_CU_ID_TOTAL	mg/kg	4	MCERTS	< 4.0
TPH (C16 - C21) EH_CU_ID_TOTAL	mg/kg	1	MCERTS	7.5
TPH (C21 - C35) EH_CU_ID_TOTAL	mg/kg	1	MCERTS	33
TPH (C35 - C40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	< 10
TPH Total C5 - C40 EH_CU+HS_ID_TOTAL	mg/kg	10	MCERTS	40

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

Analytical Report Number : 22-90215
Project / Site name: Manchester Road

* 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 *
2461376	TS101	None Supplied	None Supplied	Brown loam and clay with vegetation and gravel
2461377	TS102	None Supplied	None Supplied	Brown loam and sand with vegetation and gravel.
2461378	TS103	None Supplied	None Supplied	Brown loam and sand with vegetation and gravel.
2461379	TS104	None Supplied	None Supplied	Brown clay and sand with vegetation and gravel
2461380	TS105	None Supplied	None Supplied	Brown clay and sand with vegetation and gravel
2461381	TS106	None Supplied	None Supplied	Brown clay and sand with vegetation and gravel

Analytical Report Number : 22-90215
Project / Site name: Manchester Road

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
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
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

Analytical Report Number : 22-90215
Project / Site name: Manchester Road

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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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



Final Report

Report No.: 25-06713-1
Initial Date of Issue: 06-Mar-2025

Re-Issue Details:

Client E3P
Client Address: Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contact(s):

Project 12-123 Belle Vue

Quotation No.: Q23-31421 **Date Received:** 26-Feb-2025

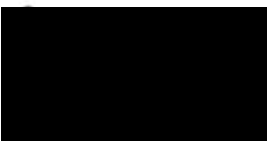
Order No.: 010637 **Date Instructed:** 26-Feb-2025

No. of Samples: 3

Turnaround (Wkdays): 4 **Results Due:** 03-Mar-2025

Date Approved: 06-Mar-2025

Approved By:



Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 12-123 Belle Vue

Client: E3P		Chemtest Job No.:				25-06713	25-06713	25-06713
Quotation No.: Q23-31421		Chemtest Sample ID.:				1939149	1939150	1939151
		Client Sample ID.:				TS101	TS102	TS103
		Sample Type:				SOIL	SOIL	SOIL
		Date Sampled:				25-Feb-2025	25-Feb-2025	25-Feb-2025
		Time Sampled:				12:00	12:00	12:00
		Asbestos Lab:				NEW-ASB	NEW-ASB	NEW-ASB
Determinand	HWOL Code	Accred.	SOP	Units	LOD			
ACM Type		N	2192		N/A	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	19	17	17
Soil Colour		N	2040		N/A	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones and Roots	Roots	Stones and Roots
Soil Texture		N	2040		N/A	Clay	Clay	Loam
pH at 20C		M	2010		4.0	7.4	7.6	7.7
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.017	0.018	0.017
Total Sulphur		U	2175	%	0.010	0.060	0.060	0.080
Cyanide (Total)		M	2300	mg/kg	0.50	0.60	0.70	0.50
Sulphide (Easily Liberatable)		N	2325	mg/kg	0.50	3.0	4.8	4.9
Sulphate (Total)		U	2430	%	0.010	0.12	0.17	0.11
Arsenic		M	2455	mg/kg	0.5	12	18	13
Cadmium		M	2455	mg/kg	0.10	0.52	0.61	0.45
Chromium		M	2455	mg/kg	0.5	18	22	20
Copper		M	2455	mg/kg	0.50	54	64	54
Mercury		M	2455	mg/kg	0.05	0.53	0.58	0.52
Nickel		M	2455	mg/kg	0.50	14	16	15
Lead		M	2455	mg/kg	0.50	130	150	160
Selenium		M	2455	mg/kg	0.25	0.78	0.80	0.73
Zinc		M	2455	mg/kg	0.50	140	160	130
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Organic Matter		M	2625	%	0.40	4.3	6.7	4.8
Total Organic Carbon		M	2625	%	0.20	2.5	3.9	2.8
TPH >C6-C8	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C8-C10	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C10-C12	EH_1D_Total	N	2670	mg/kg	1.0	1.8	< 1.0	< 1.0
TPH >C12-C16	EH_1D_Total	N	2670	mg/kg	1.0	7.2	< 1.0	1.7
TPH >C16-C21	EH_1D_Total	N	2670	mg/kg	1.0	21	10	10
TPH >C21-C25	EH_1D_Total	N	2670	mg/kg	1.0	33	5.9	7.1
TPH >C25-C35	EH_1D_Total	N	2670	mg/kg	1.0	58	< 1.0	14
TPH >C35-C40	EH_1D_Total	N	2670	mg/kg	1.0	4.2	< 1.0	1.4
Total TPH >C6-C40	EH_1D_Total	U	2670	mg/kg	10	130	16	35
Naphthalene		M	2800	mg/kg	0.10	< 0.10	< 0.10	0.16
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Project: 12-123 Belle Vue

