Date: 17th April 2024
Reference: 12-123-V56

GARDEN VALIDATION – BELLE VUE

Project Name:	Belle Vue
Project Number:	12-123
Client:	Countryside
Date:	08/04/2024
Project Manager:	Nicola Sellars
E3P Engineer:	Joe Newall
Plots:	96-98

OVERVIEW

An E3P engineer attended the above site to validate the thickness of the cover system placed within the rear garden of plots 96-98 at Belle Vue.

In total 3 No. hand-excavated trial pits were advanced, with the resulting strata detailed at the rear of this letter.

The trial pits were completed to highlight the required cover system of 600 mm (150 mm topsoil and 450 mm subsoil).

E3P can confirm that our independent validation demonstrates that the rear gardens have been installed with 150 mm of certified topsoil and at least 450 mm subsoil under the NHBC requirements for a site of this nature.

A list of plots requiring validation and their associated validation letters is presented in Table 1 for reference.

TOPSOIL

Topsoil has been imported from the Redrow site located off Lomas Way, Congleton, CW12 2GH. Three samples have been tested which confirm that the topsoil is chemically suitable for use within the proposed garden areas. Chemical analysis results are included within lab report 24-10965 (attached to this letter). The topsoil has been imported from a greenfield source, therefore a sample frequency of 1 sample per 200 m³ is being undertaken.

SUBSOIL

E3P attended site on the 6th June 2022 to obtain three samples of the stockpiled subsoil deposits which were analysed in accordance with the E3P Remediation Strategy. Seven additional samples were collected on 31st May 2022 and twenty samples were collected on 18th August 2023. Three further samples were collected on 8th April 2024. Chemical analysis confirmed that these subsoil deposits were chemically suitable for use within the proposed garden areas.

The subsoil has been imported from Priory Chase, Nelson and a total volume of 7000 m3 is estimated to be required. The subsoil has been imported from a greenfield source, therefore a sample frequency of 1 sample per 200 m³ is being undertaken.

Analysis for subsoil undertaken by I2 Analytical Laboratory using UKAS accredited methods where applicable.

The chemical analysis suite comprises heavy metals, sulphates, phenols, speciated Polycyclic Aromatic Hydrocarbons (PAHs), speciated and total Petroleum Hydrocarbons (TPH) and asbestos. Sampling frequency following the agreed Remediation Strategy. Laboratory analysis certificates are attached to this validation certificate.

The following chemical analysis results are included within the attached lab reports:

- 22-63323 (SS101-SS103)
- 22-62759 (SS101-SS107)
- 23-52200 (SS101-SS120)
- 24-10965 (SS101-SS103)

CHEMICAL ANALYSIS

TOPSOIL/SUBSOIL	SOURCE	LAB REFERENCE	SAMPLE REFERENCE	PASS/FAIL
Topsoil	Offsite – Lomas Way, Congleton	24-10965	TS101-TS103	PASS
Subsoil	Offsite – Priory Chase, Nelson	22-63323	SS101-SS103	PASS
Subsoil	Offsite – Priory Chase, Nelson	22-62759	S101-S107	PASS
Subsoil	Offsite – Priory Chase, Nelson	23-52200	SS101-SS120	PASS
Subsoil	Offsite – Priory Chase, Nelson	24-10965	SS101-SS103	PASS

The cover system validation photographs are enclosed within this letter. For information, Table 1 includes references and validation dates of previously validated plots.

Table 1 – Validation Letter Reference

PLOT NUMBER	REPORT NUMBER	DATE
1	V4	23rd June 2022
2	V4	23rd June 2022
3	V4	23rd June 2022
4	V3	23rd June 2022
5	V6	4th July 2022
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		

PLOT NUMBER	REPORT NUMBER	DATE
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		

PLOT NUMBER	REPORT NUMBER	DATE
45		
46		
47		
48		
49		
50		
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		

PLOT NUMBER	REPORT NUMBER	DATE
67		
68		
69		
70		
71		
72		
73		
74		
75		
76		
77		
78		
79		
80		
81		
82		
83		
84		
85		
86	V17	15th December 2022
87	V17	15th December 2022
88	V17	15th December 2022

PLOT NUMBER	REPORT NUMBER	DATE
89	V30	18th April 2023
90	V30	18th April 2023
91	V30	18th April 2023
92	V30	18th April 2023
93	V30	18th April 2023
94	V30	18th April 2023
95	V30	18th April 2023
96	V56	8th April 2024
97	V56	8th April 2024
98	V56	8th April 2024
99	V9	22nd September 2022
100	V9	22nd September 2022
101	V9	22nd September 2022
102	V9	22nd September 2022
103	V9	22nd September 2022
104	V10	23rd September 2022
105	V10	23rd September 2022
106	V11	27th September 2022
107	V11	27th September 2022
108	V11	27th September 2022
109	V11	27th September 2022
110	V13	24th October 2022

