



Borehole Log

Window Sampler No.

WS05

Sheet 1 of 1

PROJECT NO: M5478

CO-ORDS:

Hole Type

WS

PROJECT NAME: OLDFIELD ROAD, HAMPTON

LEVEL:

Scale

1:30

CLIENT: SHURGARD LTD

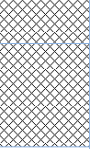

DATES: 15/08/23

Logged

Checked

CO

AT

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.19	-0.19		MADE GROUND: Concrete
					0.60	-0.60		MADE GROUND: Light grey slightly sandy gravel. Sand is fine. Gravel is subangular to subrounded of concrete.
								End of Borehole at 0.60m



Remarks

1. Location scanned with Radiodetection and GPR methods.
2. Hand dug inspection pit to 0.40m bgl.
3. No groundwater encountered.
4. Location terminated at 0.60m bgl due to concrete obstruction.
5. Location backfilled with arisings upon completion.
6. Concrete surfacing reinstated upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane



Borehole Log

Window Sampler No.

WS06

Sheet 1 of 1

Hole Type

WS

Scale

1:30

Logged

CO

Checked

AT

PROJECT NO: M5478

CO-ORDS:

PROJECT NAME: OLDFIELD ROAD, HAMPTON

LEVEL:

CLIENT: SHURGARD LTD

DATES: 16/08/23

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50	ES		0.50	-0.50		MADE GROUND: Dark brown gravelly sand with frequent rootlets and with low cobble content. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of concrete, flint, and sandstone. Cobbles are subangular of brick (Top Soil).	
		0.70	ES		0.80	-0.80		MADE GROUND: Soft yellowish brown slightly sandy slightly gravelly silty clay with occasional rootlets. Sand is fine to medium. Gravel is subangular to subrounded fine to coarse of concrete, flint, and sandstone.	
		1.20	SPT	N=8 (1,2/2,1,2,3)	1.45	-1.45		Firm yellowish brown slightly gravelly slightly sandy clay with rare rootlet. Sand is fine to medium. Gravel is subangular to subrounded fine to coarse of flint, and sandstone. <i>Becoming more sandy from 1.20m bgl to 1.45m bgl.</i>	1.0
		2.00	SPT	N=26 (4,5/6,6,7,7)				Yellowish brown gravelly SAND. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of flint and sandstone.	2.0
		3.00	ES SPT	N=17 (3,3/3,4,6,4)					3.0
		4.00	ES SPT	N=10 (2,2/2,3,2,3)	3.90	-3.90		Soft brownish grey slightly gravelly slightly sandy CLAY. Sand is fine. Gravel is subangular to subrounded fine to medium of flint and sandstone.	4.0
	5.00	SPT	N=12 (2,2/3,3,3,3)	5.00	-5.00		End of Borehole at 5.00m	5.0	
								6.0	

Remarks

1. Location scanned with Radiodetection and GPR methods.
2. Hand dug inspection pit to 1.20m bgl
3. Wet sand encountered from 3.90m bgl.
4. Borehole collapsed from 5.00m bgl to 2.80m bgl.
5. Monitoring well installed upon completion. 0.00m to 1.00m bgl plain pipe. 1.00m to 2.80m bgl slotted pipe.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane



Borehole Log

Window Sampler No.

WS07

Sheet 1 of 1

PROJECT NO: M5478

CO-ORDS:

Hole Type

WS

PROJECT NAME: OLDFIELD ROAD, HAMPTON

LEVEL:

Scale

1:30

CLIENT: SHURGARD LTD

DATES: 16/08/23

Logged

Checked

CO

AT

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
[Pattern]		0.10			0.10	-0.10	[Pattern]	MADE GROUND: Asphalt	1.00
		0.16			0.16	-0.16		MADE GROUND: Brown gravelly sand. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of asphalt and concrete.	
		0.40	ES		0.47	-0.47		MADE GROUND: Concrete	
		0.60			0.60	-0.60		MADE GROUND: Dark brown gravelly sand. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of concrete, flint, and sandstone.	
		0.90	ES		0.80	-0.80		MADE GROUND: Soft yellowish brown slightly sandy slightly gravelly silty clay. Sand is fine to medium. Gravel is subangular to subrounded fine to coarse of concrete, flint, and sandstone.	
		1.20	SPT	N=8 (1,1/2,1,2,3)	1.50	-1.50		Soft yellowish brown slightly gravelly slightly sandy clay with rare rootlet. Sand is fine to medium. Gravel is subangular to subrounded fine to coarse of flint, and sandstone.	
		1.50	ES					<i>Becoming firm from 1.00m bgl to 1.30m bgl. Becoming sandy from 1.30m bgl to 1.50m bgl.</i>	
		2.00	SPT	N=28 (9,9/7,6,7,8)				Yellowish brown gravelly SAND. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of flint and sandstone.	
		3.00	SPT	N=9 (1,1/2,2,2,3)					
		3.50			3.50	-3.50		Soft brownish grey slightly gravelly slightly sandy CLAY. Sand is fine. Gravel is subangular to subrounded fine to medium of flint and sandstone.	
4.00	SPT	N=8 (2,3/2,2,2,2)							
5.00	SPT	N=10 (3,2/3,2,2,3)	5.00	-5.00	End of Borehole at 5.00m				

Remarks

1. Location scanned with Radiodetection and GPR methods.
2. Hand dug inspection pit to 1.20m bgl
3. Wet sand encountered from 2.00m bgl to 3.50m bgl.
4. Borehole collapsed from 5.00m to 3.00m bgl.
5. Location backfilled with arisings upon completion.
6. Asphalt surfacing repaired with cold lay.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane



Borehole Log

Window Sampler No.

WS08

Sheet 1 of 1

PROJECT NO: M5478

CO-ORDS:

Hole Type

WS

PROJECT NAME: OLDFIELD ROAD, HAMPTON

LEVEL:

Scale

1:30

CLIENT: SHURGARD LTD

DATES: 16/08/23

Logged

Checked

CO

AT

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					1.20	-1.20	MADE GROUND: Dark brown gravelly sand with frequent rootlets and with low cobble content. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of concrete, flint, and sandstone (Top Soil).	
							End of Borehole at 1.20m	

1.0

2.0

3.0

4.0

5.0

6.0

Remarks

1. Location scanned with Radiodetection and GPR methods.
2. Hand dug inspection pit to 1.20m bgl.
3. No groundwater encountered.
4. Location terminated at 1.20m bgl due to concrete obstruction.
5. Location backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

APPENDIX F

Chemical Testing Results



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Analytical Report Number : 23-51916

Replaces Analytical Report Number: 23-51916, issue no. 1
Additional analysis undertaken.
Asbestos Quantification added as per clients request

Project / Site name:	Oldfield Road, Hampton	Samples received on:	18/08/2023
Your job number:	M5478	Samples instructed on/ Analysis started on:	18/08/2023
Your order number:	M5478-4495-CO	Analysis completed by:	04/09/2023
Report Issue Number:	2	Report issued on:	05/09/2023
Samples Analysed:	12 soil samples		

Signed: _____

Anna Goc
PL Head of Reporting Team
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: 23-51916
 Project / Site name: Oldfield Road, Hampton
 Your Order No: M5478-4495-CO

Lab Sample Number	2786153	2786154	2786155	2786156	2786157			
Sample Reference	BH01	WS04	WS03A	BH01	WS06			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Depth (m)	1.00	0.40	0.60	0.50	0.70			
Date Sampled	14/08/2023	15/08/2023	15/08/2023	14/08/2023	16/08/2023			
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	-
Moisture Content	%	0.01	NONE	15	27	15	16	-
Total mass of sample received	kg	0.001	NONE	0.8	0.9	1.1	1	-

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	Chrysotile	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	0.007	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	0.007	-
Asbestos Analyst ID	N/A	N/A	N/A	KSZ	KSZ	KSZ	KSZ	KSZ

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.9	7.5	7.5	10	-
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	190	180	77	1100	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0967	0.0912	0.0386	0.547	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	96.7	91.2	38.6	547	-
Organic Matter (automated)	%	0.1	MCERTS	0.8	8.1	3	4.7	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.5	4.7	-	-	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.74	< 0.05	0.25	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.64	0.19	0.47	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.98	< 0.05	0.19	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.92	< 0.05	0.27	-
Phenanthrene	mg/kg	0.05	MCERTS	0.13	16	0.51	2.9	-
Anthracene	mg/kg	0.05	MCERTS	< 0.05	4.1	0.16	0.85	-
Fluoranthene	mg/kg	0.05	MCERTS	0.29	39	2.2	7.7	-
Pyrene	mg/kg	0.05	MCERTS	0.28	36	2.1	6.5	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.16	21	1.4	2.8	-
Chrysene	mg/kg	0.05	MCERTS	0.17	20	1.5	3.3	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.24	32	2	4.1	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.09	9.8	0.83	1.3	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.15	25	1.5	2.9	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.09	11	0.93	1.7	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	3.1	0.22	0.48	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.11	12	0.99	2	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	1.71	232	14.4	37.6	-
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Analytical Report Number: 23-51916
 Project / Site name: Oldfield Road, Hampton
 Your Order No: M5478-4495-CO

Lab Sample Number	2786153	2786154	2786155	2786156	2786157
Sample Reference	BH01	WS04	WS03A	BH01	WS06
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	1.00	0.40	0.60	0.50	0.70
Date Sampled	14/08/2023	15/08/2023	15/08/2023	14/08/2023	16/08/2023
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

Element	Unit	Limit of detection	Accreditation Status	2786153	2786154	2786155	2786156	2786157
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	32	13	14	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.9	-
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2	< 1.2	-
Chromium (III)	mg/kg	1	NONE	31	22	20	22	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	31	22	20	23	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	82	36	36	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	26	890	120	200	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.5	< 0.3	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	38	17	18	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	46	1200	52	230	-

Monoaromatics & Oxygenates

Compound	Unit	Limit of detection	Accreditation Status	2786153	2786154	2786155	2786156	2786157
Benzene	mg/kg	0.005	MCERTS	< 0.005	-	-	-	-
Toluene	mg/kg	0.005	MCERTS	< 0.005	-	-	-	-
Ethylbenzene	mg/kg	0.005	MCERTS	< 0.005	-	-	-	-
p & m-xylene	mg/kg	0.005	MCERTS	< 0.005	-	-	-	-
o-xylene#	mg/kg	0.005	MCERTS	< 0.005	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.005	NONE	< 0.005	-	-	-	-

Petroleum Hydrocarbons

Compound	Unit	Limit of detection	Accreditation Status	2786153	2786154	2786155	2786156	2786157
TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.1	NONE	< 0.10	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.1	NONE	< 0.10	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.1	NONE	< 0.10	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC35 _{EH_CU_1D_AL}	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	-	-	-	-

Compound	Unit	Limit of detection	Accreditation Status	2786153	2786154	2786155	2786156	2786157
TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.1	NONE	< 0.10	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.1	NONE	< 0.10	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.1	NONE	< 0.10	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	16	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	17	-	-	-	-

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

Analytical Report Number: 23-51916
 Project / Site name: Oldfield Road, Hampton
 Your Order No: M5478-4495-CO

Lab Sample Number	2786158	2786159	2786160	2786161	2786162			
Sample Reference	WS03B	BH03	WS03A	WS07	WS01			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Depth (m)	0.25	0.70	0.30	0.40	4.00			
Date Sampled	15/08/2023	15/08/2023	15/08/2023	16/08/2023	15/08/2023			
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	5.2	8.4	6.7	5.6	16
Total mass of sample received	kg	0.001	NONE	0.9	0.8	0.4	0.6	0.4

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite	Chrysotile	-	Chrysotile	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	-	Detected	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	-	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	-	< 0.001	-
Asbestos Analyst ID	N/A	N/A	N/A	KSZ	KSZ	N/A	KSZ	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9	-	10.2	10.6	-
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	530	-	200	1500	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.263	-	0.101	0.759	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	263	-	101	759	-
Organic Matter (automated)	%	0.1	MCERTS	3.2	-	1.6	4.5	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	0.4	1	2.6	0.9

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.08	-	< 0.05	0.15	-
Acenaphthylene	mg/kg	0.05	MCERTS	0.15	-	0.08	0.24	-
Acenaphthene	mg/kg	0.05	MCERTS	0.16	-	< 0.05	0.16	-
Fluorene	mg/kg	0.05	MCERTS	0.17	-	< 0.05	0.13	-
Phenanthrene	mg/kg	0.05	MCERTS	2	-	0.37	2.1	-
Anthracene	mg/kg	0.05	MCERTS	0.46	-	0.1	0.47	-
Fluoranthene	mg/kg	0.05	MCERTS	2.8	-	0.97	3.2	-
Pyrene	mg/kg	0.05	MCERTS	2.3	-	0.81	2.6	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.88	-	0.32	1.5	-
Chrysene	mg/kg	0.05	MCERTS	1.1	-	0.44	2	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1	-	0.39	2	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.38	-	0.18	0.88	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.77	-	0.3	1.5	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.46	-	0.2	0.85	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.13	-	< 0.05	0.29	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.52	-	0.25	1	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	13.3	-	4.41	19	-
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Analytical Report Number: 23-51916
 Project / Site name: Oldfield Road, Hampton
 Your Order No: M5478-4495-CO