Client: E3P		Chemtest Job No.:		25-06713	25-06713	25-06713
Quotation No.: Q23-31421		Chemtest Sample ID.:		1939149	1939150	1939151
		Client Sample ID.:		TS101	TS102	TS103
		Sample Type:		SOIL	SOIL	SOIL
		Date Sampled:		25-Feb-2025	25-Feb-2025	25-Feb-2025
		Time Sampled:		12:00	12:00	12:00
		Asbestos Lab:		NEW-ASB	NEW-ASB	NEW-ASB
Determinand	HWOL Code	Accred.	SOP	Units	LOD	
Phenanthrene		M	2800	mg/kg	0.10	1.0
Anthracene		M	2800	mg/kg	0.10	0.22
Fluoranthene		M	2800	mg/kg	0.10	1.6
Pyrene		M	2800	mg/kg	0.10	1.5
Benzo[a]anthracene		M	2800	mg/kg	0.10	0.70
Chrysene		M	2800	mg/kg	0.10	0.87
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	1.1
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	0.39
Benzo[a]pyrene		M	2800	mg/kg	0.10	0.88
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	0.57
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	0.58
Total Of 16 PAH's		N	2800	mg/kg	2.0	9.4
Total Phenols		M	2920	mg/kg	0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID	
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenzo[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

Report Information

Key

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

This report shall not be reproduced except in full, and only with the prior approval of the laboratory.

Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

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

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

All Asbestos testing is performed at the indicated laboratory .

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

NEW_ASB	Eurofins Chemtest Limited, 11 Depot Road, Newmarket, CB8 0AL
DURHAM	Eurofins Chemtest Limited, Unit A North Wing, Prospect Business Park, Crookhall Lane, Consett, Co Durham, DH8 7PW

Sample Deviation Codes

As a result of any of the below deviations applying, the test results may be unreliable

A - Date of sampling not supplied

B - Sample age exceeds stability time (sampling to extraction)

C - Sample not received in appropriate containers

D - Broken Container

E - The required amount of sample for analysis was not received

H - Appropriate cooling measures were not taken for sample transportation

Sample Retention and Disposal

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

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

Charges may apply to extended sample storage.