PLOT NUMBER	REPORT NUMBER	DATE
111	V15	14th November 2022
112	V15	14th November 2022
113	V18	16th December 2022
114	V18	16th December 2022
115	V18	16th December 2022
116	V18	16th December 2022
117	V18	16th December 2022
118	V18	16th December 2022
119	V18	16th December 2022
120	V18	16th December 2022
121	V18	16th December 2022
122	V18	16th December 2022
123	V18	16th December 2022
124	V18	16th December 2022
125	V20	30th January 2023
126	V20	30th January 2023
127	V20	30th January 2023
128	V20 V22	30th January 2023 14th February 2023
129	V22	14th February 2023
130	V25	1st March 2023
131	V25	1st March 2023
132	V25	1st March 2023

PLOT NUMBER	REPORT NUMBER	DATE
133	V25	1st March 2023
134	V25	1st March 2023
135	V25	1st March 2023
136	V16	5th December 2022
137	V16	5th December 2022
138	V16	5th December 2022
139	V16	5th December 2022
140	V14	14th November 2022
141	V14	14th November 2022
142	V14	14th November 2022
143	V12	28th September 2022
144	V12	28th September 2022
145	V12	28th September 2022
146	V9	22nd September 2022
147	V9	22nd September 2022
148	V8	25th August 2022
149	V8	25th August 2022
150	V7	23rd August 2022
151	V40	15th September 2023
152	V40	15th September 2023
153	V40	15th September 2023
154	V40	15th September 2023

PLOT NUMBER	REPORT NUMBER	DATE
155	V41	3rd October 2023
156	V45	20th October 2023
157	V46	15th November 2023
158	V46	15th November 2023
159	V47	16th November 2023
160	V47	16th November 2023
161	V53	11th December 2023
162	V53	11th December 2023
163	V35	29th June 2023
164	V35	29th June 2023
165	V33	6th June 2023
166	V33	6th June 2023
167	V23	16th February 2023
168	V19	24th January 2023
169	V19	24th January 2023
170	V23	16th February 2023
171	V29	17th April 2023
172	V29 & V32	7th April 2023 – 5th May 23
173	V32	5th May 2023
174	V32	5th May 2023
175	V32	5th May 2023
176	V32	5th May 2023

PLOT NUMBER	REPORT NUMBER	DATE
177	V32	5th May 2023
178	V28	17th March 2023
179	V28	17th March 2023
180	V28	17th March 2023
181	V27	10th March 2023
182	V27	10th March 2023
183	V28	17th March 2023
184	V24	21st February 2023
185	V24	21st February 2023
186	V26	3rd March 2023
187	V26	3rd March 2023
188	V31	20th April 2023
189	V29	17th April 2023
190	V29	17th April 2023
191	V21	February 2023
192	V21	February 2023
193	V19	24th January 2023
194	V22	14th February 2023
195	V22	14th February 2023
196	V22	14th February 2023
197	V22	14th February 2023
198	V22	14th February 2023

PLOT NUMBER	REPORT NUMBER	DATE
199	V22	14th February 2023
200	V22	14th February 2023
201	V22	14th February 2023
202	V22	14th February 2023
203	V22	14th February 2023
204	V33	6th June 2023
205	V33	6th June 2023
206	V33	6th June 2023
207	V33	6th June 2023
208	V34	19th June 2023
209	V34	19th June 2023
210	V35	29th June 2023
211	V35	29th June 2023
212	V36	27th July 2023
213	V36	27th July 2023
214	V55	13th February 2024
215	V54	8th February 2024
216	V54	8th February 2024
217	V52	8th December 2023
218	V52	8th December 2023
219	V52	8th December 2023
220	V37	9th August 2023

PLOT NUMBER	REPORT NUMBER	DATE
221	V39	18th August 2023
222	V39	18th August 2023
223	V51	7th December 2023
224	V51	7th December 2023
225	V50	1st December 2023
226	V48	22nd November 2023
227	V49	23rd November 2023
228	V47	16th November 2023
229	V48	22nd November 2023
230	V43	11th October 2023
231	V43	11th October 2023
232	V42	6th October 2023
233	V42	6th October 2023
234	V44	18th October 2023
235	V44	18th October 2023
236	V1	31st May 2022
237	V1	31st May 2022
238	V1	31st May 2022
239	V1	31st May 2022
240		
241	V38	15th August 2023
242	V2 & V38	15th June 2022/ 15th Aug 23

PLOT NUMBER	REPORT NUMBER	DATE
243	V2	15th June 2022
244	V5	29th June 2022
245	V5	29th June 2022
246	V5	29th June 2022
247	V5	29th June 2022
248		
249		
250		
251		
252		
253		
254		
255		
256		
257		
258		
259		
260		
261		
262		
263		
264		