Lab Sample Number				2786158	2786159	2786160	2786161	2786162
Sample Reference				WS03B	BH03	WS03A	WS07	WS01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.25	0.70	0.30	0.40	4.00
Date Sampled				15/08/2023	15/08/2023	15/08/2023	16/08/2023	15/08/2023
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	12	-	13	14	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1	-	0.6	0.7	-
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	-	< 1.2	< 1.2	-
Chromium (III)	mg/kg	1	NONE	13	-	16	130	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	-	16	130	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	-	9.4	40	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	69	-	47	95	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	13	-	11	63	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	< 1.0	< 1.0	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	160	-	94	160	-

Monoaromatics & Oxygenates

Analytical Parameter	Units	Limit of detection	Accreditation Status	2786158	2786159	2786160	2786161	2786162
Benzene	mg/kg	0.005	MCERTS	-	< 0.005	< 0.005	-	-
Toluene	mg/kg	0.005	MCERTS	-	< 0.005	< 0.005	-	-
Ethylbenzene	mg/kg	0.005	MCERTS	-	< 0.005	< 0.005	-	-
p & m-xylene	mg/kg	0.005	MCERTS	-	< 0.005	< 0.005	-	-
o-xylene#	mg/kg	0.005	MCERTS	-	< 0.005	< 0.005	-	-
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.005	NONE	-	< 0.005	< 0.005	-	-

Petroleum Hydrocarbons

Analytical Parameter	Units	Limit of detection	Accreditation Status	2786158	2786159	2786160	2786161	2786162
TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.1	NONE	-	< 0.10	< 0.10	-	-
TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.1	NONE	-	< 0.10	< 0.10	-	-
TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.1	NONE	-	< 0.10	< 0.10	-	-
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	-	< 2.0	< 2.0	-	-
TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	< 8.0	8.7	-	-
TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	< 8.0	130	-	-
TPH-CWG - Aliphatic >EC16 - EC35 _{EH_CU_1D_AL}	mg/kg	10	MCERTS	-	< 10	140	-	-
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	-	< 10	140	-	-

Analytical Parameter	Units	Limit of detection	Accreditation Status	2786158	2786159	2786160	2786161	2786162
TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.1	NONE	-	< 0.10	< 0.10	-	-
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.1	NONE	-	< 0.10	< 0.10	-	-
TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.1	NONE	-	< 0.10	< 0.10	-	-
TPH-CWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	-	< 2.0	< 2.0	-	-
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	< 10	< 10	-	-
TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	< 10	87	-	-
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	-	< 10	91	-	-

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

Analytical Report Number: 23-51916
 Project / Site name: Oldfield Road, Hampton
 Your Order No: M5478-4495-CO

Lab Sample Number				2786163	2786164
Sample Reference				WS06	BH02
Sample Number				None Supplied	None Supplied
Depth (m)				0.50	0.30
Date Sampled				16/08/2023	16/08/2023
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	7.8	9.1
Total mass of sample received	kg	0.001	NONE	0.3	0.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.6	-
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	100	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0518	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	51.8	-
Organic Matter (automated)	%	0.1	MCERTS	2.6	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.5	1.3

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.06	-
Acenaphthylene	mg/kg	0.05	MCERTS	0.1	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	-
Phenanthrene	mg/kg	0.05	MCERTS	0.54	-
Anthracene	mg/kg	0.05	MCERTS	0.12	-
Fluoranthene	mg/kg	0.05	MCERTS	1.7	-
Pyrene	mg/kg	0.05	MCERTS	1.6	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.89	-
Chrysene	mg/kg	0.05	MCERTS	0.98	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.4	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.55	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.99	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.65	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.19	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.74	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	10.4	-
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Analytical Report Number: 23-51916
 Project / Site name: Oldfield Road, Hampton
 Your Order No: M5478-4495-CO

Lab Sample Number				2786163	2786164
Sample Reference				WS06	BH02
Sample Number				None Supplied	None Supplied
Depth (m)				0.50	0.30
Date Sampled				16/08/2023	16/08/2023
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	20	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.2	-
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	-
Chromium (III)	mg/kg	1	NONE	34	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	34	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	54	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	200	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	27	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	170	-

Monoaromatics & Oxygenates

Analytical Parameter	Units	Limit of detection	Accreditation Status		
Benzene	mg/kg	0.005	MCERTS	-	-
Toluene	mg/kg	0.005	MCERTS	-	-
Ethylbenzene	mg/kg	0.005	MCERTS	-	-
p & m-xylene	mg/kg	0.005	MCERTS	-	-
o-xylene#	mg/kg	0.005	MCERTS	-	-
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.005	NONE	-	-

Petroleum Hydrocarbons

Analytical Parameter	Units	Limit of detection	Accreditation Status		
TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.1	NONE	-	-
TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.1	NONE	-	-
TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.1	NONE	-	-
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	-	-
TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	-	-
TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	-
TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	-
TPH-CWG - Aliphatic >EC16 - EC35 _{EH_CU_1D_AL}	mg/kg	10	MCERTS	-	-
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	-	-

Analytical Parameter	Units	Limit of detection	Accreditation Status		
TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.1	NONE	-	-
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.1	NONE	-	-
TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.1	NONE	-	-
TPH-CWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	-	-
TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	-	-
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	-
TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	-
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	-	-

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



Analytical Report Number: 23-51916
Project / Site name: Oldfield Road, Hampton
Your Order No: M5478-4495-CO

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2786156	BH01	0.50	165	Loose Fibrous Debris	Chrysotile	0.007	0.007
2786158	WS03B	0.25	151	Loose Fibrous Debris	Amosite	< 0.001	< 0.001
2786159	BH03	0.70	177	Loose Fibres	Chrysotile	< 0.001	< 0.001
2786161	WS07	0.40	162	Loose Fibres	Chrysotile	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number : 23-51916

Project / Site name: Oldfield Road, Hampton

* 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 *
2786153	BH01	None Supplied	1	Brown clay.
2786154	WS04	None Supplied	0.4	Brown sand with gravel.
2786155	WS03A	None Supplied	0.6	Brown clay and sand with gravel.
2786156	BH01	None Supplied	0.5	Brown clay and sand with gravel.
2786158	WS03B	None Supplied	0.25	Brown sand with gravel.
2786159	BH03	None Supplied	0.7	Brown clay and sand with gravel.
2786160	WS03A	None Supplied	0.3	Brown sand with gravel.
2786161	WS07	None Supplied	0.4	Brown sand with gravel.
2786162	WS01	None Supplied	4	Brown clay.
2786163	WS06	None Supplied	0.5	Brown loam and sand with gravel and vegetation.
2786164	BH02	None Supplied	0.3	Brown clay and sand with gravel.

Analytical Report Number : 23-51916

Project / Site name: Oldfield Road, Hampton

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
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
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 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
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS

Analytical Report Number : 23-51916

Project / Site name: Oldfield Road, Hampton

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Sulphate, water soluble, in soil	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

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

- Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.



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Analytical Report Number : 23-52803

Project / Site name:	Oldfield Road, Hampton	Samples received on:	22/08/2023
Your job number:	M5478	Samples instructed on/ Analysis started on:	23/08/2023
Your order number:	M5478 4513 CO	Analysis completed by:	06/09/2023
Report Issue Number:	1	Report issued on:	06/09/2023
Samples Analysed:	6 soil samples		

Signed: _____

Dominika Liana
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: 23-52803
 Project / Site name: Oldfield Road, Hampton
 Your Order No: M5478 4513 CO

Lab Sample Number	2790970			2790971			2790972			2790973			2790974		
Sample Reference	BH03			BH01			BH02			BH03			WS01		
Sample Number	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Depth (m)	9.00			2.00			1.00			6.00			1.10		
Date Sampled	Deviating			Deviating			Deviating			Deviating			Deviating		
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	70	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	0.01	NONE	17	4.9	15	17	15	17	15	17	15	17	15	
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	

General Inorganics

	pH Units	N/A	MCERTS	8.4	8.3	7.8	8.2	7.6
pH - Automated				8.4	8.3	7.8	8.2	7.6
Total Sulphate as SO ₄	%	0.005	MCERTS	0.347	0.017	0.112	0.105	0.022
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.521	0.0666	0.449	0.506	0.0505
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	21	4.1	11	19	7.6
Total Sulphur	%	0.005	MCERTS	0.875	0.01	0.102	0.668	0.01
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

Heavy Metals / Metalloids

	mg/kg	5	NONE	71	8.8	72	67	14
Magnesium (water soluble)	mg/kg	5	NONE	71	8.8	72	67	14
Magnesium (leachate equivalent)	mg/l	2.5	NONE	35	4.4	36	34	6.8

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

Analytical Report Number: 23-52803
 Project / Site name: Oldfield Road, Hampton
 Your Order No: M5478 4513 CO

Lab Sample Number				2790975
Sample Reference				WS04
Sample Number				None Supplied
Depth (m)				0.70
Date Sampled				Deviating
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	8.2
Total mass of sample received	kg	0.001	NONE	0.5

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.1
Total Sulphate as SO ₄	%	0.005	MCERTS	0.03
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0506
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	22
Total Sulphur	%	0.005	MCERTS	0.017
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0

Heavy Metals / Metalloids

Magnesium (water soluble)	mg/kg	5	NONE	13
Magnesium (leachate equivalent)	mg/l	2.5	NONE	6.6

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

Analytical Report Number : 23-52803

Project / Site name: Oldfield Road, Hampton

* 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 *
2790970	BH03	None Supplied	9	Brown clay.
2790971	BH01	None Supplied	2	Brown gravelly sand with stones.
2790972	BH02	None Supplied	1	Brown clay and sand with gravel.
2790973	BH03	None Supplied	6	Brown clay.
2790974	WS01	None Supplied	1.1	Brown clay and sand with gravel.
2790975	WS04	None Supplied	0.7	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 23-52803

Project / Site name: Oldfield Road, Hampton

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
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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 Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	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
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS

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

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

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

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

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

Sample Deviation Report



Analytical Report Number : 23-52803

Project / Site name: Oldfield Road, Hampton

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH01	None Supplied	S	2790971	a	None Supplied	None Supplied	None Supplied
BH02	None Supplied	S	2790972	a	None Supplied	None Supplied	None Supplied
BH03	None Supplied	S	2790970	a	None Supplied	None Supplied	None Supplied
BH03	None Supplied	S	2790973	a	None Supplied	None Supplied	None Supplied
WS01	None Supplied	S	2790974	a	None Supplied	None Supplied	None Supplied
WS04	None Supplied	S	2790975	a	None Supplied	None Supplied	None Supplied



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e: C.Orafu@brownfield-solutions.co.uk

Analytical Report Number : 23-51917

Project / Site name:	Oldfield Road, Hampton	Samples received on:	18/08/2023
Your job number:	M5478	Samples instructed on/ Analysis started on:	18/08/2023
Your order number:	M5478-4495-CO	Analysis completed by:	29/08/2023
Report Issue Number:	1	Report issued on:	29/08/2023
Samples Analysed:	3 10:1 WAC samples		

Signed: _____

Dominika Liana
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.