Report Information

Water Sample Category Key for Accreditation

DW - Drinking Water
GW - Ground Water
LE - Land Leachate
NA - Not Applicable
PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

Asbestos Tests LOD = LOQ

Limit of Detection = Limit of Quantification for asbestos results only

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.: 24-30860-1

Initial Date of Issue: 01-Oct-2024

Re-Issue Details:

Client E3P

Client Address: Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contact(s): [REDACTED]
Nicola Sellars
Rebecca Hodnett

Project 12-123 Belle Vue

Quotation No.: Q23-31421

Date Received: 25-Sep-2024

Order No.: 9496

Date Instructed: 25-Sep-2024

No. of Samples: 5

Turnaround (Wkdays): 4

Results Due: 30-Sep-2024

Date Approved: 01-Oct-2024

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 12-123 Belle Vue

Client: E3P		Chemtest Job No.:		24-30860	24-30860	24-30860	24-30860	24-30860
Quotation No.: Q23-31421		Chemtest Sample ID.:		1871494	1871495	1871496	1871497	1871498
		Client Sample ID.:		TS101	TS102	TS201	TS202	TS203
		Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL
		Date Sampled:		18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024
		Time Sampled:		0:00	0:00	0:00	0:00	0:00
		Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD			
ACM Type		U	2192		N/A	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	31	28	24
Soil Colour		N	2040		N/A	Brown	Brown	Brown
Other Material		N	2040		N/A	Roots	Stones	Stones
Soil Texture		N	2040		N/A	Clay	Clay	Clay
pH at 20C		M	2010		4.0	8.3	8.3	6.3
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.049	0.076	< 0.010
Total Sulphur		U	2175	%	0.010	0.060	0.060	0.050
Cyanide (Total)		M	2300	mg/kg	0.50	0.60	0.70	0.70
Sulphide (Easily Liberatable)		N	2325	mg/kg	0.50	3.6	3.8	3.9
Sulphate (Total)		U	2430	%	0.010	0.21	0.16	0.19
Arsenic		M	2455	mg/kg	0.5	15	12	14
Cadmium		M	2455	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Chromium		M	2455	mg/kg	0.5	21	16	20
Copper		M	2455	mg/kg	0.50	39	30	37
Mercury		M	2455	mg/kg	0.05	0.36	0.24	0.26
Nickel		M	2455	mg/kg	0.50	17	13	15
Lead		M	2455	mg/kg	0.50	88	70	84
Selenium		M	2455	mg/kg	0.25	0.98	0.86	0.94
Zinc		M	2455	mg/kg	0.50	98	73	97
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Organic Matter		M	2625	%	0.40	9.5	8.3	8.1
Total Organic Carbon		M	2625	%	0.20	5.5	4.8	4.7
TPH >C6-C8	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C8-C10	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C10-C12	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C12-C16	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0
TPH >C16-C21	EH_1D_Total	N	2670	mg/kg	1.0	5.4	8.8	4.5
TPH >C21-C25	EH_1D_Total	N	2670	mg/kg	1.0	12	13	8.1
TPH >C25-C35	EH_1D_Total	N	2670	mg/kg	1.0	40	65	36
TPH >C35-C40	EH_1D_Total	N	2670	mg/kg	1.0	4.2	12	4.2
Total TPH >C6-C40	EH_1D_Total	U	2670	mg/kg	10	61	98	53
Naphthalene		M	2800	mg/kg	0.10	0.13	0.12	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	0.15	< 0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2800	mg/kg	0.10	0.69	0.62	0.70