PLOT NUMBER	REPORT NUMBER	DATE
265		
266		
267		
268		

Garden Cover System Validation

Complete

Score	18 / 18 (100%)
Site Name	Belle Vue
Location	9 Scenic St Manchester England M18 7FS United Kingdom (53.461979069210294, -2.1834557796993646)
Project Number	12123
Developer	Countryside
Project Manager	NS
Conducted By	Joe Newall
Date of visit	8 Apr 2024 10:06 AM BST

Subsoil/Topsoil Material Source (If the site manager can't supply you with detail of where the soil is sourced STOP THE INSPECTION and call the PM)	
Where has the Subsoil been sourced	Priory Chase
Where has the Topsoil been sourced	Lomas Way, Congleton

Plot Validation	18 / 18 (100%)
Plot Validation	18 / 18 (100%)
Plot Validation 1	6 / 6 (100%)
Plot Number	98
Is Plot Ready	Yes
Installation Standard	Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)	600

Photo 1

Photo 2

Depth of Topsoil (mm)	150
Depth of Subsoil (mm)	450
Depth of Cover System at Ground Level (Photo)	☒

Photo 3

Photo 4

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒

Photo 5

Photo 6

Soil suitable (Must be free from Brick, concrete, wood, plastics, glass, metal and anything none natural) if identified contact PM and take photos.	Yes
Geotextile membrane present	N/A

Plot Validation 2	6 / 6 (100%)
Plot Number	97
Is Plot Ready	Yes
Installation Standard	Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)	600

Photo 7

Photo 8

Depth of Topsoil (mm)	150
Depth of Subsoil (mm)	450
Depth of Cover System at Ground Level (Photo)	☒

Photo 9

Photo 10

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒

Photo 11

Photo 12

Soil suitable (Must be free from Brick, concrete, wood, plastics, glass, metal and anything none natural) if identified contact PM and take photos.	Yes
Geotextile membrane present	N/A

Plot Validation 3	6 / 6 (100%)
Plot Number	96
Is Plot Ready	Yes
Installation Standard	Pass
Depth of Cover System Materials (record the depth and support with Photo down the hole)	600

Photo 13

Photo 14

Photo 15

Photo 16

Depth of Topsoil (mm)	150
Depth of Subsoil (mm)	450
Depth of Cover System at Ground Level (Photo)	☒

Photo 17

Photo 18

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒

Photo 19

Photo 20

Soil suitable (Must be free from Brick, concrete, wood, plastics, glass, metal and anything none natural) if identified contact PM and take photos.	Yes
Geotextile membrane present	N/A
Site Manager or Representative	
Name	Cameron

Signature

8 Apr 2024 10:22 AM BST

Media summary

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Photo 7

Photo 8

Photo 9

Photo 10

Photo 11

Photo 12

Photo 13

Photo 14

Photo 15

Photo 16

Photo 17

Photo 18

Photo 19

Photo 20

eurofins | Chemtest
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@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):	Nicola Sellars nsellars@e3p.co.uk; Rebecca Hodnett rhodnett@e3p.co.uk
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:

[redacted]

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
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	No Asbestos Detected
Moisture		N	2030	%	0.020	5.3	15	15	20	22	25
Soil Colour		N	2040		N/A	Brown	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	Stones and Roots
Soil Texture		N	2040		N/A	Clay	Clay	Clay	Clay	Clay	Clay
pH at 20C		M	2010		4.0	7.8	7.9	7.7	7.3	7.2	7.4
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.11	0.065	0.10	0.081	0.049	0.025
Total Sulphur		U	2175	%	0.010	0.031	0.057	0.064	0.056	0.059	0.048
Cyanide (Total)		M	2300	mg/kg	0.50	< 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	3.1
Sulphate (Total)		U	2430	%	0.010	0.069	0.11	0.088	0.13	0.12	0.092
Arsenic		M	2455	mg/kg	0.5	3.8	9.4	5.1	16	15	13
Cadmium		M	2455	mg/kg	0.10	< 0.10	< 0.10	0.15	< 0.10	0.14	0.59
Chromium		M	2455	mg/kg	0.5	21	50	22	21	21	28
Copper		M	2455	mg/kg	0.50	20	44	30	37	40	37
Mercury		M	2455	mg/kg	0.05	0.09	0.22	0.26	0.87	0.93	0.59
Nickel		M	2455	mg/kg	0.50	16	37	14	17	17	38
Lead		M	2455	mg/kg	0.50	33	59	38	74	77	53
Selenium		M	2455	mg/kg	0.25	0.25	1.0	0.39	0.67	0.60	0.54
Zinc		M	2455	mg/kg	0.50	52	120	48	65	73	77
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 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	3.3
TPH >C6-C8	EH_1D_Total	N	2670	mg/kg	1.0	< 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	< 1.0
TPH >C10-C12	EH_1D_Total	N	2670	mg/kg	1.0	6.8	4.2	6.6	< 1.0	9.2	< 1.0
TPH >C12-C16	EH_1D_Total	N	2670	mg/kg	1.0	18	22	22	< 1.0	31	< 1.0
TPH >C16-C21	EH_1D_Total	N	2670	mg/kg	1.0	51	61	52	< 1.0	40	< 1.0
TPH >C21-C25	EH_1D_Total	N	2670	mg/kg	1.0	32	41	39	< 1.0	11	< 1.0
TPH >C25-C35	EH_1D_Total	N	2670	mg/kg	1.0	81	99	100	< 1.0	< 1.0	< 1.0
TPH >C35-C40	EH_1D_Total	N	2670	mg/kg	1.0	12	13	16	< 1.0	< 1.0	< 1.0
Total TPH >C6-C40	EH_1D_Total	M	2670	mg/kg	10	200	240	240	< 10	92	< 10
Naphthalene		M	2800	mg/kg	0.10	< 0.10	< 0.10	0.27	< 0.10	< 0.10	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 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	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10	0.39	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2800	mg/kg	0.10	2.6	1.9	3.1	0.56	0.34	0.22