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Waste Acceptance Criteria Analytical Results							
Report No:	23-51917						
Client: BSL							
Location	Oldfield Road, Hampton						
Lab Reference (Sample Number)	2786165 / 2786166						
Sampling Date	14/08/2023						
Sample ID	BH01						
Depth (m)	1.00						
Landfill Waste Acceptance Criteria Limits							
				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Solid Waste Analysis							
TOC (%)**	0.4			3%	5%	6%	
Loss on Ignition (%) **	2.8			--	--	10%	
BTEX (µg/kg)**	< 5.0			6000	--	--	
Sum of PCBs (mg/kg)**	< 0.007			1	--	--	
Mineral Oil (mg/kg) <small>EH_ID_CU_AL</small>	< 10			500	--	--	
Total PAH (WAC-17) (mg/kg)	1.68			100	--	--	
pH (units)**	7.9			--	>6	--	
Acid Neutralisation Capacity (mmol / kg)	3.1			--	To be evaluated	To be evaluated	
Eluate Analysis							
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test		
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0042			0.0415	0.5	2	25
Barium *	0.0342			0.342	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0047			0.047	0.5	10	70
Copper *	0.019			0.19	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0058			0.0582	0.5	10	30
Nickel *	0.0043			0.044	0.4	10	40
Lead *	0.0088			0.088	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.029			0.29	4	50	200
Chloride *	1.3			13	800	15000	25000
Fluoride*	1.5			15	10	150	500
Sulphate *	22			220	1000	20000	50000
TDS*	95			950	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	12.2			122	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.80						
Dry Matter (%)	85						
Moisture (%)	15						
Results are expressed on a dry weight basis, after correction for moisture content where applicable. * = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation ** = MCERTS accredited							

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results							
Report No:	23-51917						
Client: BSL							
Location	Oldfield Road, Hampton						
Lab Reference (Sample Number)	2786167 / 2786168						
Sampling Date	16/08/2023						
Sample ID	WS06						
Depth (m)	0.70						
Landfill Waste Acceptance Criteria Limits							
				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Solid Waste Analysis							
TOC (%)**	0.7			3%	5%	6%	
Loss on Ignition (%) **	3.0			--	--	10%	
BTEX (µg/kg)**	< 5.0			6000	--	--	
Sum of PCBs (mg/kg)**	< 0.007			1	--	--	
Mineral Oil (mg/kg) <small>EH_ID_CU_AL</small>	< 10			500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--	
pH (units)**	8.0			--	>6	--	
Acid Neutralisation Capacity (mmol / kg)	3.0			--	To be evaluated	To be evaluated	
Eluate Analysis							
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test		
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.0010			< 0.0100	0.5	2	25
Barium *	0.0093			0.0926	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0014			0.014	0.5	10	70
Copper *	0.014			0.14	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0056			0.0561	0.5	10	30
Nickel *	0.0020			0.020	0.4	10	40
Lead *	0.0020			0.020	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	0.0059			0.059	0.1	0.5	7
Zinc *	0.0029			0.029	4	50	200
Chloride *	1.9			19	800	15000	25000
Fluoride*	1.1			11	10	150	500
Sulphate *	3.3			33	1000	20000	50000
TDS*	42			420	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	24.0			240	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.80						
Dry Matter (%)	91						
Moisture (%)	8.7						
Results are expressed on a dry weight basis, after correction for moisture content where applicable. * = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation ** = MCERTS accredited							

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results							
Report No:	23-51917						
Client: BSL							
Location	Oldfield Road, Hampton						
Lab Reference (Sample Number)	2786169 / 2786170						
Sampling Date	15/08/2023						
Sample ID	BH03						
Depth (m)	0.40						
Landfill Waste Acceptance Criteria Limits							
				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Solid Waste Analysis							
TOC (%)**	0.4			3%	5%	6%	
Loss on Ignition (%) **	3.0			--	--	10%	
BTEX (µg/kg)**	< 5.0			6000	--	--	
Sum of PCBs (mg/kg)**	< 0.007			1	--	--	
Mineral Oil (mg/kg) <small>EH_ID_CU_AL</small>	< 10			500	--	--	
Total PAH (WAC-17) (mg/kg)	1.17			100	--	--	
pH (units)**	6.1			--	>6		
Acid Neutralisation Capacity (mmol / kg)	-3.6			--	To be evaluated	To be evaluated	
Eluate Analysis							
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test		
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0015			0.0155	0.5	2	25
Barium *	0.0279			0.279	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0013			0.013	0.5	10	70
Copper *	0.012			0.12	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	< 0.0004			< 0.0040	0.5	10	30
Nickel *	0.0007			0.0070	0.4	10	40
Lead *	0.0011			0.011	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.020			0.20	4	50	200
Chloride *	2.1			21	800	15000	25000
Fluoride*	0.77			7.7	10	150	500
Sulphate *	46			460	1000	20000	50000
TDS*	160			1600	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	7.18			71.8	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.30						
Dry Matter (%)	91						
Moisture (%)	8.8						
Results are expressed on a dry weight basis, after correction for moisture content where applicable. *= UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation ** = MCERTS accredited							

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



Analytical Report Number : 23-51917

Project / Site name: Oldfield Road, Hampton

* 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 *
2786165	BH01	None Supplied	1	Brown clay.
2786167	WS06	None Supplied	0.7	Brown clay and sand with gravel.
2786169	BH03	None Supplied	0.4	Brown clay and sand with gravel.

Analytical Report Number : 23-51917

Project / Site name: Oldfield Road, Hampton

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
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated WAC-17 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
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
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 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
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	ISO 17025

Analytical Report Number : 23-51917

Project / Site name: Oldfield Road, Hampton

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
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

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 - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

APPENDIX G

Geotechnical Testing Results



TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
 Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
 cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
 cl 5.3, 6

i2 Analytical Ltd
 Unit 8 Harrowden Road
 Brackmills Industrial Estate
 Northampton NN4 7EB



4041

Client: Brownfield Solutions Ltd
 Client Address: William Smith House, 173 - 183 Witton Street,
 Northwich, Cheshire,
 CW9 5LP
 Contact: Chigozie Orafu
 Site Address: Oldfield Road, Hampton
 Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

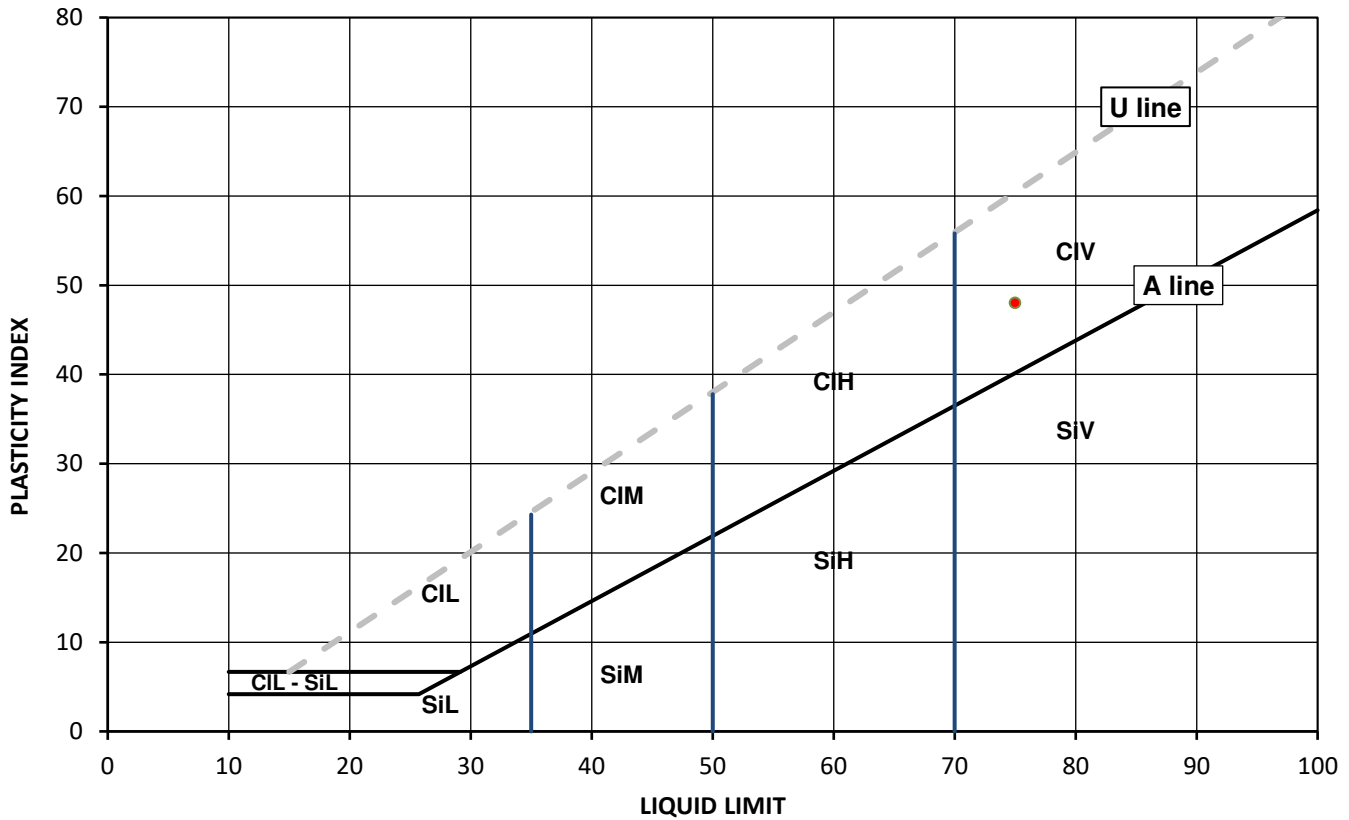
Client Reference: M5478
 Job Number: 23-52804-1
 Date Sampled: Not Given
 Date Received: 22/08/2023
 Date Tested: 29/08/2023
 Sampled By: Client - CO

Test Results:

Laboratory Reference: 2790976
 Hole No.: BH01
 Sample Reference: Not Given
 Sample Description: Brownish grey CLAY
 Sample Preparation: Tested in natural condition;
 Cone Type: 80g/30deg

Depth Top [m]: 11.00
 Depth Base [m]: Not Given
 Sample Type: D

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
27.2	75	1.018	27	48	N/A	N/A	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

Cl	Clay	Plasticity	Liquid Limit
Si	Silt	L	below 35
		M	35 to 50
		H	50 to 70
		V	exceeding 70
		O	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

Signed:

Katarzyna Koziel

Katarzyna Koziel
 Reporting Specialist
 for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.



TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
 Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
 cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
 cl 5.3, 6

i2 Analytical Ltd
 Unit 8 Harrowden Road
 Brackmills Industrial Estate
 Northampton NN4 7EB



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Client: Brownfield Solutions Ltd
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 Contact: Chigozie Orafu
 Site Address: Oldfield Road, Hampton

Client Reference: M5478
 Job Number: 23-52804-1
 Date Sampled: Not Given
 Date Received: 22/08/2023
 Date Tested: 29/08/2023
 Sampled By: Client - CO

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

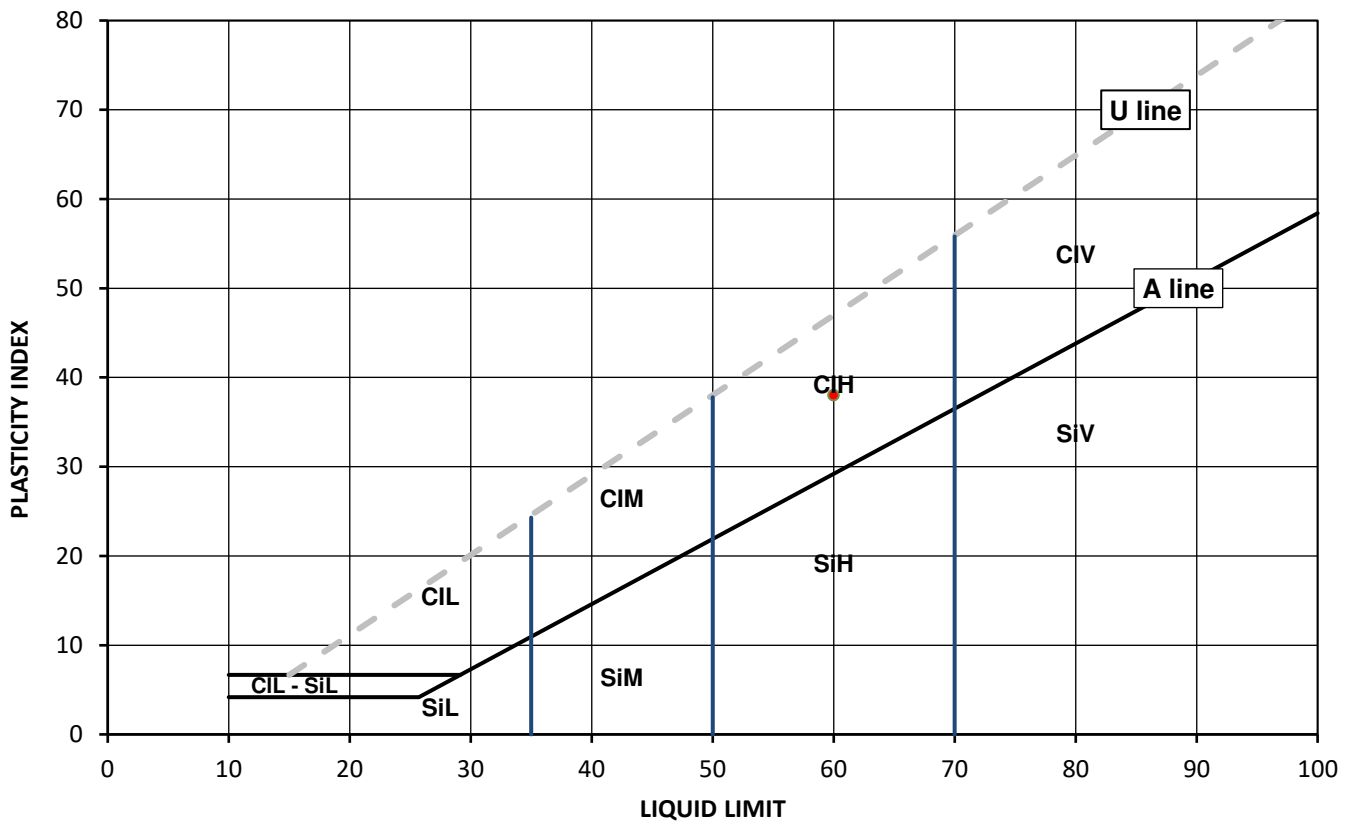
Test Results:

Laboratory Reference: 2790977
 Hole No.: WS06
 Sample Reference: Not Given
 Sample Description: Greyish brown slightly gravelly CLAY

Depth Top [m]: 4.00
 Depth Base [m]: Not Given
 Sample Type: D

Sample Preparation: Tested after >0.425 mm removed by hand;
 Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
28.8	60	1.036	22	38	N/A	N/A	99



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L	Low
	M	Medium
	H	High
	V	Very high
	O	Organic
		append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

Signed:

Katarzyna Koziel

Katarzyna Koziel
 Reporting Specialist
 for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
 Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
 cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
 cl 5.3, 6

i2 Analytical Ltd
 Unit 8 Harrowden Road
 Brackmills Industrial Estate
 Northampton NN4 7EB



4041

Client: Brownfield Solutions Ltd
 Client Address: William Smith House, 173 - 183 Witton Street,
 Northwich, Cheshire,
 CW9 5LP
 Contact: Chigozie Orafu
 Site Address: Oldfield Road, Hampton

Client Reference: M5478
 Job Number: 23-52804-1
 Date Sampled: Not Given
 Date Received: 22/08/2023
 Date Tested: 29/08/2023
 Sampled By: Client - CO

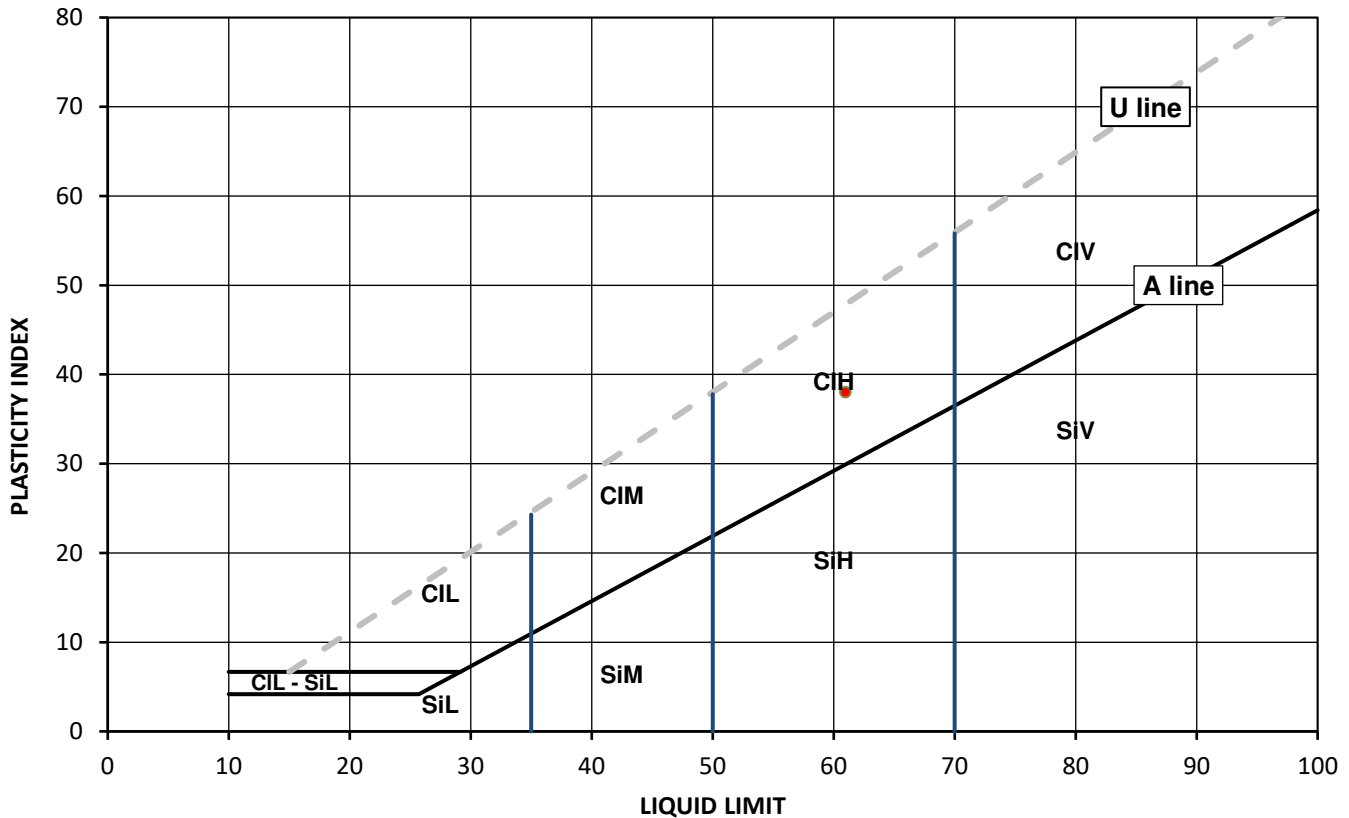
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 2790978
 Hole No.: BH01
 Sample Reference: Not Given
 Sample Description: Greyish brown slightly gravelly CLAY
 Sample Preparation: Tested after >0.425 mm removed by hand;
 Cone Type: 80g/30deg

Depth Top [m]: 15.00
 Depth Base [m]: Not Given
 Sample Type: D

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
21.9	61	1.036	23	38	N/A	N/A	90



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

Cl	Clay	Plasticity	Liquid Limit
Si	Silt	L	Low
		M	Medium
		H	High
		V	Very high
		O	Organic
			below 35
			35 to 50
			50 to 70
			exceeding 70
			append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

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 cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
 cl 5.3, 6

i2 Analytical Ltd
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4041

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 Sampled By: Client - CO

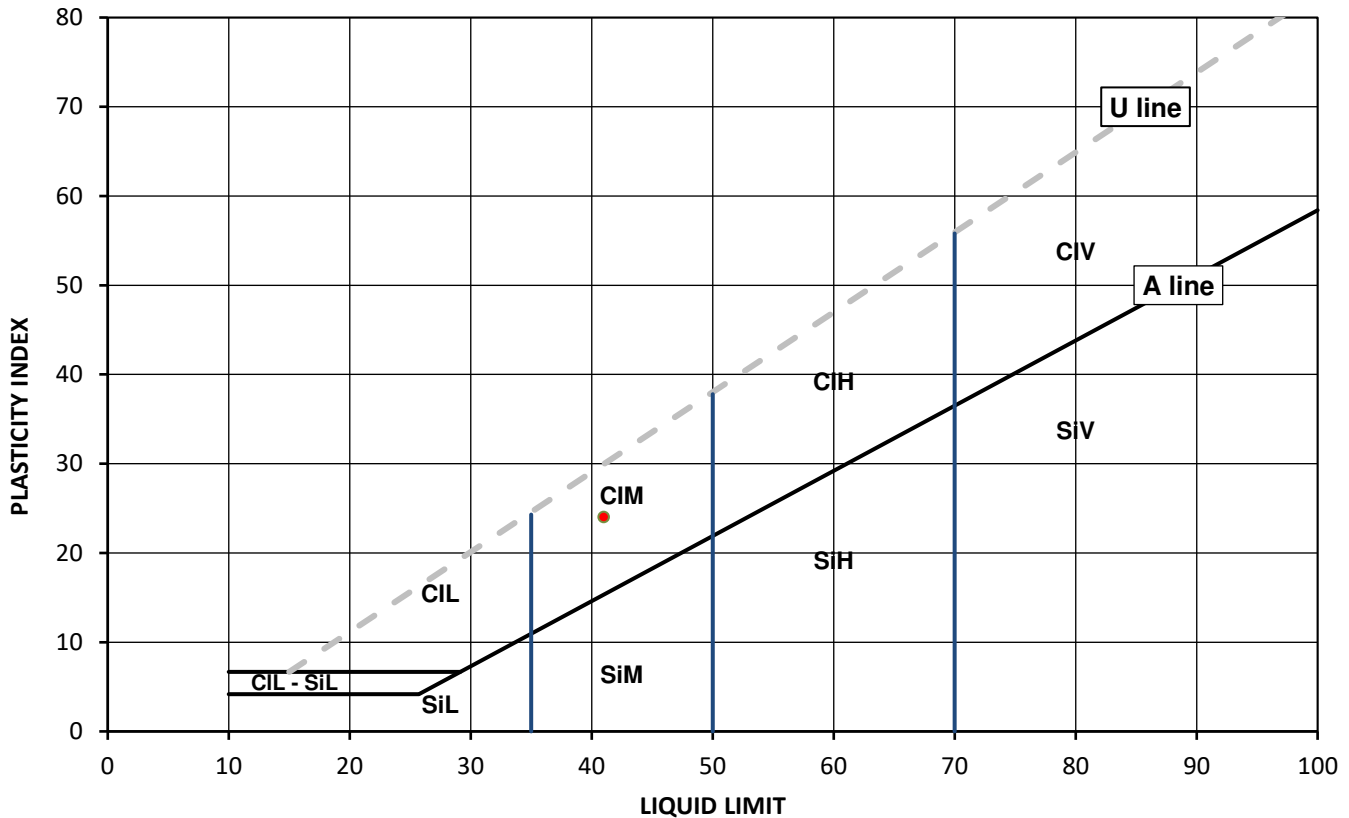
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 2790979
 Hole No.: BH03
 Sample Reference: Not Given
 Sample Description: Brownish grey gravelly sandy CLAY
 Sample Preparation: Tested after washing to remove >0.425 mm;
 Cone Type: 80g/30deg

Depth Top [m]: 0.70
 Depth Base [m]: Not Given
 Sample Type: D

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
14.6	41	1.058	17	24	N/A	N/A	65



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

Cl	Clay	Plasticity	Liquid Limit
Si	Silt	L	below 35
		M	35 to 50
		H	50 to 70
		V	exceeding 70
		O	append to classification for organic material (eg CIHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

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 Date Sampled: Not Given
 Date Received: 22/08/2023
 Date Tested: 29/08/2023
 Sampled By: Client - CO

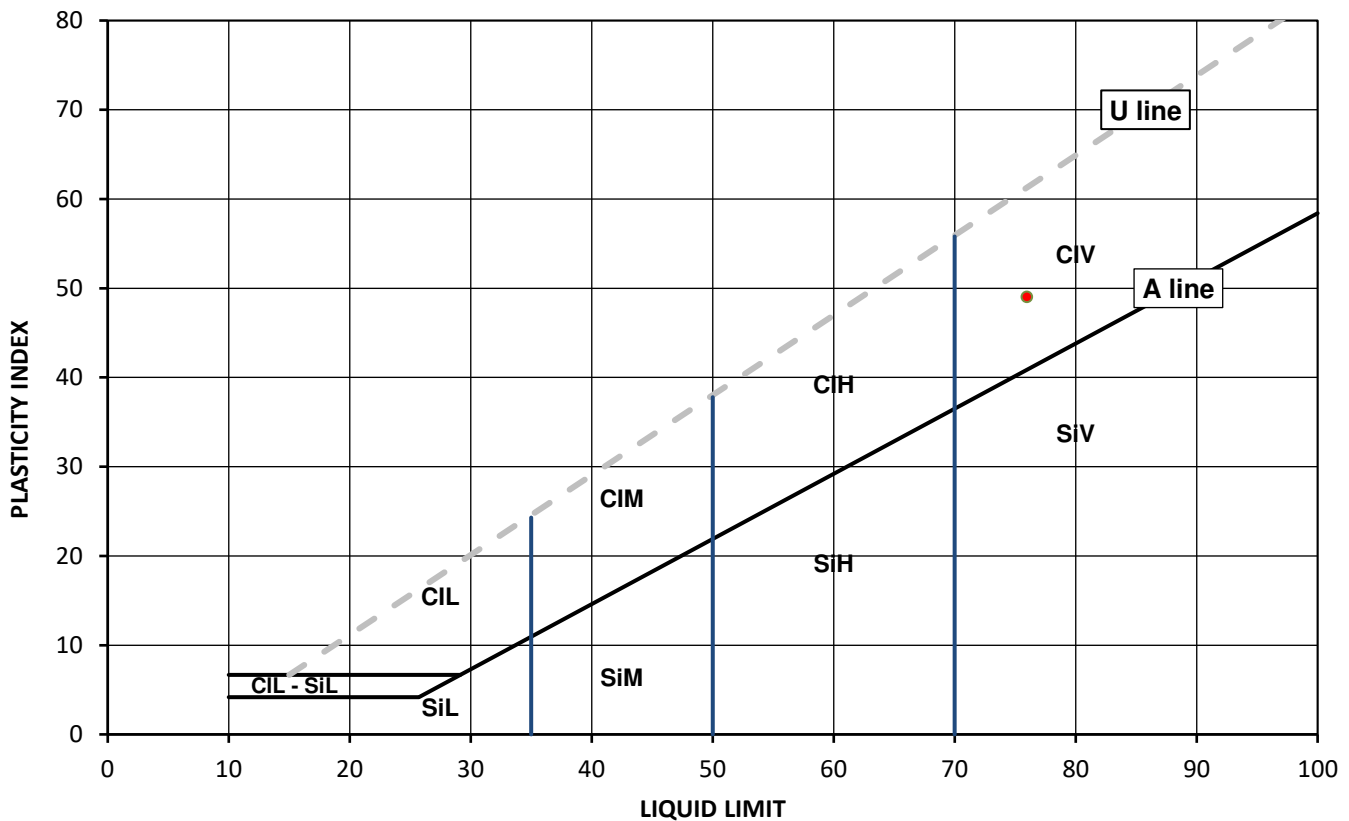
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 2790980
 Hole No.: BH03
 Sample Reference: Not Given
 Sample Description: Greyish brown CLAY
 Sample Preparation: Tested in natural condition;
 Cone Type: 80g/30deg