Results - Soil

Project: 12-123 Belle Vue

Client: E3P		Chemtest Job No.: 24-30860 24-30860 24-30860 24-30860 24-30860								
Quotation No.: Q23-31421		Chemtest Sample ID.: 1871494 1871495 1871496 1871497 1871498								
		Client Sample ID.: TS101 TS102 TS201 TS202 TS203								
		Sample Type: SOIL SOIL SOIL SOIL SOIL								
		Date Sampled: 18-Sep-2024 18-Sep-2024 18-Sep-2024 18-Sep-2024 18-Sep-2024								
		Time Sampled: 0:00 0:00 0:00 0:00 0:00								
		Asbestos Lab: DURHAM DURHAM DURHAM DURHAM DURHAM								
Determinand	HWOL Code	Accred.	SOP	Units	LOD					
Anthracene		M	2800	mg/kg	0.10	0.16	0.16	0.13	< 0.10	< 0.10
Fluoranthene		M	2800	mg/kg	0.10	0.97	1.3	1.0	0.73	0.83
Pyrene		M	2800	mg/kg	0.10	0.79	1.1	0.89	0.63	0.75
Benzo[a]anthracene		M	2800	mg/kg	0.10	0.44	0.57	0.47	0.32	0.41
Chrysene		M	2800	mg/kg	0.10	0.42	0.60	0.46	0.33	0.40
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	0.59	0.70	0.61	0.47	0.49
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	0.16	0.24	0.20	0.16	0.17
Benzo[a]pyrene		M	2800	mg/kg	0.10	0.40	0.60	0.50	0.33	0.37
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	< 0.10	0.37	0.26	< 0.10	< 0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	< 0.10	0.41	0.30	< 0.10	< 0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0	4.9	6.8	5.5	3.4	3.8
Total Phenols		M	2920	mg/kg	0.10	0.12	0.24	0.34	0.64	0.63

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID	
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

Report Information

Key

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

This report shall not be reproduced except in full, and only with the prior approval of the laboratory.

Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

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

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

All Asbestos testing is performed at the indicated laboratory .

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

Sample Deviation Codes

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

Sample Retention and Disposal

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

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

Charges may apply to extended sample storage.

Water Sample Category Key for Accreditation

- DW - Drinking Water
- GW - Ground Water
- LE - Land Leachate
- NA - Not Applicable

Report Information

PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.: 24-10965-1

Initial Date of Issue: 16-Apr-2024

Re-Issue Details:

Client E3P

Client Address: Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

Contact(s):



Project 12-123 Belle Vue

Quotation No.: Q23-31421

Date Received: 10-Apr-2024

Order No.: 7902

Date Instructed: 10-Apr-2024

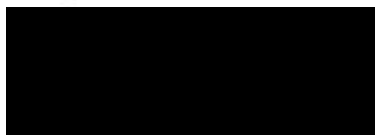
No. of Samples: 6

Turnaround (Wkdays): 5

Results Due: 16-Apr-2024

Date Approved: 16-Apr-2024

Approved By:



Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 12-123 Belle Vue

Client: E3P		Chemtest Job No.:		24-10965	24-10965	24-10965	24-10965	24-10965	24-10965	24-10965
Quotation No.: Q23-31421		Chemtest Sample ID.:		1790954	1790955	1790956	1790957	1790958	1790959	
		Client Sample ID.:		TS101	TS102	TS103	SS101	SS102	SS103	
		Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		Date Sampled:		08-Apr-2024	08-Apr-2024	08-Apr-2024	08-Apr-2024	08-Apr-2024	08-Apr-2024	
		Time Sampled:		0:00	0:00	0:00	0:00	0:00	0:00	
		Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	
Determinand	HWOL Code	Accred.	SOP	Units	LOD					
ACM Type		U	2192		N/A	-	-	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	5.3	15	15	20	25
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones and Roots	Stones and Roots	Stones and Roots	Stones and Roots	Stones and Roots
Soil Texture		N	2040		N/A	Clay	Clay	Clay	Clay	Clay
pH at 20C		M	2010		4.0	7.8	7.9	7.7	7.3	7.2
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.11	0.065	0.10	0.081	0.049
Total Sulphur		U	2175	%	0.010	0.031	0.057	0.064	0.056	0.059
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulphide (Easily Liberatable)		N	2325	mg/kg	0.50	4.6	5.6	3.9	3.9	5.0
Sulphate (Total)		U	2430	%	0.010	0.069	0.11	0.088	0.13	0.12
Arsenic		M	2455	mg/kg	0.5	3.8	9.4	5.1	16	15
Cadmium		M	2455	mg/kg	0.10	< 0.10	< 0.10	0.15	< 0.10	0.14
Chromium		M	2455	mg/kg	0.5	21	50	22	21	21
Copper		M	2455	mg/kg	0.50	20	44	30	37	40
Mercury		M	2455	mg/kg	0.05	0.09	0.22	0.26	0.87	0.93
Nickel		M	2455	mg/kg	0.50	16	37	14	17	17
Lead		M	2455	mg/kg	0.50	33	59	38	74	77
Selenium		M	2455	mg/kg	0.25	0.25	1.0	0.39	0.67	0.60
Zinc		M	2455	mg/kg	0.50	52	120	48	65	73
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total Organic Carbon		M	2625	%	0.20	2.2	2.4	4.1	6.8	4.4
TPH >C6-C8	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH >C8-C10	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH >C10-C12	EH_1D_Total	N	2670	mg/kg	1.0	6.8	4.2	6.6	< 1.0	9.2
TPH >C12-C16	EH_1D_Total	N	2670	mg/kg	1.0	18	22	22	< 1.0	31
TPH >C16-C21	EH_1D_Total	N	2670	mg/kg	1.0	51	61	52	< 1.0	40
TPH >C21-C25	EH_1D_Total	N	2670	mg/kg	1.0	32	41	39	< 1.0	11
TPH >C25-C35	EH_1D_Total	N	2670	mg/kg	1.0	81	99	100	< 1.0	< 1.0
TPH >C35-C40	EH_1D_Total	N	2670	mg/kg	1.0	12	13	16	< 1.0	< 1.0
Total TPH >C6-C40	EH_1D_Total	M	2670	mg/kg	10	200	240	240	< 10	92
Naphthalene		M	2800	mg/kg	0.10	< 0.10	< 0.10	0.27	< 0.10	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	< 0.10	0.53	< 0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10	0.39	< 0.10	< 0.10
Phenanthrene		M	2800	mg/kg	0.10	2.6	1.9	3.1	0.56	0.34

Results - Soil

Project: 12-123 Belle Vue

Client: E3P		Chemtest Job No.:					24-10965	24-10965	24-10965	24-10965	24-10965	24-10965
Quotation No.: Q23-31421		Chemtest Sample ID.:					1790954	1790955	1790956	1790957	1790958	1790959
		Client Sample ID.:					TS101	TS102	TS103	SS101	SS102	SS103
		Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Date Sampled:					08-Apr-2024	08-Apr-2024	08-Apr-2024	08-Apr-2024	08-Apr-2024	08-Apr-2024
		Time Sampled:					0:00	0:00	0:00	0:00	0:00	0:00
		Asbestos Lab:					DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD							
Anthracene		M	2800	mg/kg	0.10	0.75	0.52	0.75	0.11	< 0.10	< 0.10	
Fluoranthene		M	2800	mg/kg	0.10	3.5	2.7	4.3	0.99	0.45	0.38	
Pyrene		M	2800	mg/kg	0.10	2.8	2.4	3.9	0.88	0.39	0.34	
Benzo[a]anthracene		M	2800	mg/kg	0.10	1.3	1.1	1.7	0.42	0.22	< 0.10	
Chrysene		M	2800	mg/kg	0.10	1.1	1.2	1.9	0.42	0.22	< 0.10	
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	1.6	1.3	2.2	0.57	< 0.10	< 0.10	
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	0.56	0.46	0.75	0.18	< 0.10	< 0.10	
Benzo[a]pyrene		M	2800	mg/kg	0.10	1.5	1.1	1.9	0.53	< 0.10	< 0.10	
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	0.87	0.70	1.1	0.32	< 0.10	< 0.10	
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	0.14	< 0.10	0.22	< 0.10	< 0.10	< 0.10	
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	0.73	0.77	1.1	0.35	< 0.10	< 0.10	
Total Of 16 PAH's		N	2800	mg/kg	2.0	18	14	24	5.3	< 2.0	< 2.0	
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID	
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenzo[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

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AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

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customerservices@chemtest.com