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	Allkaline 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-diphenylcarbazide.	
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

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

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

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

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

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

Water Sample Category Key for Accreditation

DW - Drinking Water
GW - Ground Water
LE - Land Leachate
NA - Not Applicable
PL - Prepared Leachate
PW - Processed Water

Report Information

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

Olivia Jackson
e3p
Taylor Road
Urmston
Manchester
M41 7JQ

e: ojackson@e3p.co.uk

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

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

Analytical Report Number : 22-63323

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		

Signed [redacted]

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

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

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

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

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

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

Analytical Report Number: 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 SO4	mg/kg	50	MCERTS	740	610	890	580	510
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.093	0.12	0.14	0.091	0.086
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	190	240	270	180	170
Water Soluble SO4 (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

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

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

Analytical Report Number: 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) $_{HS_1D_TOTAL}$	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	8.1	< 1.0	< 1.0
TPH (C21 - C35) $_{EH_CU_1D_TOTAL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	22	< 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	30	< 10	< 10

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

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

Analytical Report Number: 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 SO4	mg/kg	50	MCERTS	320
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.088
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	180
Water Soluble SO4 (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

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

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

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

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

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

Analytical Report Number : 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.

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

Analytical Report Number : 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 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 : 22-63323
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

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

Rob Horseman
e3p
Taylor Road
Urmston
Manchester
M41 7JQ

e: Rhorseman@e3p.co.uk

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

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

Analytical Report Number : 22-62759

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		

S[redacted]

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

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

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

Analytical Report Number: 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 SO4	mg/kg	50	MCERTS	110	110	110	130	390
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.014	0.008	0.0031	0.0071	0.089
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	28	16	6.1	14	180
Water Soluble SO4 (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

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

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

Analytical Report Number: 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

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

Analytical Report Number: 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 SO4	mg/kg	50	MCERTS	420	650
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.13	0.19
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	260	380
Water Soluble SO4 (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

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

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

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

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

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

Analytical Report Number : 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.

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

Analytical Report Number : 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

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

Analytical Report Number : 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

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

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

S Ellis
e3p
Taylor Road
Urmston
Manchester
M41 7JQ

e: sellis@e3p.co.uk

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

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

Analytical Report Number : 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: [redacted]

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

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 SO4	mg/kg	50	MCERTS	120	110	130	150	93
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.018	0.019	0.023	0.021	0.013
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	35	38	46	42	25
Water Soluble SO4 (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
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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

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 SO4	mg/kg	50	MCERTS	110	90	110	100	130
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.015	0.0069	0.016	0.0088	0.018
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	30	14	32	18	36
Water Soluble SO4 (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
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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

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) $_{HS_1D_TOTAL}$	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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

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 SO4	mg/kg	50	MCERTS	80	54	77	54	120
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.0029	0.0029	0.0034	0.0032	0.02
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	5.7	5.8	6.8	6.3	40
Water Soluble SO4 (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
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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

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) $_{HS_1D_TOTAL}$	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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

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 SO4	mg/kg	50	MCERTS	62	83	96	75	150
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.004	0.0046	0.0064	0.0067	0.036
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	7.9	9.1	13	13	73
Water Soluble SO4 (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

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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

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) $_{HS_1D_TOTAL}$	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	21	< 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	25	< 10	< 10

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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

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 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. 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 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 : 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

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