Depth Top [m]: 9.00
 Depth Base [m]: Not Given
 Sample Type: D

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
27.9	76	1.036	27	49	N/A	N/A	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L	Low
	M	Medium
	H	High
	V	Very high
	O	Organic
		append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

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 cl 5.3, 6

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 Date Sampled: Not Given
 Date Received: 22/08/2023
 Date Tested: 29/08/2023
 Sampled By: Client - CO

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

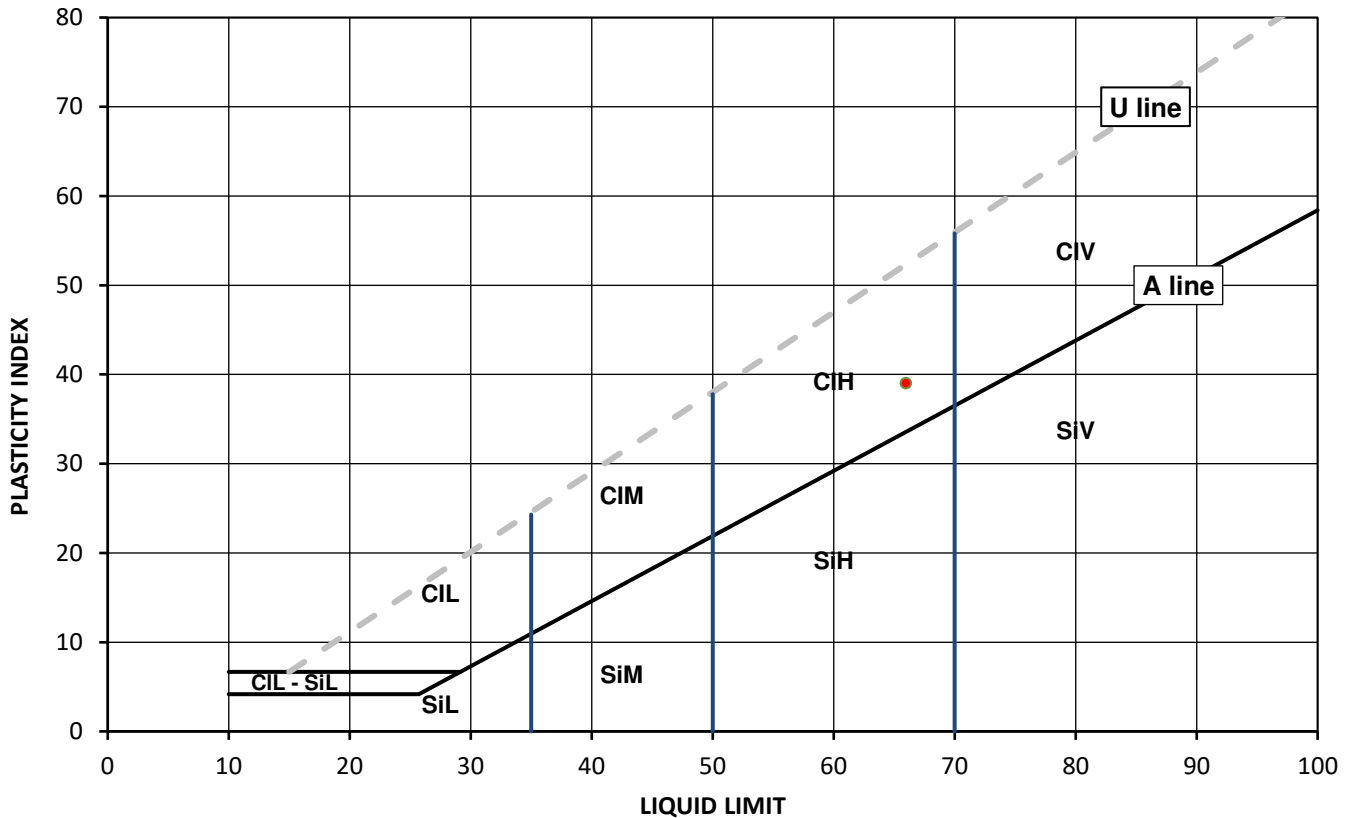
Test Results:

Laboratory Reference: 2790981
 Hole No.: BH03
 Sample Reference: Not Given
 Sample Description: Greyish brown slightly gravelly CLAY

Depth Top [m]: 13.00
 Depth Base [m]: Not Given
 Sample Type: D

Sample Preparation: Tested after >0.425 mm removed by hand;
 Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
22.3	66	1.036	27	39	N/A	N/A	93



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L	Low
	M	Medium
	H	High
	V	Very high
	O	Organic
		append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

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cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

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Northampton NN4 7EB



4041

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Contact: Chigozie Orafu
Site Address: Oldfield Road, Hampton

Client Reference: M5478
Job Number: 23-52804-1
Date Sampled: Not Given
Date Received: 22/08/2023
Date Tested: 29/08/2023
Sampled By: Client - CO

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

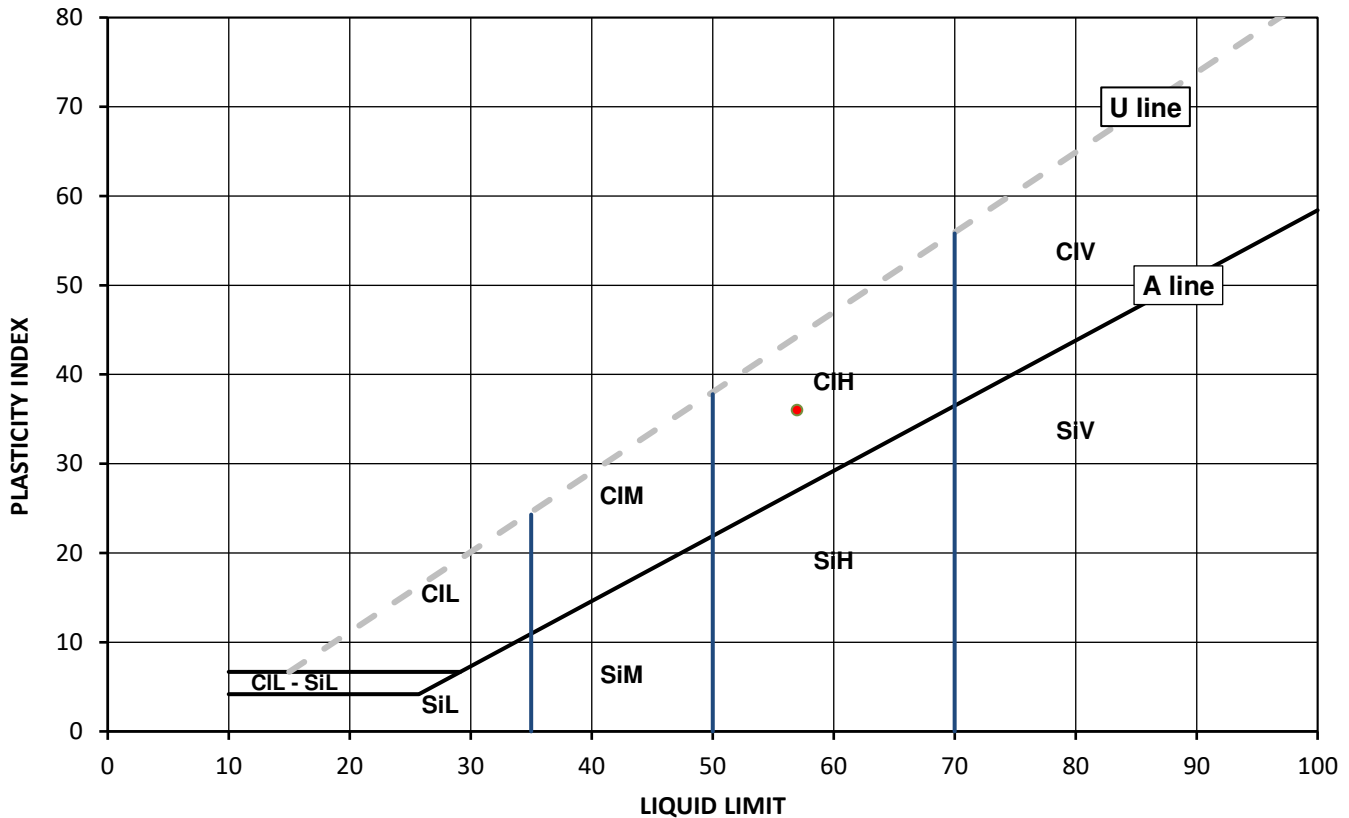
Test Results:

Laboratory Reference: 2790982
Hole No.: BH03
Sample Reference: Not Given
Sample Description: Brownish grey slightly sandy CLAY

Depth Top [m]: 3.50
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested in natural condition;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
25.9	57	1.036	21	36	N/A	N/A	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

Cl	Clay	Plasticity	Liquid Limit
Si	Silt	L	below 35
		M	35 to 50
		H	50 to 70
		V	exceeding 70
		O	append to classification for organic material (eg CIHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

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 cl 5.3, 6

i2 Analytical Ltd
 Unit 8 Harrowden Road
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 Northampton NN4 7EB



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 CW9 5LP
 Contact: Chigozie Orafu
 Site Address: Oldfield Road, Hampton

Client Reference: M5478
 Job Number: 23-52804-1
 Date Sampled: Not Given
 Date Received: 22/08/2023
 Date Tested: 29/08/2023
 Sampled By: Client - CO

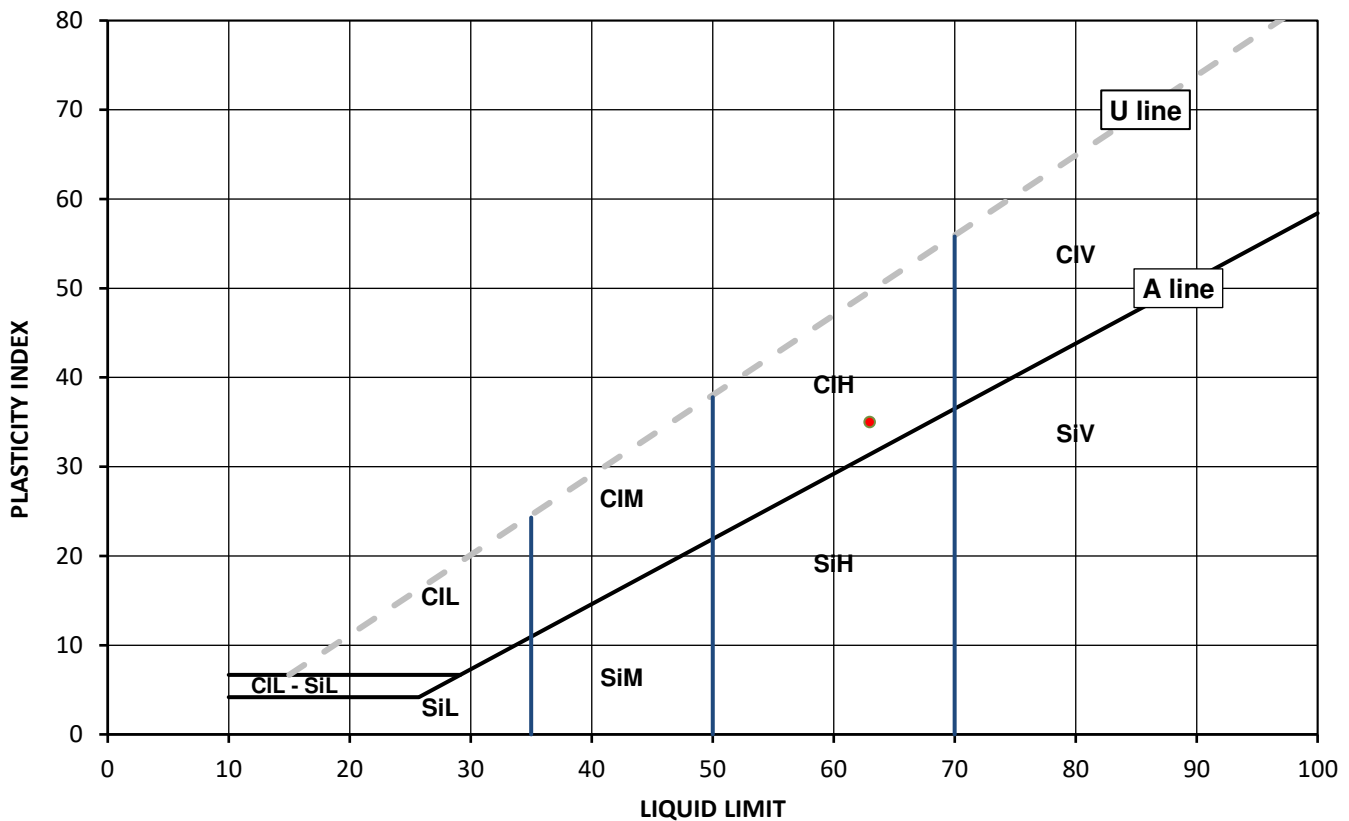
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 2790983
 Hole No.: BH01
 Sample Reference: Not Given
 Sample Description: Brownish grey CLAY
 Sample Preparation: Tested in natural condition;
 Cone Type: 80g/30deg

Depth Top [m]: 6.00
 Depth Base [m]: Not Given
 Sample Type: D

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
30.3	63	1.055	28	35	N/A	N/A	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

Cl	Clay	Plasticity	Liquid Limit
Si	Silt	L	below 35
		M	35 to 50
		H	50 to 70
		V	exceeding 70
		O	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

Signed:

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SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: Brownfield Solutions Ltd
Client Address: William Smith House, 173 - 183 Witton Street,
Northwich, Cheshire,
CW9 5LP
Contact: Chigozie Orafu
Site Address: Oldfield Road, Hampton

W by BS EN 17892-1: 2014; Liquid and Plastic Limit by BS EN ISO 17892-12:2018+A1:2021: Clause 5.3 (4 Point Test), Clause 5.3.14 (1 Point Test) and 5.5; Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Client Reference: M5478
Job Number: 23-52804-1
Date Sampled: Not Given
Date Received: 22/08/2023
Date Tested: 29/08/2023
Sampled By: Client - CO

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	W	Liquid & Plastic Limit							Density		
		Reference	Depth Top m	Depth Base m	Type				% Passing 425um %	WL* %	Correlation Factor	Wp %	Ip %	Cone type	Sample Preparation	bulk Mg/m3	dry Mg/m3	PD Mg/m3
2790976	BH01	Not Given	11.00	Not Given	D	Brownish grey CLAY	Atterberg 1 Point	27.2	100	75	1.018	27	48	80g/30 deg	N			
2790977	WS06	Not Given	4.00	Not Given	D	Greyish brown slightly gravelly CLAY	Atterberg 1 Point	28.8	99	60	1.036	22	38	80g/30 deg	R			
2790978	BH01	Not Given	15.00	Not Given	D	Greyish brown slightly gravelly CLAY	Atterberg 1 Point	21.9	90	61	1.036	23	38	80g/30 deg	R			
2790979	BH03	Not Given	0.70	Not Given	D	Brownish grey gravelly sandy CLAY	Atterberg 1 Point	14.6	65	41	1.058	17	24	80g/30 deg	W			
2790980	BH03	Not Given	9.00	Not Given	D	Greyish brown CLAY	Atterberg 1 Point	27.9	100	76	1.036	27	49	80g/30 deg	N			
2790981	BH03	Not Given	13.00	Not Given	D	Greyish brown slightly gravelly CLAY	Atterberg 1 Point	22.3	93	66	1.036	27	39	80g/30 deg	R			
2790982	BH03	Not Given	3.50	Not Given	D	Brownish grey slightly sandy CLAY	Atterberg 1 Point	25.9	100	57	1.036	21	36	80g/30 deg	N			
2790983	BH01	Not Given	6.00	Not Given	D	Brownish grey CLAY	Atterberg 1 Point	30.3	100	63	1.055	28	35	80g/30 deg	N			

Note: # Non accredited; NP - Non plastic; N - Tested in natural condition, R - Tested after >0.425mm removed by hand, W - Tested after washing to remove >425mm; * - One point liquid limit corrected as per the report Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Comments:

Signed:

Katarzyna Koziel
Reporting Specialist

for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Tested in Accordance with: BS 1377-7: 1990: Clause 8

Client: Brownfield Solutions Ltd
Client Address: William Smith House, 173 - 183 Witton Street,
Northwich, Cheshire,
CW9 5LP

Contact: Chigozie Orafu
Site Address: Oldfield Road, Hampton

Client Reference: M5478
Job Number: 23-52804-1
Date Sampled: Not Given
Date Received: 22/08/2023
Date Tested: 29/08/2023
Sampled By: Client - CO

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

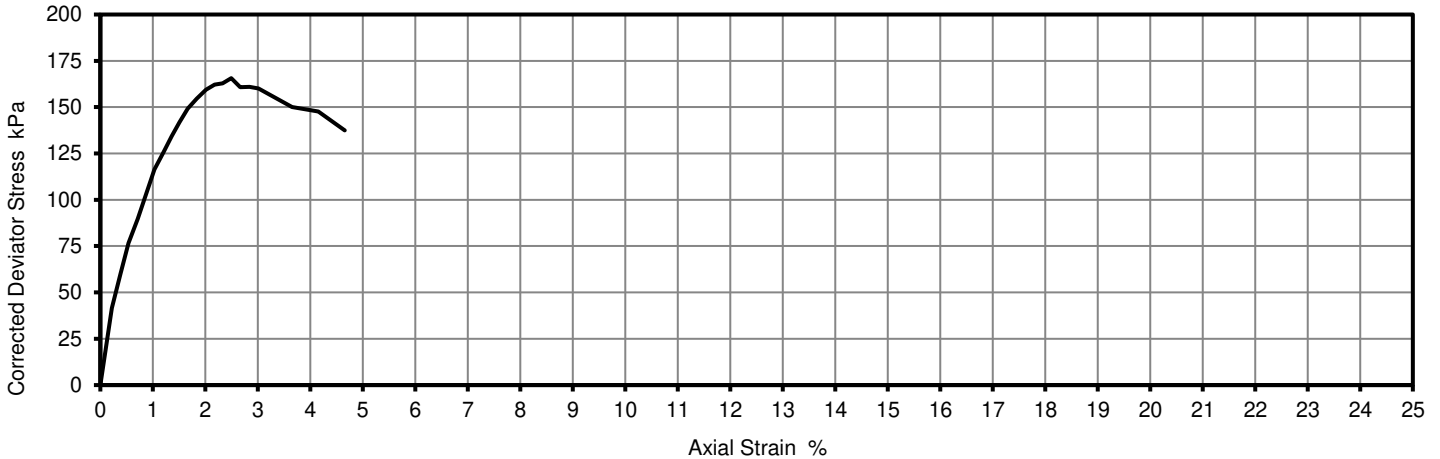
Test Results:

Laboratory Reference: 2790984
Hole No.: BH01
Sample Reference: Not Given
Sample Description: Greyish brown slightly silty CLAY
Sample Preparation: Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.

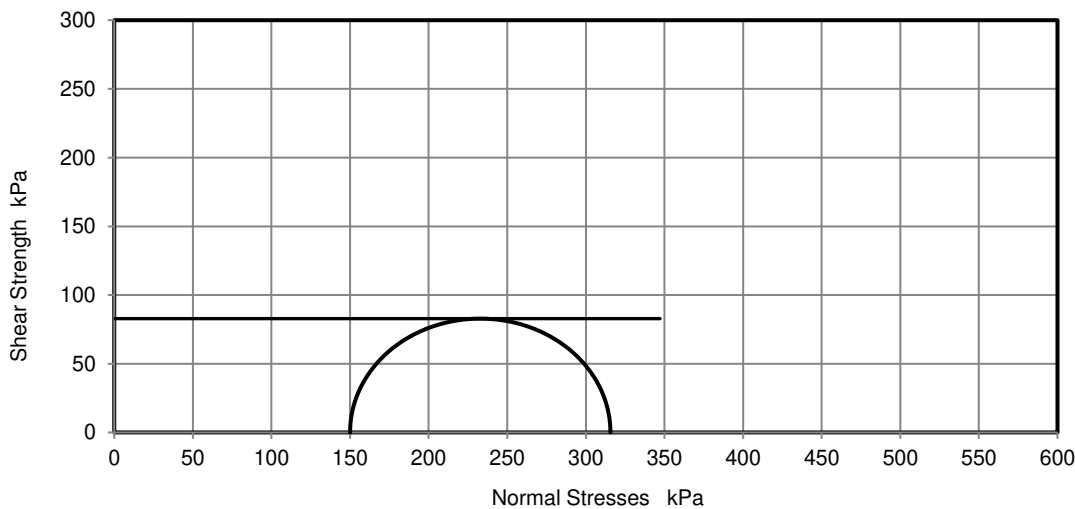
Depth Top [m]: 7.50
Depth Base [m]: 7.95
Sample Type: U

Test Number	1	Rate of Strain	2.00	%/min
Length	100.96	Cell Pressure	150	kPa
Diameter	49.46	Axial Strain at failure	2.5	%
Bulk Density	1.94	Deviator Stress, ($\sigma_1 - \sigma_3$) _f	166	kPa
Moisture Content	27	Undrained Shear Strength, cu	83	kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Dry Density	1.53	Mode of Failure	Brittle	
Membrane Correction	0.32	Latex membrane thickness	0.23	mm

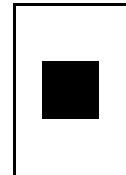
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Signed:

Katarzyna Koziel

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Tested in Accordance with: BS 1377-7: 1990: Clause 8

Client: Brownfield Solutions Ltd
Client Address: William Smith House, 173 - 183 Witton Street,
Northwich, Cheshire,
CW9 5LP
Contact: Chigozie Orafu
Site Address: Oldfield Road, Hampton

Client Reference: M5478
Job Number: 23-52804-1
Date Sampled: Not Given
Date Received: 22/08/2023
Date Tested: 29/08/2023
Sampled By: Client - CO

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

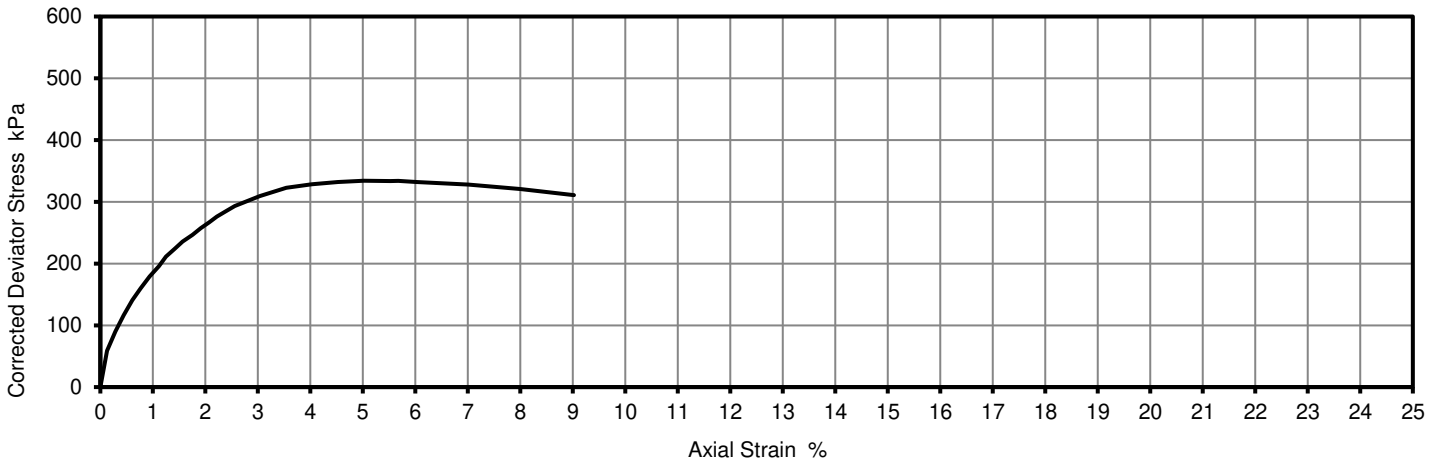
Test Results:

Laboratory Reference: 2790985
Hole No.: BH01
Sample Reference: Not Given
Sample Description: Greyish brown slightly silty CLAY
Sample Preparation: Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.

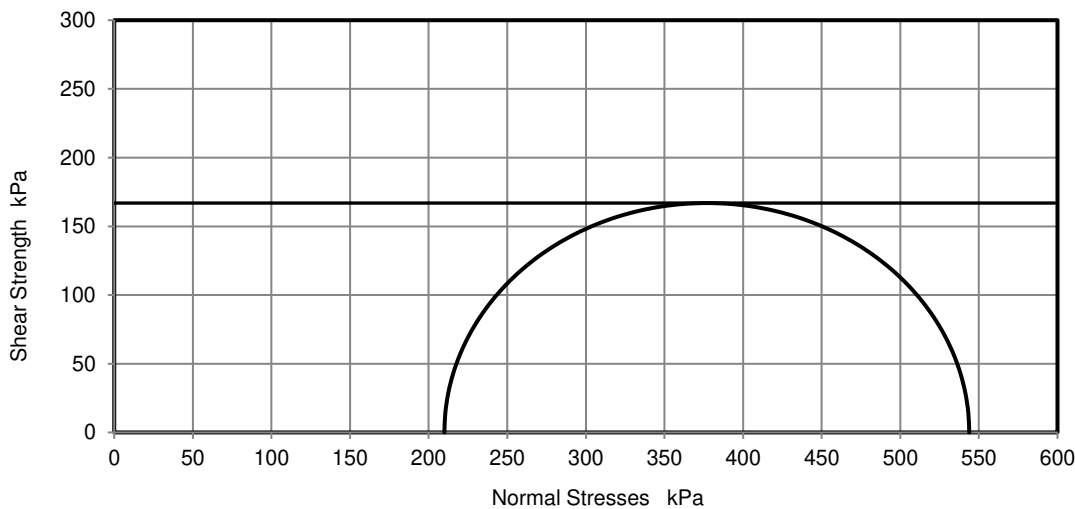
Depth Top [m]: 10.50
Depth Base [m]: 10.95
Sample Type: U

Test Number	1	Rate of Strain	2.00	%/min
Length	101.43	Cell Pressure	210	kPa
Diameter	49.91	Axial Strain at failure	5.7	%
Bulk Density	1.92	Deviator Stress, ($\sigma_1 - \sigma_3$) _f	334	kPa
Moisture Content	28	Undrained Shear Strength, cu	167	kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Dry Density	1.50	Mode of Failure	Compound	
Membrane Correction	0.70	Latex membrane thickness	0.23	mm

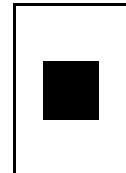
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

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DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



4041

Tested in Accordance with: BS 1377-7: 1990: Clause 8

Client: Brownfield Solutions Ltd
Client Address: William Smith House, 173 - 183 Witton Street,
Northwich, Cheshire,
CW9 5LP
Contact: Chigozie Orafu
Site Address: Oldfield Road, Hampton

Client Reference: M5478
Job Number: 23-52804-1
Date Sampled: Not Given
Date Received: 22/08/2023
Date Tested: 29/08/2023
Sampled By: Client - CO

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

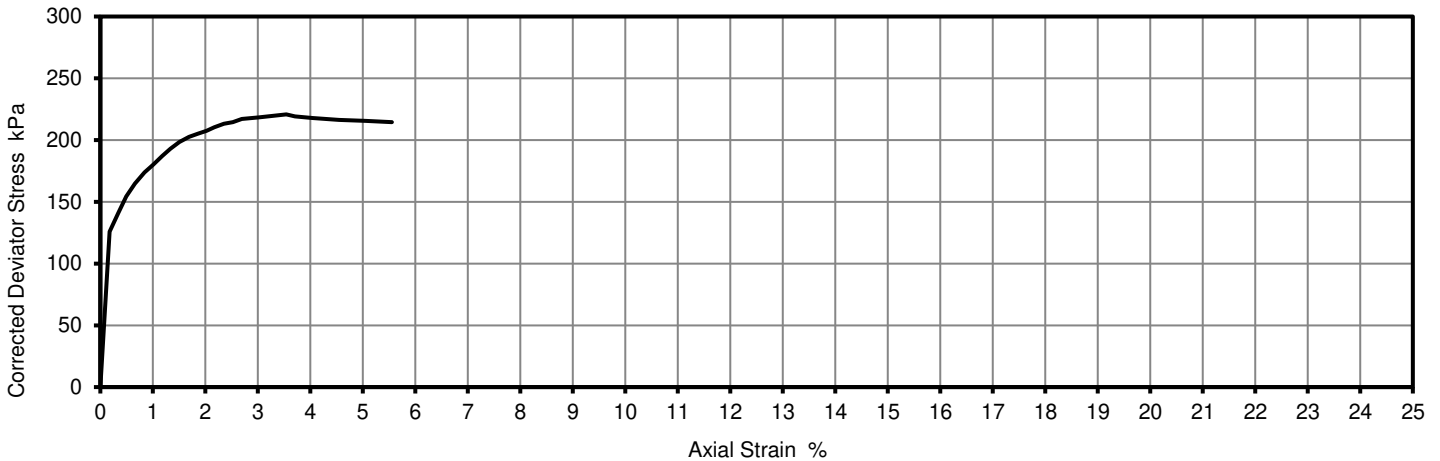
Test Results:

Laboratory Reference: 2790986
Hole No.: BH03
Sample Reference: Not Given
Sample Description: Greyish brown slightly silty CLAY
Sample Preparation: Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.

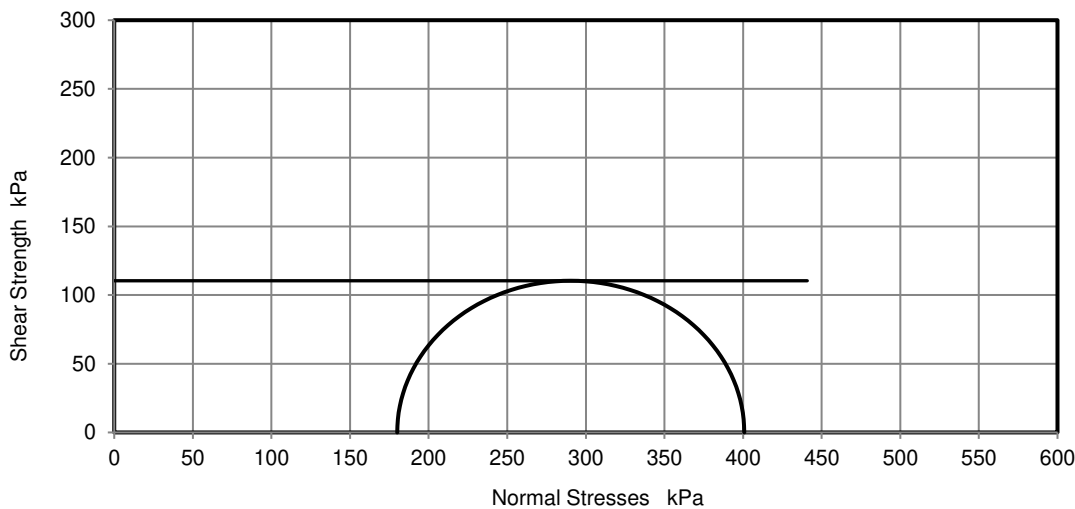
Depth Top [m]: 9.00
Depth Base [m]: 9.45
Sample Type: U

Test Number	1	Rate of Strain	2.00	%/min
Length	139.89	Cell Pressure	180	kPa
Diameter	69.79	Axial Strain at failure	3.5	%
Bulk Density	1.91	Deviator Stress, ($\sigma_1 - \sigma_3$) _f	221	kPa
Moisture Content	29	Undrained Shear Strength, cu	110	kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Dry Density	1.47	Mode of Failure	Brittle	
Membrane Correction	0.36	Latex membrane thickness	0.26	mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Signed:

Katarzyna Koziel

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF THE ONE-DIMENSIONAL CONSOLIDATION PROPERTIES

Tested in Accordance with: BS 1377-5:1990: Clause 3

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: Brownfield Solutions Ltd
 Client Address: William Smith House, 173 - 183 Witton Street,
 Northwich, Cheshire,
 CW9 5LP
 Contact: Chigozie Orafu
 Site Address: Oldfield Road, Hampton

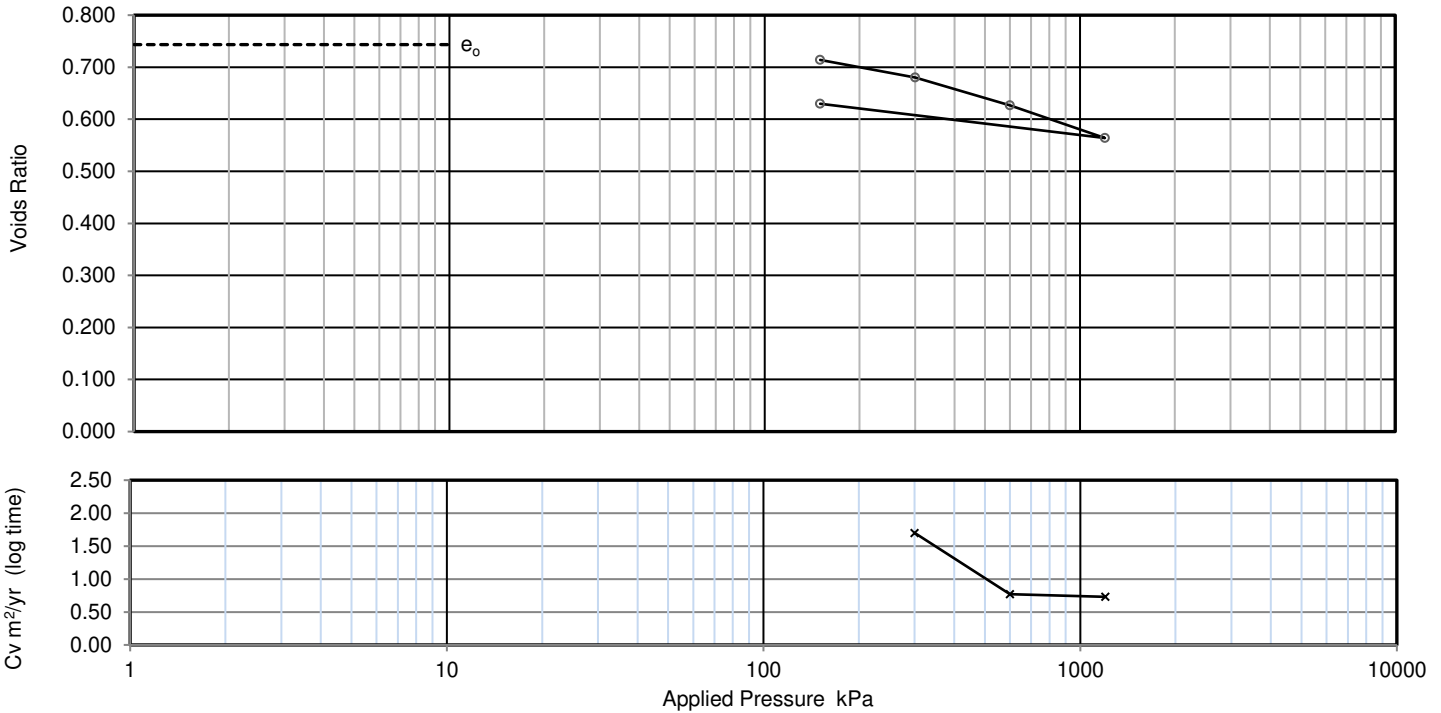
Client Reference: M5478
 Job Number: 23-52804-1
 Date Sampled: Not Given
 Date Received: 22/08/2023
 Date Tested: 30/08/2023
 Sampled By: Client - CO

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 2790984
 Hole No.: BH01
 Sample Reference: Not Given
 Sample Description: Greyish brown slightly silty CLAY

Depth Top [m]: 7.50
 Depth Base [m]: 7.95
 Sample Type: U



Applied Pressure kPa	Voids ratio	Mv m2/MN	Cv (t50, log) m2/yr	Cv (t90, root) m2/yr	Csec
0	0.743	-	-	-	-
150	0.714	0.11	N/A	67	0.00026
300	0.680	0.13	1.7	0.95	0.0025
600	0.627	0.11	0.77	0.72	0.0019
1 200	0.564	0.064	0.73	0.57	0.0032
150	0.630	0.04			

Preparation
Sample squeezed out of core

Index tests

Orientation of the sample	Vertical	
Particle density	assumed	2.65 Mg/m ³
Liquid limit	N/A	%
Plastic limit	N/A	%

Specimen details

	Initial	Final	
Diameter	50.10	-	mm
Height	20.10	18.79	mm
Moisture Content	28	27	%
Bulk density	1.94	2.07	Mg/m ³
Dry density	1.52	1.63	Mg/m ³
Voids Ratio	0.743	0.630	
Saturation	98	114	%
Avg. temperature for test	22.0		°C
Swelling Pressure	Not measured		kPa
Settlement on saturation			%
Total test time	5		days

Note: Cv corrected to 20°C

Remarks:

Signed: *Katarzyna Koziel*
 Katarzyna Koziel
 Reporting Specialist
 for and on behalf of i2 Analytical Ltd

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i2 Analytical Ltd
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Environmental Science

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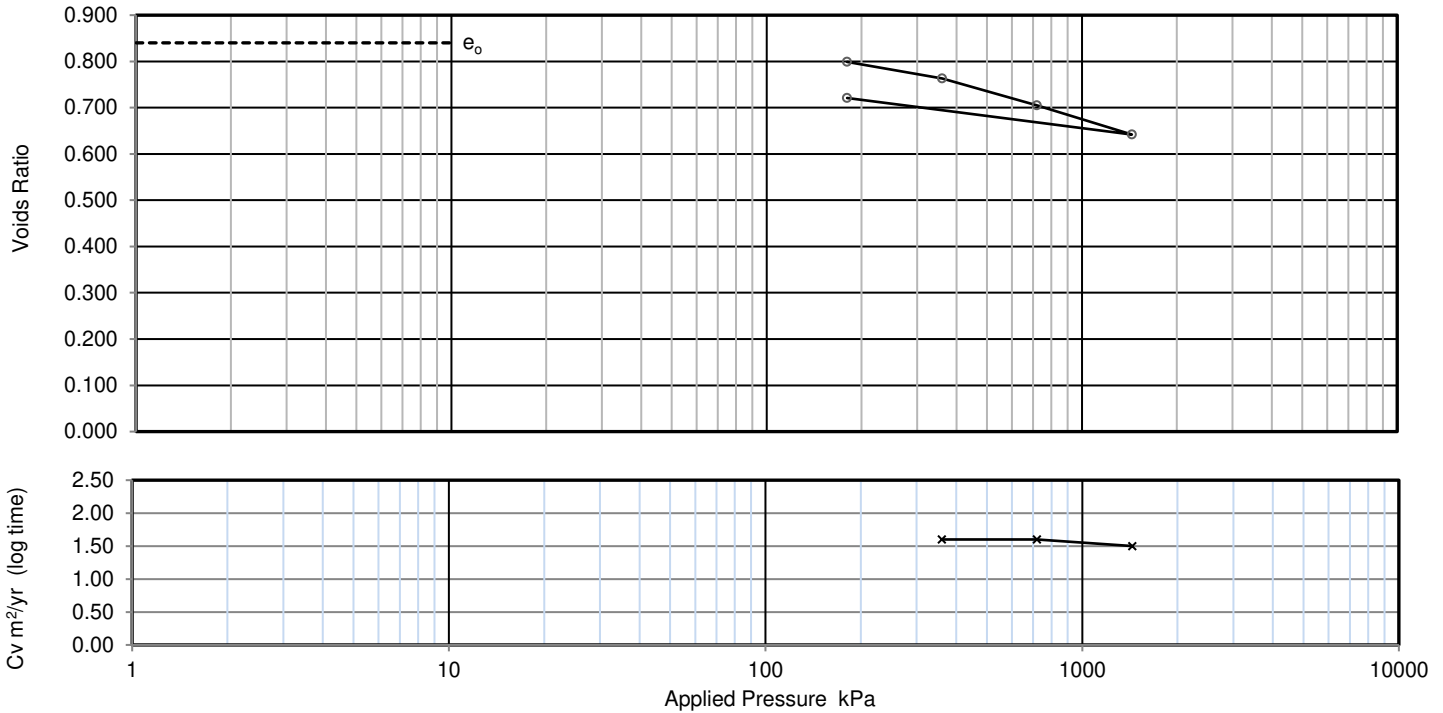
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: M5478
Job Number: 23-52804-1
Date Sampled: Not Given
Date Received: 22/08/2023
Date Tested: 31/08/2023
Sampled By: Client - CO

Test Results:

Laboratory Reference: 2790986
Hole No.: BH03
Sample Reference: Not Given
Sample Description: Greyish brown slightly silty CLAY

Depth Top [m]: 9.00
Depth Base [m]: 9.45
Sample Type: U



Applied Pressure kPa	Void ratio	Mv m2/MN	Cv (t50, log) m2/yr	Cv (t90, root) m2/yr	Csec
0	0.840	-	-	-	-
180	0.799	0.12	N/A	29	0.0015
360	0.763	0.11	1.6	1.3	0.0013
720	0.705	0.091	1.6	1.2	0.0016
1 440	0.642	0.051	1.5	1.1	0.0023
180	0.721	0.038			

Preparation
Carried out on middle of U100

Index tests
Orientation of the sample
Particle density
Liquid limit
Plastic limit

Vertical	Value	Unit
assumed	2.65	Mg/m3
N/A		%
N/A		%

Specimen details

Property	Initial	Final	Unit
Diameter	50.03	-	mm
Height	20.11	18.81	mm
Moisture Content	28	29	%
Bulk density	1.84	1.98	Mg/m3
Dry density	1.44	1.54	Mg/m3
Void Ratio	0.840	0.721	
Saturation	88	105	%
Avg. temperature for test	22.0		°C
Swelling Pressure	Not measured		kPa
Settlement on saturation			%
Total test time	5		days

Note: Cv corrected to 20°C

Remarks:

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Signed: Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

APPENDIX H

Monitoring Results

Ground Gas Monitoring Results



CLIENT:	Date	Operator	Analysar	Weather Observations			Temp (°C)	Pressure Trend	Min Barometric Pressure (mb)	Notes
SHURGARD UK LTD	31/08/2023	LH	GFM436	Light rain	Light breeze	Cool	14	Steady	1020	
JOB NO.	08/09/2023	LH	GFM436	Sunny	Light breeze	Hot	27	Steady	1018	
M5478	21/09/2023	LH	GFM436	Heavy rain	No wind	Cool	14	Falling	996	
SITE:	02/10/2023	LH	GFM436	Intermittent cloud	Light breeze	Warm	20	Falling	1016	

OLDFIELD ROAD, HAMPTON


Notes: mb = millibars; CH₄ = methane; LEL = lower explosive limit = 5%v/v; CO₂ = carbon dioxide; O₂ = oxygen; CO=carbon monoxide; H₂S = hydrogen sulphide; TVOC= Total volatile organic compounds; PPM = parts per million. Where the flow is less than the limit of detection of the instrument, the detection limit is reported (Highlighted in green). Gas Screening Values (GSVs) are rounded to 3 decimal places. Calibration Records for analysers used available on request.

Date	Time	Location	Response zone (m)		Pressures (mb)		Gas flows (l/hr)		CH ₄ (%v/v)		CH ₄ (%LEL)		CO ₂ (%v/v)		O ₂ (%v/v)		Other Gases (PPM)			Depth to Water (m)	Well Base (m)	Gas Screening Value (CH ₄) (l/hr)	Gas Screening Value (CO ₂) (l/hr)	Notes
					Atmospheric Pressure	Relative Well Pressure	Initial	Steady	Peak	Steady	Peak	Steady	Peak	Steady	CO	H ₂ S	TVOC (PID)							
Summary Statistics																								
Max. values:					1015	0.0	3.6	0.1	0.0	0.0	0.0	0.0	9.8	8.6	20.5	20.6	0.0	0.0	0.0	2.6	4.5	0.000	0.010	Highlight Box - Methane >1.0% v/v
Min. values:					993	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	10.0	9.4	0.0	0.0	0.0	0.8	1.0	0.000	0.003	Highlight Box - Carbon Dioxide >5.0% v/v
Top					Worst-case (note - not worst credible) GSVs based on maximum recorded steady flow and maximum individual peak concentrations: 0.000 0.010																			
Bottom																								
31/08/2023	AM	Ambient			1007																			
		BH01	1.50	4.50		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.41	4.53	0.000	0.008
		WS04	0.50	1.00		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.91	0.96	0.000	0.005	
		WS06	1.00	2.80		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.58	2.68	0.000	0.004	
		BH03	1.00	3.00		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.41	2.98	0.000	0.009	
		Ambient			1007				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
08/09/2023	AM	Ambient			1014																			
		BH01	1.50	4.50		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.34	4.53	0.000	0.008	
		WS04	0.50	1.00		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.88	0.96	0.000	0.005	
		WS06	1.00	2.80		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.45	2.68	0.000	0.004	
		BH03	1.00	3.00		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.24	2.98	0.000	0.009	
		Ambient			1014				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
21/09/2023	AM	Ambient			993																			
		BH01	1.50	4.50		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.30	4.53	0.000	0.007	
		WS04	0.50	1.00		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.83	0.96	0.000	0.004	
		WS06	1.00	2.80		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.38	2.68	0.000	0.004	
		BH03	1.00	3.00		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.21	2.98	0.000	0.008	
		WS01	1.50	2.80		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.56	2.78	0.000	0.005	
		Ambient			993				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
02/10/2023	AM	Ambient			1015																			
		BH01	1.50	4.50			0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.31	4.54	0.000	0.005	
		WS04	0.50	1.00			0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.88	0.96	0.000	0.006	
		WS06	1.00	2.80			3.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.49	2.68	0.000	0.003	
		BH03	1.00	3.00			0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.33	2.96	0.000	0.008	
		WS01	1.50	2.80			0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.21	2.57	0.000	0.010	
		Ambient			1015				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					

TEST DATE AND CONDITIONS			
Date	24/07/2023		
Atmospheric Pressure	989	mB	
Ambient Temperature	22.7	°C	
EnviroNics Serial No.	5089		

**GFM436 Final Inspection & Calibration
Check Certificate**

GAS DATA LTD	
Unit 4, Fairfield Court	
Seven Stars Estate	
Wheler Rd	
Coventry	
CV3 4LJ	
Tel 02476303311	Fax 02476307711



Customer	Brownfield Solutions
Certificate Number	124413
Order Number	335371

Serial Number	13361
Software Version	G436-00.0027/0010

Recalibration DUE Date	24/07/24
------------------------	----------

Instrument Checks					
Keyboard	✓		Display Contrast	✓	
Pump Flow In	500	Accept > 200 cc/min	Pump Flow @ -200mB	300	Accept > 200 cc/min
Clock Set / Running	✓		Labels Fitted	✓	

Gas Checks						
Sensor	CH ₄		CO ₂		O ₂	
	Instrument Gas	True Gas Value %	Instrument Gas	True Gas Value %	Instrument Gas	True Gas Value %
	Readings %		Readings %		Readings %	
	60.2	60	40.0	40	20.9	20.9
	Accept ±3.0		Accept ±3.0		Accept ±0.5	
	5.0	5	5.1	5	6.0	6
	Accept ±0.3		Accept ±0.3		Accept ±0.3	
Zero Reading 100% N ₂	0.0	0	0.0	0	0.0	0
	Accept ±0.0		Accept ±0.0		Accept ±0.1	

Optional Gas Checks						
Applied Gas & Range		Concentration Tested @ (ppm)	Instrument Readings (ppm)			
Gas Type	Range (ppm)		Zero Reading		Instrument Gas Reading	
H ₂ S	5000	1500	0	Accept ±0.0	1500	Accept ±5.0%
CO	2000	1000	0	Accept ±0.0	998	Accept ±5.0%
Hexane	2.0%	2.0%	0	Accept ±0.0	1.99	Accept ±10.0%

Gross Gas Effects									
Applied Gas (ppm)		Instrument Readings (ppm)							
Gas Type	Concentration	Toxic 1:	H2S	Toxic 2:	CO	Toxic 3:	HEX		
H2S	1500	1500		0		0			
CO	1000	70		998		0			
Hexane	2.0%	0		0		1.99			

Pressure Checks			
Atmospheric Pressure [AP] (mB)			
Current Atmospheric Pressure (mB)		Instrument Atmospheric Pressure Reading (mB)	
AP Open Ports		990	Accept ±2.0
AP Port (Internal)	+800 mB	801	Accept ±5.0
	+1200mb	1200	Accept ±5.0

Flow Checks					
Borehole Flow			Differential Pressure		
Applied Reading (l/h)	Instrument Reading (l/h)		Applied Pressure (Pa)	Instrument Reading (Pa)	
-30	-29.8	Accept ±3.0	-372	-372	Accept ±50
-3	-3.0	Accept ±1.0	-17	-17	Accept ±6.0
0	-0.0	Accept ±0.0	0	0	Accept ±0.5
3	3.0	Accept ±0.5	15	16	Accept ±3.0
30	30.2	Accept ±3.0	320	325	Accept ±50
60	60.1	Accept ±6.0	947	951	Accept ±130
90	90.9	Accept ±9.0	1862	1917	Accept ±250

Temperature Checks		
Calibration Temperature	Instrument Temperature Reading °C	
Applied Temperature °C		
-10	-10.0	Accept ±2.0
0	0.0	Accept ±1.0
30	30.0	Accept ±1.0
60	60.0	Accept ±1.0
100	100.0	Accept ±1.0

Technician:
Jack Rutland

Date Tested:
24/07/2023

The instrument identified by the serial number stated above has been tested by Gas Data personnel for calibration accuracy on the date and under the ambient conditions stated. Gas Data Ltd internal BS EN ISO9001:2015, BS EN ISO14001:2015, BS EN ISO45001:2018 compliant workshop procedures were followed to apply known calibration test gases, gas flow rates, pressures and temperatures of the values stated. The results displayed on the instrument at each stage are recorded above.

APPENDIX I

Waste Assessment Report